

aumüller

The Products



PRODUCT OVERVIEW DRIVES 08.2019

Valid from 2019-08-01

IMPORTANT NOTE

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All prices quoted shall be in Euro and are Euro ex works excluding packaging costs and excluding statutory rate of value added tax.

For offers, deliveries and performances our general terms and conditions shall apply exclusively.

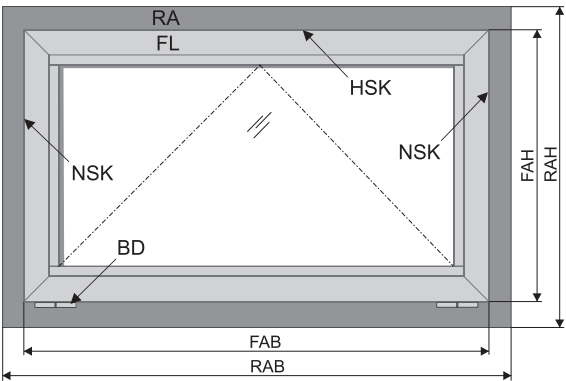
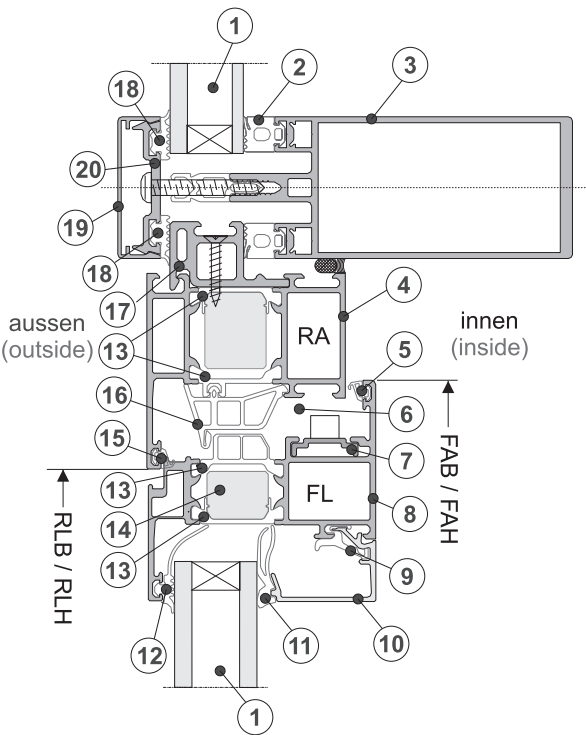
By pasting this product list, previous editions become invalid.

The paper used for printing is bleached without chlorine.

LIST OF ABBREVIATIONS	
A2	Stainless Steel
BxHxT	Width x Height x Depth
DIN	German Institute for Standardisation
E6/C-0	Anodised finish
EN	European standard
FAB	Overall width of casement
FAH	Overall height of casement
FL	Opening casement
FM	Window assembly
FÜ	Window overlap
HSK	Main closing edge (parallel to hinge)
KLB	Clamping area
KW-Diagramm	Force path diagram
L	Left handed version
LxBxH	Length x Width x Height
LZ	Delivery time
NRWG	NSHEV
NSK	Auxiliary closing edge (sideways on hinge)
PAF	Parallel opening window
PE	Profile installation
PG	Price class
PR	Transom assembly
R	Right handed version
RA	Window frame
RAL	Central European Colour Standard
RM	Frame assembly
RWA	SHEV
Solo	Solo drive
SYNC	Synchronizes running drive systems
Tandem	2 drives with run monitoring
TWIN	2 drives in one casing
Z	Drive model with feedback contact (CLOSE)
netto	Prices are not discountable

SCALE UNITS	
°C	Degree Celsius
A	Amps.
DEG	Degree angle
Kg	Kilogramms
m	Metres
min	Minutes
mm	Millimetres
N	Newton
s	Seconds
Stck.	Pieces
V	Volts
PU	Packaging units
W	Watts

FIGURES	
€	Euro
AC	Alternating current (50Hz / 60Hz)
DC	Direct current
ED	Switching time (10 min)
F	Stroke force
I	Electrical current
L	Length
P	Elektrical capacity
s	Stroke
t	Thickness of material
U	Electric current
v	Speed

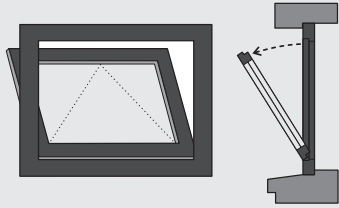


SECTION	
1	Infill (Glass structure)
2	Inner adapter seal
3	Transom profile
4	Window frame
5	Secondary seal (inside)
6	Rebate
7	Locking bar with locking bolts
8	Casement frame
9	Bead clamp
10	Glazing bead
11	Inner glazing gasket
12	Outer glazing gasket
13	Thermal break
14	Insulating material
15	Primary seal
16	Centre seal
17	Adapter frame
18	Outer adapter seal
19	Cover profile
20	Pressure plate

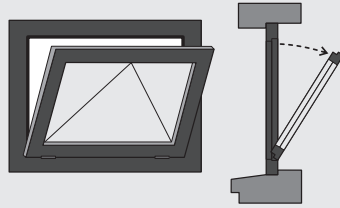
ABBREVIATIONS WINDOWS	
RA	Window frame
FL	Casement / Casement frame
HSK	Main closing edge
NSK	Side closing edge
BD	Sash hinge (Strip side)
FAB	Overall width of casement
FAH	Overall height of casement
RAB	Window frame width
RAH	Window frame height
RLB	Throat width
RLH	Throat height

TYPES OF WINDOWS

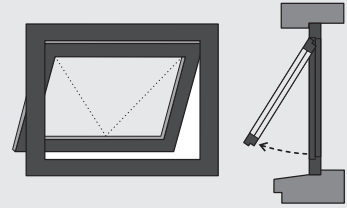
1 Bottom hung outward opening



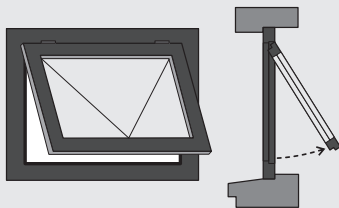
2 Bottom hung inward opening



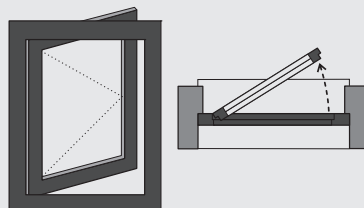
3 Top hung outward opening



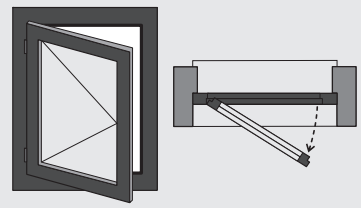
4 Top hung inward opening



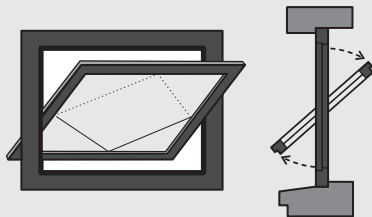
5 Side hung outward opening



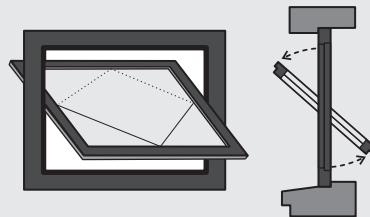
6 Side hung inward opening



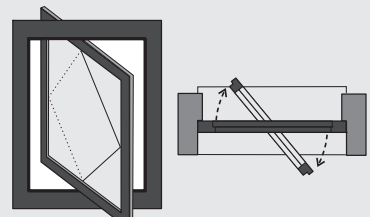
7 Horizontal pivot



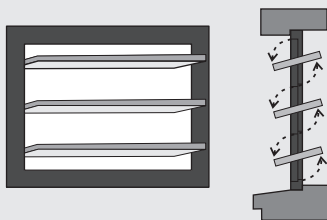
8 Horizontal pivot



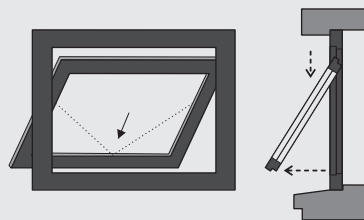
9 Vertical pivot



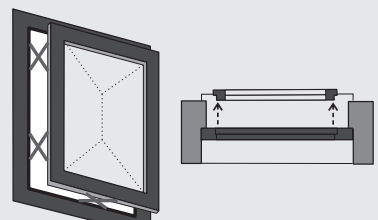
10 Louvred window



11 Friction hinged outward opening



12 Parallel slide window

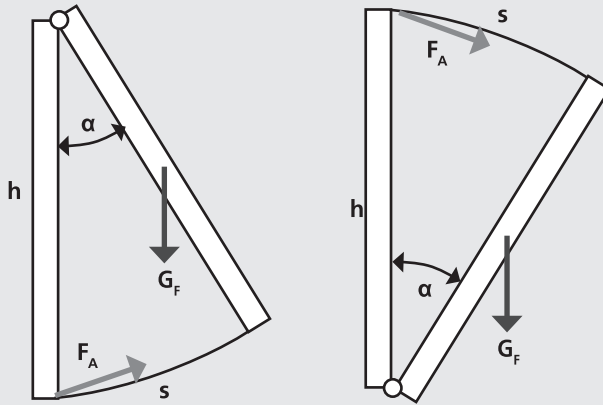


USEFUL CALCULATIONS

Casement weight: G_F [Kg] = FAB [m] * FAH [m] * **Glass thickness** [mm] * 2,5 [Kg/m²] * 1,1

Weight force: F_G [N] = G_F [Kg] * 9,81 [m/s²]

Drive force: top & bottom hung window

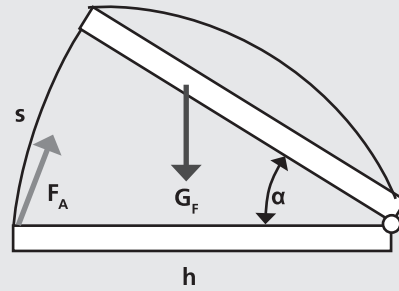


$$F_A$$
 [N] = G_F [Kg] * 9,81 [m/s²] * s [mm] * 0,54 / h [mm]

Drive stroke if window height and opening angle are known:
 s [mm] = $\sqrt{(2 * h^2$ [mm] * (1 - $\cos\alpha$ [DEG]))

Opening angle if height and stroke are known:
 α [DEG] = $\cos^{-1} (1 - s^2$ [mm] / 2 / h^2 [mm])

Roof window / Roof light



$$F_A$$
 [N] = G_F [Kg] * 9,81 [m/s²] * 0,54

1

Chain drives

2

Spindle drives

3

Rack and pinion drives

4

Folding arm drives

5

Louvre drives

6

Locking drives

7

Hardware sets

8

Accessories

A decorative background pattern consisting of a grid of small, light gray squares. The squares are arranged in a uniform 10x10 grid, with each square having a side length of approximately 40 pixels. The squares are a light gray color, and the background is white. The grid covers the entire area of the image.

OVERVIEW OF CHAIN DRIVES

Type	Form	Model		Stroke	Force		Speed		Stroke in	Cut-off current	Use	Location		Functions				
		Type of cut-off	Rated voltage	Range	Pushing force	Pulling force	OPEN	CLOSE	60 s	Max.	Natural ventilation	SHEV	NSHEV	Facade	Roof	Run monitoring	Synchronised run	Sequence control
			[V]	[mm]	[N]	[N]	[mm/s]	[mm/s]	[mm]	[A]								
KS2	SOLO	S2	24	50 – 800	200 – 50	200	10,0	10,0	600	0,7	●	■		●				
			230	50 – 800	200 – 50	200	10,0	10,0	600	0,7	●	■		●				
		S12	24	50 – 1000	250 – 50	250	8,0 – 13,5	8,0	800	1,0	●	●	●	●	■	■	●	●
			230	50 – 1000	250 – 50	250	8,0	8,0	450	0,2	●			●	■	■	●	■
	TWIN	S12	24	50 – 1000	500 – 100	500	8,0 – 13,5	8,0	600	1,4	●	●		●	■	■	●	●
	KS4	Solo	S12	24	50 – 1000	400 – 50	400	8,0 – 13,5	8,0	800	1,2	●	●	●	●	●	■	●
KSA	SOLO	S12	24	250 – 1500	600 – 50	600	8,0 – 13,5	8,0	800	1,2	●	●	●	●	●	■	●	●
			230	250 – 1500	600 – 50	600	8,0	8,0	800	0,2	●			●	●	●	●	
	TWIN	S12	24	400 – 600	1200 – 600	1200	8,0 – 12,0	8,0	600	2,4	●	●		●	●	■	●	●
	D	S12	24	400 – 800	1200 – 400	1200	8,0 – 13,5	8,0	800	2,4	●	●		●	●	■	●	●
KS15	Solo	S12	24	250 – 1000	1500	1500	6,0 – 17,0	6,0	800	5,0	●	●	●	●	●	■	●	●

LEGEND

● suitable

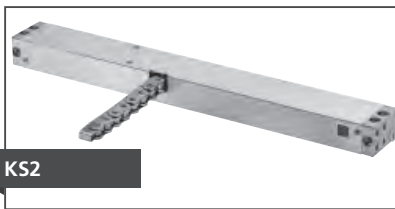
■ not recommended

S2 internal load dependend cut-off switch

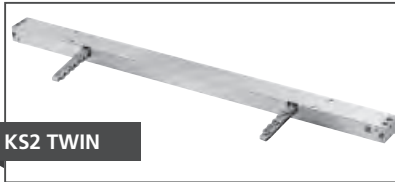
S12 internal Intelligent Control Electronics for synchronised run and programmable functions



force and speed depend on the stroke



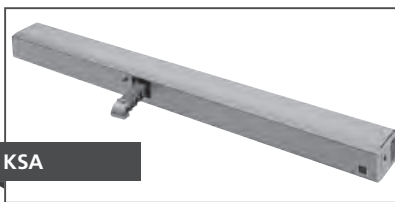
KS2



KS2 TWIN



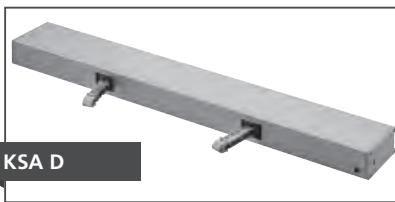
KS4



KSA



KSA TWIN



KSA D



KS15

KS2 CHAIN DRIVES

- Model 24V DC, S2/S12 and 230V AC, S2/S12
- Pulling/Pushing force max. 250 N (TWIN 500 N)
- Stroke length 50 – 800 mm – (with S2)
50 – 1000 mm – programmable (with S12)
- Speed 5 – 14 mm/s – programmable (with S12)
- Housing (WxH) 42 x 26 mm, Length depending on stroke
- Opening mechanism Rigid back stainless steel sidebow roller chain
- Version R (right), L (left), TWIN, Z, Set 230V/24V
- Protection rating IP 32

KS4 CHAIN DRIVES

- Model 24V DC, S12
- Pulling/Pushing force max. 400 N
- Stroke length 50 – 1000 mm – programmable
- Speed 5 – 14 mm/s – programmable
- Housing (WxH) 35 x 24 mm, Length depending on stroke
- Opening mechanism Rigid back stainless steel roller chain without protruding rivet heads
- Version R (right), L (left)
- Protection rating IP 32

KSA CHAIN DRIVES

- Model 24V DC, S12 and 230V AC, S12
- Pulling/Pushing force max. 600 N (TWIN 1200 N)
- Stroke length 250 – 1500 mm – programmable (KSA)
400 – 600 mm – programmable (KSA TWIN)
400 – 800 mm – programmable (KSA D)
- Speed 5 – 14 mm/s – programmable
- Housing (WxH) 56 x 40 mm (D: 104 x 50 mm), Length depending on stroke
- Opening mechanism Rigid back stainless steel roller chain
- Version Solo, TWIN, D, Z
- Protection rating IP 32

KS15 CHAIN DRIVES

- Model 24V DC, S12
- Pulling/Pushing force max. 1500 N
- Stroke length 250 – 1000 mm – programmable
- Speed 6 – 17 mm/s – programmable
- Housing (WxH) 120 x 60 mm, Length depending on stroke
- Opening mechanism High-quality, robust, nickel-plated steel chain
- Version Solo
- Protection rating IP 20



PRODUCT FEATURES KS2

- For natural ventilation, smoke and heat exhausting systems and ferralux® NSHEV (EN12101-2)
- Versions R (right) or L (left) or TWIN
- Aluminium housing anodized or optionally in RAL colors
- High-quality stainless steel sidebow roller chain, without protruding rivet heads
- Slim line body that suits concealed fitting within profiles
- Rigid drive mounting on frame without brackets
- Programmable parameters of Intelligent Control Electronics S12
 - Synchronised multi-operation and sequence control without add. devices
 - Electronic soft-start, soft-close and soft-stop at end of stroke control
 - Stroke, force, speed
 - Rebate control
- Suitable for operation with M-COM for the automatic configuration of synchronised run of multi drive systems and sequence control

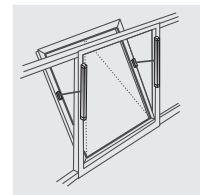
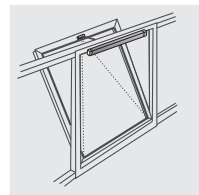
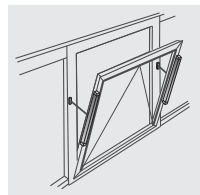
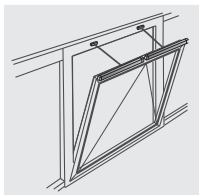
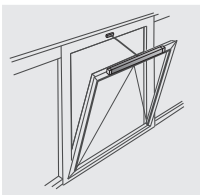
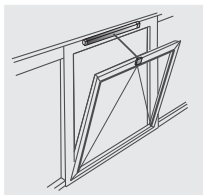
For this product series, a Type III Environmental Product Declaration (EPD) was issued according to ISO 14025 and EN 15804.

The LCA results of the different product types are listed at the end of this product catalogue.

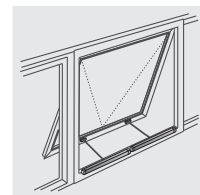
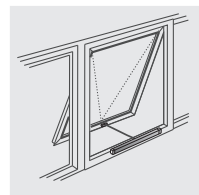
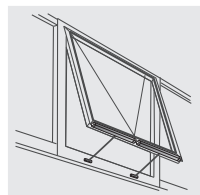
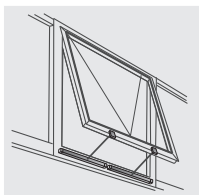
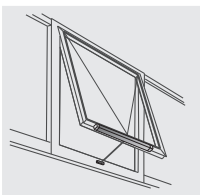
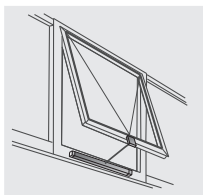
The EPD documents can be viewed or downloaded from our homepage www.aumueller-gmbh.de.

FACADE

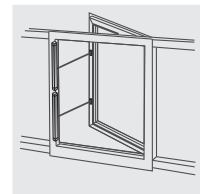
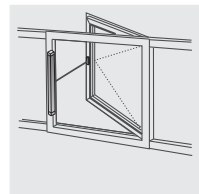
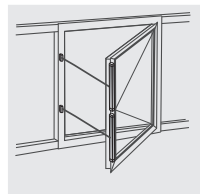
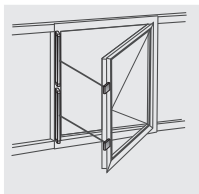
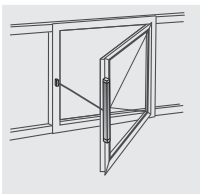
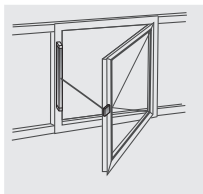
Bottom-hung



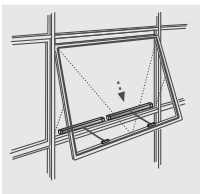
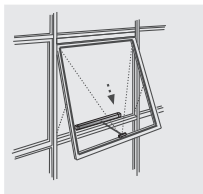
Top-hung



Side-hung



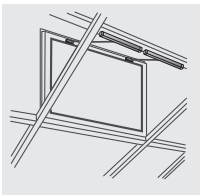
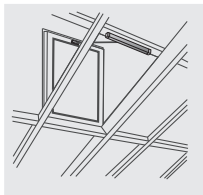
Friction hinged



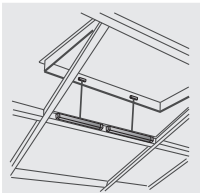
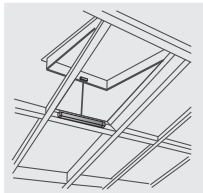
Parallel outward opening

**ROOF**

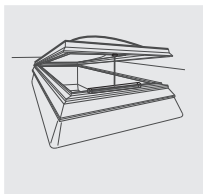
Bottom-hung

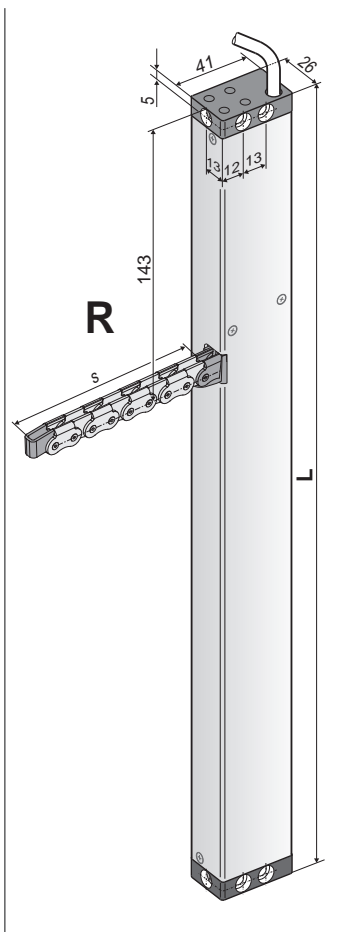


Top-hung



Sky light



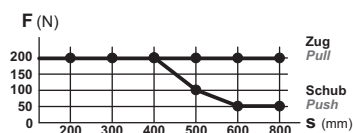


- Application: Natural ventilation as single-drive
- Internal load dependent cut-off switch S2 in OPEN / CLOSE direction



TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	0,5 A
I_A	Cut-off current	0,7 A
P_N	Rated power	12 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	200 N
F_A	Pushing force max.	



s > 600 mm only for pulling application

F_H	Pullout force	1.800 N (fastening depended)
	Chain	Stainless steel, without protruding rivet heads. Simple connection to casement brackets. Small bending radii allow maximum opening angles of small windows.

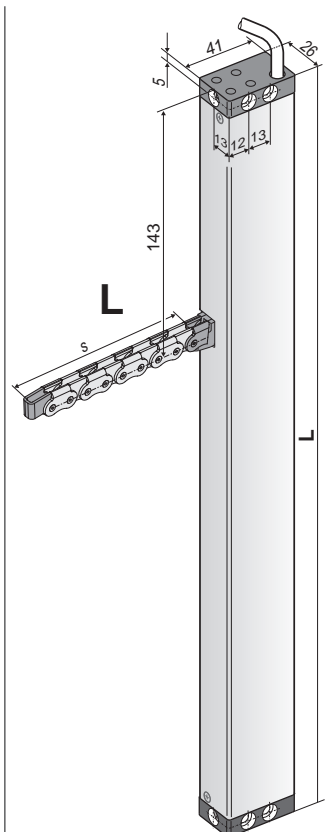
	Connecting cable	non-halogen, grey 3 x 0,5 mm ² , ~ 3 m
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v	Speed	10,0 mm/s 10,0 mm/s
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s	Stroke	50 – 800 mm
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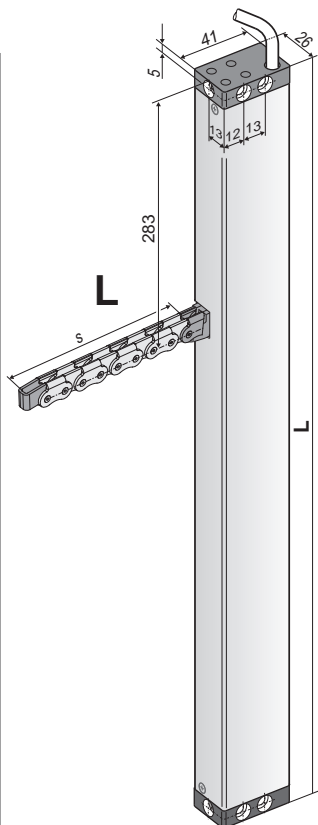
L	Length	see order data
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	Sound pressure level	≤ 70 dB (A)
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ORDER DATA							
s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.		
200	335	KS2 200 S2 24V R	E6/C-0	1	521120		
		KS2 200 S2 24V L	E6/C-0	1	521420		
300	380	KS2 300 S2 24V R	E6/C-0	1	521130		
		KS2 300 S2 24V L	E6/C-0	1	521430		
400	430	KS2 400 S2 24V R	E6/C-0	1	521140		
		KS2 400 S2 24V L	E6/C-0	1	521440		
500	545	KS2 500 S2 24V R	E6/C-0	1	521150		
		KS2 500 S2 24V L	E6/C-0	1	521450		
600	545	KS2 600 S2 24V R	E6/C-0	1	521160		
		KS2 600 S2 24V L	E6/C-0	1	521460		
800	625	KS2 800 S2 24V R	E6/C-0	1	521180		
		KS2 800 S2 24V L	E6/C-0	1	521480		

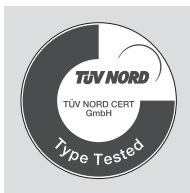
OPTIONS							
Special model				PU/pcs.	Part.-No.		
Drive housing painted/powder coated in other RAL colours							
Lump sum for coating					516030		
Specify at order stage:				1 – 20	516004		
				21 – 50	516004		
				51 – 100	516004		
				from 101	516004		
Extra length connecting cable:							
5 m – non-halogen, grey – 5 x 0,5 mm ²					501054		
10 m – non-halogen, grey – 5 x 0,5 mm ²					501056		



- 1/8

ORDER DATA							
s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.		
200	475	KS2 200 S2 230V R	E6/C-0	1	494920		
		KS2 200 S2 230V L	E6/C-0	1	494720		
300	520	KS2 300 S2 230V R	E6/C-0	1	494930		
		KS2 300 S2 230V L	E6/C-0	1	494730		
400	570	KS2 400 S2 230V R	E6/C-0	1	494940		
		KS2 400 S2 230V L	E6/C-0	1	494740		
500	685	KS2 500 S2 230V R	E6/C-0	1	494950		
		KS2 500 S2 230V L	E6/C-0	1	494750		
600	685	KS2 600 S2 230V R	E6/C-0	1	494960		
		KS2 600 S2 230V L	E6/C-0	1	494760		
800	765	KS2 800 S2 230V R	E6/C-0	1	494980		
		KS2 800 S2 230V L	E6/C-0	1	494780		

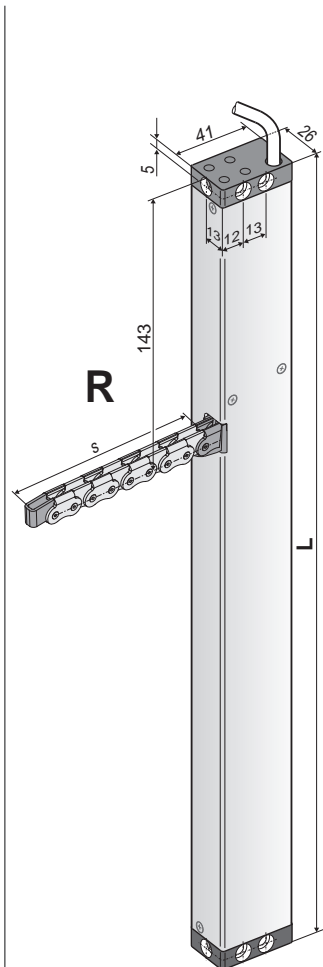
OPTIONS							
Special model				PU/pcs.	Part.-No.		
Drive housing painted/powder coated in other RAL colours							
Lump sum for coating					516030		
Specify at order stage:				1 – 20	516004		
				21 – 50	516004		
				51 – 100	516004		
				from 101	516004		
Extra length connecting cable:							
5 m – non-halogen, grey – 6 x 0,75 mm ²					501164		
10 m – non-halogen, grey – 6 x 0,75 mm ²					501166		



- Application: natural ventilation, SHEV, ferralux®-NSHEV
- Internal Intelligent Control Electronics S12
- Z-Version: Programmable feedback limit position „OPEN“ and „CLOSE“ (max. 24 V, 500 mA)

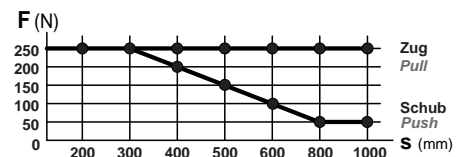
Options

- Programmable special functions
- M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives (S3 / S12)



TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	0,7 A
I_A	Cut-off current	1,0 A
P_N	Rated power	17 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	250 N
F_A	Pushing force max.	

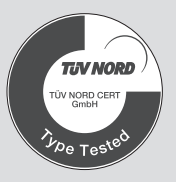


s > 600 mm only for pulling application

F_H	Pullout force	1.800 N (fastening depended)
	Chain	Stainless steel, without protruding rivet heads. Simple connection to casement brackets. Small bending radii allow maximum opening angles of small windows.
	Connecting cable	non-halogen, grey 3 x 0,5 mm ² , ~ 3 m non-halogen, grey 5 x 0,5 mm ² , ~ 3 m (Z version)
v	Speed	<div> $s < 400$ 8,0 mm/s 8,0 mm/s </div> <div> $s 500 - 600$ 12,0 mm/s 8,0 mm/s </div> <div> $s > 600$ 13,5 mm/s 8,0 mm/s </div>
s	Stroke	50 – 1000 mm
L	Length	see order data
	Sound pressure level	≤ 70 dB (A)

ORDER DATA							
s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.		
200	335	KS2 200 S12 24V R	E6/C-0	1	521620		
		KS2 200 S12 24V Z R	E6/C-0	1	521623		
300	380	KS2 300 S12 24V R	E6/C-0	1	521630		
		KS2 300 S12 24V Z R	E6/C-0	1	521633		
400	430	KS2 400 S12 24V R	E6/C-0	1	521640		
		KS2 400 S12 24V Z R	E6/C-0	1	521643		
500	545	KS2 500 S12 24V R	E6/C-0	1	521650		
		KS2 500 S12 24V Z R	E6/C-0	1	521653		
600	545	KS2 600 S12 24V R	E6/C-0	1	521660		
		KS2 600 S12 24V Z R	E6/C-0	1	521663		
800	625	KS2 800 S12 24V R	E6/C-0	1	521680		
		KS2 800 S12 24V Z R	E6/C-0	1	521683		

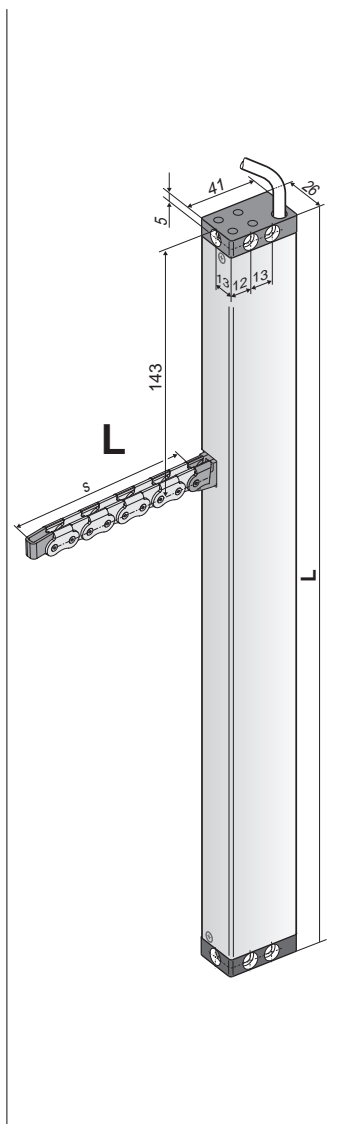
OPTIONS							
Special model				PU/pcs.	Part.-No.		
Drive housing painted/powder coated in other RAL colours							
Lump sum for coating					516030		
Specify at order stage:				1 – 20	516004		
				21 – 50	516004		
				51 – 100	516004		
				from 101	516004		
Extra length connecting cable:							
5 m – non-halogen, grey – 5 x 0,5 mm ²					501054		
10 m – non-halogen, grey – 5 x 0,5 mm ²					501056		
Microprocessor programming S12							
Electronic stroke reduction 24V S12					524190		
Programming drives 24V / 230V S12					524180		
Optional accessories				PU/pcs.	Part.-No.		
M-COM Configuration module for synchronised multi-drive systems				1	524177		



- Application: natural ventilation, SHEV, ferralux®-NSHEV
- Internal Intelligent Control Electronics S12
- Z-Version: Programmable feedback limit position „OPEN“ and „CLOSE“ (max. 24 V, 500 mA)

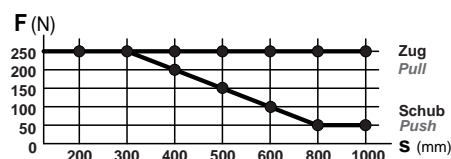
Options

- Programmable special functions
- M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives (S3 / S12)



TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	0,7 A
I_A	Cut-off current	1,0 A
P_N	Rated power	17 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	250 N
F_A	Pushing force max.	



s > 600 mm only for pulling application

F_H	Pullout force	1.800 N (fastening depended)
	Chain	Stainless steel, without protruding rivet heads. Simple connection to casement brackets. Small bending radii allow maximum opening angles of small windows.
	Connecting cable	non-halogen, grey 3 x 0,5 mm ² , ~ 3 m non-halogen, grey 5 x 0,5 mm ² , ~ 3 m (Z version)
v	Speed	<div> $s < 400$ 8,0 mm/s </div> <div> $s 500 - 600$ 12,0 mm/s </div> <div> $s > 600$ 13,5 mm/s </div>
s	Stroke	50 – 1000 mm
L	Length	see order data
	Sound pressure level	≤ 70 dB (A)

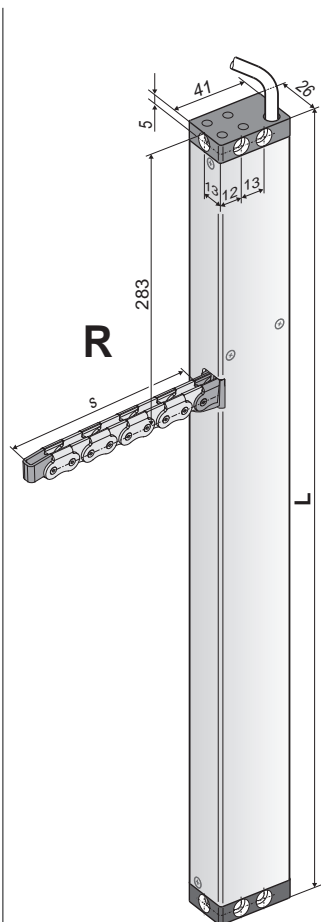
ORDER DATA							
s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.		
200	335	KS2 200 S12 24V L	E6/C-0	1	521720		
		KS2 200 S12 24V Z L	E6/C-0	1	521723		
300	380	KS2 300 S12 24V L	E6/C-0	1	521730		
		KS2 300 S12 24V Z L	E6/C-0	1	521733		
400	430	KS2 400 S12 24V L	E6/C-0	1	521740		
		KS2 400 S12 24V Z L	E6/C-0	1	521743		
500	545	KS2 500 S12 24V L	E6/C-0	1	521750		
		KS2 500 S12 24V Z L	E6/C-0	1	521753		
600	545	KS2 600 S12 24V L	E6/C-0	1	521760		
		KS2 600 S12 24V Z L	E6/C-0	1	521763		
800	625	KS2 800 S12 24V L	E6/C-0	1	521780		
		KS2 800 S12 24V Z L	E6/C-0	1	521783		

OPTIONS							
Special model				PU/pcs.	Part.-No.		
Drive housing painted/powder coated in other RAL colours							
Lump sum for coating					516030		
Specify at order stage:				1 – 20	516004		
				21 – 50	516004		
				51 – 100	516004		
				from 101	516004		
Extra length connecting cable:							
5 m – non-halogen, grey – 5 x 0,5 mm ²					501054		
10 m – non-halogen, grey – 5 x 0,5 mm ²					501056		
Microprocessor programming S12							
Electronic stroke reduction 24V S12					524190		
Programming drives 24V / 230V S12					524180		
Optional accessories				PU/pcs.	Part.-No.		
M-COM Configuration module for synchronised multi-drive systems				1	524177		

- Application: natural ventilation
- Internal Intelligent Control Electronics S12
- Parallel connection up to 8 drives in one group
- Z-Version: Programmable feedback limit position „OPEN“ and „CLOSE“ (max. 24 V, 500 mA)

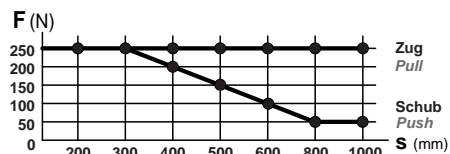
Options

- Programmable synchronised run (max. 4 drives) and special functions
(Attention: not possible with Z-version)



TECHNICAL DATA

U_N	Rated voltage	230V AC (50 Hz)
I_N	Rated current	0,13 A
I_A	Cut-off current	0,2 A
P_N	Rated power	30 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	250 N
F_A	Pushing force max.	



s > 600 mm only for pulling application

F_H	Pullout force	1.800 N (fastening depended)
	Chain	Stainless steel, without protruding rivet heads. Simple connection to casement brackets. Small bending radii allow maximum opening angles of small windows.
	Connecting cable	non-halogen, grey 6 x 0,75 mm ² , ~ 3 m
v	Speed	8,0 mm/s
s	Stroke	50 – 1000 mm
L	Length	see order data
	Sound pressure level	≤ 70 dB (A)

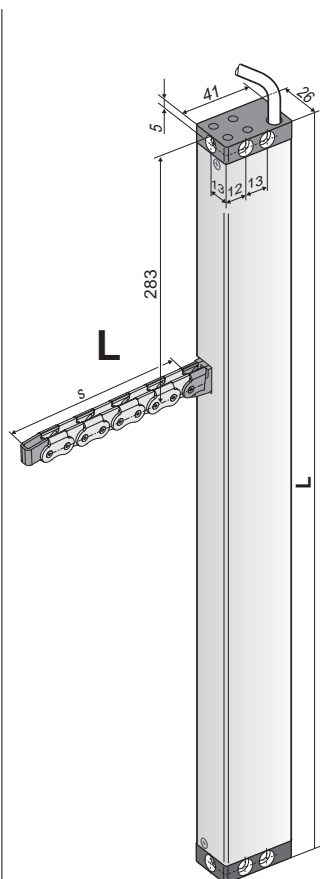
ORDER DATA							
s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.		
200	475	KS2 200 S12 230V R	E6/C-0	1	494020		
		KS2 200 S12 230V Z R	E6/C-0	1	494023		
300	520	KS2 300 S12 230V R	E6/C-0	1	494030		
		KS2 300 S12 230V Z R	E6/C-0	1	494033		
400	570	KS2 400 S12 230V R	E6/C-0	1	494040		
		KS2 400 S12 230V Z R	E6/C-0	1	494043		
500	685	KS2 500 S12 230V R	E6/C-0	1	494050		
		KS2 500 S12 230V Z R	E6/C-0	1	494053		
600	685	KS2 600 S12 230V R	E6/C-0	1	494060		
		KS2 600 S12 230V Z R	E6/C-0	1	494063		
800	765	KS2 800 S12 230V R	E6/C-0	1	494080		
		KS2 800 S12 230V Z R	E6/C-0	1	494083		

OPTIONS							
Special model				PU/pcs.	Part.-No.		
Drive housing painted/powder coated in other RAL colours							
Lump sum for coating					516030		
Specify at order stage:				1 – 20	516004		
				21 – 50	516004		
				51 – 100	516004		
				from 101	516004		
Extra length connecting cable:							
5 m – non-halogen, grey – 6 x 0,75 mm ²					501164		
10 m – non-halogen, grey – 6 x 0,75 mm ²					501166		
Microprocessor programming S12							
Programming synchronised multi-drive systems 230V S12					495588		
Electronic stroke reduction 230V S12					495590		
Programming drives 24V / 230V S12					524180		

- Application: natural ventilation
- Internal Intelligent Control Electronics S12
- Parallel connection up to 8 drives in one group
- Z-Version: Programmable feedback limit position „OPEN“ and „CLOSE“ (max. 24 V, 500 mA)

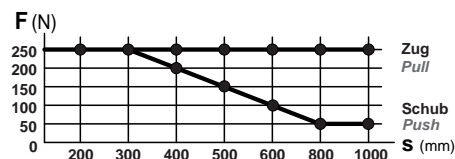
Options

- Programmable synchronised run (max. 4 drives) and special functions
(Attention: not possible with Z-version)



TECHNICAL DATA

U_N	Rated voltage	230V AC (50 Hz)
I_N	Rated current	0,13 A
I_A	Cut-off current	0,2 A
P_N	Rated power	30 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	250 N
F_A	Pushing force max.	

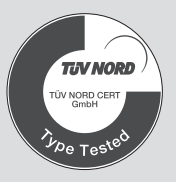


s > 600 mm only for pulling application

F_H	Pullout force	1.800 N (fastening depended)
	Chain	Stainless steel, without protruding rivet heads. Simple connection to casement brackets. Small bending radii allow maximum opening angles of small windows.
	Connecting cable	non-halogen, grey 6 x 0,75 mm ² , ~ 3 m
v	Speed	↗ 8,0 mm/s ↘ 8,0 mm/s
s	Stroke	50 – 1000 mm
L	Length	see order data
	Sound pressure level	≤ 70 dB (A)

ORDER DATA							
s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.		
200	475	KS2 200 S12 230V L	E6/C-0	1	494120		
		KS2 200 S12 230V Z L	E6/C-0	1	494123		
300	520	KS2 300 S12 230V L	E6/C-0	1	494130		
		KS2 300 S12 230V Z L	E6/C-0	1	494133		
400	570	KS2 400 S12 230V L	E6/C-0	1	494140		
		KS2 400 S12 230V Z L	E6/C-0	1	494143		
500	685	KS2 500 S12 230V L	E6/C-0	1	494150		
		KS2 500 S12 230V Z L	E6/C-0	1	494153		
600	685	KS2 600 S12 230V L	E6/C-0	1	494160		
		KS2 600 S12 230V Z L	E6/C-0	1	494163		
800	765	KS2 800 S12 230V L	E6/C-0	1	494180		
		KS2 800 S12 230V Z L	E6/C-0	1	494183		

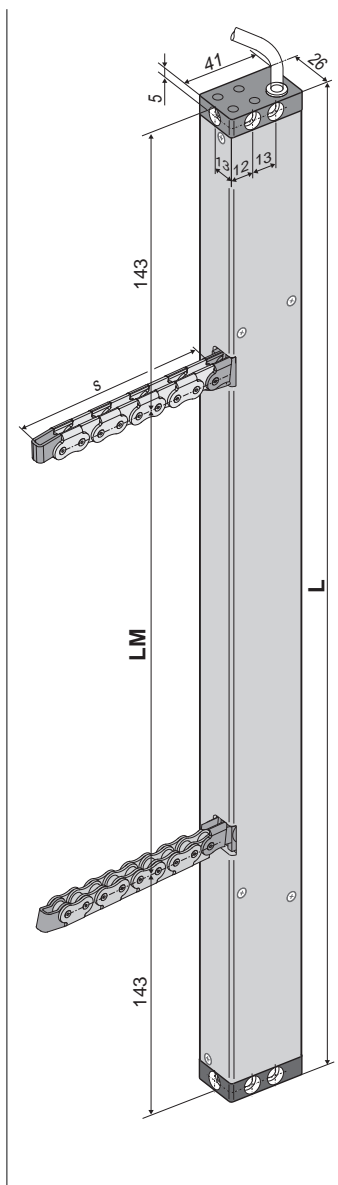
OPTIONS							
Special model				PU/pcs.	Part.-No.		
Drive housing painted/powder coated in other RAL colours							
Lump sum for coating					516030		
Specify at order stage:				1 – 20	516004		
				21 – 50	516004		
				51 – 100	516004		
				from 101	516004		
Extra length connecting cable:							
5 m – non-halogen, grey – 6 x 0,75 mm ²					501164		
10 m – non-halogen, grey – 6 x 0,75 mm ²					501166		
Microprocessor programming S12							
Programming synchronised multi-drive systems 230V S12					495588		
Electronic stroke reduction 230V S12					495590		
Programming drives 24V / 230V S12					524180		



- Application: natural ventilation, SHEV, ferralux®-NSHEV
- Internal Intelligent Control Electronics S12
- Z-Version: Programmable feedback limit position „OPEN“ and „CLOSE“ (max. 24 V, 500 mA)

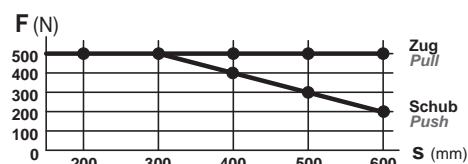
Options

- Programmable special functions
- M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives (S3 / S12)



TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	1,4 A
I_A	Cut-off current	2,0 A
P_N	Rated power	34 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	500 N
F_A	Pushing force max.	



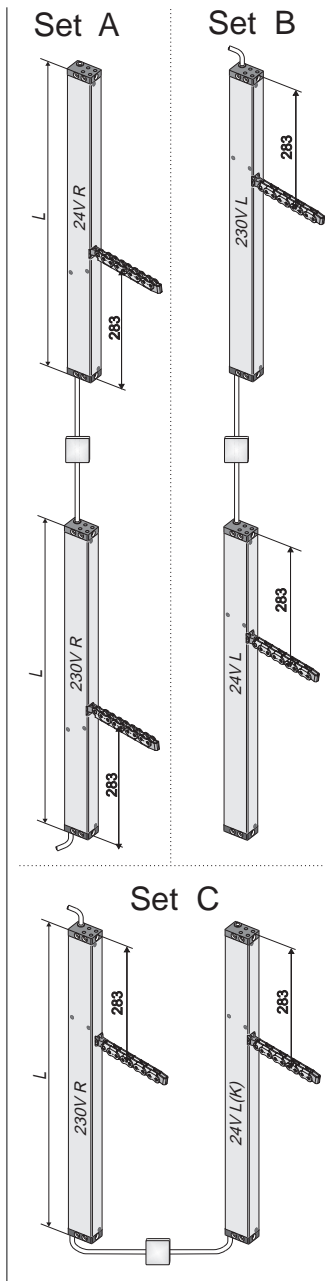
F_H	Pullout force	1.800 N (fastening depended)
	Chain	Stainless steel, without protruding rivet heads. Simple connection to casement brackets. Small bending radii allow maximum opening angles of small windows.
	Connecting cable	non-halogen, grey 3 x 0,5 mm ² , ~ 3 m non-halogen, grey 5 x 0,5 mm ² , ~ 3 m (Z version)
v	Speed	s < 400 8,0 mm/s 8,0 mm/s s 500 – 600 12,0 mm/s 8,0 mm/s
s	Stroke	50 – 600 mm
L	Length	see order data
LM	Distance in between chains	see order data
	Sound pressure level	≤ 70 dB (A)

ORDER DATA									
s [mm]	L [mm]	LM [mm]	Version	Finish	PU/pcs.	Part.-No.			
200	640	354	KS2 TWIN 200 S12 24V	E6/C-0	1	521820			
			KS2 TWIN 200 S12 24V Z	E6/C-0	1	521823			
400	830	544	KS2 TWIN 400 S12 24V	E6/C-0	1	521840			
			KS2 TWIN 400 S12 24V Z	E6/C-0	1	521843			
500	1060	774	KS2 TWIN 500 S12 24V	E6/C-0	1	521850			
			KS2 TWIN 500 S12 24V Z	E6/C-0	1	521853			
600	1060	774	KS2 TWIN 600 S12 24V	E6/C-0	1	521860			
			KS2 TWIN 600 S12 24V Z	E6/C-0	1	521863			

OPTIONS									
Special model					PU/pcs.	Part.-No.			
Drive housing painted/powder coated in other RAL colours									
Lump sum for coating						516030			
Specify at order stage:					1 – 20	516004			
					21 – 50	516004			
					51 – 100	516004			
					from 101	516004			
Extra length connecting cable:									
5 m – non-halogen, grey – 5 x 0,5 mm ²						501054			
10 m – non-halogen, grey – 5 x 0,5 mm ²						501056			
Microprocessor programming S12									
Electronic stroke reduction 24V S12						524190			
Programming drives 24V / 230V S12						524180			
Optional accessories					PU/pcs.	Part.-No.			
M-COM Configuration module for synchronised multi-drive systems					1	524177			

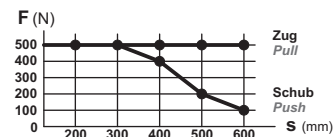


- Application: natural ventilation
- Factory-configured set includes:
 - Master: KS2 xxx S12 230 V AC R / L with voltage output 24 V DC
 - Slave: KS2 xxx S12 24 V DC R / L with connection cable on the motor side
 - KS2 xxx S12 24 V DC L-K with connection cable on the chain side
- Parallel connection up to 8 sets of drives in one group
- Junction box to be site supplied
- Options:**
 - Programmable special functions and sequence control with locking drives (S3 / S12)
 - Screw terminal connections in drive housing upon request



TECHNICAL DATA

U_N	Rated voltage	230V AC (50 Hz)
I_N	Rated current	0,15 A
I_A	Cut-off current	0,2 A
P_N	Rated power	35 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	2 x 250 N
F_A	Pushing force max.	



s > 600 mm only for pulling application

F_H	Pullout force	1.800 N (fastening depended)
	Chain	Stainless steel, without protruding rivet heads. Simple connection to casement brackets. Small bending radii allow maximum opening angles of small windows.
	Connecting cable	Master: non-halogen, grey 6 x 0,75 mm ² , ~ 3 m 3 x 0,5 mm ² , ~ 3 m Slave: non-halogen, grey 3 x 0,5 mm ² , ~ 3 m
v	Speed	8,0 mm/s 8,0 mm/s
s	Stroke	50 – 1000 mm
L	Length	see order data
	Sound pressure level	≤ 70 dB (A)

ORDER DATA							
s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.		
200	475	KS2 200 S12 230V Set A (R/R)	E6/C-0	1	494220		
		KS2 200 S12 230V Set B (L/L)	E6/C-0	1	494320		
		KS2 200 S12 230V Set C (R/L-K)	E6/C-0	1	494420		
300	520	KS2 300 S12 230V Set A (R/R)	E6/C-0	1	494230		
		KS2 300 S12 230V Set B (L/L)	E6/C-0	1	494330		
		KS2 300 S12 S 230V et C (R/L-K)	E6/C-0	1	494430		
400	570	KS2 400 S12 230V Set A (R/R)	E6/C-0	1	494240		
		KS2 400 S12 230V Set B (L/L)	E6/C-0	1	494340		
		KS2 400 S12 230V Set C (R/L-K)	E6/C-0	1	494440		
500	685	KS2 500 S12 230V Set A (R/R)	E6/C-0	1	494250		
		KS2 500 S12 230V Set B (L/L)	E6/C-0	1	494350		
		KS2 500 S12 230V Set C (R/L-K)	E6/C-0	1	494450		
600	685	KS2 600 S12 230V Set A (R/R)	E6/C-0	1	494260		
		KS2 600 S12 230V Set B (L/L)	E6/C-0	1	494360		
		KS2 600 S12 230V Set C (R/L-K)	E6/C-0	1	494460		
800	765	KS2 800 S12 230V Set A (R/R)	E6/C-0	1	494280		
		KS2 800 S12 230V Set B (L/L)	E6/C-0	1	494380		
		KS2 800 S12 230V Set C (R/L-K)	E6/C-0	1	494480		

OPTIONS							
Special model				PU/pcs.	Part.-No.		
Drive housing painted/powder coated in other RAL colours							
Lump sum for coating					516030		
Specify at order stage:				1 – 20	516004		
				21 – 50	516004		
				51 – 100	516004		
				from 101	516004		
Extra length connecting cable:							
5 m – non-halogen, grey – 6 x 0,75 mm ²					501164		
10 m – non-halogen, grey – 6 x 0,75 mm ²					501166		
5 m – non-halogen, grey – 5 x 0,5 mm ²					501054		
10 m – non-halogen, grey – 5 x 0,5 mm ²					501056		
Microprocessor programming S12							
Programming synchronised multi-drive systems 230V S12					495588		

OVERVIEW OF BRACKETS												
Typical application					1	2	3	4	5	6		
Frame bracket					K93, K94	K129, K130	K96, K96-1	No	K105A, K105B, K105S, K106	K128		
Casement bracket					F21, F35, F37, F17		F95, F120	F95, F120	F18, F19, F20, F22	F21		
Space requirement			min.	[mm]	16 – 30	25 – 30	38	30	Note profile depth	Schüco AWS 57RO		
Overlap thickness *1				[mm]	0 – 21	0 – 21	0 – 21	0 – 21				
Opening angle *2			max.	[DEG]	35	45	60	40	60	45		
Casement weight *3			max.	[Kg]	70	60	50	70	70	70		
Window material					Alu		●	●	●	●	●	
					Wood		●	●	●	●	■	
					PVC		●	●	●	●		
Type of window and mounting	Bottom hung	inward	HSK	FM	●	●						
				RM			●	●				
			NSK	FM	●	●						
				RM			●	●				
		outward	HSK	RM	●	●				●		
				PR								
			NSK	RM	●	●						
				PR								
	Top hung	inward	HSK	FM	■	■						
				RM			■	■				
			NSK	FM	■	■						
				RM			■	■				
		outward	HSK	RM	■	●				■		
				PR								
			NSK	RM	■	■						
				PR								
	Side hung	inward	HSK	FM	●	●						
				RM			●	●				
			NSK	FM								
				RM								
	Roof	outward	HSK	RM	■	■				■		
				PR								
			NSK	RM								
				PR								
	PAF	outward		RM	●	●			●			
	Concealed									●		
FAB *4			Solo	[mm]	600 – 1200							
			Sync2	[mm]	1000 – 2500							
FAH *4			Solo	[mm]	250 – 1500							
			Sync2	[mm]	250 – 2500							

LEGEND

● suitable ■ not recommended

*1 Window sizes and opening angles may be different.

*2 Sample values of the opening angle evaluated on the basis of FAB/FAH for inward opening windows with drives mounted at the main closing edge.

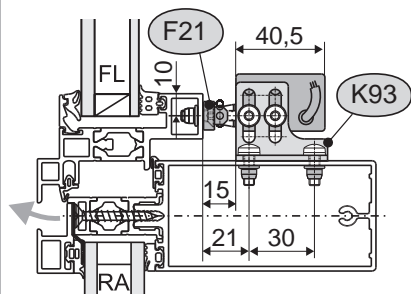
For any other window heights, for outward opening windows and for windows with drives mounted at the side edges the opening angle will vary.

*3 Please respect the individual geometry of the different windows. The listed max. casement weight refers to a single drive on button hung window with a max. opening angle.

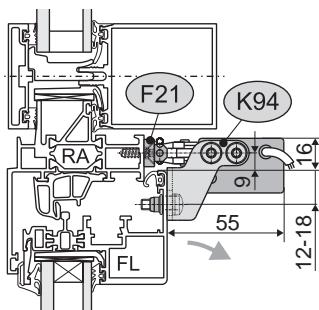
*4 Sample value of the casement dimensions for corner joints of 110 mm. The actual casement dimensions depend on length of the corner joints, profile dimensions, stroke and position of the drives.

The values of FAB/FAH are to be used analogue for side hung windows.

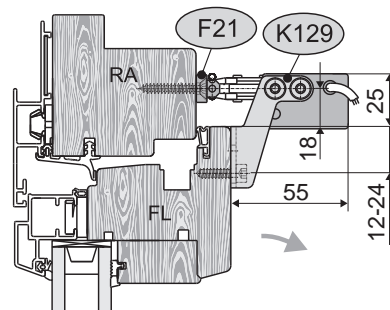
TYPICAL APPLICATIONS

1 PR, top hung
outward opening

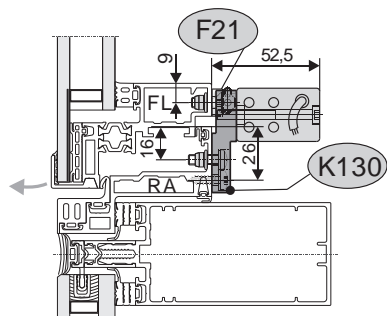
View on aluminium window

1 FM, bottom hung
inward opening

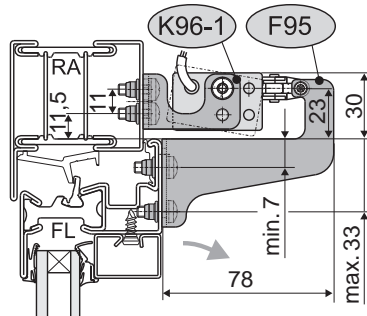
View on aluminium window

2 FM, bottom hung
inward opening

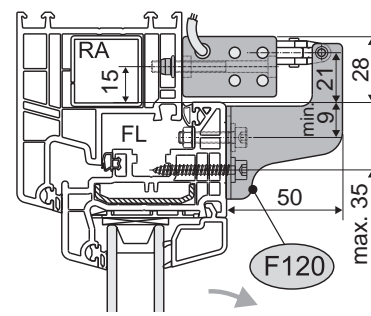
View on aluminium-wood window

2 RM, bottom hung
outward opening

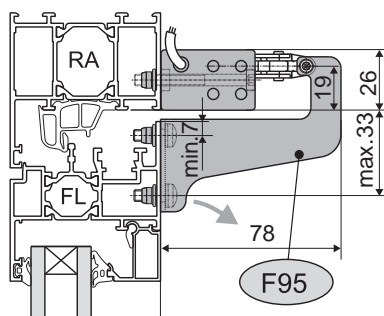
View on aluminium window

3 RM, bottom hung
inward opening

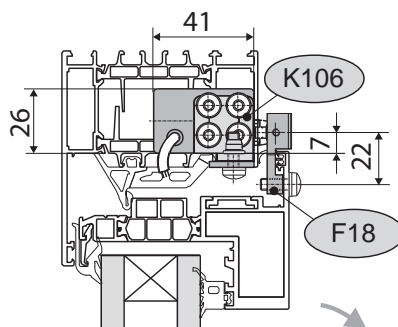
View on steel window

4 RM, bottom hung
inward opening

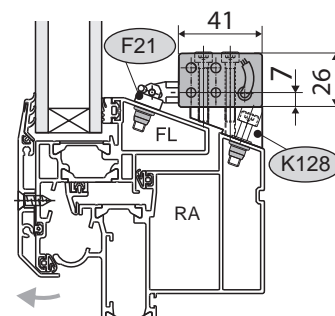
View on PVC window

4 RM, bottom hung
inward opening

View on aluminium window

5 Concealed, bottom hung
inward opening

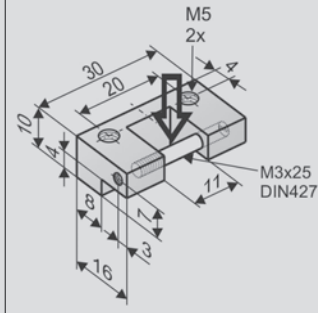
View on aluminium window

6 RM, top hung
outward opening

View on aluminium window (Facade)

CASEMENT BRACKETS

F17



Application

Concealed mounting inside in-/outward opening face- or flush-fitted casements, fixing inside rebate below the secondary gasket with screws removable from outside, for inside the window frame profiles concealed mounted drives **KS2** with **K105**

Chain fixing in direction of the arrow

Part.-No. 151417

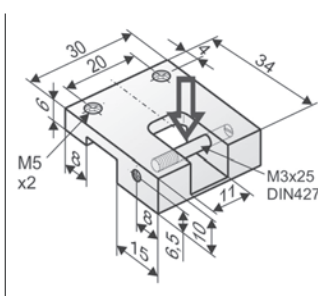
Material/Finish

aluminium
(natural anodized)

Feature/Equipment

1x shaft screw M3x25,
2x rounded head screw
M5x10

F18



Application

Partially concealed mounting on inner profile side of inward opening face-fitted casements, fixing below the secondary gasket with screws removable from outside, for inside the window frame profiles concealed mounted drives **KS2** with **K105**

Chain fixing in direction of the arrow

Part.-No. 151418

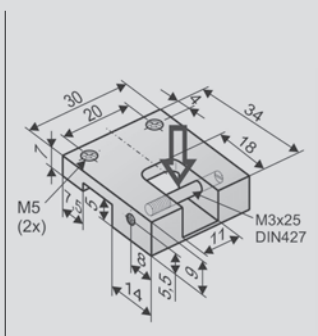
Material/Finish

aluminium
(natural anodized)

Feature/Equipment

1x shaft screw M3x25,
2x rounded head screw
M5x10

F18-1



Application

Surface mounting on inward opening face-fitted casements, for inside the window frame profiles concealed mounted drives **KS2** with **K105**

Chain fixing in direction of the arrow

Part.-No. 151428

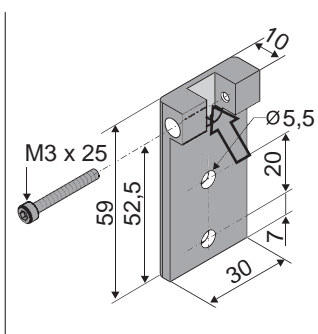
Material/Finish

aluminium
(natural anodized)

Feature/Equipment

1x shaft screw M3x25
2x rounded head screw
M5x10

F19



Application

Surface mounting on inward opening face-fitted casements, for inside the window frame profiles concealed mounted drives **KS2** with **K105**

Chain fixing in direction of the arrow

Part.-No. 151419

Material/Finish

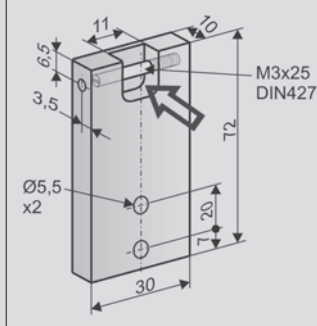
aluminium
(natural anodized)

Feature/Equipment

1x screw M3x25

CASEMENT BRACKETS

F20

**Application**

Surface mounting on inward opening face-fitted casements, for inside the window frame profiles concealed mounted drives **KS2** with **K105**

Chain fixing in direction of the arrow

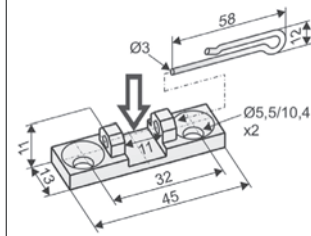
Part.-No. 151420**Material/Finish**

aluminium
(natural anodized)

Feature/Equipment

1x shaft screw M3x25,
2x rounded head screw
M5x20

F21

**Application**

Surface mounting on the casement/window frame profiles on the main/side closing edge of in-/outward opening windows, for surface mounted drives **KS2** with **K93, K94, K129, K130**

Chain fixing in direction of the arrow

Part.-No. 151421**Material/Finish**

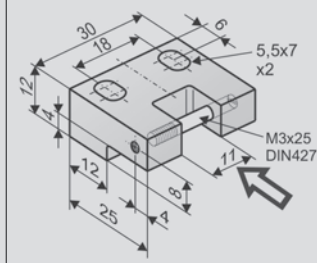
aluminium
(natural anodized)

Feature/Equipment

1x spring pin Ø 3 mm

DISCONTINUED PRODUCT**Optional accessories****B1** for skylight Eternit**Part.-No. 151422****K128** for Schüco AWS 57RO**Part.-No. 523974**

F35

**Application**

Surface mounting on the horizontal side of deep casement profiles of outward opening (friction hinged) windows, for surface mounted drives **KS2** with **K93, K94, K129, K130**

Chain fixing in direction of the arrow

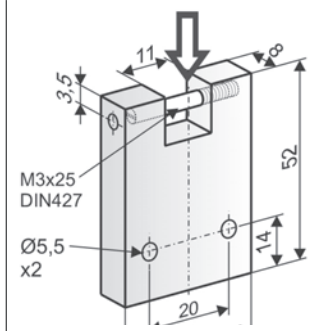
Part.-No. 151425**Material/Finish**

aluminium
(natural anodized)

Feature/Equipment

1x shaft screw M3x25

F37

**Application**

Surface mounting on the horizontal side of deep casement profiles of outward opening (friction hinged) windows, for surface mounted drives **KS2** with **K93, K94, K129, K130**

Chain fixing in direction of the arrow

Part.-No. 151424**Material/Finish**

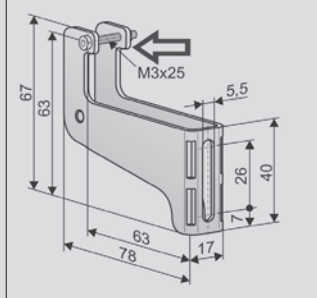
aluminium
(natural anodized)

Feature/Equipment

1x shaft screw M3x25

CASEMENT BRACKETS

F95

**Application**

Surface mounting on the casement profiles of inward opening windows, for surface mounted drives **KS2** with **K96-1**

Chain fixing in direction of the arrow

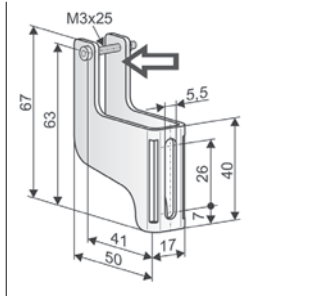
Part.-No. 523972**Material/Finish**

Stainless steel

Feature/Equipment

1x screw M3x25,
spring pin M3,

F120

**Application**

Surface mounting on the casement profiles of inward opening windows, for direct fixing of surface mounted drives **KS2** on the window frame profile

Chain fixing in direction of the arrow

Part.-No. 523973**Material/Finish**

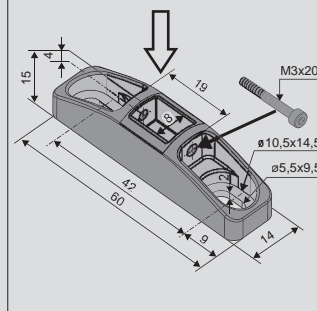
Stainless steel

Feature/Equipment

1x screw M3x25,
spring pin M3,

DISCONTINUED PRODUCT

F41

**Application**

Surface mounting on the casement profiles of inward opening windows, for **swivelling** fixing of drives **KS2** with **K132, K134**

Chain fixing in direction of the arrow

Part.-No. 151440**Material / Finish**

Cast aluminum,
bright chrome

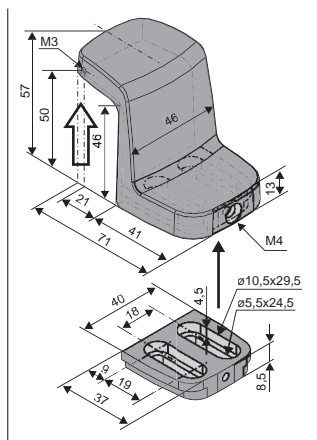
Feature / Equipment

1x screw M3x20
Drilling template

Part.-No. 151445**Material / Finish**

Cast aluminum,
RAL 9006

F42

**Application**

Surface mounting on the casement profiles of inward opening windows, for surface mounted drives **KS2**

Chain fixing in direction of the arrow

Part.-No. 151441**Material / Finish**

Cast aluminum,
bright chrome

Feature / Equipment

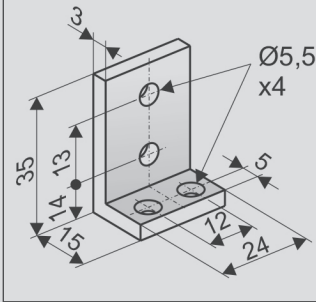
1x baseplate
1x countersunk screw
M4x10
1x screw M3x25
Drilling template

Part.-No. 151446**Material / Finish**

Cast aluminum,
RAL 9006

FRAME BRACKETS

K105-B



Application

Concealed mounting inside the window frame profiles of in-/outward opening windows, for rigid fixing of concealed drives **KS2** with **F17, F18, F19, F20**

Part.-No. 523977

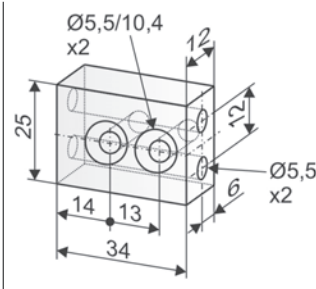
Material/Finish

aluminium
(natural anodized)

Feature/Equipment

2x angle brackets,
4x rounded head screw
M5x10,
4x washer A 5,3

K105-A



Application

Concealed mounting inside the window frame profiles of in-/outward opening windows, for rigid fixing of concealed drives **KS2** with casement brackets **F17**, (FAH min. 700 mm)

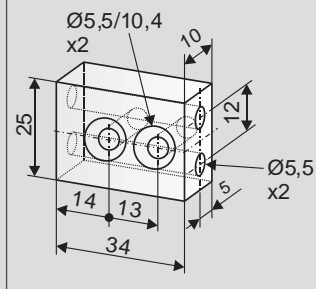
Part.-No. 523975

Material/Finish

aluminium
(natural anodized)

Feature/Equipment

2x angle brackets

K105-A
-W77

Application

Concealed mounting inside the window frame profiles of in-/outward opening windows, for rigid fixing of concealed drives **KS2** with casement brackets **F18-1**, (FAH min. 400 mm)

Part.-No. 523965

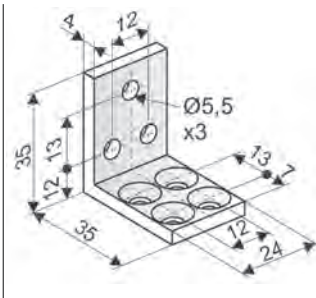
Material/Finish

aluminium
(natural anodized)

Feature/Equipment

2x angle brackets

K106



Application

Concealed mounting inside the window frame profiles of in-/outward opening windows, for rigid fixing of concealed drives **KS2** with **F19** (FAH min. 700 mm), **F20** (FAH min 500 mm)

Part.-No. 523976

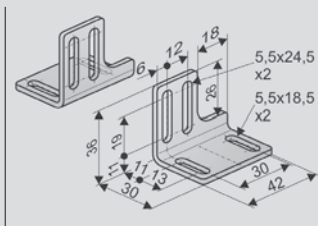
Material/Finish

aluminium
(natural anodized)

Feature/Equipment

2x angle brackets,
4x countersunk screw
M5x10

FRAME BRACKETS

K93**Application**

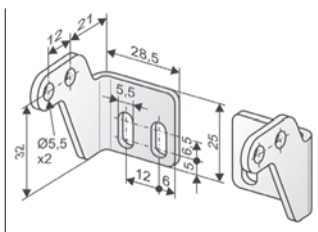
Surface mounting on the transom/mullion profiles of outward opening windows, for rigid fixing of surface mounted drives **KS2** with **F21**

Part.-No. 523916**Material/Finish**

Stainless steel

Feature/Equipment

4x allen screw M5x10,
4x washer A 5,3

K94**Application**

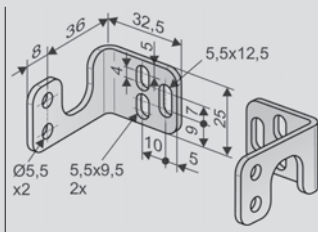
Surface mounting on the casement/window frame profiles of in-/outward opening windows, for rigid or swivelling fixing of drives **KS2** with **F21, F35, F37**

Part.-No. 523921**Material/Finish**

Stainless steel

Feature/Equipment

4x torx screw M5x10,
4x washer A 5,3

K96-1**Application**

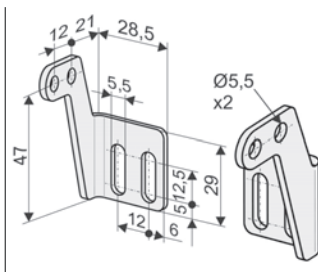
Surface mounting on the casement profiles of inward opening windows, for rigid or swivelling fixing of drives **KS2** with **F95**

Part.-No. 523997**Material/Finish**

Stainless steel

Feature/Equipment

4x torx screw M5x10,
2x torx screw M5x16,
4x washer A 5,3

K129**Application**

Surface mounting on the casement/window frame profiles of in-/outward opening windows, for rigid or swivelling fixing of drives **KS2** with **F21, F35, F37**

Part.-No. 523969**Material/Finish**

Stainless steel

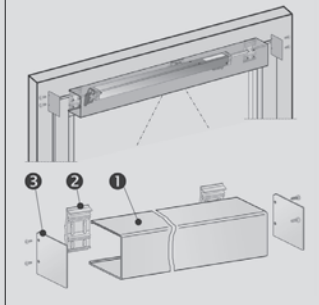
Feature/Equipment

4x torx screw M5x10,
4x washer A 5,3

OPTIONAL ACCESSORIES

Cover profile set

AP KS2



Application

Cover profile for surface mounted drives **KS2** with brackets **K94, K129, K130**. Profile length adjustable to the length of the drives (end caps recommended) or of the casement (without end caps)

Material/Finish

see detailed description of components

Feature/Equipment

incl. profile brackets, **without** end caps

L = 1,5 m (incl. 2x profile bracket)

Part.-No. 523952

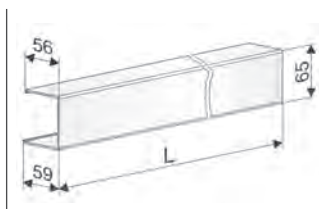
L = 2,0 m (incl. 3x profile bracket)

Part.-No. 523954

L = 2,9 m (incl. 4x profile bracket)

Part.-No. 523956

Cover profile



1

Cover profile for drives **KS2** for cutting on site

Price per metre

Part.-No. 523951

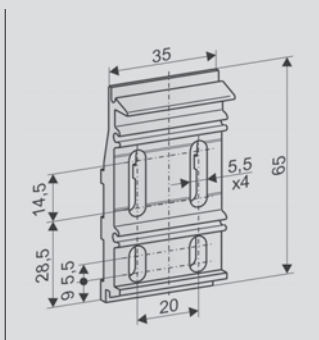
Material/Finish

aluminium (natural anodized)

Feature/Equipment

without profile brackets and end caps

Profile bracket



2

Profile bracket for **KS2** cover profile
< 2 m length: 2 pieces
> 2 m length: 3 – 4 pieces

Part.-No. 523948

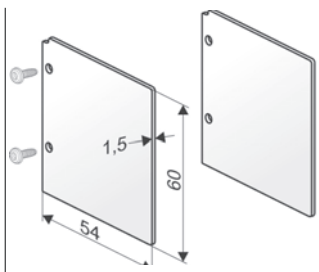
Material/Finish

aluminium (natural anodized)

Feature/Equipment

1 piece (for fixing the cover profile)

End caps



3

End caps for **KS2** cover profile

Part.-No. 523950

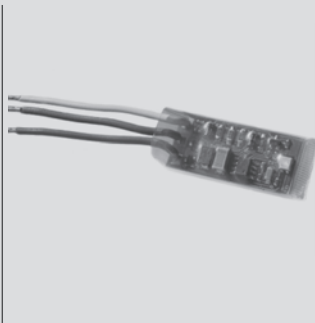
Material/Finish

aluminium (natural anodized)

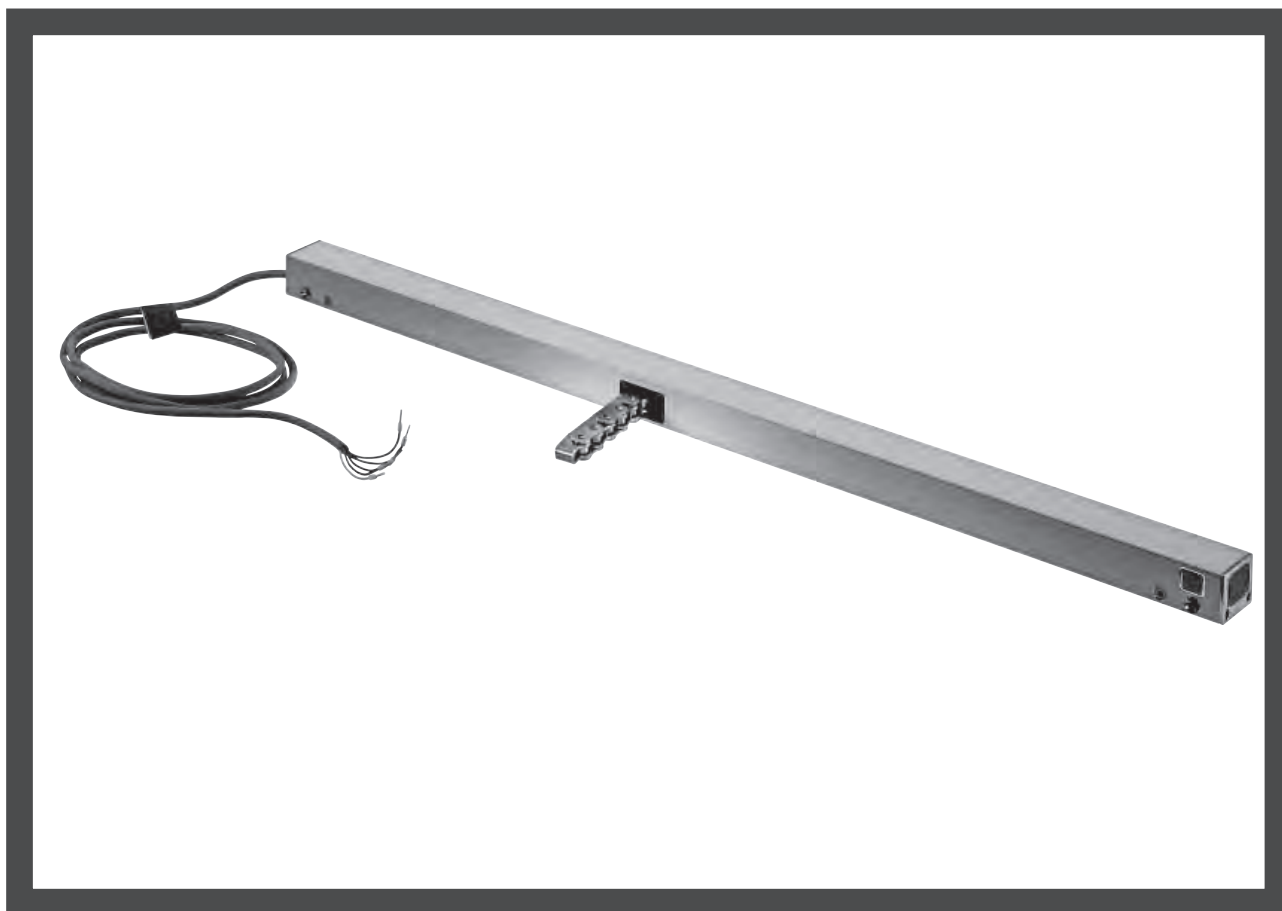
Feature/Equipment

2 pieces + 4x screw M3x12 (taptite)

OPTIONAL ACCESSORIES

Main control unit			
M-COM 	Application Configuration module for automatic configuration and surveillance of max. 4 opening drives / 2 locking drives version S12 / S3 in synchronised multi-drive systems Rated voltage: 24V DC (19V ... 28V) Current consumption: <12 mA Drive type: S12	Part.-No. 524177 Protection rating IP30 rubber envelope Ambient temperature range 0 °C ... + 70 °C Dimensions 45 x 17 x 6 mm Connecting wires 3 wires 0,5 mm² x 50 mm Feature/Equipment Printed circuit board with components and connection wires to be installed in connection box to be supplied on site	

Special model	PU/pcs.	Part.-No.			
Casement brackets painted / powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516032			
	21 – 50	516032			
	51 – 100	516032			
	from 101	516032			
Frame brackets painted / powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516031			
	21 – 50	516031			
	51 – 100	516031			
	from 101	516031			



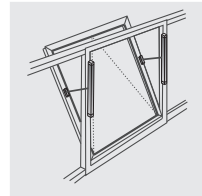
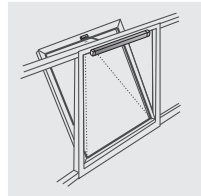
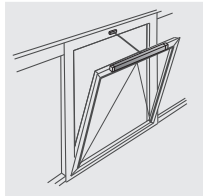
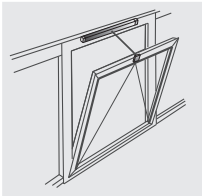
PRODUCT FEATURES KS4

- For natural ventilation, smoke and heat exhausting systems and ferralux® NSHEV (EN12101-2)
- Aluminium housing anodized or optionally in RAL colors
- High-quality stainless steel sidebow roller chain, without protruding rivet heads
- Slim line body that suits concealed fitting within profiles
- Rigid drive mounting on frame without brackets
- Feedback limit position „CLOSE“ (max. 24 V, 500 mA)
- Programmable parameters of Intelligent Control Electronics S12:
 - Feedback limit position „OPEN“ (max. 24V, 500 mA)
 - Synchronised multi-operation and sequence control without add. devices
 - Electronic soft-start, soft-close and soft-stop at end of stroke control
 - Stroke, force, speed
 - Rebate control
- Integrated plug solution
- Compatible with the plug-in configuration module M-COM® Click

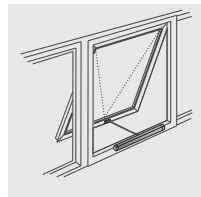
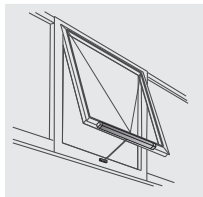
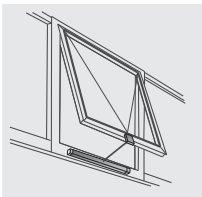
For this product series, a Type III Environmental Product Declaration (EPD) was issued according to ISO 14025 and EN 15804. The LCA results of the different product types are listed at the end of this product catalogue. The EPD documents can be viewed or downloaded from our homepage www.aumüller-gmbh.de.

FACADE

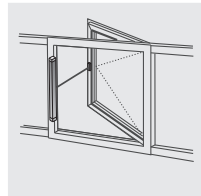
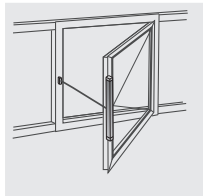
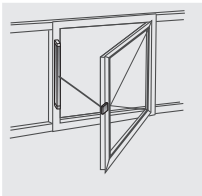
Bottom-hung



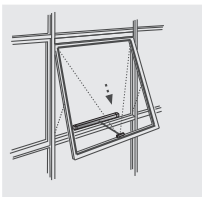
Top-hung



Side-hung



Friction hinged



Parallel outward opening

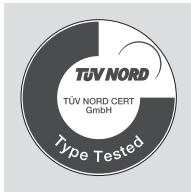


ORDER DATA

s [mm]	L [mm]	Version	Finish	PU / pcs.	Part.-No.			
200	455	KS4 200 S12 24V R	E6/C-0	1	522020			
300	551	KS4 300 S12 24V R	E6/C-0	1	522030			
400	551	KS4 400 S12 24V R	E6/C-0	1	522040			
500	665	KS4 500 S12 24V R	E6/C-0	1	522050			
600	665	KS4 600 S12 24V R	E6/C-0	1	522060			
800	755	KS4 800 S12 24V R	E6/C-0	1	522080			
1000	868	KS4 1000 S12 24V R	E6/C-0	1	522000			

OPTIONS

Special model	PU / pcs.	Part.-No.			
Drive housing painted/powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516004			
	21 – 50	516004			
	51 – 100	516004			
	from 101	516004			
Plug solution:					
AUMÜLLER-Click plug solution - 3 m – non-halogen, grey – 5 x 0,5 mm ²		501251			
AUMÜLLER-Click plug solution - 5 m – non-halogen, grey – 5 x 0,5 mm ²		501252			
AUMÜLLER-Click plug solution - 10 m – non-halogen, grey – 5 x 0,5 mm ²		501253			
Microprocessor programming S12					
Electronic stroke reduction 24V S12		524190			
Programming drives 24V / 230V S12		524180			
Optional accessories	PU / pcs.	Part.-No.			
M-COM® Click Configuration module for synchronised multi-drive systems	1	524167			
M-COM Configuration module for synchronised multi-drive systems	1	524177			



- Application: natural ventilation, SHEV, ferralux®-NSHEV
- Internal Intelligent Control Electronics S12
- Feedback limit position „CLOSE“ (max. 24 V, 500 mA)


Equipment

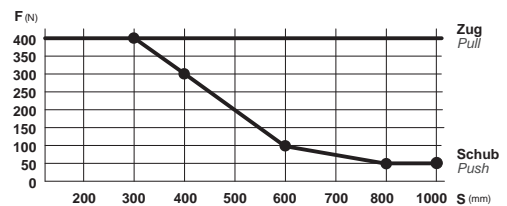
- Additional **AUMÜLLER-Click plug set** for multi-drive operation

Options







- Programmable special functions
- Programmable feedback limit position „OPEN“ (max. 24V, 500 mA)
- M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives (S3 / S12)

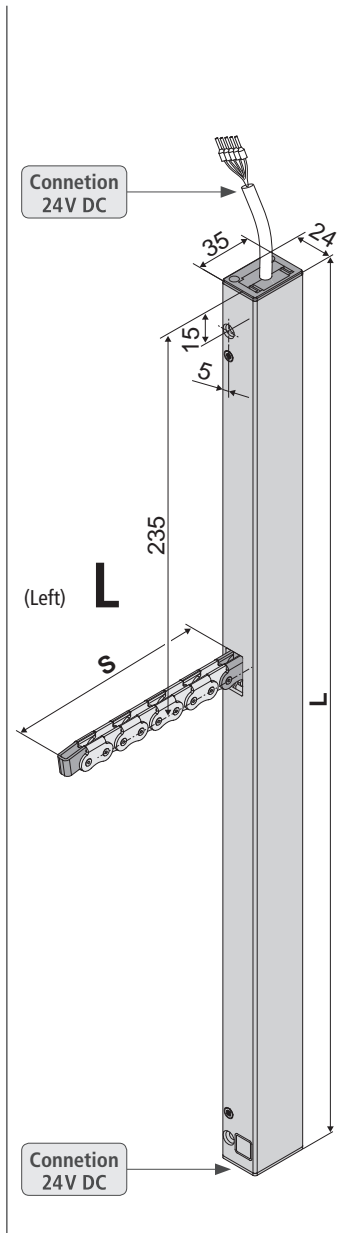
TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	0,9 A
I_A	Cut-off current	1,2 A
P_N	Rated power	22 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	400 N
F_A	Pushing force max.	

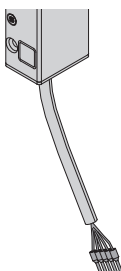


s > 600 mm only for pulling application

F_H	Pullout force	1.800 N (fastening depended)
	Chain	Stainless steel, without protruding rivet heads. Simple connection to casement brackets. Small bending radii allow maximum opening angles of small windows.
	Connecting cable	non-halogen, grey 5 x 0,5 mm ² , ~ 2 m
v	Speed	<div> $s < 400$  8,0 mm/s  8,0 mm/s </div> <div> $s 500 - 600$  12,0 mm/s  8,0 mm/s </div> <div> $s > 600$  13,5 mm/s  8,0 mm/s </div>
s	Stroke	50 – 1000 mm
L	Length	see order data
	Feedback contact	limit position „CLOSE“ (max. 24V, 500 mA)
	Sound pressure level	≤ 70 dB (A)



OPTION



AUMÜLLER chain drives have an integrated cable routing with connection sockets on both housing ends. This enables the following options:

- **AUMÜLLER-Click plug** solution with various cabel lengths
Part.-No.: **501251** - 3 m cable length / **501252** - 5 m cable length / **501253** - 10 m cable length
- Series connection of several drives into multi drive systems
- Power supply from both sides

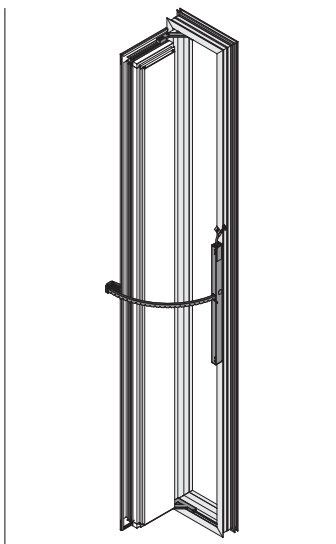
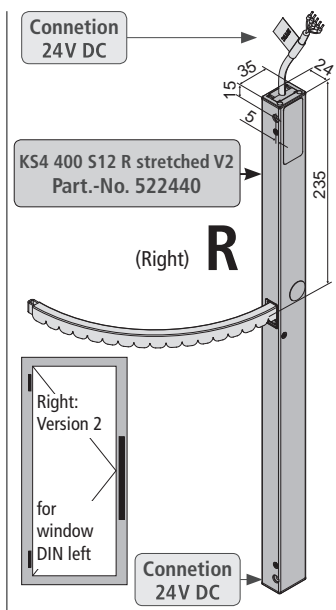
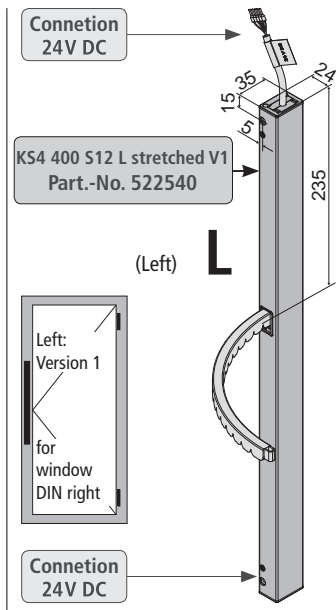
ORDER DATA

s [mm]	L [mm]	Version	Finish	PU / pcs.	Part.-No.			
200	455	KS4 200 S12 24V L	E6/C-0	1	520120			
300	551	KS4 300 S12 24V L	E6/C-0	1	520130			
400	551	KS4 400 S12 24V L	E6/C-0	1	520140			
500	665	KS4 500 S12 24V L	E6/C-0	1	520150			
600	665	KS4 600 S12 24V L	E6/C-0	1	520160			
800	755	KS4 800 S12 24V L	E6/C-0	1	520180			
1000	868	KS4 1000 S12 24V L	E6/C-0	1	520100			

OPTIONS

Special model	PU / pcs.	Part.-No.			
Drive housing painted/powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516004			
	21 – 50	516004			
	51 – 100	516004			
	from 101	516004			
Plug solution:					
AUMÜLLER-Click plug solution - 3 m – non-halogen, grey – 5 x 0,5 mm ²		501251			
AUMÜLLER-Click plug solution - 5 m – non-halogen, grey – 5 x 0,5 mm ²		501252			
AUMÜLLER-Click plug solution - 10 m – non-halogen, grey – 5 x 0,5 mm ²		501253			
Microprocessor programming S12					
Electronic stroke reduction 24V S12		524190			
Programming drives 24V / 230V S12		524180			
Optional accessories	PU / pcs.	Part.-No.			
M-COM® Click Configuration module for synchronised multi-drive systems	1	524167			
M-COM Configuration module for synchronised multi-drive systems	1	524177			

Attached assembly



- Flexible „side bow chain“ for narrow high windows
- Attached assembly with casement bracket F42
- Application: natural ventilation, SHEV, ferralux®-NSHEV
- Internal Intelligent Control Electronics S12
- Feedback limit position „CLOSE“ (max. 24 V, 500 mA)

Equipment




- Additional **AUMÜLLER-Click plug set** for multi-drive operation

Options

- Programmable special functions
- Programmable feedback limit position „OPEN“ (max. 24V, 500 mA)
- M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives (S3 / S12)



TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	0,6 A
I_A	Cut-off current	0,8 A
P_N	Rated power	22 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	200 N
F_A	Pushing force max.	200 N
F_H	Pullout force	1.800 N (fastening depended)
	Chain	Stainless steel, without protruding rivet heads. Simple connection to casement brackets. Small bending radii allow maximum opening angles of small windows.
	Connecting cable	non-halogen, grey 5 x 0,5 mm ² , ~ 2 m
v	Speed	$s < 400$  8,0 mm/s  8,0 mm/s
s	Stroke max.	400 mm
L	Length	see order data
	Feedback contact	limit position „CLOSE“ (max. 24V, 500 mA)
	Sound pressure level	≤ 70 dB (A)

AUMÜLLER chain drives have an integrated cable routing with connection sockets on both housing ends. This enables the following options:

- **AUMÜLLER-Click plug** solution with various cabel lengths
Part.-No.: **501251** - 3 m cable length / **501252** - 5 m cable length / **501253** - 10 m cable length
- Series connection of several drives into multi drive systems
- Power supply from both sides

ORDER DATA

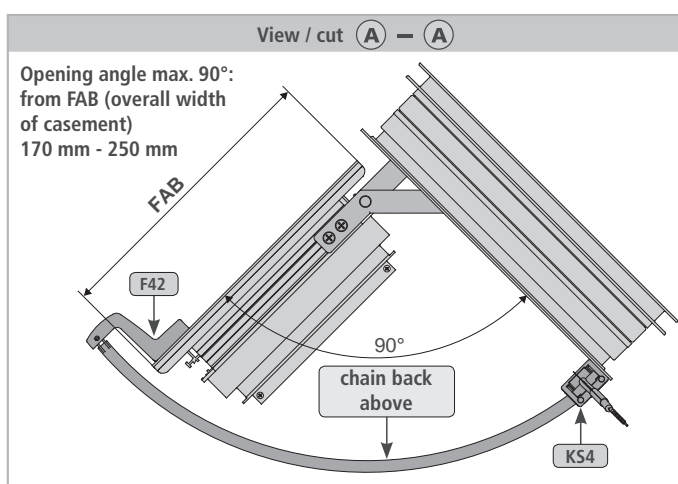
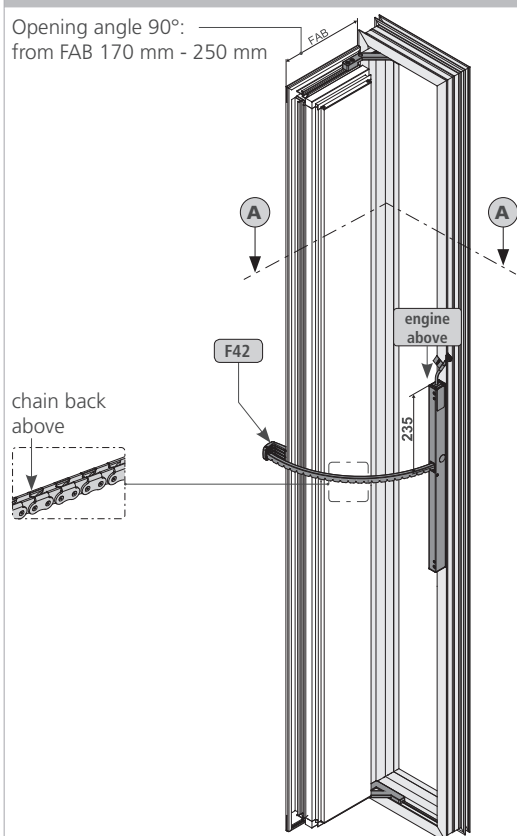
s [mm]	L [mm]	Version	Finish	PU / pcs.	Part.-No.			
400	551	KS4 400 S12 24V L stretched chain V1	E6/C-0	1	522540			
400	551	KS4 400 S12 24V R stretched chain V2	E6/C-0	1	522440			

OPTIONS

Special model	PU / pcs.	Part.-No.			
Drive housing painted/powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516004			
	21 – 50	516004			
	51 – 100	516004			
	from 101	516004			
Plug solution:					
AUMÜLLER-Click plug solution - 3 m – non-halogen, grey – 5 x 0,5 mm ²		501251			
AUMÜLLER-Click plug solution - 5 m – non-halogen, grey – 5 x 0,5 mm ²		501252			
AUMÜLLER-Click plug solution - 10 m – non-halogen, grey – 5 x 0,5 mm ²		501253			
Microprocessor programming S12					
Electronic stroke reduction 24V S12		524190			
Programming drives 24V / 230V S12		524180			
Optional accessories	PU / pcs.	Part.-No.			
M-COM® Click Configuration module for synchronised multi-drive systems	1	524167			
M-COM Configuration module for synchronised multi-drive systems	1	524177			

Attached assembly

Opening angle 90°:
from FAB 170 mm - 250 mm

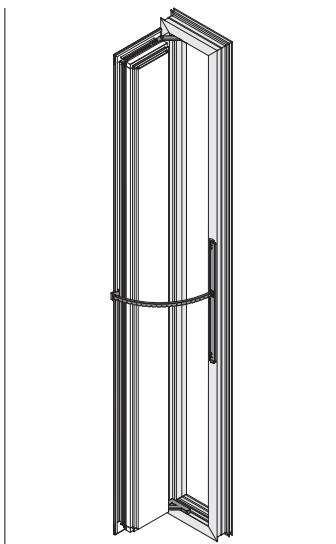
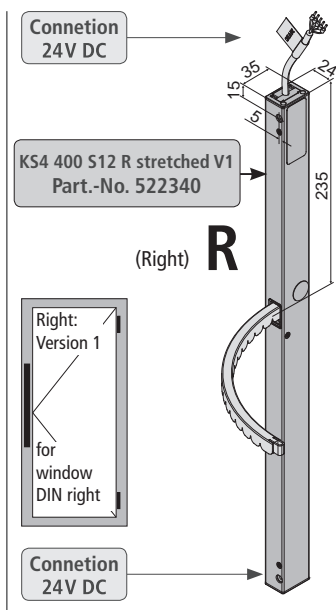
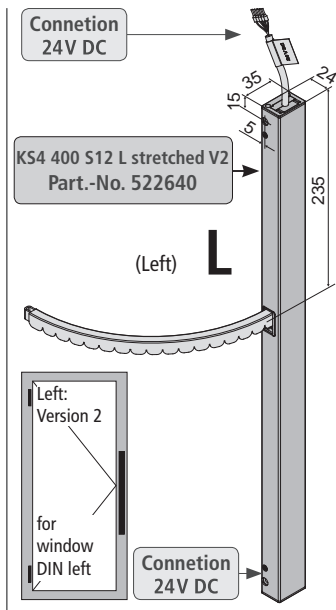


Stroke programming

FAB	Stroke	Opening angle approx.
170	280	90°
180	305	90°
200	330	90°
225	350	90°
250	375	90°
275	400	85°
300	400	80°

The stroke is programmed: • according to the desired opening angle
• depending on the FAB

Concealed mounting inside profiles



- Flexible „side bow chain“ for narrow high windows
- Concealed mounting inside profiles with casement bracket F43 and frame bracket K133
- Application: natural ventilation, SHEV, ferralux®-NSHEV
- Internal Intelligent Control Electronics S12
- Feedback limit position „CLOSE“ (max. 24 V, 500 mA)

Equipment




- Additional **AUMÜLLER-Click plug set** for multi-drive operation

Options

- Programmable special functions
- Programmable feedback limit position „OPEN“ (max. 24V, 500 mA)
- M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives (S3 / S12)



TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	0,6 A
I_A	Cut-off current	0,8 A
P_N	Rated power	22 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	200 N
F_A	Pushing force max.	200 N
F_H	Pullout force	1.800 N (fastening depended)
	Chain	Stainless steel, without protruding rivet heads. Simple connection to casement brackets. Small bending radii allow maximum opening angles of small windows.
	Connecting cable	non-halogen, grey 5 x 0,5 mm ² , ~ 2 m
v	Speed	$s < 400$  8,0 mm/s  8,0 mm/s
s	Stroke max.	400 mm
L	Length	see order data
	Feedback contact	limit position „CLOSE“ (max. 24V, 500 mA)
	Sound pressure level	≤ 70 dB (A)

AUMÜLLER chain drives have an integrated cable routing with connection sockets on both housing ends. This enables the following options:

- **AUMÜLLER-Click plug** solution with various cable lengths
Part.-No.: **501251** - 3 m cable length / **501252** - 5 m cable length / **501253** - 10 m cable length
- Series connection of several drives into multi drive systems
- Power supply from both sides

ORDER DATA

s [mm]	L [mm]	Version	Finish	PU / pcs.	Part.-No.			
400	551	KS4 400 S12 24V L stretched chain V2	E6/C-0	1	522640			
400	551	KS4 400 S12 24V R stretched chain V1	E6/C-0	1	522340			

OPTIONS

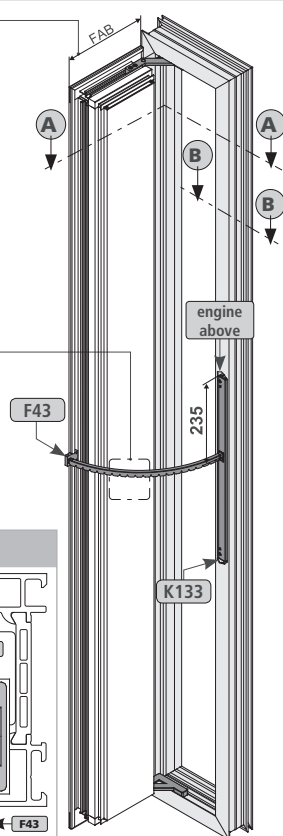
Special model	PU / pcs.	Part.-No.			
Drive housing painted/powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516004			
	21 – 50	516004			
	51 – 100	516004			
	from 101	516004			
Plug solution:					
AUMÜLLER-Click plug solution - 3 m – non-halogen, grey – 5 x 0,5 mm ²		501251			
AUMÜLLER-Click plug solution - 5 m – non-halogen, grey – 5 x 0,5 mm ²		501252			
AUMÜLLER-Click plug solution - 10 m – non-halogen, grey – 5 x 0,5 mm ²		501253			
Microprocessor programming S12					
Electronic stroke reduction 24V S12		524190			
Programming drives 24V / 230V S12		524180			
Optional accessories	PU / pcs.	Part.-No.			
M-COM® Click Configuration module for synchronised multi-drive systems	1	524167			
M-COM Configuration module for synchronised multi-drive systems	1	524177			

Concealed mounting inside profiles

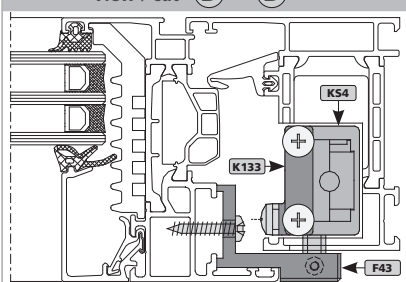
Opening angle 90°:
from FAB 170 mm - 250 mm

Planning of the „concealed mounting
inside profiles“ on request!

chain back
above

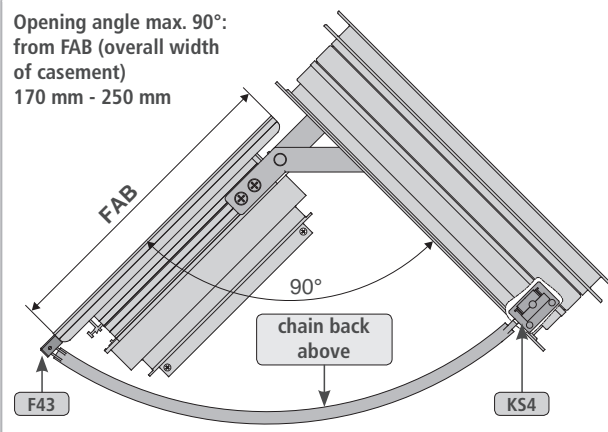


View / cut B – B



View / cut A – A

Opening angle max. 90°:
from FAB (overall width
of casement)
170 mm - 250 mm



Stroke programming

FAB	Stroke	Opening angle approx.
170	280	90°
180	305	90°
200	330	90°
225	350	90°
250	375	90°
275	400	85°
300	400	80°

The stroke is programmed: • according to the desired opening angle
• depending on the FAB

OVERVIEW OF BRACKETS									
Typical application					1	2	3	4	5
Frame bracket					K134	K132	No	K133	K135
Casement bracket					F41	F42	F42	F43	F19
Space requirement		min.	[mm]		20	28	27		
Overlap thickness (*1)			[mm]		0 - 21	5 - 21	0 - 21		
Opening angle (*2)		max.	[DEG]		45	60	40		
Casement weight (*3)		max.	[Kg]		85	70	85		
Window material		Alu			●	●	●	●	●
		Wood			●	●	●	●	●
		PVC			●	●	●	●	●
Type of window and mounting	Bottom hung	inward	HSK	FM	●	●			
				RM			●		
			NSK	FM	●	●			
				RM			●		
		outward	HSK	RM	●	●			
				PR					
			NSK	RM	●	●			
				PR					
	Top hung	inward	HSK	FM	■	■			
				RM			■		
			NSK	FM	■	■			
				RM			■		
		outward	HSK	RM	■	●			
				PR					
			NSK	RM	■	■			
				PR					
	Side hung	inward	HSK	FM	●	●			
				RM			●		
			NSK	FM					
				RM					
	Roof	outward	HSK	RM	■	■			
				PR					
			NSK	RM					
				PR					
	PAF	outward		RM	●	●			
	Concealed							●	●
FAB (*4)		Solo	[mm]		600 - 1200				
FAH (*4)		Solo	[mm]		250 - 1500				

LEGEND

● suitable ■ not recommended

(*1 Window sizes and opening angles may be different.

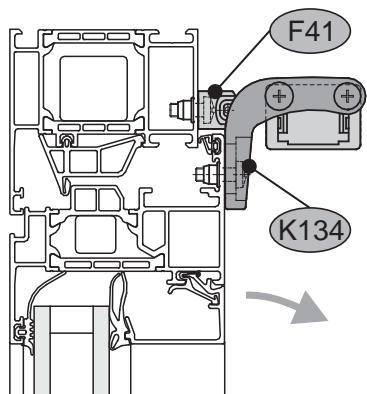
(*2 Sample values of the opening angle evaluated on the basis of FAB/FAH for inward opening windows with drives mounted at the main closing edge. For any other window heights, for outward opening windows and for windows with drives mounted at the side edges the opening angle will vary.

(*3 Please respect the individual geometry of the different windows. The listed max. casement weight refers to a single drive on button hung window with a max. opening angle.

(*4 Sample value of the casement dimensions for corner joints of 110 mm. The actual casement dimensions depend on length of the corner joints, profile dimensions, stroke and position of the drives. The values of FAB/FAH are to be used analogue for side hung windows.

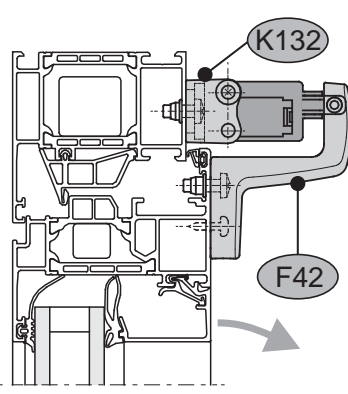
TYPICAL APPLICATIONS

- 1 FM, bottom hung
inward opening



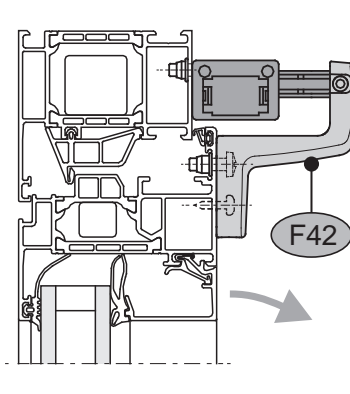
View on aluminium window

- 2 RM, bottom hung
inward opening



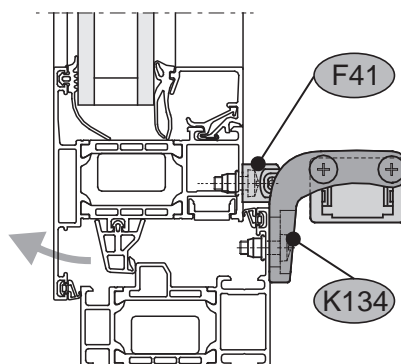
View on aluminium window

- 3 RM, bottom hung
inward opening



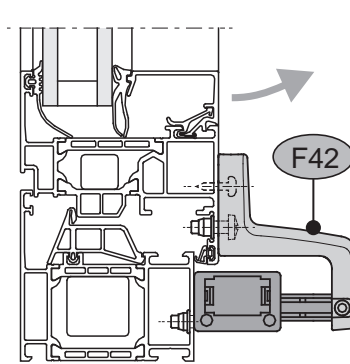
View on aluminium window

- 1 RM, top hung
outward opening



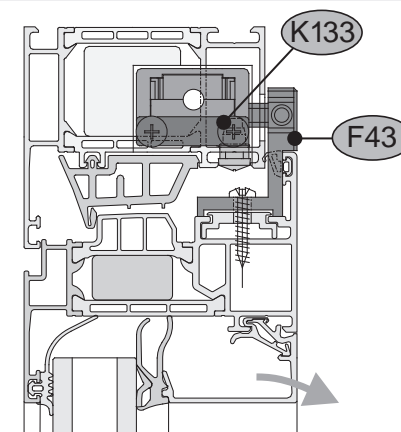
View on aluminium window

- 3 RM, top hung
inward opening



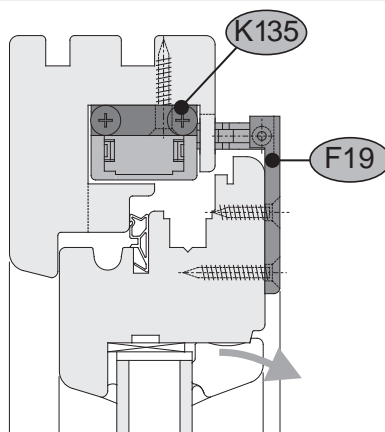
View on aluminium window

- 4 PE (profile installation) in the frame
bottom hung, inward opening



View on Schüco AWS 57RO

- 5 PE (profile installation) in the frame
bottom hung, inward opening



View on wood window

1/44

FRAME BRACKETS

K132		<p>Application</p> <p>Surface mounting on the casement profiles of inward opening windows, for swivelling fixing of drives KS4 with F42</p>	<p>Part.-No. 522940</p> <p>Material / Finish Cast aluminum, bright chrome</p> <p>Feature / Equipment 2x frame brackets 2x screws M5x16</p>		
K134		<p>Application</p> <p>Surface mounting on the case-ment / window frame profiles of in- / outward opening windows, for rigid or swivelling fixing of drives KS4 with F41, F42</p>	<p>Part.-No. 522941</p> <p>Material / Finish Cast aluminum, bright chrome</p> <p>Feature / Equipment 4x screw M5x10</p> <p>Part.-No. 522948</p> <p>Material / Finish Cast aluminum, RAL 9006</p>		

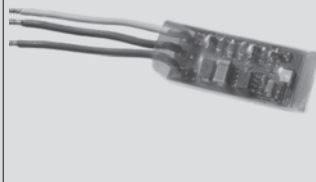
PROFILE-INTEGRATED MOUNTING

<p>K133</p>	<p>Application</p> <p>Profil-integrated mounting in the casement profiles of inward opening windows, for rigid fixing of drives KS4 with F43.</p>	<p>Part-No. 522946</p> <p>Material / Finish Stainless steel</p> <p>Feature / Equipment 2x frame brackets 4x screws M5x10</p>	
<p>K135</p>	<p>Application</p> <p>Profil-integrated mounting in the casement profiles of inward opening wood windows, for rigid fixing of drives KS4 with F19.</p>	<p>Part-No. 522943</p> <p>Material / Finish Aluminium, vibratory grinding</p> <p>Feature / Equipment 2x frame brackets 4x screws M5x16</p>	

OPTIONAL ACCESSORIES

Main control unit

M-COM



Application

Configuration module for automatic configuration and surveillance of max. 4 opening drives / 2 locking drives version S12 / S3 in synchronised multi-drive systems

Rated voltage:

24V DC (19V ... 28V)

Current consumption: <12 mA

Drive type: S12

Protection rating

IP30 rubber envelope

Part-No. 524177

Ambient temperature

range: 0 °C ... + 70 °C

Dimensions

45 x 17 x 6 mm

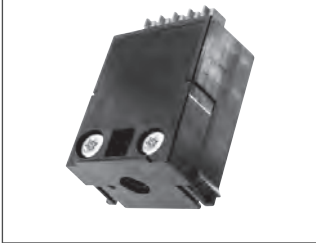
Connecting wires

3 wires 0,5 mm² x 50 mm

Feature/Equipment

Printed circuit board with components and connection wires to be installed in connection box to be supplied on site

M-COM® Click



Application

Configuration module for automatic configuration and surveillance of max. 4 opening drives / 2 locking drives version S12 / S3 in synchronised multi-drive systems

Rated voltage:

24V DC (19V ... 28V)

Current consumption: <12 mA

Drive type: S12

Protection rating: IP30

Part-No. 524167

Ambient temperature

range: -5 °C ... +70 °C

Dimensions:

40 x 26 x 15 mm

Connection:

for AUMÜLLER chain drives with AUMÜLLER-Click plug solution

Equipment

Tongs for removing the M-COM® Click

Plug solution

AUMÜLLER-Click plug solution



Application

AUMÜLLER-Click plug solution: Unified plug solution for all AUMÜLLER chain drives and AUMÜLLER folding arm drives.

Rated voltage:

24V DC (19V ... 28V)

Connecting cable:

non-halogen, grey 5 x 0,5 mm²

Terminal: to 1,5 mm²

Feature/Equipment

- Flexible cable length
- Connect multiple drives in series connection
- Torsion-plug
- Locking hooks prevent withdrawal of the plug under tensile load
- Strain relief according DIN EN 60335-1 by screwing the housing halves

VARIANTEN:

3 m cable length - 24 V DC

Part-No. 501251

5 m cable length - 24 V DC

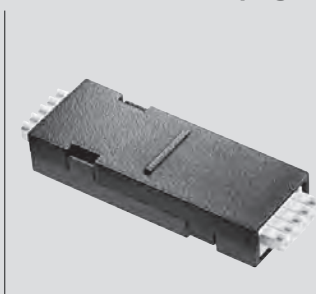
Part-No. 501252

10 m cable length - 24 V DC

Part-No. 501253

Connection plug

AUMÜLLER-Click KS4 Connection plug



Application

Connection plug for rigid mounting of two drives with mirrored chain outlet.

Rated voltage:

24V DC (19V ... 28V)

Dimension:

70 x 26 x 13 mm

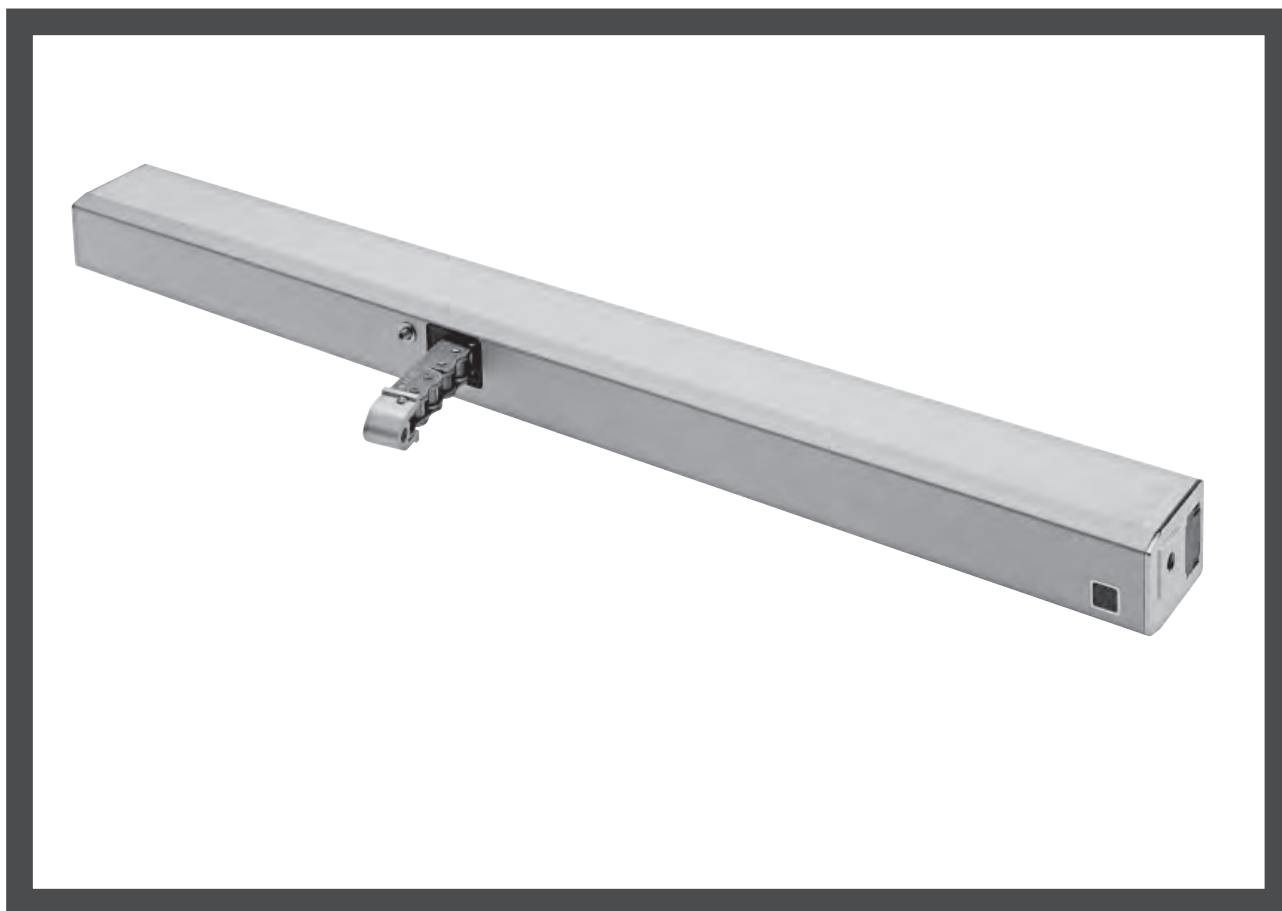
Part-No. 524123

Feature/Equipment

- Torsion-plug
- Replaces disturbing cables
- Creates a visually consistent image on the window - without disturbing, visible cables.

CASEMENT BRACKETS AND FRAME BRACKETS

Special model	PU/pcs.	Part.-No.			
Casement brackets painted / powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516032			
	21 – 50	516032			
	51 – 100	516032			
	from 101	516032			
Frame brackets painted / powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516031			
	21 – 50	516031			
	51 – 100	516031			
	from 101	516031			



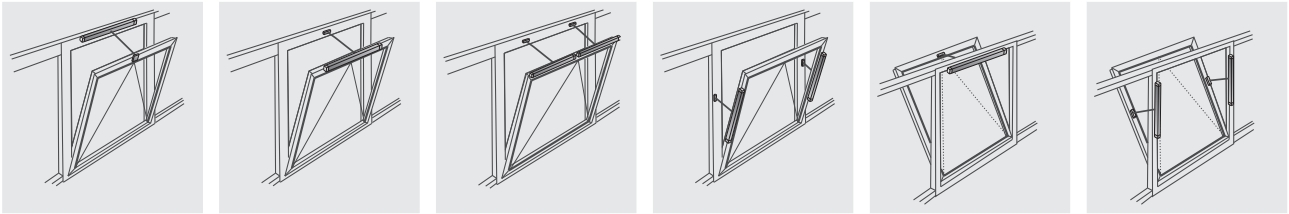
PRODUCT FEATURES KSA

- For natural ventilation, SHEV und ferralux® NRWG nach EN12101-2
- TWIN versions with two chains and doubled force
- Adjustable chain tension
- Mechanical chain unlocking
- Aluminium housing anodized or optionally in RAL colors
- High-quality stainless steel roller chain
- Programmable parameters of Intelligent Control Electronics S12:
 - Synchronised multi-operation and sequence control without add. devices
 - Electronic soft-start, soft-close and soft-stop at end of stroke control
 - Stroke, force, speed
 - Rebate control
- Integrated plug solution
- Compatible with the plug-in configuration modulel M-COM® Click

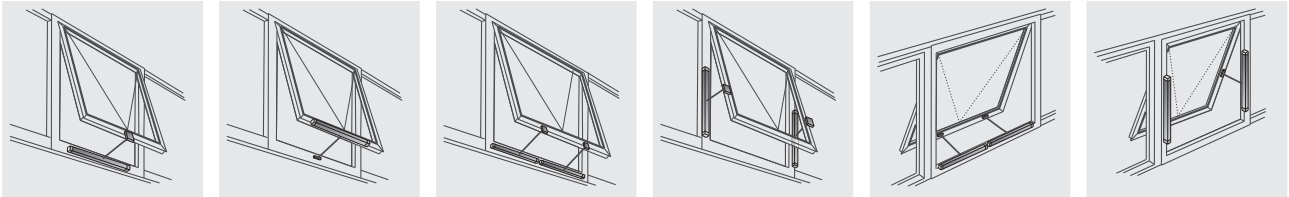
For this product series, a Type III Environmental Product Declaration (EPD) was issued according to ISO 14025 and EN 15804. The LCA results of the different product types are listed at the end of this product catalogue. The EPD documents can be viewed or downloaded from our homepage www.aumueller-gmbh.de.

FACADE

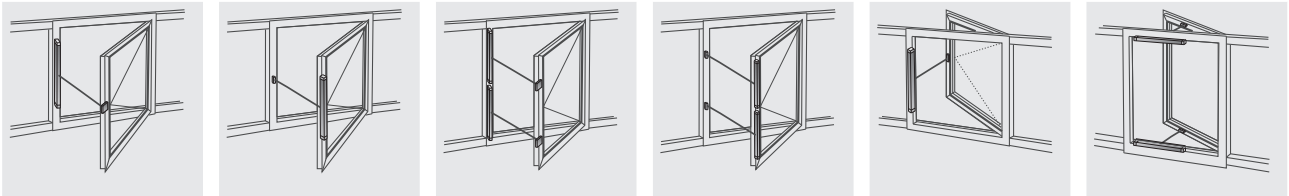
Bottom-hung



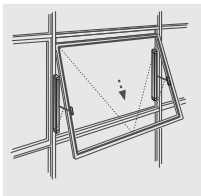
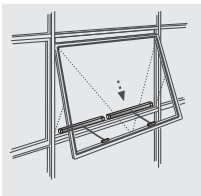
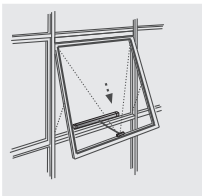
Top-hung



Side-hung



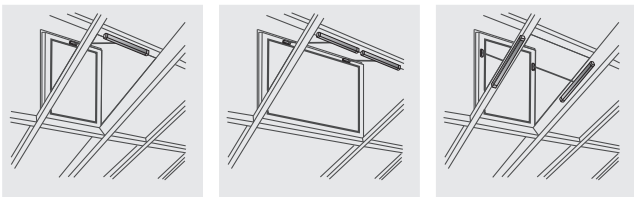
Friction hinged



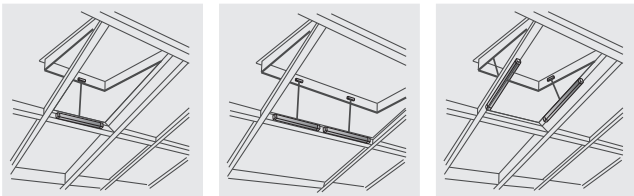
Parallel outward opening

**ROOF**

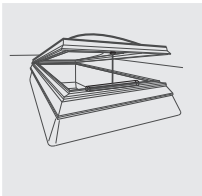
Bottom-hung



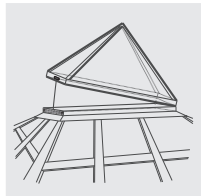
Top-hung

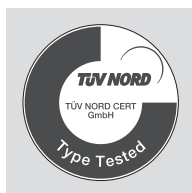


Sky light



Glass pyramid





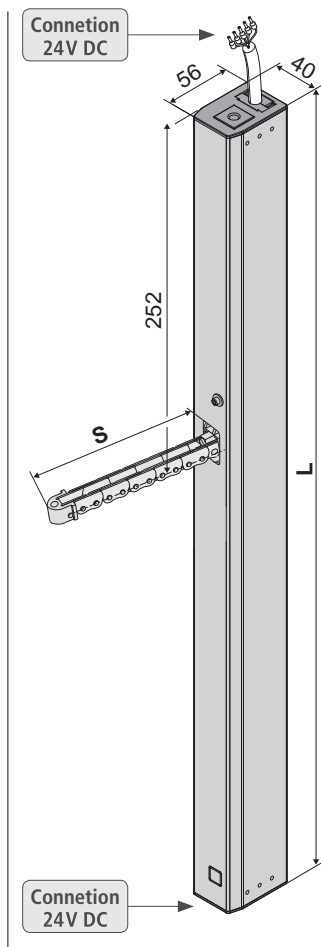
- Application: natural ventilation, SHEV, ferralux®-NSHEV
- Internal Intelligent Control Electronics S12
- Adjustable chain tension / Mechanical chain unlocking

Equipment

- Additional **AUMÜLLER-Click plug set** for multi-drive operation

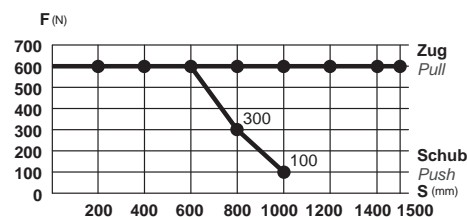
Options

- Programmable special functions
- M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives (S3 / S12)



TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	0,9 A
I_A	Cut-off current	1,2 A
P	Rated power	22 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... +60 °C
F	Pulling force max.	600 N
F_A	Pushing force max.	



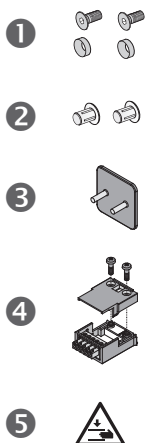
$s > 800$ mm only for pulling application

Pullout force	3.000 N (fastening depended)
Chain	stainless steel
Connecting cable	non-halogen, grey 5 x 0,5 mm ² , ~ 3 m
Speed	$s < 400$ 8,0 mm/s 8,0 mm/s $s 500 - 600$ 12,0 mm/s 8,0 mm/s $s > 600$ 13,5 mm/s 8,0 mm/s

S	Stroke	250 – 1.500 mm
L	Length	see order data
	Sound pressure level	≤ 70 dB (A)

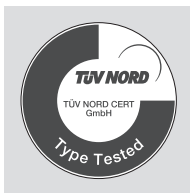
In delivery

- 2x countersunk screws M8x16 and 2x Spacer ring (brass)
- 2x blind plug for unused cable entry
- 1x chain unlocking key
- 1x **AUMÜLLER-Click plug set** (24V) for multi-drive operation
- 1x warning sign sticker „Risk of entrapment“



ORDER DATA							
s [mm]	L [mm]	Version	Finish	PU / pcs.	Part.-No.		
250	515	KSA 250 S12 24V	E6/C-0	1	522725		
300	591	KSA 300 S12 24V	E6/C-0	1	522730		
400	591	KSA 400 S12 24V	E6/C-0	1	522740		
500	693	KSA 500 S12 24V	E6/C-0	1	522750		
600	693	KSA 600 S12 24V	E6/C-0	1	522760		
800	794	KSA 800 S12 24V	E6/C-0	1	522780		
1000	896	KSA 1000 S12 24V	E6/C-0	1	522810		
1200	998	KSA 1200 S12 24V	E6/C-0	1	522812		
1500	1151	KSA 1500 S12 24V	E6/C-0	1	522815		

OPTIONS							
Special model				PU / pcs.	Part.-No.		
Drive housing painted/powder coated in other RAL colours							
Lump sum for coating					516030		
Specify at order stage:				1 – 20	516004		
				21 – 50	516004		
				51 – 100	516004		
				from 101	516004		
Plug solution:							
AUMÜLLER-Click plug solution - 5 m – non-halogen, grey – 5 x 0,5 mm ²					501252		
AUMÜLLER-Click plug solution - 10 m – non-halogen, grey – 5 x 0,5 mm ²					501253		
Microprocessor programming S12							
Electronic stroke reduction 24V S12					524190		
Programming drives 24V / 230V S12					524180		
Optional accessories				PU / pcs.	Part.-No.		
M-COM® Click Configuration module for synchronised multi-drive systems				1	524167		
M-COM Configuration module for synchronised multi-drive systems				1	524177		



- Application: natural ventilation, SHEV, ferralux®-NSHEV
- Internal Intelligent Control Electronics S12
- Adjustable chain tension / Mechanical chain unlocking
- Programmable feedback limit position „OPEN“ and „CLOSE“ (max. 24V, 500 mA)

Equipment

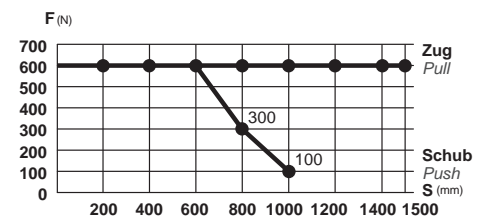
- Additional **AUMÜLLER-Click plug set** for multi-drive operation

Options

- Programmable special functions
- M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives (S3 / S12)

TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	0,9 A
I_A	Cut-off current	1,2 A
P	Rated power	22 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... +60 °C
F	Pulling force max.	600 N
F_A	Pushing force max.	



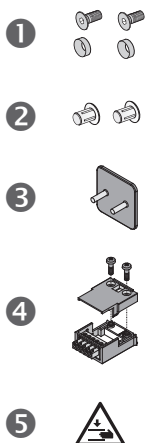
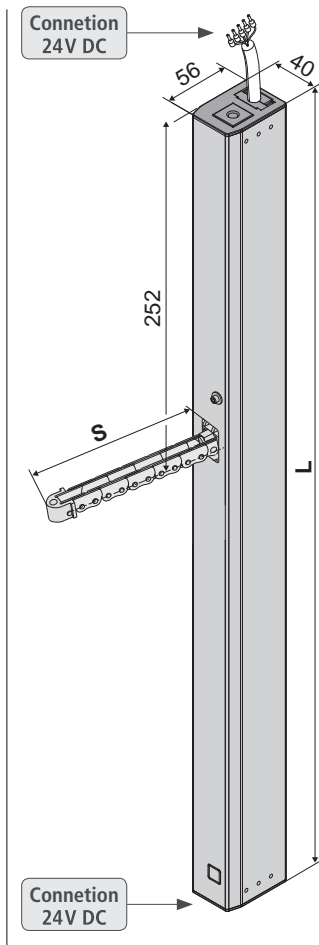
$s > 800$ mm only for pulling application

Pullout force	3.000 N (fastening depended)
Chain	stainless steel
Connecting cable	non-halogen, grey 5 x 0,5 mm ² , ~ 3 m
Speed	$s < 400$ 8,0 mm/s 8,0 mm/s $s 500 - 600$ 12,0 mm/s 8,0 mm/s $s > 600$ 13,5 mm/s 8,0 mm/s

S	Stroke	250 – 1.500 mm
L	Length	see order data
	Sound pressure level	≤ 70 dB (A)

In delivery

- 2x countersunk screws M8x16 and 2x Spacer ring (brass)
- 2x blind plug for unused cable entry
- 1x chain unlocking key
- 1x **AUMÜLLER-Click plug set** (24V) for multi-drive operation
- 1x warning sign sticker „Risk of entrapment“



ORDER DATA						
s [mm]	L [mm]	Version	Finish	PU / pcs.	Part.-No.	
250	515	KSA 250 S12 24V Z	E6/C-0	1	522723	
300	591	KSA 300 S12 24V Z	E6/C-0	1	522733	
400	591	KSA 400 S12 24V Z	E6/C-0	1	522743	
500	693	KSA 500 S12 24V Z	E6/C-0	1	522753	
600	693	KSA 600 S12 24V Z	E6/C-0	1	522763	
800	794	KSA 800 S12 24V Z	E6/C-0	1	522783	
1000	896	KSA 1000 S12 24V Z	E6/C-0	1	522813	
1200	998	KSA 1200 S12 24V Z	E6/C-0	1	522823	
1500	1151	KSA 1500 S12 24V Z	E6/C-0	1	522853	

OPTIONS						
Special model				PU / pcs.	Part.-No.	
Drive housing painted/powder coated in other RAL colours						
Lump sum for coating					516030	
Specify at order stage:				1 – 20	516004	
				21 – 50	516004	
				51 – 100	516004	
				from 101	516004	
Plug solution:						
AUMÜLLER-Click plug solution - 5 m – non-halogen, grey – 5 x 0,5 mm ²					501252	
AUMÜLLER-Click plug solution - 10 m – non-halogen, grey – 5 x 0,5 mm ²					501253	
Microprocessor programming S12						
Electronic stroke reduction 24V S12					524190	
Programming drives 24V / 230V S12					524180	
Optional accessories				PU / pcs.	Part.-No.	
M-COM® Click Configuration module for synchronised multi-drive systems				1	524167	
M-COM Configuration module for synchronised multi-drive systems				1	524177	



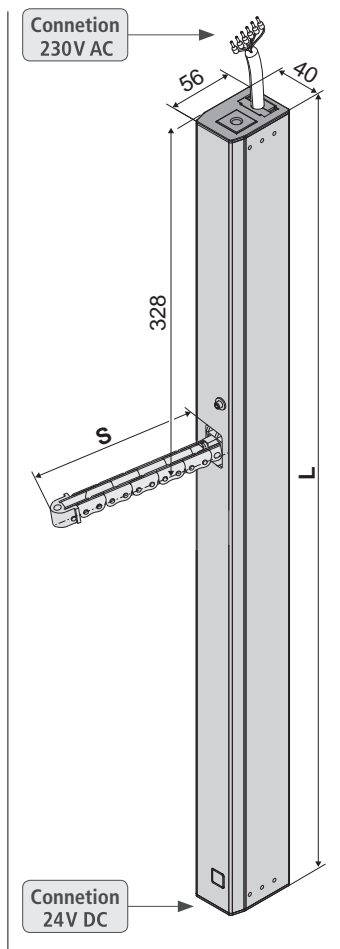
- Application: natural ventilation
- Internal Intelligent Control Electronics S12
- Adjustable chain tension / Mechanical chain unlocking
- Parallel connection up to 8 drives in one group
- Additional connection of a 24V drive possible (on the 24V side)

Equipment

- Additional **AUMÜLLER-Click plug set** for multi-drive operation

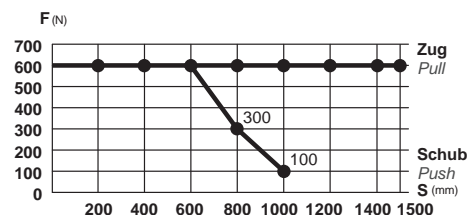
Options

- Programmable synchronised run (max. 4 drives) and special functions



TECHNICAL DATA

U_N	Rated voltage	230V AC (50 Hz)
I_N	Rated current	0,2 A
I_A	Cut-off current	0,2 A
P_N	Rated power	46 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	600 N
F_A	Pushing force max.	

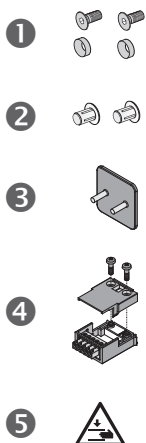


$s > 800$ mm only for pulling application

F_H	Pullout force	3.000 N (fastening depended)
	Chain	stainless steel
	Connecting cable	non-halogen, grey 6 x 0,75 mm ² , ~ 3 m
v	Speed	8,0 mm/s 8,0 mm/s
s	Stroke	250 – 1.500 mm
L	Length	see order data
	Sound pressure level	≤ 70 dB (A)

In delivery

- 2x countersunk screws M8x16 and 2x Spacer ring (brass)
- 2x blind plug for unused cable entry
- 1x chain unlocking key
- 1x **AUMÜLLER-Click plug set** (24V) for multi-drive operation
- 1x warning sign sticker „Risk of entrapment“



ORDER DATA

s [mm]	L [mm]	Version	Finish	PU / pcs.	Part.-No.			
250	591	KSA 250 S12 230V	E6/C-0	1	497025			
300	667	KSA 300 S12 230V	E6/C-0	1	497030			
400	667	KSA 400 S12 230V	E6/C-0	1	497040			
500	769	KSA 500 S12 230V	E6/C-0	1	497050			
600	769	KSA 600 S12 230V	E6/C-0	1	497060			
800	870	KSA 800 S12 230V	E6/C-0	1	497080			
1000	972	KSA 1000 S12 230V	E6/C-0	1	497110			
1200	1074	KSA 1200 S12 230V	E6/C-0	1	497112			
1500	1227	KSA 1500 S12 230V	E6/C-0	1	497115			

OPTIONS

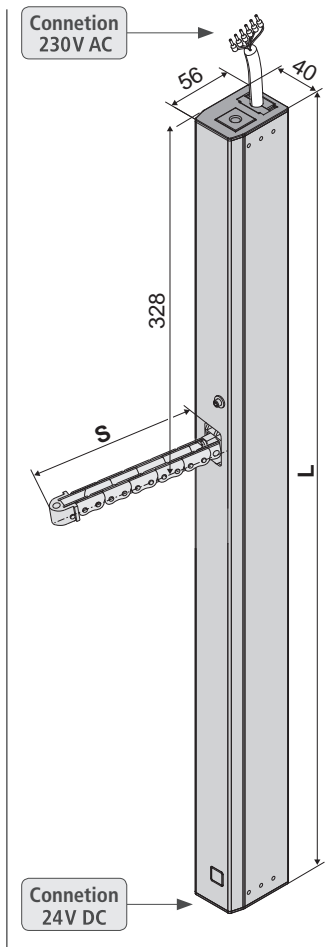
Special model	PU / pcs.	Part.-No.			
Drive housing painted/powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516004			
	21 – 50	516004			
	51 – 100	516004			
	from 101	516004			
Plug solution:					
AUMÜLLER-Click plug solution - 5 m – non-halogen, grey – 6 x 0,75 mm²		501275			
AUMÜLLER-Click plug solution - 10 m – non-halogen, grey – 6 x 0,75 mm²		501280			
Microprocessor programming S12					
Programming synchronised multi-drive systems 230V S12		495588			
Electronic stroke reduction 230V S12		495590			
Programming drives 24V / 230V S12		524180			
Optional accessories					
M-COM® Click Configuration module for synchronised multi-drive systems	1	524167			
M-COM Configuration module for synchronised multi-drive systems	1	524177			



- Application: natural ventilation
- Internal Intelligent Control Electronics S12
- Adjustable chain tension / Mechanical chain unlocking
- Programmable feedback limit position „OPEN“ and „CLOSE“ (max. 24V, 500 mA)
- Parallel connection up to 8 drives in one group
- Additional connection of a 24V drive possible (on the 24V side)

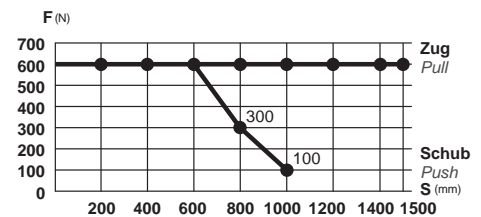
Equipment

- AAdditional **AUMÜLLER-Click plug set** for multi-drive operation



TECHNICAL DATA

U_N	Rated voltage	230V AC (50 Hz)
I_N	Rated current	0,2 A
I_A	Cut-off current	0,2 A
P_N	Rated power	46 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	600 N
F_A	Pushing force max.	

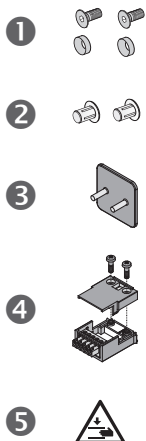


$s > 800$ mm only for pulling application

F_H	Pullout force	3.000 N (fastening depended)
	Chain	stainless steel
	Connecting cable	non-halogen, grey 6 x 0,75 mm ² , ~ 3 m
v	Speed	8,0 mm/s 8,0 mm/s
s	Stroke	250 – 1.500 mm
L	Length	see order data
	Sound pressure level	≤ 70 dB (A)

In delivery

- 1 2x countersunk screws M8x16 and 2x Spacer ring (brass)
- 2 2x blind plug for unused cable entry
- 3 1x chain unlocking key
- 4 1x **AUMÜLLER-Click plug set** (24V) for multi-drive operation
- 5 1x warning sign sticker „Risk of entrapment“

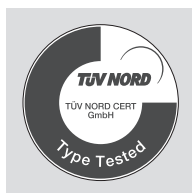


ORDER DATA

s [mm]	L [mm]	Version	Finish	PU / pcs.	Part.-No.			
250	591	KSA 250 S12 230V Z	E6/C-0	1	497023			
300	667	KSA 300 S12 230V Z	E6/C-0	1	497033			
400	667	KSA 400 S12 230V Z	E6/C-0	1	497043			
500	769	KSA 500 S12 230V Z	E6/C-0	1	497053			
600	769	KSA 600 S12 230V Z	E6/C-0	1	497063			
800	870	KSA 800 S12 230V Z	E6/C-0	1	497083			
1000	972	KSA 1000 S12 230V Z	E6/C-0	1	497113			
1200	1074	KSA 1200 S12 230V Z	E6/C-0	1	497123			
1500	1227	KSA 1500 S12 230V Z	E6/C-0	1	497153			

OPTIONS

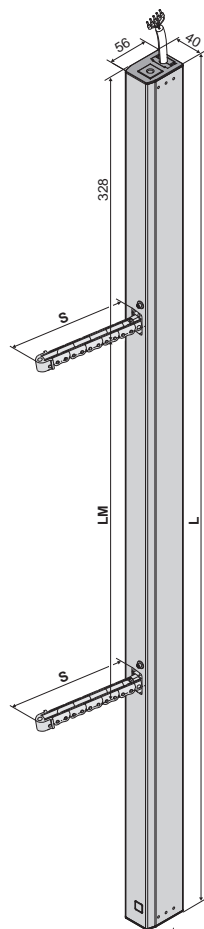
Special model	PU / pcs.	Part.-No.			
Drive housing painted/powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516004			
	21 – 50	516004			
	51 – 100	516004			
	from 101	516004			
Plug solution:					
AUMÜLLER-Click plug solution - 5 m – non-halogen, grey – 6 x 0,75 mm²		501275			
AUMÜLLER-Click plug solution - 10 m – non-halogen, grey – 6 x 0,75 mm²		501280			
Microprocessor programming S12					
Electronic stroke reduction 230V S12		495590			
Programming drives 24V / 230V S12		524180			
Optional accessories					
M-COM® Click Configuration module for synchronised multi-drive systems	1	524167			
M-COM Configuration module for synchronised multi-drive systems	1	524177			



- Application: natural ventilation, SHEV
- Internal Intelligent Control Electronics S12
- Adjustable chain tension / Mechanical chain unlocking

Options

- Programmable special functions
- M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives (S3 / S12)



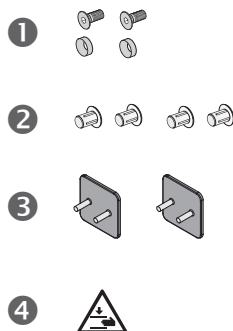
No electrical connection possible

TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	1,8 A
I_A	Cut-off current	2,4 A
P_N	Rated power	43 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	1.200 N
F_A	Pushing force max.	1.200 N
F_H	Pullout force	5.000 N (fastening depended)
	Chain	stainless steel
	Connecting cable	non-halogen, grey 5 x 0,5 mm ² , ~ 3 m
v	Speed	s = 400 8,0 mm/s 8,0 mm/s s 500 – 600 12,0 mm/s 8,0 mm/s
s	Stroke	400 – 600 mm
L	Length	see order data
LM	Distance in between chains	see order data
	Sound pressure level	≤70 dB (A)

In delivery

- 2x countersunk screws M8x16 and 2x Spacer ring (brass)
- 4x blind plug for unused cable entry
- 2x chain unlocking key
- 1x warning sign sticker „Risk of entrapment“

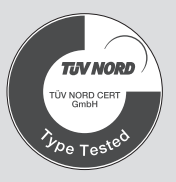


ORDER DATA

s [mm]	L [mm]	LM [mm]	Version	Finish	PU/pcs.	Part.-No.			
400	1150	485	KSA TWIN 400 S12 24V	E6/C-0	1	522745			
500	1353	587	KSA TWIN 500 S12 24V	E6/C-0	1	522755			
600	1353	587	KSA TWIN 600 S12 24V	E6/C-0	1	522765			

OPTIONS

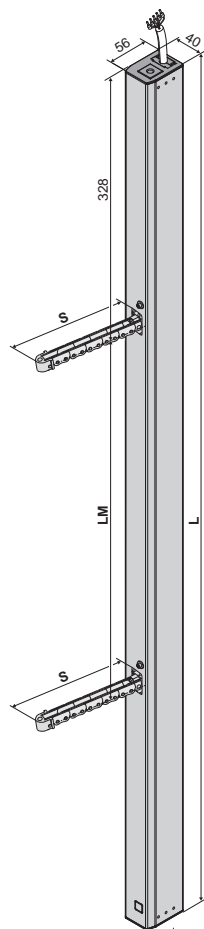
Special model	PU/pcs.	Part.-No.			
Drive housing painted/powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516004			
	21 – 50	516004			
	51 – 100	516004			
	from 101	516004			
Plug solution:					
AUMÜLLER-Click plug solution - 5 m – non-halogen, grey – 5 x 0,5 mm²		501252			
AUMÜLLER-Click plug solution - 10 m – non-halogen, grey – 5 x 0,5 mm²		501253			
Microprocessor programming S12					
Electronic stroke reduction 24V S12		524190			
Programming drives 24V / 230V S12		524180			
Optional accessories	PU/pcs.	Part.-No.			
M-COM Configuration module for synchronised multi-drive systems	1	524177			



- Application: natural ventilation, SHEV
- Internal Intelligent Control Electronics S12
- Adjustable chain tension / Mechanical chain unlocking
- Programmable feedback limit position „OPEN“ and „CLOSE“ (max. 24V, 500 mA)

Options

- Programmable special functions
- M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives (S3 / S12)



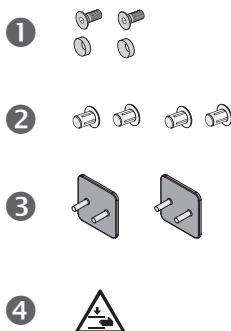
No electrical connection possible

TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	1,8 A
I_A	Cut-off current	2,4 A
P_N	Rated power	43 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	1.200 N
F_A	Pushing force max.	1.200 N
F_H	Pullout force	5.000 N (fastening depended)
	Chain	stainless steel
	Connecting cable	non-halogen, grey 5 x 0,5 mm ² , ~ 3 m
v	Speed	s = 400 8,0 mm/s 8,0 mm/s s 500 – 600 12,0 mm/s 8,0 mm/s
s	Stroke	400 – 600 mm
L	Length	see order data
LM	Distance in between chains	see order data
	Sound pressure level	≤ 70 dB (A)

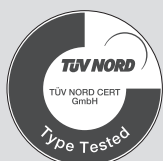
In delivery

- 2x countersunk screws M8x16 and 2x Spacer ring (brass)
- 4x blind plug for unused cable entry
- 2x chain unlocking key
- 1x warning sign sticker „Risk of entrapment“



ORDER DATA									
s [mm]	L [mm]	LM [mm]	Version	Finish	PU/pcs.	Part.-No.			
400	1150	485	KSA TWIN 400 S12 24V Z	E6/C-0	1	522747			
500	1353	587	KSA TWIN 500 S12 24V Z	E6/C-0	1	522757			
600	1353	587	KSA TWIN 600 S12 24V Z	E6/C-0	1	522767			

OPTIONS									
Special model					PU/pcs.	Part.-No.			
Drive housing painted/powder coated in other RAL colours									
Lump sum for coating						516030			
Specify at order stage:					1 – 20	516004			
					21 – 50	516004			
					51 – 100	516004			
					from 101	516004			
Plug solution:									
AUMÜLLER-Click plug solution - 5 m – non-halogen, grey – 5 x 0,5 mm ²						501252			
AUMÜLLER-Click plug solution - 10 m – non-halogen, grey – 5 x 0,5 mm ²						501253			
Microprocessor programming S12									
Electronic stroke reduction 24V S12						524190			
Programming drives 24V / 230V S12						524180			
Optional accessories					PU/pcs.	Part.-No.			
M-COM Configuration module for synchronised multi-drive systems					1	524177			



- Application: natural ventilation, SHEV
- Internal Intelligent Control Electronics S12

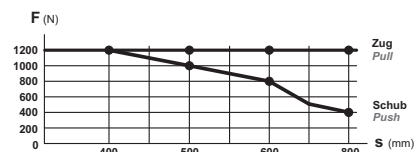
Options

- Programmable special functions
- M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives (S3 / S12)



TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	1,8 A
I_A	Cut-off current	2,4 A
P_N	Rated power	43 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	1.200 N
F_A	Pushing force max.	



F_H	Pullout force	5.000 N (fastening depended)
	Chain	Stainless steel
	Connecting cable	non-halogen, grey- 5 x 0,5 mm ² , ~ 5 m
v	Speed	$s = 400$ \rightarrow 8,0 m/s \rightarrow 8,0 m/s $s = 500 - 600$ \rightarrow 12,0 m/s \rightarrow 8,0 m/s $s > 600$ \rightarrow 13,5 m/s \rightarrow 8,0 m/s
s	Stroke	400 – 800 mm
L	Length	see order data
LM	Distance in between chains	see order data
	Sound pressure level	≤ 70 dB (A)

Components packed with drive

2x Countersunk-head screw M8x16, 2x Spacer ring (brass)

ORDER DATA

s [mm]	L [mm]	LM [mm]	Version	Finish	PU/pcs.	Part.-No.			
400	737	297	KSA D 400 S12 24V	E6/C-0	1	522140			
500	837	397	KSA D 500 S12 24V	E6/C-0	1	522150			
600	837	397	KSA D 600 S12 24V	E6/C-0	1	522160			
800	942	502	KSA D 800 S12 24V	E6/C-0	1	522180			

OPTIONS

Special model	PU/pcs.	Part.-No.			
Drive housing painted/powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516004			
	21 – 50	516004			
	51 – 100	516004			
	from 101	516004			
Extra length connecting cable:					
10 m – non-halogen, grey– 5 x 0,5 mm ²		501056			
Microprocessor programming S12					
Electronic stroke reduction 24V S12		524190			
Programming drives 24V / 230V S12		524180			
Optional accessories	PU/pcs.	Part.-No.			
M-COM Configuration module for synchronised multi-drive systems	1	524177			

OVERVIEW OF BRACKETS

Typical application					1	2	3	4	5
Frame bracket					K-A1	K84-1, K87, K-C3, K-E1, K-E2	K-B1	K-B2	K-D3
Casement bracket					F16, F49	F16, F16-1, F29-2, F33, F38, F39, F49	F16, F49		
Space requirement	min.	[mm]			35	65 – 90	45 – 55		45
Overlap thickness *1		[mm]			0 – 21	irrelevant	0 – 21		0 – 21
Opening angle *2	max.	[DEG]			20	60	50		40
Casement weight *3	max.	[Kg]			250	130	130		130
Window material			Alu		●	●	●	●	●
			Wood			●	●	●	●
			PVC		■		●	●	●
Type of window and mounting	Bottom hung	inward	HSK	FM	●		●	●	
				RM					●
			NSK	FM	●		●	●	
				RM					●
		outward	HSK	RM	●		●	●	
				PR		●			
			NSK	RM	●	●	●	●	
				PR		■			
	Top hung	inward	HSK	FM	●		●	●	
				RM					●
			NSK	FM	●		●	●	
				RM					●
		outward	HSK	RM	●	●	●	●	
				PR					
			NSK	RM	●		●	●	
				PR		●			
	Side hung	inward	HSK	FM	●		●	●	
				RM					●
			NSK	FM	●		●	●	
				RM					●
	Roof	outward	HSK	RM	■		■	■	
				PR		■			
			NSK	RM	■		■	■	
				PR		■			
	PAF	outward		RM	●		●	●	
	Concealed								
FAB*4			Solo	[mm]	700 – 1300				
			Sync2	[mm]	1250 – 2500				
FAH*4			Solo	[mm]	450 – 1500				
			Sync2	[mm]	250 – 2500				

LEGEND

● suitable ■ not recommended

*1 Window sizes and opening angles may be different.

*2 Sample values of the opening angle evaluated on the basis of FAB/FAH for inward opening windows with drives mounted at the main closing edge. For any other window heights, for outward opening windows and for windows with drives mounted at the side edges the opening angle will vary.

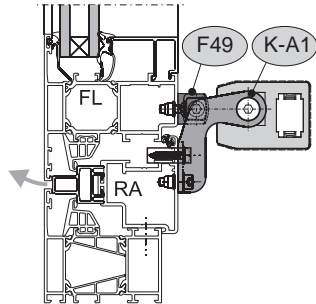
*3 Please respect the individual geometry of the different windows. The listed max. casement weight refers to a single drive on button hung window with a max. opening angle.

*4 Sample value of the casement dimensions for corner joints of 110 mm. The actual casement dimensions depend on length of the corner joints, profile dimensions, stroke and position of the drives.

The values of FAB/FAH are to be used analogue for side hung windows.

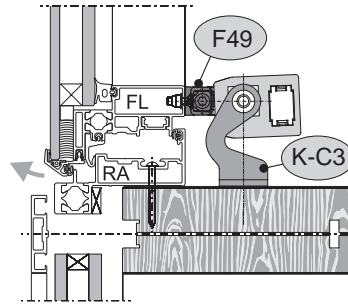
TYPICAL APPLICATIONS

1 RM, top hung, outward opening



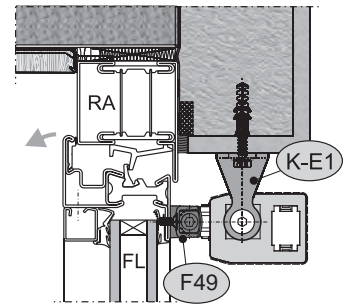
View on aluminium window

2 PR, top hung, outward opening



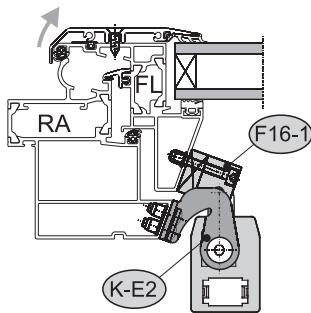
View on aluminium window

2 PR, bottom hung, outward opening



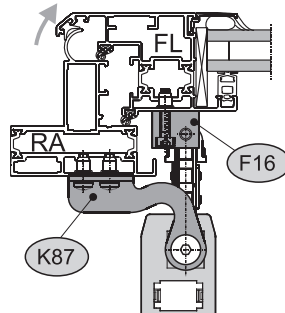
View on aluminium window

2 RM, roof



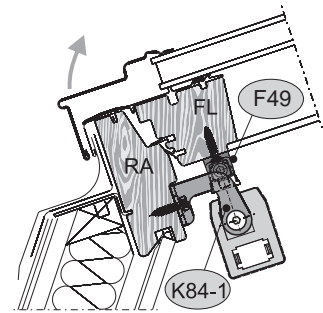
View on aluminium window

2 RM, roof



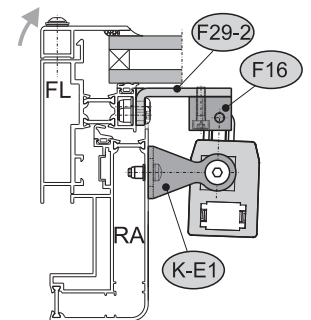
View on aluminium window

2 RM, roof



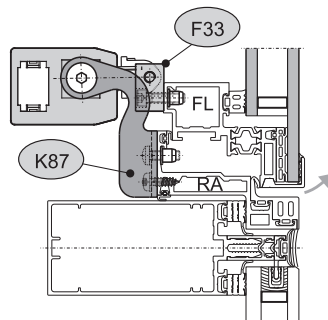
View on aluminium window

2 RM, roof



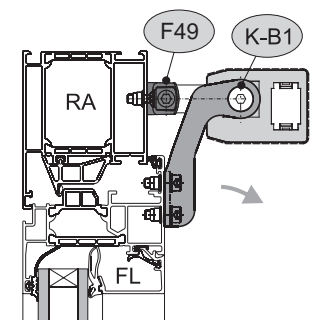
View on aluminium window

2 RM, top hung, outward opening



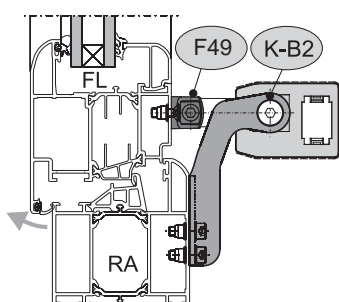
View on aluminium window

3 FM, bottom hung, inward opening



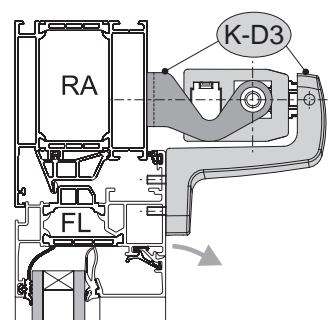
View on aluminium window

4 RM, top hung, outward opening



View on aluminium window

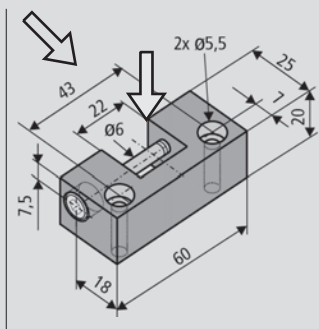
5 RM, bottom hung, inward opening



View on aluminium window

CASEMENT BRACKETS

F16



Application

Surface mounting on the casement/window frame profiles of in-/outward opening windows (e.g. friction hinged or roof windows), for surface mounted drives **KSA** with **K-A1, K-B1, K-B2, K-C3, K-E1, K-E2, K84-1, K87**

Chain fixing in direction of the arrow

Part.-No. 524204

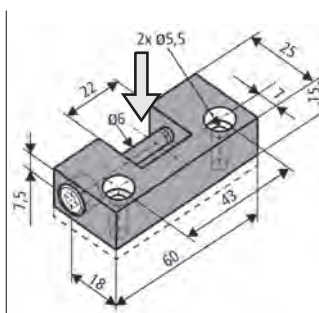
Material/Finish

aluminium
(natural anodized)

Feature/Equipment

1x cylinder head screw
M6x50

F33



Application

Surface mounting on the casement profile of outward opening windows (e.g. friction hinged or roof windows), for surface mounted drives **KSA** with **K-A1, K-B1, K-B2, K-C3, K-E1, K84-1, K87**

Chain fixing in direction of the arrow

Part.-No. 524203

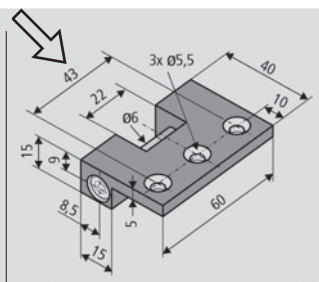
Material/Finish

aluminium
(natural anodized)

Feature/Equipment

1x cylinder head screw
M6x50

F38



Application

Surface mounting on the casement profile of outward opening friction hinged windows, for surface mounted drives **KSA** with **K-A1, K-B1, K87**

Chain fixing in direction of the arrow

Part.-No. 524199

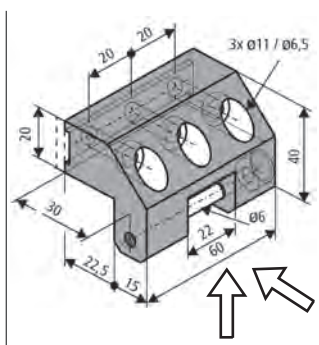
Material/Finish

aluminium
(natural anodized)

Feature/Equipment

1x cylinder head screw
M6x5

F39



Application

Surface mounting on the casement profile of outward opening roof windows, for surface mounted drives **KSA** with **K-A1, K-B1, K-B2, K-C3, K-E1, K-E2, K84-1**

Chain fixing in direction of the arrow

Part.-No. 524295

Material/Finish

aluminium
(natural anodized)

Feature/Equipment

1x cylinder head screw
M6x50

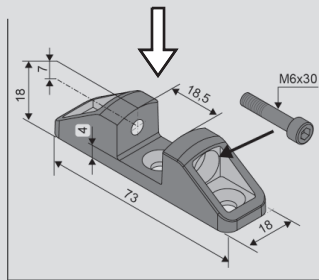
Optional accessories

B2 Base Plate F39

Part.-No. 155173

CASEMENT BRACKETS

F49

**Application**

Surface mounting on the casement profiles of inward opening windows, for **swivelling** fixing of drives **KSA** with **K-A1, K-B1, K-B2, K-C3, K-E1, K-E2, K84-1, K87, K125**

Chain fixing in direction of the arrow

Part.-No. 524299**Material / Finish**

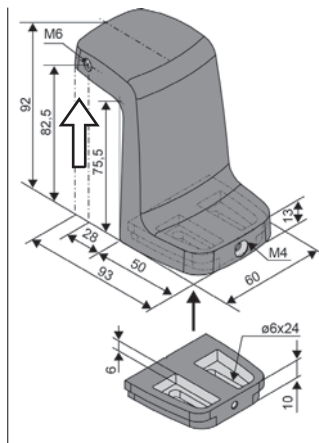
Cast aluminum,
RAL 9006

Feature / Equipment

1x cylinder head screw
M6x30

REPLACES F14

F44

**Application**

Surface mounting on the casement profiles of inward opening windows, for surface mounted drives **KSA** with **K-C3**

Chain fixing in direction of the arrow

Part.-No. 524297**Material / Finish**

Cast aluminum,
RAL 9006

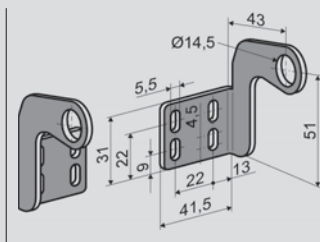
Feature / Equipment

1x baseplate
1x countersunk screw
M4x10
1x cylinder head screw
M6x35

REPLACES F73

FRAME BRACKETS

K-A1



Application

Surface mounting on the casement/window frame profiles of in-/outward opening windows, for swivelly fixing of drives **KSA** with **F16, F33, F38, F39, F49**

(Required space on frame profile **35 mm**)

Part.-No. 524057

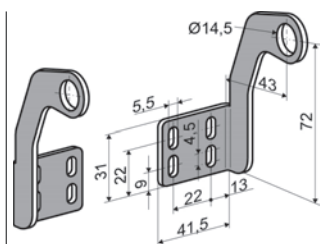
Material/Finish

Stainless steel

Feature/Equipment

1x right,
1x left

K-B1



Application

Surface mounting on the casement/ window frame profiles of in-/outward opening windows, for swivelling fixing of drives **KSA** with **F16, F33, F38, F39, F49**

(Required space on frame profile **35 – 52 mm**)

Part.-No. 524053

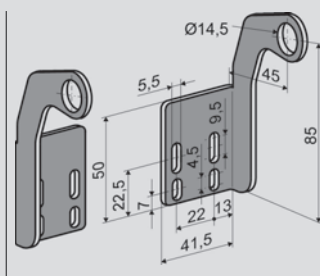
Material/Finish

Stainless steel

Feature/Equipment

1x right,
1x left

K-B2



Application

Surface mounting on the casement/ window frame profiles of in-/outward opening (wooden) windows, for swivelling fixing of drives **KSA** with **F16, F33, F39, F49**

(Required space on frame profile **35 – 52 mm**)

Part.-No. 524063

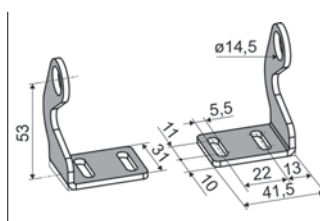
Material/Finish

Stainless steel

Feature/Equipment

1x right,
1x left

K-C3



Application

Surface mounting on the casement/window frame profiles or on the mullion/transom of outward opening windows, for swivelling fixing of drives **KSA** with **F16, F33, F39, F49**

Part.-No. 524067

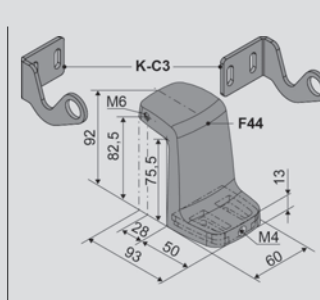
Material/Finish

Stainless steel

Feature/Equipment

1x right,
1x left

K-D3



Application

Surface mounting on the casement and frame profile of inward opening windows, for swivelling fixing of drives **KSA** on the frame profile (required space **50 mm**)

Part.-No. 524068

Material/Finish

Stainless steel (K-C3),
Aluminum casting (F44)

Feature/Equipment

1x K-C3,
1x F44

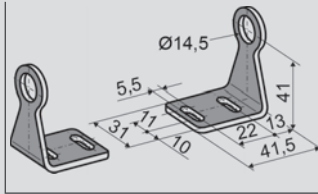
Accessories for

F44 Casement bracket „Z“

Part.-No. 524297

FRAME BRACKETS

K-E1

**Application**

Surface mounting on the mullion/transom of outward opening windows, for swiveling fixing of drives **KSA** with **F16, F33, F39, F49**

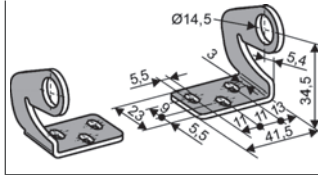
Part.-No. 524056**Material/Finish**

Stainless steel

Feature/Equipment

1x right,
1x left

K-E2

**Application**

Surface mounting on the window frame profiles or on the mullions/transoms of outward opening roof windows, for swiveling fixing of drives **KSA** with **F16, F16-1, F33, F39, F49**

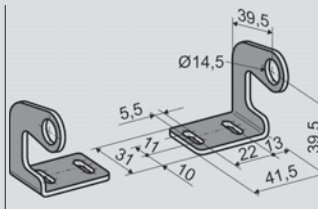
Part.-No. 524066**Material/Finish**

Stainless steel

Feature/Equipment

1x right,
1x left

K84-1

**Application**

Surface mounting on the window frame profiles or on the mullions/transoms of outward opening roof windows, for swiveling fixing of drives **KSA** with **F16, F33, F39, F49**

Part.-No. 524224**Material/Finish**

Stainless steel

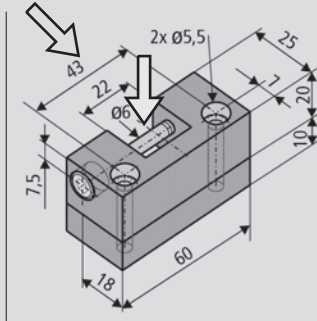
Feature/Equipment

1x right,
1x left

SPECIFIC APPLICATIONS

ROOF WINDOWS | SCHÜCO AWS 57RO

F16-1



Application

Surface mounting on the casement profile of outward opening roof windows series **Schüco AWS 57RO**, for fixing of drives **KSA**

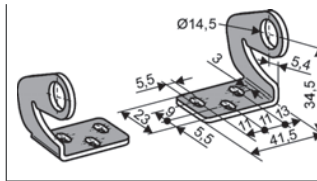
Chain fixing in direction of the arrow

Part.-No. 155171

Material/Finish
aluminium
(natural anodized)

Feature/Equipment
1x cylinder head screw
M6x50 with base plate

K-E2



Application

Surface mounting on the window frame profiles or on the mullions/transoms of outward opening roof windows, for swivelling fixing of drives **KSA** with **F16**, **F16-1**, **F33**, **F39**, **F49**

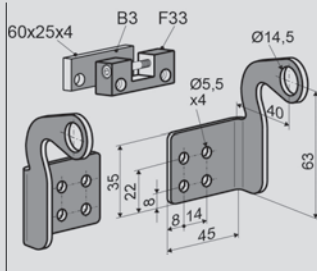
Part.-No. 524066

Material/Finish
Stainless steel

Feature/Equipment
1x right,
1x left

FRICTION HINGED WINDOWS | SCHÜCO FW50

K87



Application

Surface mounting on the window frame profiles of outward opening friction hinged windows **Schüco FW50+**, for swivelling fixing of drives **KSA** (Required space on frame profile **35 mm**)

Part.-No. 524319

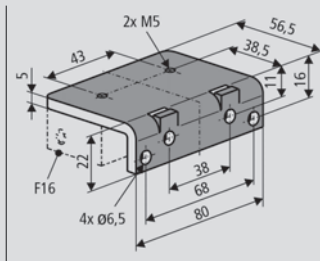
Material/Finish
Stainless steel

Feature/Equipment
1x right,
1x left,
incl. F33 + B3

SPECIFIC APPLICATIONS

ROOF WINDOWS | HEROAL 085 / 180

F29-2



Application

Surface mounting on the casement profile of outward opening roof windows series Heroal 085 / 180, for fixing of drives KSA with F16

Part.-No. 155157

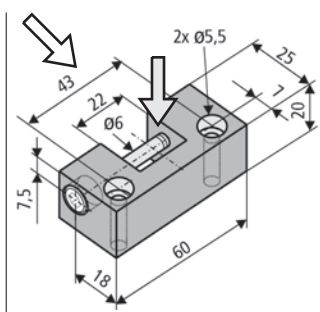
Material/Finish

Stainless steel

Feature/Equipment

2x cylinder head screw
M6x20

F16



Application

Surface mounting on the casement/window frame profiles of in-/outward opening windows (e.g. friction hinged or roof windows), for surface mounted drives KSA with K-A1, K-B1, K-B2, K-C3, K-E1, K-E2, K84-1, K87

Part.-No. 524204

Material/Finish

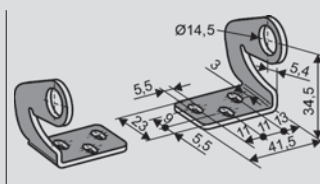
aluminium
(natural anodized)

Feature/Equipment

1x cylinder head screw
M6x50

Chain fixing in direction of the arrow

K-E2



Application

Surface mounting on the window frame profiles or on the mullions/transoms of outward opening roof windows, for swivelling fixing of drives KSA with F16, F33, F39, F49

Part.-No. 524066

Material/Finish

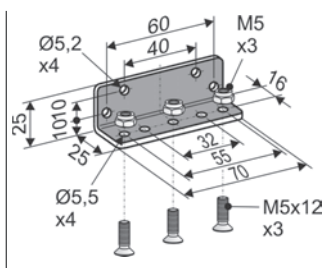
Stainless steel

Feature/Equipment

1x right,
1x left

SKYLIGHT DOME

B1



Application

Mounting angle for mounting of drives KS2 with F21 and KSA with F49 on skylight domes

Part.-No. 151422

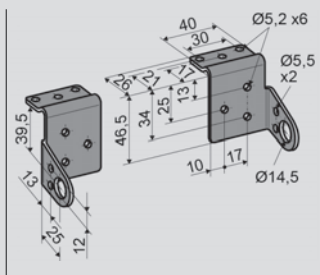
Material/Finish

Stainless steel

Feature/Equipment

3x countersunk-head screw
M5x12,
3x nut M5

K125



Application

Surface mounting on the upstand of skylight domes for fixing of drives KS2 and KSA with B1

Part.-No. 523979

Material/Finish

Stainless steel

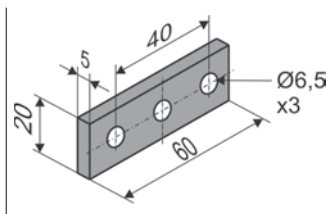
Feature/Equipment

4x screw M5x10

OPTIONAL ACCESSORIES

Base Plate F39

B2



Application

Support for F39 as packing plate for mounting on the casement profiles of outward opening roof windows

Part.-No. 155173

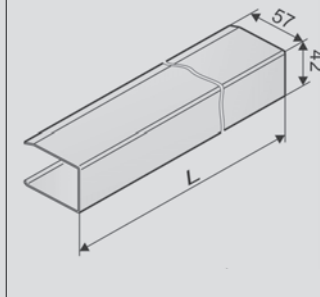
Material/Finish
aluminium
(natural anodized)

Feature/Equipment
60 x 20 x 5 mm

OPTIONAL ACCESSORIES

Cover-profile Set

AP-KSA



Application

Cover profile for surface mounted drives **KSA** with frame bracket sets **K-A1, K-B1, K-B2, K-E2, K84-1**. Profile length adjustable to the length of the drives or of the casement

Material/Finish

aluminium (natural anodized) + plastic (grey)

Feature/Equipment

incl. mounting aid for cover profile shortening on the job site + mounting set

L = 1,45 m

(length w/o end caps)

Part.-No. 524307

incl. end cap and mounting aid

L = 2,90 m

(length w/o end caps)

Part.-No. 524313

incl. end cap and mounting aid

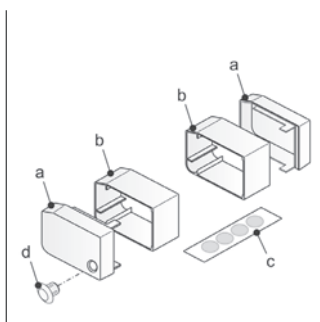
L = customized

(Price per metre)

Part.-No. 524314

only profile

Assembly-set for cover profile (grey)



Part.-No. 524300

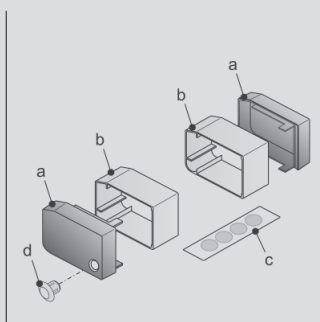
Material/Finish

aluminium, plastic (grey)

Feature/Equipment

- a. 2x end cap
- b. 2x spacer
- c. 4x stickers
- d. 1x dummy plug

Assembly-set for cover profile (black)



Part.-No. 524303

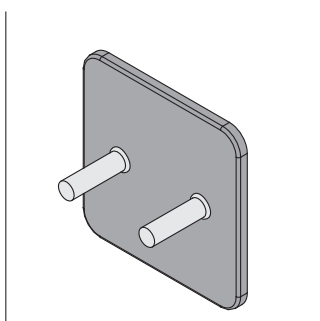
Material/Finish

aluminium, plastic (black)

Feature/Equipment

- a. 2x end cap
- b. 2x spacer
- c. 4x stickers
- d. 1x dummy plug

Chain unlocking key



Application

Manual unlocking of the drive chain for mounting of drives **KSA**

Part.-No. 524210

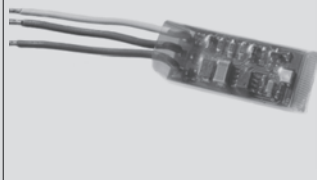
Material/Finish

plastic

OPTIONAL ACCESSORIES

Main control unit

M-COM



Application

Configuration module for automatic configuration and surveillance of max. 4 opening drives / 2 locking drives version S12 / S3 in synchronised multi-drive systems

Rated voltage:

24V DC (19V ... 28V)

Current consumption: <12 mA

Drive type: S12

Protection rating

IP30 rubber envelope

Part.-No. 524177

Ambient temperature

range: 0 °C ... +70 °C

Dimensions

45 x 17 x 6 mm

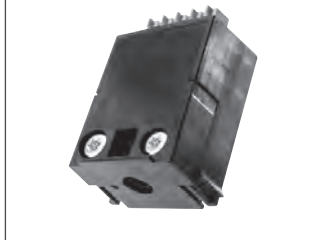
Connecting wires

3 wires 0,5 mm² x 50 mm

Feature/Equipment

Printed circuit board with components and connection wires to be installed in connection box to be supplied on site

M-COM® Click



Application

Configuration module for automatic configuration and surveillance of max. 4 opening drives / 2 locking drives version S12 / S3 in synchronised multi-drive systems

Rated voltage:

24V DC (19V ... 28V)

Current consumption: <12 mA

Drive type: S12

Protection rating: IP30

Part.-No. 524167

Ambient temperature

range: -5 °C ... +70 °C

Dimensions:

40 x 26 x 15 mm

Connection:

for AUMÜLLER chain drives with AUMÜLLER-Click plug solution

Equipment

Tongs for removing the M-COM® Click

Plug solution

AUMÜLLER-Click plug solution



Picture: 24V

Application

AUMÜLLER-Click plug solution: Unified plug solution for all AUMÜLLER chain drives and AUMÜLLER folding arm drives.

Rated voltage:

24V DC (19V ... 28V)

Connecting cable:

non-halogen, grey

5 x 0,5 mm² (24V)

6 x 0,75 mm² (230V)

Terminal: to 1,5 mm²

Feature/Equipment

- Flexible cable length
- Connect multiple drives in series connection
- Torsion-plug
- Locking hooks prevent withdrawal of the plug under tensile load
- Strain relief according DIN EN 60335-1 by screwing the housing halves

VARIANTEN: 24V

3 m cable length - 24 V DC **Part.-No. 501251**

5 m cable length - 24 V DC **Part.-No. 501252**

10 m cable length - 24 V DC **Part.-No. 501253**

VARIANTEN: 230V

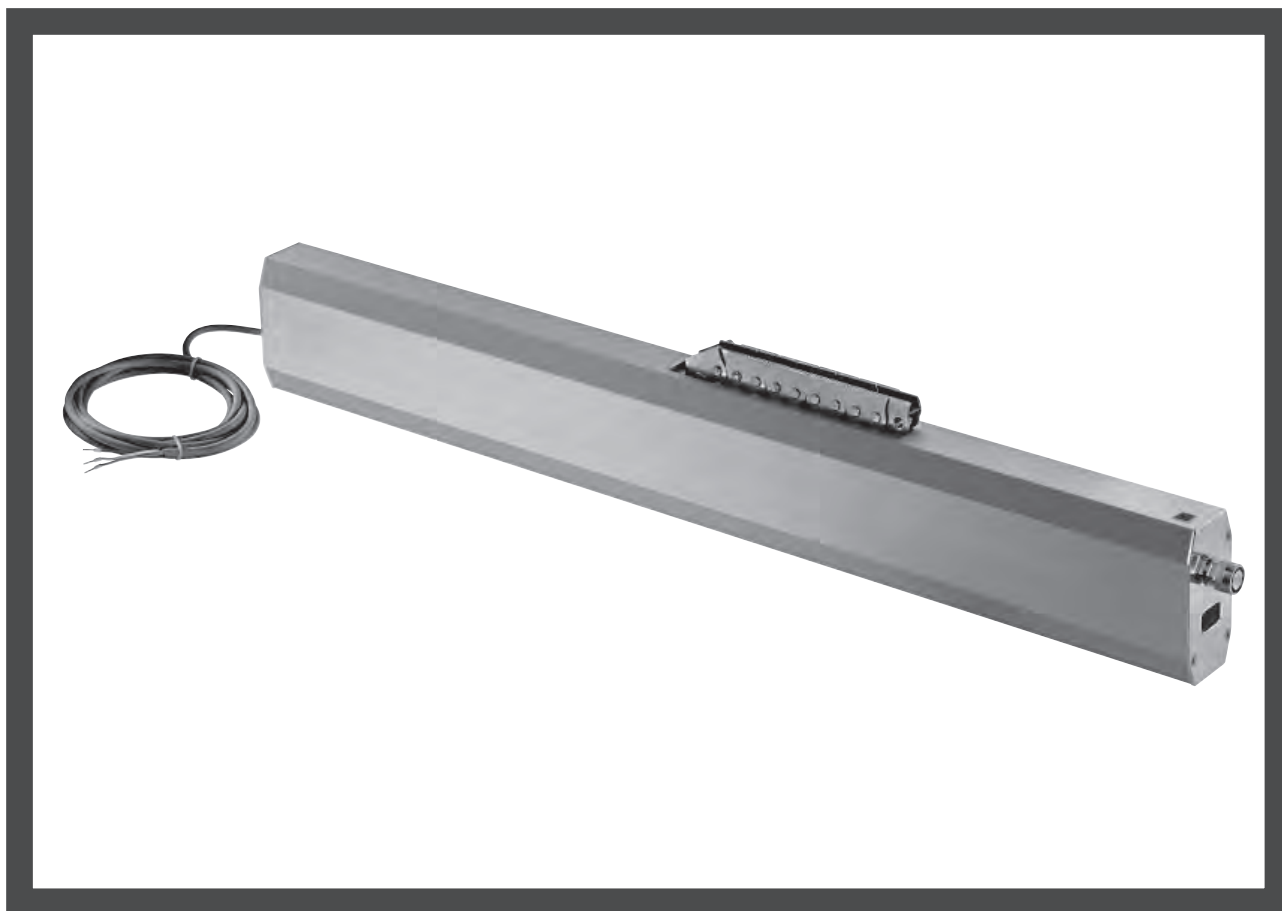
3 m cable length - 230 V AC **Part.-No. 501273**

5 m cable length - 230 V AC **Part.-No. 501275**

10 m cable length - 230 V AC **Part.-No. 501280**

CASEMENT BRACKETS AND FRAME BRACKETS

Special model	PU/pcs.	Part.-No.			
Casement brackets painted / powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516032			
	21 – 50	516032			
	51 – 100	516032			
	from 101	516032			
Frame brackets painted / powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516031			
	21 – 50	516031			
	51 – 100	516031			
	from 101	516031			



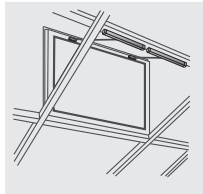
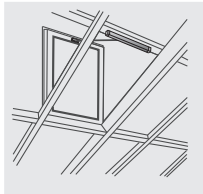
PRODUCT FEATURES KS15

- For natural ventilation, smoke and heat exhausting systems and ferralux® NSHEV (EN12101-2)
- Aluminium housing anodized or optionally in RAL colors
- High-quality, robust and nickel-plated steel chain
- Symmetrical chain output
- Short design with 3-fold wound chain and especially quiet running
- Feedback limit position „CLOSE“ (max. 24V, 500 mA)
- Programmable parameters of Intelligent Control Electronics S12:
 - Feedback limit position „OPEN“ (max. 24V, 500 mA)
 - Synchronised multi-operation and sequence control without add. devices
 - Electronic soft-start, soft-close and soft-stop at end of stroke control
 - Stroke, force, speed
 - Rebate control
- Integrated plug solution

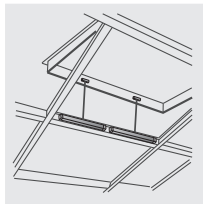
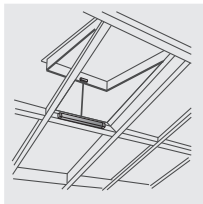
For this product series, a Type III Environmental Product Declaration (EPD) was issued according to ISO 14025 and EN 15804. The LCA results of the different product types are listed at the end of this product catalogue. The EPD documents can be viewed or downloaded from our homepage www.aumueller-gmbh.de.

ROOF

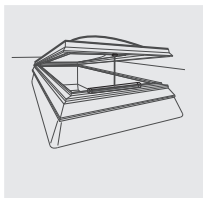
Bottom-hung



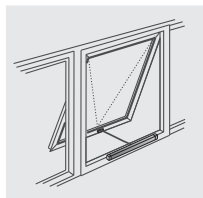
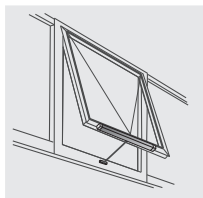
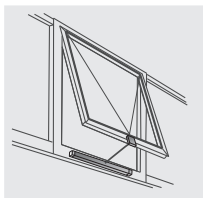
Top-hung



Sky light

**FACADE**

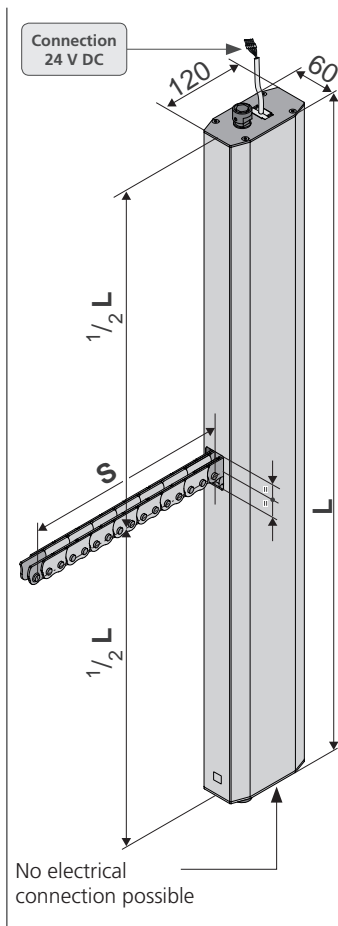
Top-hung




- Application: natural ventilation, SHEV ferralux®-NSHEV
- Symmetrical chain output
- Internal Intelligent Control Electronics S12
- Feedback limit position „CLOSE“ (max. 24V, 500 mA)
- Integrated plug solution

Options

- Programmable special functions
- Programmable feedback limit position „OPEN“ (max. 24V, 500 mA)
- M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives (S3 / S12)



TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	3,75 A
I_A	Cut-off current	5 A
P_N	Rated power	90 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 20
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	<ul style="list-style-type: none"> • 300 N to 1.500 N freely adjustable • preset 1500 N, soft run 300 N
F_A	Pushing force max.	1.500 N, to 1.000 mm linear
F_H	Pullout force	5.000 N (fastening depended)
	Chain	High-quality, robust and nickel-plated steel chain
	Connecting cable	non-halogen, grey, Ø 9 mm, 3 x 1 mm ² , ~ 3 m
v	Speed	<ul style="list-style-type: none"> • 6,0 mm/s to 17 mm/s, freely adjustable • preset 17 mm/s
s	Stroke	250 – 1000 mm
L	Length	see order data
	Feedback contact	limit position „CLOSE“ (max. 24V, 500 mA)
	Sound pressure level	≤ 70 dB (A)

ORDER DATA

s [mm]	L [mm]	Version	Finish	PU / pcs.	Part.-No.			
Drives								
800	800	KS15 800 S12 24V	E6/C-0	1	525380			
1000	920	KS15 1000 S12 24V	E6/C-0	1	525400			
Set: Frame bracket and casement bracket (kit)								
Set: Frame bracket unit KS15 Schüco AWS 57 RO			K153: Stainless steel, rolled F54: Aluminium, E6/C-0	1	524080			
Set: Frame bracket unit KS15 Raico FRAME+100/120 RI			K154: Stainless steel, rolled F54: Aluminium, E6/C-0	1	524085			

OPTIONEN

Special model	PU / pcs.	Part.-No.			
Drive housing painted/powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516004			
	21 – 50	516004			
	51 – 100	516004			
	ab 101	516004			
Plug solution:					
AUMÜLLER-Click plug solution - 5 m – non-halogen, grey – 5 x 1,0 mm ²		501290			
Microprocessor programming S12					
Electronic stroke reduction 24V S12		524190			
Programming drives 24V / 230V S12		524180			
Optional accessories	PU / pcs.	Part.-No.			
M-COM Configuration module for synchronised multi-drive systems	1	524177			

OVERVIEW OF BRACKETS									
Typical application					1	2			
Frame bracket					K153 Mounting in the roof	K154 Mounting in the roof			
Casement bracket					F54	F54			
Space requirement	min.	[mm]			49	49			
Overlap thickness (*1)		[mm]			0 - 21	0 - 21			
Opening angle (*2)	max.	[DEG]			60	60			
Casement weight (*3)	max.	[Kg]			300	300			
Window material		Alu			●	●			
		Wood			●	●			
		PVC			●	●			
Type of window and mounting	Bottom hung	inward	HSK	FM	●	●			
				RM					
			NSK	FM	●	●			
				RM					
		outward	HSK	RM	●	●			
				PR					
			NSK	RM	●	●			
				PR					
	Top hung	inward	HSK	FM	■	■			
				RM					
			NSK	FM	■	■			
				RM					
		outward	HSK	RM	■	●			
				PR					
			NSK	RM	■	■			
				PR					
	Side hung	inward	HSK	FM	●	●			
				RM					
			NSK	FM					
				RM					
	Roof	outward	HSK	RM	■	■			
				PR					
			NSK	RM					
				PR					
	PAF	outward		RM	●	●			
	Concealed								
FAB (*4)		Solo	[mm]		600 - 1200				
FAH (*4)		Solo	[mm]		250 - 1500				

LEGEND

● suitable ■ not recommended

(*1) Window sizes and opening angles may be different.

(*2) Sample values of the opening angle evaluated on the basis of FAB/FAH for inward opening windows with drives mounted at the main closing edge.

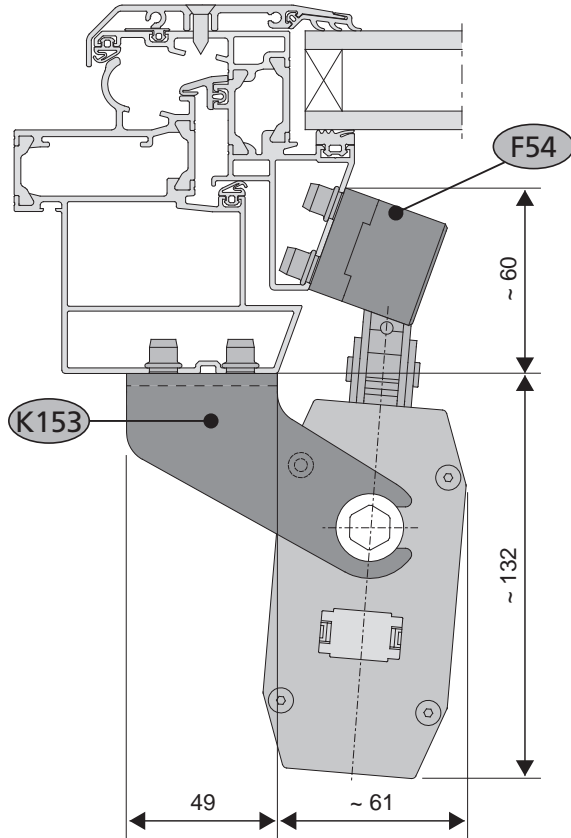
For any other window heights, for outward opening windows and for windows with drives mounted at the side edges the opening angle will vary.

(*3) Please respect the individual geometry of the different windows. The listed max. casement weight refers to a single drive on button hung window with a max. opening angle.

(*4) Sample value of the casement dimensions for corner joints of 110 mm. The actual casement dimensions depend on length of the corner joints, profile dimensions, stroke and position of the drives. The values of FAB/FAH are to be used analogue for side hung windows.

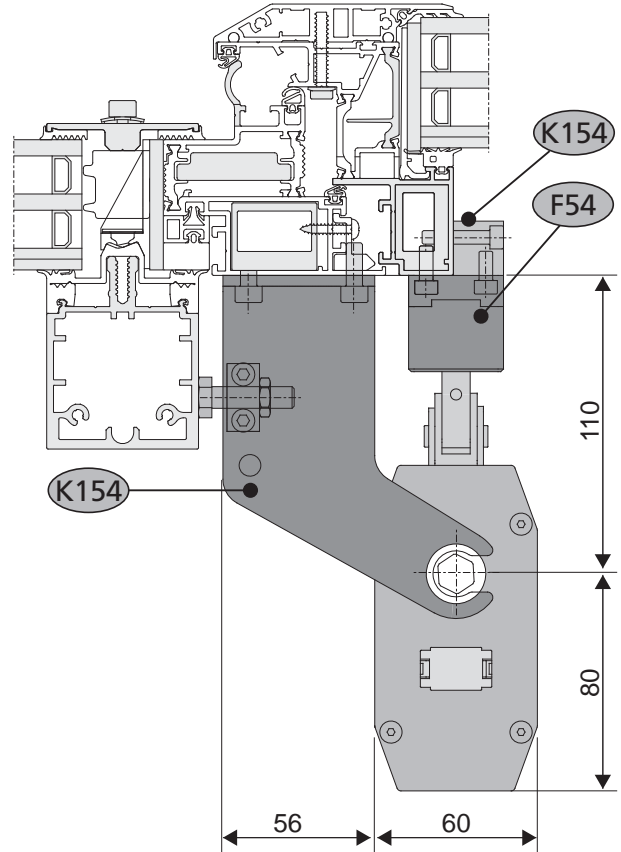
TYPICAL APPLICATIONS

- 1 RM, roof window, outward opening
Schüco AWS 57RO



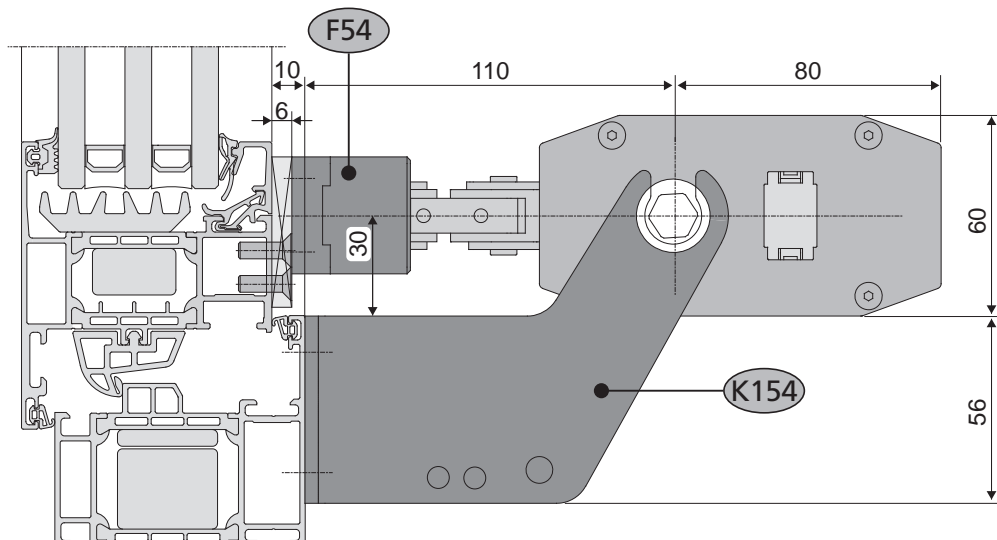
View on PVC-window

- 2 RM, roof window, outward opening
Raico FRAME+100/120RI



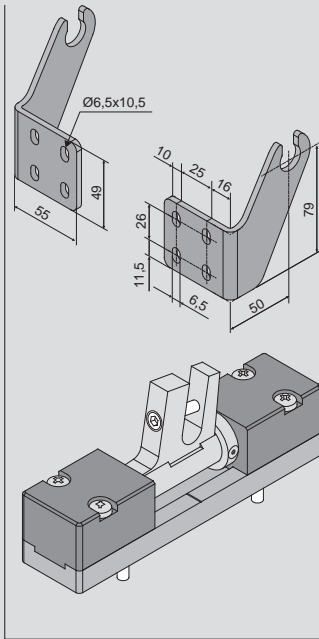
View on PVC-window

- 2 RM, top hung, outward opening (Mounting universal for facade)



View on PVC-window

CASEMENT BRACKETS AND FRAME BRACKET (SET)

**K153
F54****Application**

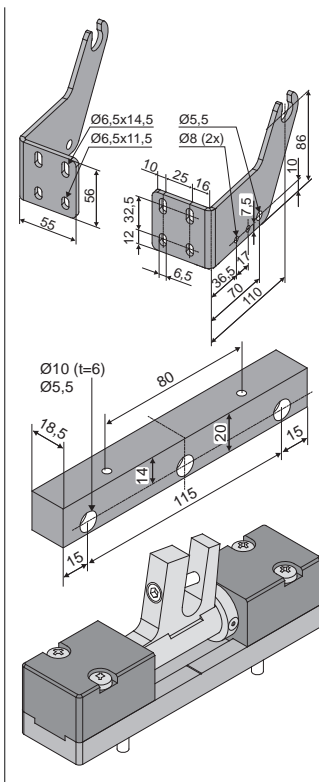
Surface mounting on the frame profiles outward opening roof windows series **Schüco AWS 57RO**, for **swivelling** fixing of drives **KS15** with **F54**

Part.-No. 524080**Material / Finish**

K153: stainless steel, vibratory grinding
F54: aluminium (E6/C-0)

Feature / Equipment

- 1x K153 frame bracket (left + right)
- 1x F54 casement bracket consisting of: baseplate, chain storing, screws M5x30, screw M5x30

**K154
F54****Application**

Surface mounting on the frame profiles outward opening roof windows series **Raico FRAME+100/120RI**, for **swivelling** fixing of drives **KS15** with **F54**

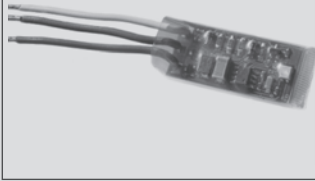
Part.-No. 524085**Material / Finish**

K154: stainless steel, vibratory grinding
F54: aluminium (E6/C-0)

Feature / Equipment

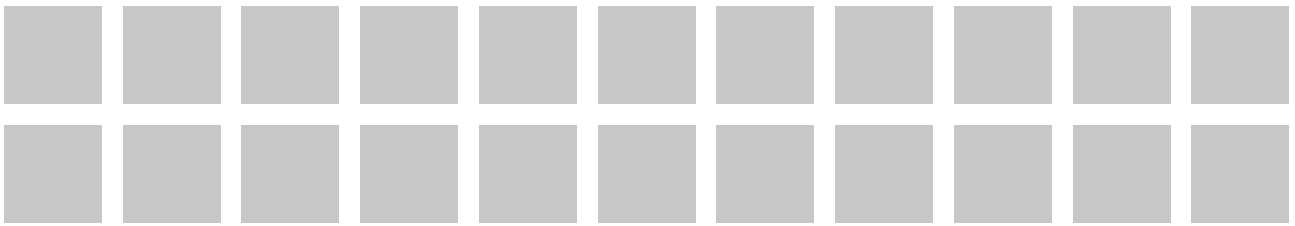
- 1x K154 frame bracket (left + right) with mounting block
- 1x F54 casement bracket consisting of: baseplate, chain storing, screws M5x30, screw M5x30

OPTIONAL ACCESSORIES

Main control unit			
M-COM 	Application Configuration module for automatic configuration and surveillance of max. 4 opening drives / 2 locking drives version S12 / S3 in synchronised multi-drive systems Rated voltage: 24V DC (19V ... 28V) Current consumption: <12 mA Drive type: S12 Protection rating IP30 rubber envelope	Part.-No. 524177 Ambient temperature range: 0 °C ... + 70 °C Dimensions 45 x 17 x 6 mm Connecting wires 3 wires 0,5 mm ² x 50 mm Feature/Equipment Printed circuit board with components and connection wires to be installed in connection box to be supplied on site	
Plug solution			
AUMÜLLER-Click plug solution	Application AUMÜLLER-Click plug solution: Unified plug solution for all AUMÜLLER chain drives and AUMÜLLER folding arm drives. Rated voltage: 24V DC (19V ... 28V) Connecting cable: non-halogen, grey 5 x 1,0 mm ² length: 5 m Terminal: to 1,5 mm ²	Part.-No. 501290 Feature/Equipment <ul style="list-style-type: none"> Flexible cable length Connect multiple drives in series connection Torsion-plug Locking hooks prevent withdrawal of the plug under tensile load Strain relief according DIN EN 60335-1 by screwing the housing halves 	

CASEMENT BRACKETS AND FRAME BRACKETS

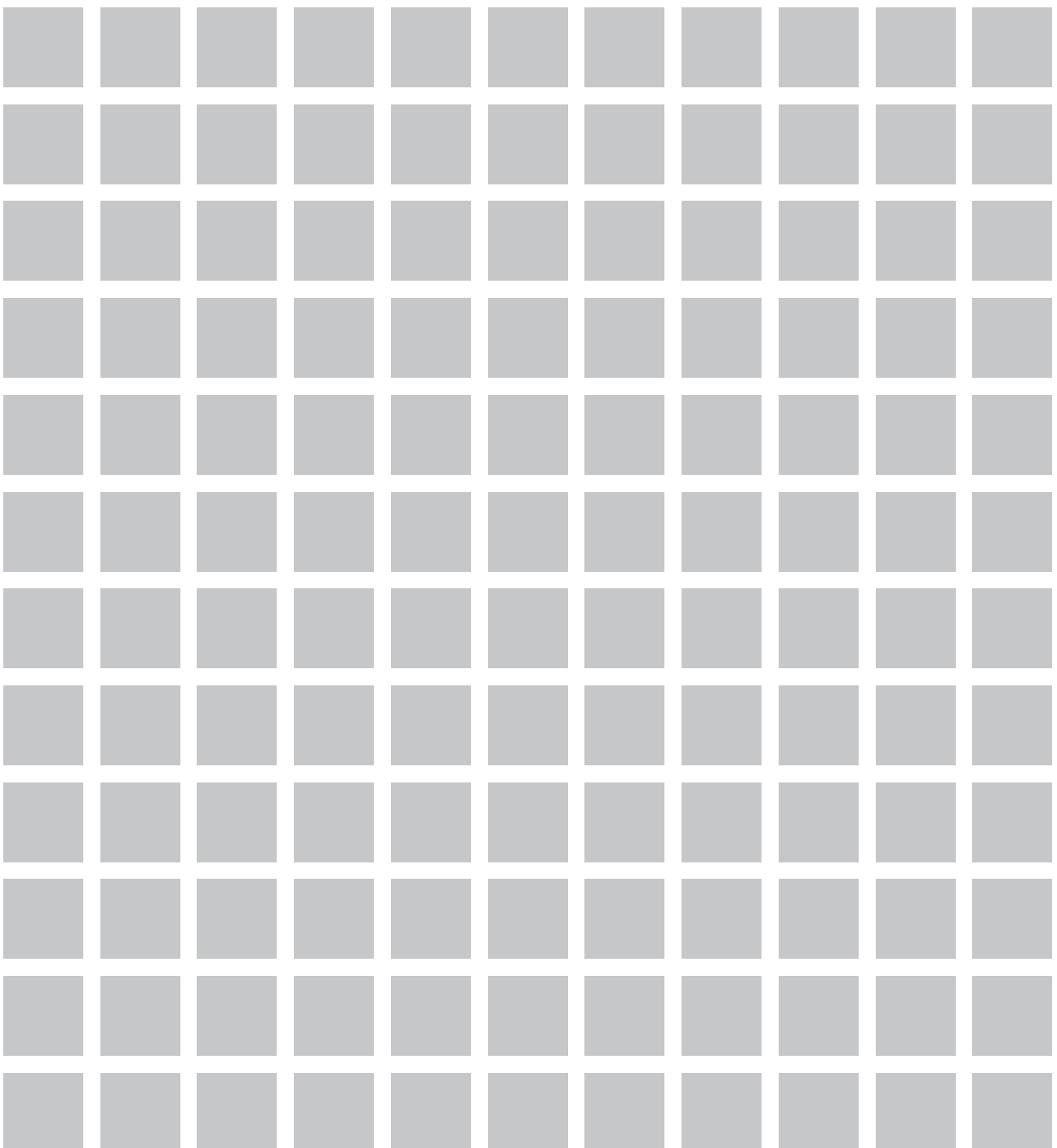
Special model	PU/pcs.	Part.-No.			
Casement brackets painted / powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516032			
	21 – 50	516032			
	51 – 100	516032			
	from 101	516032			
Frame brackets painted / powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516031			
	21 – 50	516031			
	51 – 100	516031			
	from 101	516031			



2

Spindle drives

Spindle drives



OVERVIEW OF SPINDLE DRIVES

Type	Form	Model		Stroke	Force		Speed		Stroke in	Cut-off current	Use			Location		Functions		
		Type of cut-off	Rated voltage	Range	Pushing force	Pulling force	OPEN	CLOSE	60 s	Max.	Natural ventilation	SHEV	NSHEV	Facade	Roof	Run monitoring	Synchronised run	Sequence control
			[VDC]	[mm]	[N]	[N]	[mm/s]	[mm/s]	[mm]	[A]								
PLA	PLA6	S3	24	100–1200	600	600	6,0	6,0	350	0,8	●	●	●	■	●	●	●	●
		S12		100–1200	600	600	6,0	6,0	350	0,8	●	●	●	■	●	●	●	●
	PLA8	S3	24	100–1200	800	800	10,0	10,0	600	1,4	●	●	●	■	●	●	●	●
		S12		100–1200	800	800	10,0	10,0	600	1,4	●	●	●	■	●	●	●	●
	PLA10	S12	24	100–1200	1000	1000	12,6	12,6	750	2,5	●	●	●	■	●	●	●	●
	PLA101	S3	24	100–1200	1000	1000	4,6	4,6	250	1,0	●	●	●	■	●	●	●	●
		S12		100–1200	1000	1000	4,6	4,6	250	1,0	●	●	●	■	●	●	●	●
	PLA16	S12		100–1200	1600	1600	7,0	7,0	400	2,5	●	●	●	■	●	●	●	●
	PLA116	S3	24	100–750	1600	1600	4,0	4,0	240	1,2	●	●	●	■	●	●	●	●
		S12		100–750	1600	1600	4,0	4,0	240	1,2	●	●	●	■	●	●	●	●
PLS	PLS15	S12	24	300–1200	1500	1500	16,0	16,0	950	4,0	●	●	●	■	●	●	●	●
	PLS30	S12	24	300–1200	3000	2000	7,8	7,8	450	5,0	●	●	●	■	●	●	●	●
	PLS50	S12	24	200–750	5000	5000	4,0	4,0	240	4,2	●	●	●	■	●	●	●	●
SP	SP8	S2	24	100–750	800	800	7,0	7,0	400	1,0	●	●		■	●	○		○
		S2	230	300–750	800	800	7,0	7,0	400	0,2	●			■	●			

LEGEND

● suitable

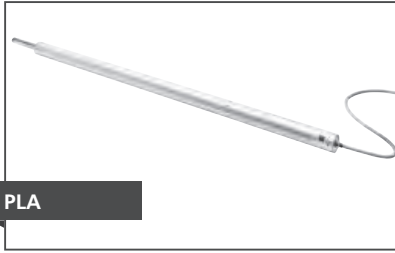
■ not recommended

S2 internal load dependend cut-off switch

S3 internal load dependend cut-off switch, post cycle resistant, programmable for motion monitoring (up to 300 mm stroke) and sequence control

S12 internal Intelligent Control Electronics for synchronised run and programmable functions

○ only with external modules (cut-off switch system, synchronisation module, sequence control module)



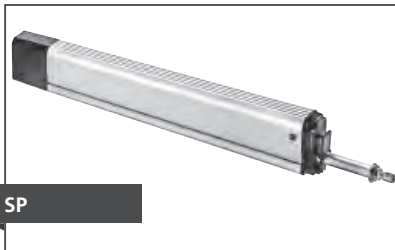
PLA SPINDLE DRIVES

▪ Model	24V DC, S3 und S12
▪ Pulling force	600–1600 N (type depending)
▪ Stroke length	100–1200 mm
▪ Speed	4,0–12,5 mm/s (type depending)
▪ Housing (DxL)	D=36 mm, length depends on stroke
▪ Opening mechanism	stainless steel spindle tube
▪ Versions	SOLO, Tandem, Synchro
▪ Protection rating	IP65



PLS SPINDLE DRIVES

▪ Model	24V DC, S12
▪ Pulling force	1500–5000 N
▪ Stroke length	300–1200 mm
▪ Speed	4,0–17,0 mm/s (type depending)
▪ Housing (DxL)	D=50/(60) mm, length depends on stroke
▪ Opening mechanism	stainless steel spindle tube
▪ Versions	SOLO, Tandem, Synchro
▪ Protection rating	IP54



SP SPINDLE DRIVES

▪ Model	24V DC, S2/230V AC, S2
▪ Pulling force	800 N
▪ Stroke length	100–750 mm (230V AC: 300–750)
▪ Speed	8,5 mm/s
▪ Housing (DxL)	43x76 mm, length depends on stroke
▪ Opening mechanism	aluminium spindle tube
▪ Versions	SOLO, Z with feedback contact
▪ Protection rating	IP54/IP65



SPECIAL FEATURES PLA

- For natural ventilation, smoke and heat exhausting and ferralux® NSHEV (EN12101-2)
- Robust corrosion-resistant design in a slim aluminium housing (D = 36 mm), optionally in RAL colors
- Easy installation due to adjustable clamp ring and rear suspension
- Spindle is ball beared with end position dampening
- Stainless steel spindle tube
- Programmable parameters of Intelligent Control Electronics S12
 - Synchronised multi-operation and sequence control without add. devices
 - Electronic soft-start, soft-close and soft-stop at end of stroke control
 - Stroke, force, speed
 - Rebate control
- Protection rating IP 65
- With GoreTex membrane
- Suitable for operation with M-COM for the automatic configuration of synchronised run of multi drive systems and sequence control

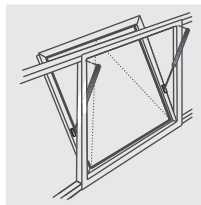
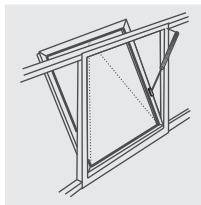
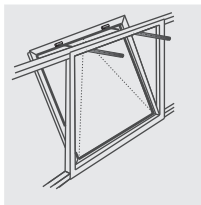
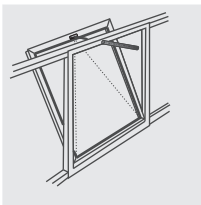
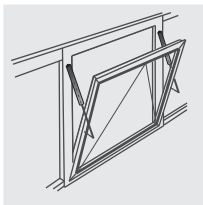
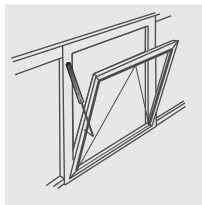
For this product series, a Type III Environmental Product Declaration (EPD) was issued according to ISO 14025 and EN 15804.

The LCA results of the different product types are listed at the end of this product catalogue.

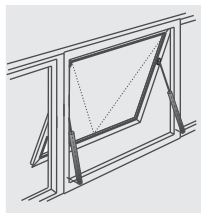
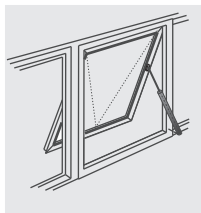
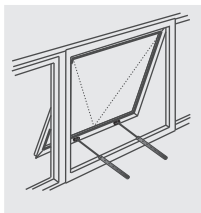
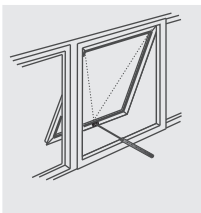
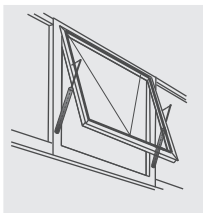
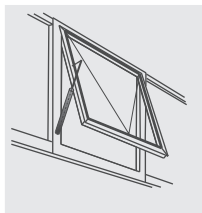
The EPD documents can be viewed or downloaded from our homepage www.aumueller-gmbh.de.

FACADE

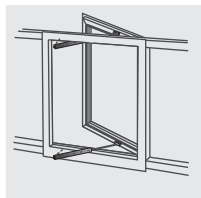
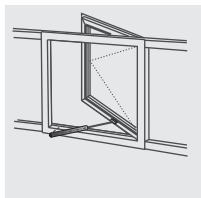
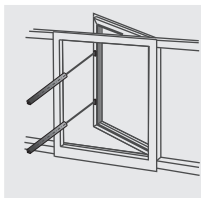
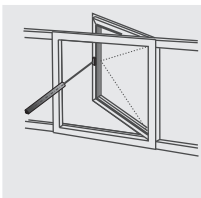
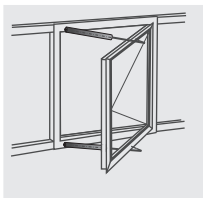
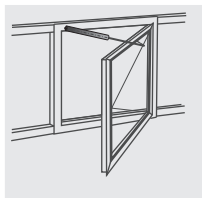
Bottom-hung



Top-hung

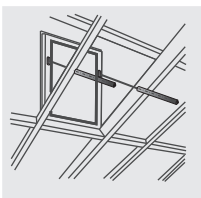
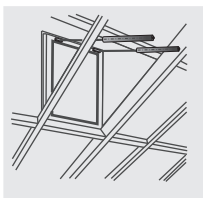
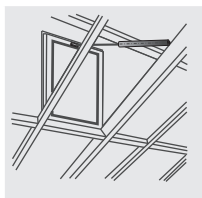


Side-hung

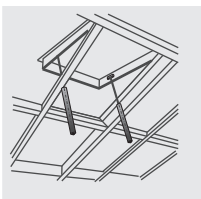
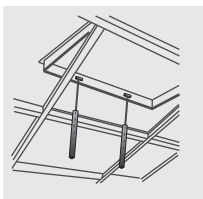
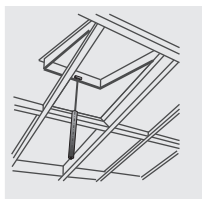


ROOF

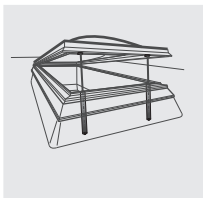
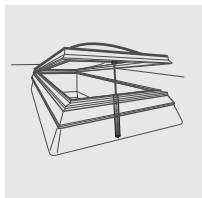
Bottom-hung



Top-hung

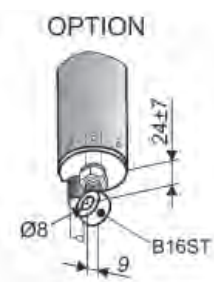


Sky light



Glass pyramid





- Application: natural ventilation, SHEV, ferralux®-NSHEV

Options

- Spindle tube end with interior thread for clevis
- Eyebolt and clevis for rear suspension

S3

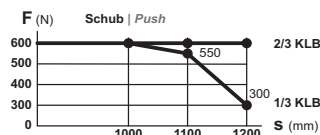
- Internal load dependend cut-off switch, post cycle resistant S3
- Programmable motion monitored run (up to 300 mm stroke)
- Programmable sequence control with Locking drives (S3 / S12)

S12

- Internal Intelligent Control Electronics S12
- Programmable synchronised run (max. 4 drives) and special functions
- M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives (S3 / S12)

TECHNICAL DATA

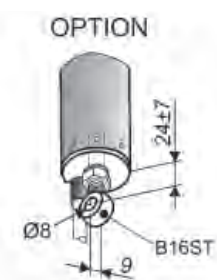
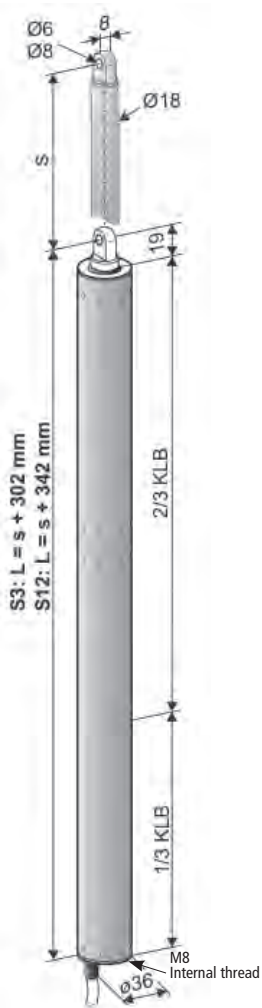
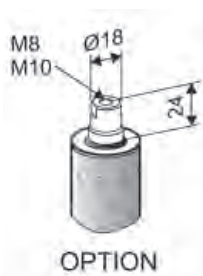
U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	0,6 A
I_A	Cut-off current	0,8 A
P_N	Rated power	15 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 65
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	600 N
F_A	Pushing force max.	



F_H	Pullout force	5000 N (fastening depended)
	Spindle tube	stainless steel
	Connecting cable	non-halogen, grey 3 x 1,0 mm ² , ~ 3 m
v	Speed	\times 6,0 mm/s \rightarrow 6,0 mm/s
s	Stroke	100 – 1200 mm
L	Length	(S3): s + 302 mm (S12): s + 342 mm see order data
	Sound pressure level	≤ 70 dB (A)

ORDER DATA						
s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.	
100	402	PLA6 100 S3	E6/C-0	1	564110	
	442	PLA6 100 S12		1	546310	
200	502	PLA6 200 S3	E6/C-0	1	564121	
	542	PLA6 200 S12		1	546320	
300	602	PLA6 300 S3	E6/C-0	1	564130	
	642	PLA6 300 S12		1	546330	
400	702	PLA6 400 S3	E6/C-0	1	564140	
	742	PLA6 400 S12		1	546340	
500	802	PLA6 500 S3	E6/C-0	1	564150	
	842	PLA6 500 S12		1	546350	
600	902	PLA6 600 S3	E6/C-0	1	564160	
	942	PLA6 600 S12		1	546360	
750	1052	PLA6 750 S3	E6/C-0	1	564175	
	1092	PLA6 750 S12		1	546375	
1000	1302	PLA6 1000 S3	E6/C-0	1	564200	
	1342	PLA6 1000 S12		1	546400	

OPTIONS						
Special model				PU/pcs.	Part.-No.	
Front Fixing						
Spindle tube end with interior thread M8				1	515061	
Spindle tube end with interior thread M10				1	515060	
Drive housing painted/powder coated in other RAL colours						
Lump sum for coating					516030	
Specify at order stage:				1 – 20	516004	
				21 – 50	516004	
				51 – 100	516004	
				from 101	516004	
Extra length connecting cable:						
5 m – non-halogen, grey – 3 x 1,0 mm ²					501037	
10 m – non-halogen, grey – 3 x 1,0 mm ²					501039	
Mechanic stroke reduction S3						
Stroke reduction without construction length - mechanically				1	516000	
Accessories for front / rear suspension						
B16ST Eyebolt Ø8 mm, galvanized				1	100044	
B16VA Eyebolt Ø8 mm, stainless steel				1	100144	
B27ST Clevis M8x16 mm, galvanized, thread M8x45 mm				1	105510	
B28ST Clevis M10x20 mm, galvanized, thread M10x50 mm				1	105520	
Microprocessor programming S3						
Motion monitored run / sequence control				1	524181	
Microprocessor programming S12						
Electronic stroke reduction 24V S12				1	524190	
Programming drives 24V / 230V S12				1	524180	
Other lengths available on request						
Optional accessories				PU/pcs.	Part.-No.	
M-COM Configuration module for synchronised multi-drive systems				1	524177	



- Application: natural ventilation, SHEV, ferralux®-NSHEV

Options

- Spindle tube end with interior thread for clevis
- Eyebolt and clevis for rear suspension

S3

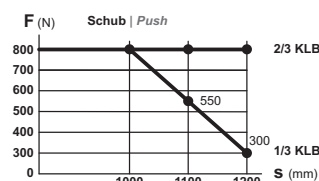
- Internal load dependend cut-off switch, post cycle resistant S3
- Programmable motion monitored run (up to 300 mm stroke)
- Programmable sequence control with locking drives (S3 / S12)

S12

- Internal Intelligent Control Electronics S12
- Options
- Programmable synchronised run (max. 4 drives) and special functions
- M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives (S3 / S12)

TECHNICAL DATA

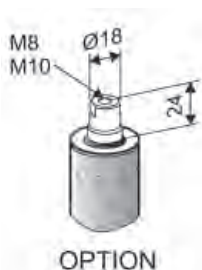
U_N	Rated voltage	24V DC (19V ... 28V)
I_N	Rated current	1,0 A
I_A	Cut-off current	1,4 A
P_N	Rated power	24 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 65
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	800 N
F_A	Pushing force max.	



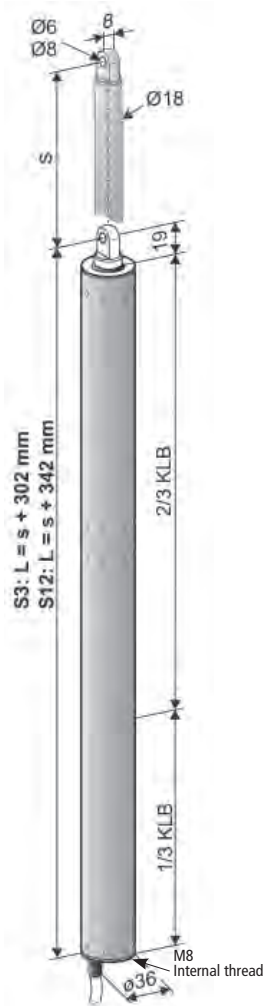
F_H	Pullout force	5000 N (fastening depended)
	Spindle tube	stainless steel
	Connecting cable	non-halogen, grey 3 x 1,0 mm ² , ~ 3 m
v	Speed	∇ 10,0 mm/s \curvearrowright 10,0 mm/s
s	Stroke	100 – 1200 mm
L	Length	(S3): s + 302 mm (S12): s + 342 mm see order data
	Sound pressure level	≤ 70 dB (A)

ORDER DATA						
s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.	
100	402	PLA8 100 S3	E6/C-0	1	523710	
	442	PLA8 100 S12		1	515210	
200	502	PLA8 200 S3	E6/C-0	1	523720	
	542	PLA8 200 S12		1	515220	
300	602	PLA8 300 S3	E6/C-0	1	523730	
	642	PLA8 300 S12		1	515230	
400	702	PLA8 400 S3	E6/C-0	1	523740	
	742	PLA8 400 S12		1	515240	
500	802	PLA8 500 S3	E6/C-0	1	523750	
	842	PLA8 500 S12		1	515250	
600	902	PLA8 600 S3	E6/C-0	1	523760	
	942	PLA8 600 S12		1	515260	
750	1052	PLA8 750 S3	E6/C-0	1	523775	
	1092	PLA8 750 S12		1	515275	
1000	1302	PLA8 1000 S3	E6/C-0	1	523800	
	1342	PLA8 1000 S12		1	515295	

OPTIONS						
Special model				PU/pcs.	Part.-No.	
Front Fixing						
Spindle tube end with interior thread M8				1	515061	
Spindle tube end with interior thread M10				1	515060	
Drive housing painted/powder coated in other RAL colours						
Lump sum for coating					516030	
Specify at order stage:				1 – 20	516004	
				21 – 50	516004	
				51 – 100	516004	
				from 101	516004	
Extra length connecting cable:						
5 m – non-halogen, grey – 3 x 1,0 mm ²					501037	
10 m – non-halogen, grey – 3 x 1,0 mm ²					501039	
Mechanic stroke reduction S3						
Stroke reduction without construction length - mechanically				1	516000	
Accessories for front / rear suspension						
B16ST Eyebolt Ø8 mm, galvanized				1	100044	
B16VA Eyebolt Ø8 mm, stainless steel				1	100144	
B27ST Clevis M8x16 mm, galvanized, thread M8x45 mm				1	105510	
B28ST Clevis M10x20 mm, galvanized, thread M10x50 mm				1	105520	
Microprocessor programming S3						
Motion monitored run / sequence control				1	524181	
Microprocessor programming S12						
Electronic stroke reduction 24V S12				1	524190	
Programming drives 24V / 230V S12				1	524180	
Other lengths available on request						
Optional accessories				PU/pcs.	Part.-No.	
M-COM Configuration module for synchronised multi-drive systems				1	524177	

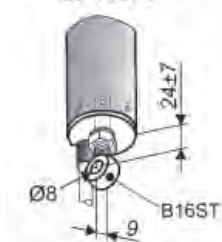


OPTION



S3: L = s + 302 mm
S12: L = s + 342 mm

OPTION



- Application: natural ventilation, SHEV, ferralux®-NSHEV

Options

- Spindle tube end with interior thread for clevis
- Eyebolt and clevis for rear suspension

S3

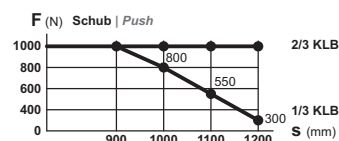
- Internal load dependend cut-off switch, post cycle resistant S3
- Programmable motion monitored run (up to 300 mm stroke)
- Programmable sequence control with locking drives (S3 / S12)

S12

- Internal Intelligent Control Electronics S12
- Options
- Programmable synchronised run (max. 4 drives) and special functions
- M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives (S3 / S12)

TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	0,8 A
I_A	Cut-off current	1,0 A
P_N	Rated power	19 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 65
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	1000 N
F_A	Pushing force max.	



F_H	Pullout force	5000 N (fastening depended)
	Spindle tube	stainless steel
	Connecting cable	non-halogen, grey 3 x 1,0 mm ² , ~ 3 m
v	Speed	∇ 4,6 mm/s \rightarrow 4,6 mm/s
s	Stroke	100 – 1200 mm
L	Length	S3: s + 302 mm S12: s + 342 mm see order data
	Sound pressure level	≤ 70 dB (A)

ORDER DATA						
s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.	
100	402	PLA101 100 S3	E6/C-0	1	565110	
	442	PLA101 100 S12		1	564910	
200	502	PLA101 200 S3	E6/C-0	1	565120	
	542	PLA101 200 S12		1	564922	
300	602	PLA101 300 S3	E6/C-0	1	565130	
	642	PLA101 300 S12		1	564930	
400	702	PLA 01 400 S3	E6/C-0	1	565140	
	742	PLA101 400 S12		1	564940	
500	802	PLA101 500 S3	E6/C-0	1	565150	
	842	PLA101 500 S12		1	564950	
600	902	PLA101 600 S3	E6/C-0	1	565160	
	942	PLA101 600 S12		1	564960	
750	1052	PLA101 750 S3	E6/C-0	1	565175	
	1092	PLA101 750 S12		1	564975	
1000	1302	PLA101 1000 S3	E6/C-0	1	565200	
	1342	PLA101 1000 S12		1	565000	

OPTIONS						
Special model				PU/pcs.	Part.-No.	
Front Fixing						
Spindle tube end with interior thread M8				1	515061	
Spindle tube end with interior thread M10				1	515060	
Drive housing painted/powder coated in other RAL colours						
Lump sum for coating					516030	
Specify at order stage:				1 – 20	516004	
				21 – 50	516004	
				51 – 100	516004	
				from 101	516004	
Extra length connecting cable:						
5 m – non-halogen, grey – 3 x 1,0 mm ²					501037	
10 m – non-halogen, grey – 3 x 1,0 mm ²					501039	
Mechanic stroke reduction S3						
Stroke reduction without construction length - mechanically				1	516000	
Accessories for front / rear suspension						
B16ST Eyebolt Ø8 mm, galvanized				1	100044	
B16VA Eyebolt Ø8 mm, stainless steel				1	100144	
B27ST Clevis M8x16 mm, galvanized, thread M8x45 mm				1	105510	
B28ST Clevis M10x20 mm, galvanized, thread M10x50 mm				1	105520	
Microprocessor programming S3						
Motion monitored run / sequence control				1	524181	
Microprocessor programming S12						
Electronic stroke reduction 24V S12				1	524190	
Programming drives 24V / 230V S12				1	524180	
Other lengths available on request						
Optional accessories				PU/pcs.	Part.-No.	
M-COM Configuration module for synchronised multi-drive systems				1	524177	



- Application: natural ventilation, SHEV, ferralux®-NSHEV

Options

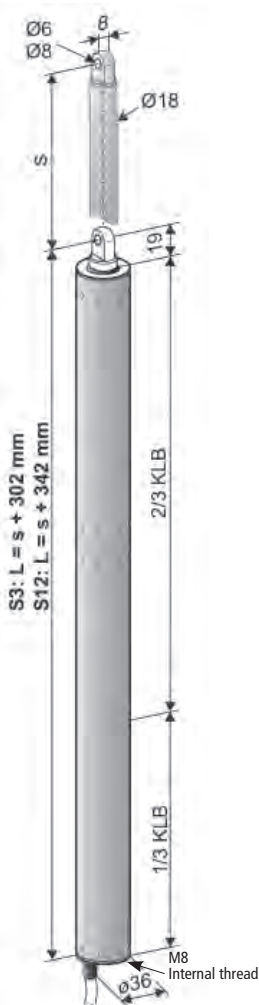
- Spindle tube end with interior thread for clevis
- Eyebolt and clevis for rear suspension

S3

- Internal load dependend cut-off switch, post cycle resistant S3
- Programmable motion monitored run (up to 300 mm stroke)
- Programmable sequence control with locking drives (S3 / S12)

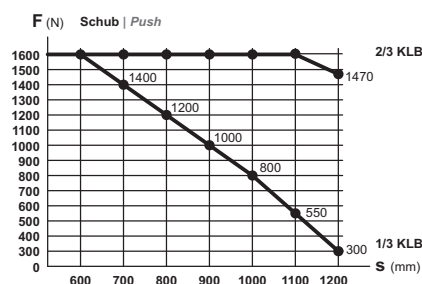
S12

- Internal Intelligent Control Electronics S12
- Options
- Programmable synchronised run (max. 4 drives) and special functions
- M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives (S3 / S12)

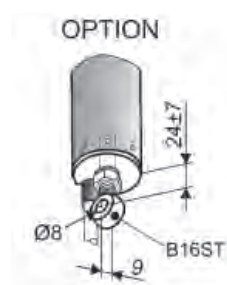


TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	1,0 A
I_A	Cut-off current	1,2 A
P_N	Rated power	24 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 65
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	1600 N
F_A	Pushing force max.	



F_H	Pullout force	5000 N (fastening depended)
	Spindle tube	stainless steel
	Connecting cable	non-halogen, grey 3 x 1,0 mm ² , ~ 3 m
v	Speed	\times 4,0 mm/s \rightarrow 4,0 mm/s
s	Stroke	100 – 1200 mm
L	Length	S3: s + 302 mm S12: s + 342 mm see order data
	Sound pressure level	≤ 70 dB (A)



ORDER DATA						
s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.	
100	402	PLA 116 100 S3	E6/C-0	1	565310	
	442	PLA 116 100 S12		1	565510	
200	502	PLA 116 200 S3	E6/C-0	1	565320	
	542	PLA 116 200 S12		1	565520	
300	602	PLA 116 300 S3	E6/C-0	1	565330	
	642	PLA 116 300 S12		1	565530	
400	702	PLA 116 400 S3	E6/C-0	1	565340	
	742	PLA 116 400 S12		1	565540	
500	802	PLA 116 500 S3	E6/C-0	1	565350	
	842	PLA 116 500 S12		1	565550	
600	902	PLA 116 600 S3	E6/C-0	1	565360	
	942	PLA 116 600 S12		1	565560	
750	1052	PLA 116 750 S3	E6/C-0	1	565375	
	1092	PLA 116 750 S12		1	565575	

OPTIONS						
Special model				PU/pcs.	Part.-No.	
Front Fixing						
Spindle tube end with interior thread M8				1	515061	
Spindle tube end with interior thread M10				1	515060	
Drive housing painted/powder coated in other RAL colours						
Lump sum for coating					516030	
Specify at order stage:				1 – 20	516004	
				21 – 50	516004	
				51 – 100	516004	
				from 101	516004	
Extra length connecting cable:						
5 m – non-halogen, grey – 3 x 1,0 mm ²					501037	
10 m – non-halogen, grey – 3 x 1,0 mm ²					501039	
Mechanic stroke reduction S3						
Stroke reduction without construction length - mechanically				1	516000	
Accessories for front / rear suspension						
B16ST Eyebolt Ø8 mm, galvanized				1	100044	
B16VA Eyebolt Ø8 mm, stainless steel				1	100144	
B27ST Clevis M8x16 mm, galvanized, thread M8x45 mm				1	105510	
B28ST Clevis M10x20 mm, galvanized, thread M10x50 mm				1	105520	
Microprocessor programming S3						
Motion monitored run / sequence control				1	524181	
Microprocessor programming S12						
Electronic stroke reduction 24V S12				1	524190	
Programming drives 24V / 230V S12				1	524180	
Other lengths available on request						
Optional accessories				PU/pcs.	Part.-No.	
M-COM Configuration module for synchronised multi-drive systems				1	524177	

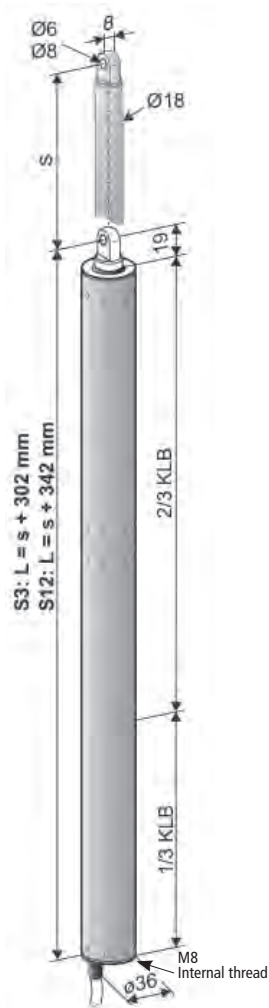


- Application: natural ventilation, SHEV, ferralux®-NSHEV

- Internal Intelligent Control Electronics S12

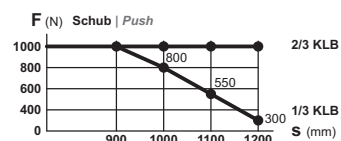
Options

- Programmable synchronised run (max. 4 drives) and special functions
- M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives (S3 / S12)
- Spindle tube end with interior thread for clevis
- Eyebolt and clevis for rear suspension

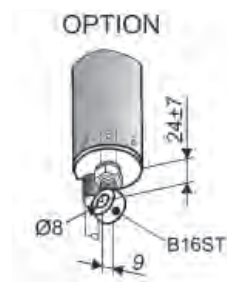


TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	1,9 A
I_A	Cut-off current	2,5 A
P_N	Rated power	45 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 65
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	1000 N
F_A	Pushing force max.	



F_H	Pullout force	5000 N (fastening depended)
	Spindle tube	stainless steel
	Connecting cable	non-halogen, grey 3 x 1,0 mm ² , ~ 3 m
v	Speed	\times 12,6 mm/s \rightarrow 12,6 mm/s
s	Stroke	100 – 1200 mm
L	Length	s + 342 mm see order data
	Sound pressure level	≤ 70 dB (A)



ORDER DATA

s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.			
100	442	PLA 10 100 S12	E6/C-0	1	523610			
200	542	PLA 10 200 S12	E6/C-0	1	523620			
300	642	PLA 10 300 S12	E6/C-0	1	523630			
400	742	PLA 10 400 S12	E6/C-0	1	523640			
500	842	PLA 10 500 S12	E6/C-0	1	523650			
600	942	PLA 10 600 S12	E6/C-0	1	523660			
750	1092	PLA 10 750 S12	E6/C-0	1	523675			
1000	1342	PLA 10 1000 S12	E6/C-0	1	523700			

OPTIONS

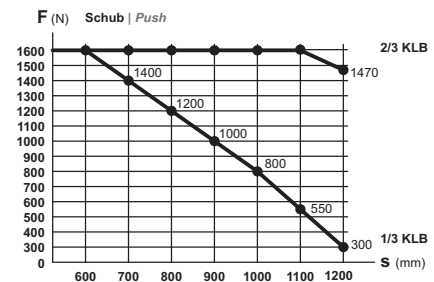
Special model	PU/pcs.	Part.-No.			
Front Fixing					
Spindle tube end with interior thread M8	1	515061			
Spindle tube end with interior thread M10	1	515060			
Drive housing painted/powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516004			
	21 – 50	516004			
	51 – 100	516004			
	from 101	516004			
Extra length connecting cable:					
5 m – non-halogen, grey – 3 x 1,0 mm ²		501037			
10 m – non-halogen, grey – 3 x 1,0 mm ²		501039			
Mechanic stroke reduction S3					
Stroke reduction without construction length - mechanically	1	516000			
Accessories for front / rear suspension					
B16ST Eyebolt Ø8 mm, galvanized	1	100044			
B16VA Eyebolt Ø8 mm, stainless steel	1	100144			
B27ST Clevis M8x16 mm, galvanized, thread M8x45 mm	1	105510			
B28ST Clevis M10x20 mm, galvanized, thread M10x50 mm	1	105520			
Microprocessor programming S12					
Electronic stroke reduction 24V S12	1	524190			
Programming drives 24V / 230V S12	1	524180			
Other lengths available on request					
Optional accessories	PU/pcs.	Part.-No.			
M-COM Configuration module for synchronised multi-drive systems	1	524177			



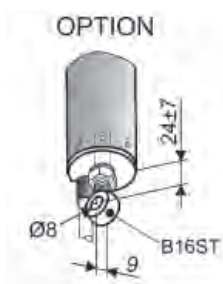
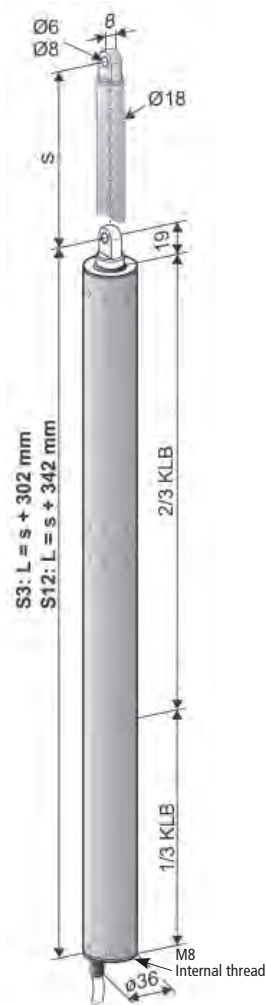
- Application: natural ventilation, SHEV, ferralux®-NSHEV
- Internal Intelligent Control Electronics S12
- Options**
 - Programmable synchronised run (max. 4 drives) and special functions
 - M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives (S3 / S12)
 - Spindle tube end with interior thread for clevis
 - Eyebolt and clevis for rear suspension

TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	1,9 A
I_A	Cut-off current	2,5 A
P_N	Rated power	45 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 65
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	1600 N
F_A	Pushing force max.	



F_H	Pullout force	5000 N (fastening depended)
	Spindle tube	stainless steel
	Connecting cable	non-halogen, grey 3 x 1,0 mm ² , ~ 3 m
v	Speed	7,0 mm/s 7,0 mm/s
s	Stroke	100 – 1200 mm
L	Length	s + 342 mm see order data
	Sound pressure level	≤ 70 dB (A)



ORDER DATA

s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.			
100	442	PLA16 100 S12	E6/C-0	1	565710			
200	542	PLA16 200 S12	E6/C-0	1	565720			
300	642	PLA16 300 S12	E6/C-0	1	565730			
400	742	PLA16 400 S12	E6/C-0	1	565740			
500	842	PLA16 500 S12	E6/C-0	1	565750			
600	942	PLA16 600 S12	E6/C-0	1	565760			
750	1092	PLA16 750 S12	E6/C-0	1	565775			
1000	1342	PLA16 1000 S12	E6/C-0	1	565800			

OPTIONS

Special model	PU/pcs.	Part.-No.			
Front Fixing					
Spindle tube end with interior thread M8	1	515061			
Spindle tube end with interior thread M10	1	515060			
Drive housing painted/powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516004			
	21 – 50	516004			
	51 – 100	516004			
	from 101	516004			
Extra length connecting cable:					
5 m – non-halogen, grey – 3 x 1,0 mm ²		501037			
10 m – non-halogen, grey – 3 x 1,0 mm ²		501039			
Mechanic stroke reduction S3					
Stroke reduction without construction length - mechanically	1	516000			
Accessories for front / rear suspension					
B16ST Eyebolt Ø8 mm, galvanized	1	100044			
B16VA Eyebolt Ø8 mm, stainless steel	1	100144			
B27ST Clevis M8x16 mm, galvanized, thread M8x45 mm	1	105510			
B28ST Clevis M10x20 mm, galvanized, thread M10x50 mm	1	105520			
Microprocessor programming S12					
Electronic stroke reduction 24V S12	1	524190			
Programming drives 24V / 230V S12	1	524180			
Other lengths available on request					
Optional accessories	PU/pcs.	Part.-No.			
M-COM Configuration module for synchronised multi-drive systems	1	524177			

OVERVIEW OF BRACKETS

Typical applications				1	2	3	4	5	6	7	8	9	10
Frame bracket				K5	K5	K5	K17	K82	K122	K127	K122-1	K122-1	K7
Mounting aid						K21							
Bracket accessories				clamping ring B4 (36 mm-G1/8)									
Casement bracket				F29-1	F1, F1V, F1.1, F10.6, F10.8S, F11, F13, F40				F29	F11	F36	F30	F12
Special application				Heroal 085D					Heroal 085 D	Wing 105D	AWS 57RO	Witect 50	Sky light Essmann
Space requirement	min.	[mm]		50	50	40 – 50	70	45	60	35	68	68	120
Window material	Alu			●	●	●	●	●	●	●	●	●	
	Wood				●	●	●	●					
	PVC				●	●	●	●					●
Type of window and mounting	Bottom hung	in-ward	HSK	FM			■		■				
				RM									
			NSK	FM									
				RM									
		out-ward	HSK	RM			●		●				
				PR		●		●					
			NSK	RM									
				PR									
	Top hung	in-ward	HSK	FM			■		■				
				RM									
			NSK	FM									
				RM									
		out-ward	HSK	RM			●		●				
				PR		●		●					
			NSK	RM									
				PR									
	Side hung	in-ward	HSK	FM			■		■				
				RM									
			NSK	FM									
				RM									
	Roof	out-ward	HSK	RM	●		●		●				
				PR		●		●					
			NSK	RM			●		●	●	●	●	
				PR		●		●					
	Sky-light	out-ward	HSK	RM		●		●	●				●
			NSK	RM									
FAB(*1)	Solo	[mm]						450 – 1300					600 – 1200
	Sync2	[mm]						1200 – 2400					1200 – 2400
FAH(*1)	Solo	[mm]						450 – 1500					600 – 1200
	Sync2	[mm]						450 – 2500					1200 – 1500

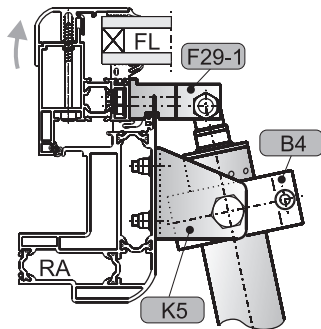
LEGEND

● suitable ■ not recommended

(*1) Sample value of the casement dimensions. The actual casement dimensions depend on the stroke and the position of the drives to the hinges. The values of FAB/FAH are to be used analogue for side hung windows.

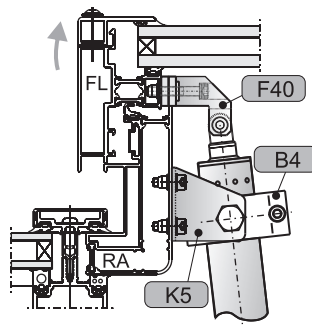
TYPICAL APPLICATIONS

1 RM, HSK, roof



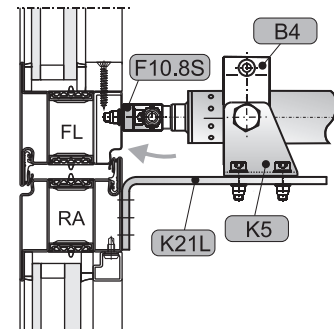
View on aluminium window

2 RM, HSK, roof



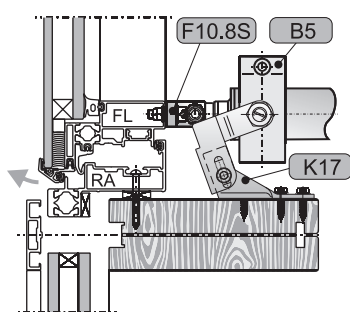
View on aluminium window

3 RM, HSK, top hung outward opening



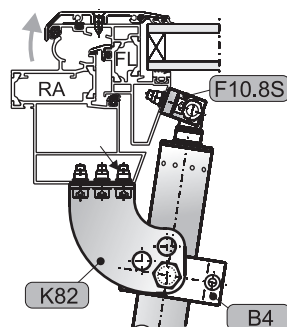
View on steel window

4 RM, HSK, top hung outward opening



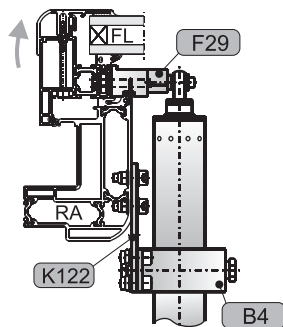
View on aluminium window

5 RM, HSK, roof



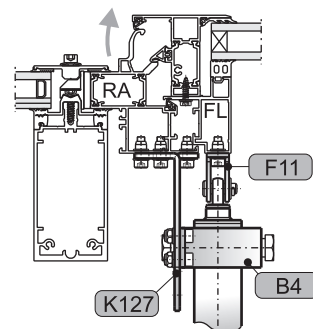
View on aluminium window

6 RM, NSK, roof



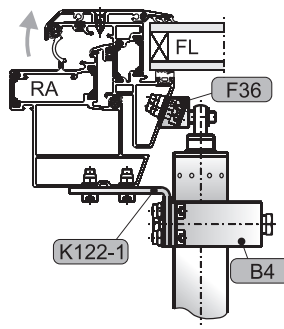
View on aluminium window

7 RM, NSK, roof



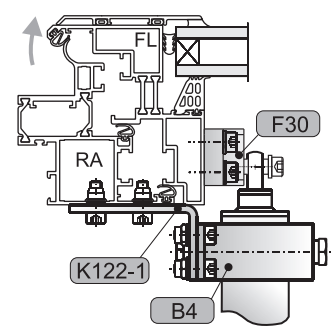
View on aluminium window

8 RM, NSK, roof



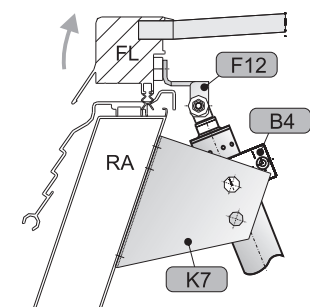
View on aluminium window

9 RM, NSK, roof



View on aluminium window

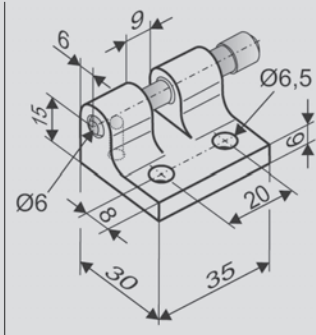
10 RM, HSK, sky-light



View on sky light

CASEMENT BRACKETS

F1



Application

Surface mounting on the **main closing edge** of casement profiles of outward opening windows or skylights, for drives with **front or rear suspension** with bore **Ø6 mm**, manual removal of drive possible

Part.-No. 150102

Material/Finish
aluminium, diecast

Feature/Equipment

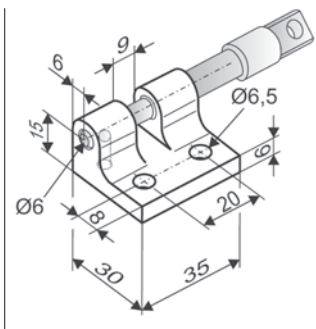
1x locking bolt

Ø6 mm

Load

max. 1000 N

F1.1



Application

Surface mounting on the **main closing edge** of casement profiles of outward opening windows or skylights, for drives with **front or rear suspension** with bore **Ø6 mm**, manual removal of drive possible

Part.-No. 150110

Material/Finish
aluminium, diecast

Feature/Equipment

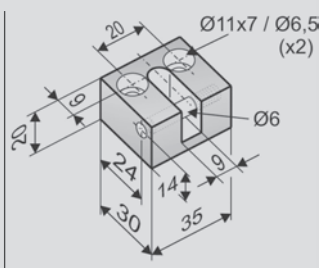
1x locking spring bolt

Ø6 mm

Load

max. 600 N

F1V



Application

Surface mounting on the **main closing edge** of casement profiles of outward opening windows or skylights, for drives with **front or rear suspension** with bore **Ø6 mm**

Part.-No. 150101

Material/Finish
aluminium

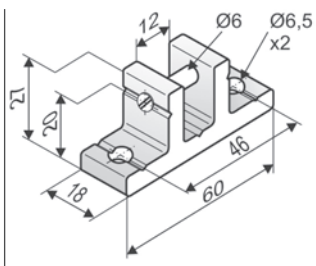
Feature/Equipment

1x grub screw Ø6 mm

Load

max. 1600 N

F10.6



Application

Surface mounting on **main closing edge** of casement profiles of outward opening windows or skylights, for drives with **front or rear suspension** with bore **Ø6 mm**, threaded stud bolt

Part.-No. 151000

Material/Finish
aluminium

Feature/Equipment

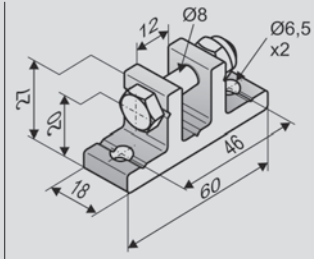
1x stud bolt Ø6 mm

Load

max. 1600 N

CASEMENT BRACKETS

F10.8S

**Application**

Surface mounting on the **main closing edge** of casement profiles of outward opening windows, for drives with **front or rear suspension** with bore **Ø8 mm**

Part.-No. 151105

Material/Finish

aluminium

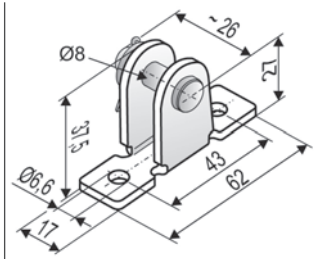
Feature/Equipment

1x nut M8,
1x screw M8x35

Load

max. 3000 N

F11ST

**Application**

Surface mounting on the **side closing edge** of casement/ window frame profiles of in-/outward opening windows or on skylights, for drives with front or rear suspension with bore **Ø8 mm**, mounting holes aligned with central axis of drive

Part.-No. 151400

Material/Finish

steel galvanized

Feature/Equipment

1x bolt Ø8 mm,
washer,
cotter pin

Load

max. 3000 N

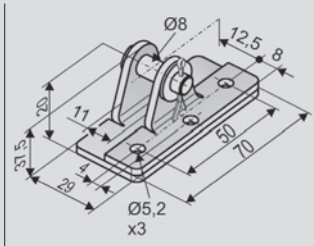
F11VA

Part.-No. 151401

Material/Finish

stainless steel

F13

**Application**

Surface mounting on the **side closing edge** of casement/ window frame profiles of in-/outward opening windows or on skylights, for drives with front or rear suspension with bore **Ø8 mm**, mounting holes not aligned with the central axis of drive

Part.-No. 151405

Material/Finish

steel galvanized

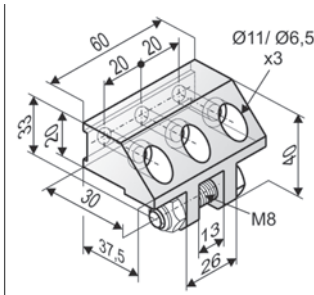
Feature/Equipment

1x bolt Ø8 mm,
washer,
cotter pin

Load

max. 1600 N

F40

**Application**

Surface mounting on the **main closing edge** of the casement profiles of outward opening roof windows, for drives with **front or rear suspension** with bore **Ø8 mm**

Part.-No. 155172

Material/Finish

aluminium

Feature/Equipment

1x screw M8x35,
nut M8

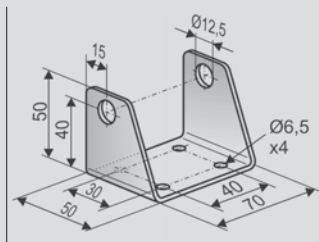
Optional accessories

B2 Base Plate F39/F40

Part.-No. 155173

FRAME BRACKETS

K5



Application

Surface mounting on the main closing edge of window frame profiles or on the mullion/transom of outward opening (roof-)windows, for swivelling suspension of drives

PLA with B4,
SP8 with B13,
LKS with B7

Part.-No. 155800

Material/Finish

steel galvanized

Feature/Equipment
drilled holes Ø12,5 mm

Accessories

B4 clamp ring PLA
(Ø36 mm, G1/8)

Part.-No. 515900

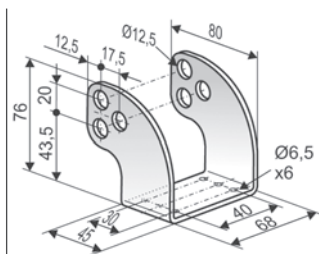
K21K Frame bracket

Part.-No. 159900

K21L Frame bracket

Part.-No. 159905

K82



Application

Surface mounting on the main closing edge of window frame profiles or on the mullion/transom of outward opening (roof-)windows, for swivelling suspension of drives

PLA with B4,
SP8 with B13,
LKS with B7

Part.-No. 151320

Material/Finish

stainless steel

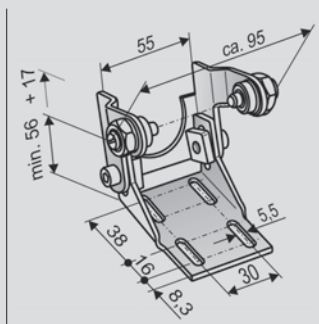
Feature/Equipment
drilled holes Ø12,5 mm

Accessories

B4 clamp ring PLA
(Ø36 mm, G1/8)

Part.-No. 515900

K17



Application

Surface mounting on the main closing edge of window frame profiles or on the mullion/transom of outward opening (roof-)windows, for swivelling suspension of drives

PLA with B5,
SP with B12

Part.-No. 159200

Material/Finish

steel galvanized

Feature/Equipment
adjustable height

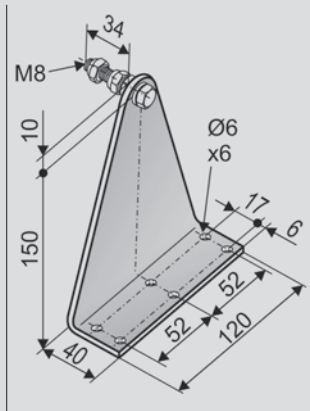
Accessories

B5 clamp ring PLA
(Ø36 mm, Ø8 mm)

Part.-No. 515825

FRAME BRACKETS

K15

**Application**

Surface mounting on the **side closing edge** of window frame profiles of in-/outward opening windows, by obliquely arranged drives with **rear suspension** with bore **Ø8 mm**

Required space on the frame
40 mm

Part.-No. 307000

Material/Finish

steel galvanized

Feature/Equipment

H=150 mm, t=4 mm

Optional accessories

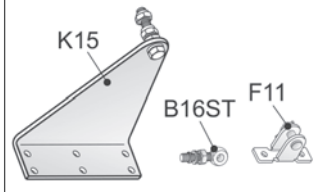
B16ST Eyebolt
(Ø8 x 40 mm ST)

Part.-No. 100044

B16VA Eyebolt
(Ø8 x 40 mm VA)

Part.-No. 100144

K15-Set

**Application**

Surface mounting on the **side closing edge** like RWA-1000/1100 hardware sets

Required space on the frame
40 mm

Part.-No. 517590

Material/Finish

steel galvanized

Feature/Equipment

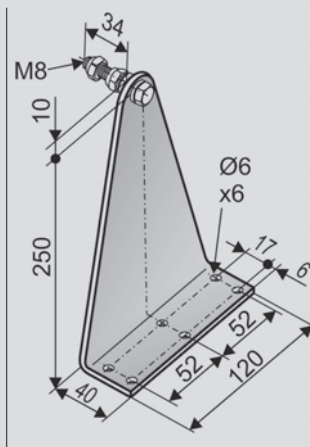
Set:

1x K15

1x F11ST

1x B16ST

K37

**Application**

Surface mounting on the **side closing edge** of window frame profiles of in-/outward opening windows, by obliquely arranged drives with rear suspension with bore **Ø8 mm**

Required space on the frame
40 mm

Part.-No. 307500

Material/Finish

steel galvanized

Feature/Equipment

H=250 mm, t=5 mm

Optional accessories

B16ST Eyebolt
(Ø8 x 40 mm ST)

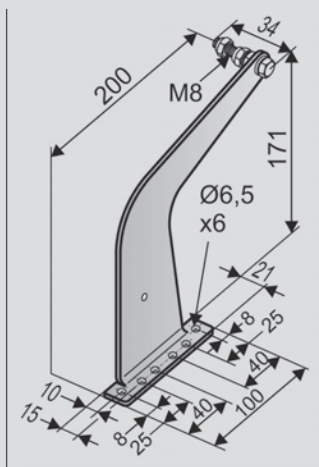
Part.-No. 100044

B16VA Eyebolt
(Ø8 x 40 mm VA)

Part.-No. 100144

FRAME BRACKETS

K97L



Application

Surface mounting on the **side closing edge** of window frame profiles of inward opening side hung windows, by obliquely arranged drives with **rear suspension** with bore **Ø8 mm**. **Required space on the frame** 20 mm

Part.-No. 160938

Material/Finish

stainless steel,
vibratory grinding

Feature/Equipment

left hand

Optional accessories

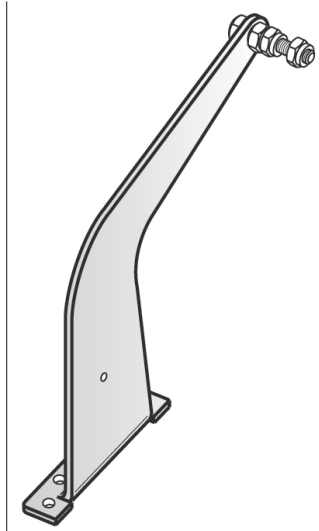
B16ST Eyebolt
(Ø8 x 40 mm ST)

Part.-No. 100044

B16VA Eyebolt
(Ø8 x 40 mm VA)

Part.-No. 100144

K97R



Application

Surface mounting on the **side closing edge** of window frame profiles of inward opening side hung windows, by obliquely arranged drives with **rear suspension** with bore **Ø8 mm**. **Required space on the frame** 20 mm

Part.-No. 160939

Material/Finish

stainless steel,
vibratory grinding

Feature/Equipment

right hand

Accessories

B16ST Eyebolt
(Ø 8 x 40 mm ST)

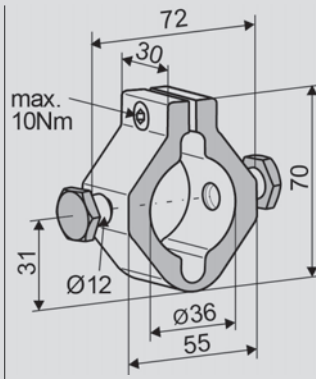
Part.-No. 100044

B16VA Eyebolt
(Ø8 x 40 mm VA)

Part.-No. 100144

OPTIONAL ACCESSORIES

B4

**Application**

Adjustable clamping of the PLA drive housing, for surface mounting with **swivelling suspension** on **K5, K7, K82, K22, K22-1, K127** (preferably on outward opening windows)

Part.-No. 515900

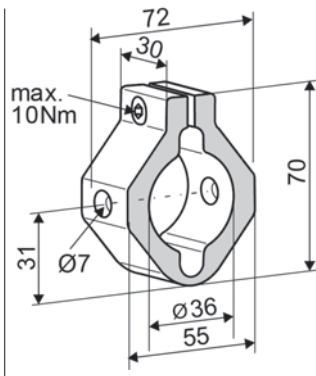
Material/Finish

aluminium (antreated), stainless steel

Feature/Equipment

2x B8 collar screw Ø12mm, G1/8
1x cylinder head screw M6x16m

B5

**Application**

Adjustable clamping of the PLA drive housing, for surface mounting with **swivelling suspension** on **K17** (preferably on outward opening windows)

Part.-No. 515825

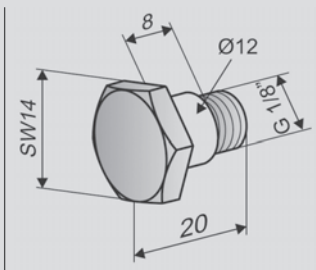
Material/Finish

aluminium (antreated), stainless steel

Feature/Equipment

2x Holes Ø7 mm
1x cylinder head screw M6x16

B8

**Application**

Swivelling suspensin of the clamp rings

B4 for PLA

B7 for LKS

or of the clamping blocks

B11, B13 for SP

for U-shaped frame brackets with bore Ø12,5 mm

Part.-No. 172800

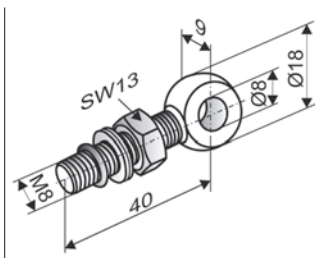
Material/Finish

stainless steel

Feature/Equipment

Collar Ø12 mm, G1/8"

B16ST

**Application**

Eye bolt for rear or front suspension of spindle drives with **M8** thread in the rear base cap or in the spindle tube

Part.-No. 100044

Material/Finish

steel galvanized

Feature/Equipment

M8x40 (Eye Ø8 mm),
1 x nut M8 + Nordlock-safety-washer + O-ring
max. screw-in depth in the drive 25 mm

B16VA

Part.-No. 100144

Material/Finish

stainless steel (V2A)

Technical drawing of a 1/2 inch NPT female plug. The drawing shows the plug with a hexagonal base and a threaded end. Dimensions are indicated: 45 (total length), 42 (length to the start of the hex), 8 (hex height), 1 (thread length), 31 (length to the end of the hex), and 1/2 (thread size). The hole diameter is labeled as Ø8.

Clevis for rear or front suspension of spindle drives with **M8** thread in the rear base cap or in the spindle tube

Clevis M8 x 40 mm with
spring bolt Ø8 mm and
thread M8 x 45 mm
1x nut M10 + Nordlock-
safety-washer + O-ring,
max. screw-in depth in the
drive 25 mm

Technical drawing of a mechanical part with dimensions:

- Overall length: 50
- Length of the threaded section: 10
- Length of the hexagonal section: 40
- Length of the cylindrical section: 62
- Height of the hexagonal section: 10
- Height of the cylindrical section: 20
- Inner diameter of the cylindrical section: $\varnothing 10$

Clevis for rear or front suspension of spindle drives with **M10** thread in the rear base cap or in the spindle tube

Clevis M10 x 40 mm with
spring bolt Ø10 mm and
thread M10 x 50 mm
1x nut M10 + Nordlock-
safety-washer + O-ring,
max. screw-in depth in the
drive 25 mm

Shift the fastening level of the frame brackets **K5, K29** from the horizontal to the vertical position of the **main closing edge** of window frame profiles

best generalized

Technical drawing of a bent plate with the following dimensions and specifications:

- Overall length: 140
- Overall width: 50
- Flange width: 40
- Flange thickness: 5
- Web thickness: 7
- Radius of bend: R12
- Holes in flange: 4 holes, diameter $\varnothing 6.5$
- Holes in web: 3 holes, diameter $\varnothing 6.5$
- Distance from flange edge to first flange hole: 30
- Distance between flange holes: 30
- Distance from web edge to first web hole: 12
- Distance between web holes: 12
- Distance from bend centerline to last web hole: 40

Shift the fastening level of the frame brackets **K5, K29** from the horizontal to the vertical position of the **main closing edge** of window frame profiles

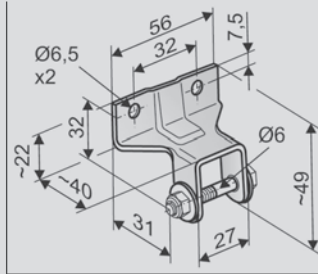
Support for **F39** and **F40** as packing plate for mounting on the casement profiles of outward opening roof windows

60 x 20 x 5 mm

SPECIFIC APPLICATIONS

SKY-LIGHT ESSMANN TYP 810

F12

**Application**

Surface mounting on the main closing edge of the case-ment profiles of skylight domes **Essmann 810** for drives with front suspension with bore $\varnothing 6$ mm

Part.-No. 151500

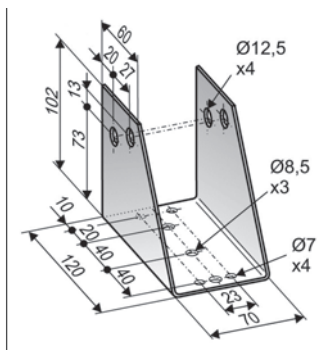
Material/Finish
steel galvanized**Feature/Equipment**

1x screw M6,
washer,
nut

Load

max. 800 N

K7

**Application**

Surface mounting on the main closing edge of the upstand of skylight domes **Essmann 810** for swivelling suspension of drives
PLA with **B4**,
SP with **B13**,
LKS with **B7**

Part.-No. 157500

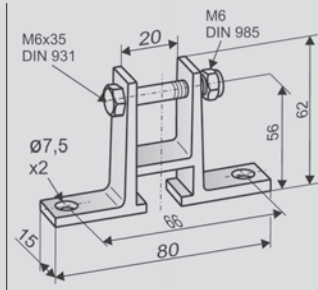
Material/Finish
steel galvanized**Feature/Equipment**
drilled holes $\varnothing 12,5$ mm**Accessories**

B4 clamp ring PLA
($\varnothing 36$ mm, G1/8)

Part.-No. 515900

SKY-LIGHT ETERNIT

F2

**Application**

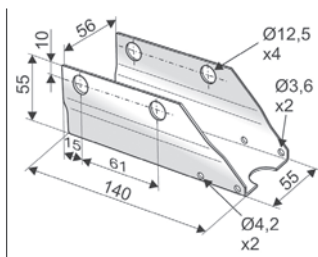
Surface mounting on the main closing edge of skylight domes **Eternit**, for drives with front suspension with bore $\varnothing 6$ mm

Part.-No. 150303

Material/Finish
aluminium**Feature/Equipment**

1x nut M6,
1x screw M6x35

K4-L

**Application**

Surface mounting on the main closing edge of the upstand of skylight domes **Eternit** for swivelling suspension of drives
PLA with **B4**,
SP with **B11**,

Part.-No. 155610

Material/Finish
steel galvanized**Feature/Equipment**

2x screw Taptite M4x10,
1x nut M4,
1x screw M4x65

Accessories

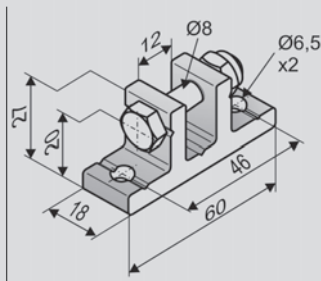
B4 clamp ring PLA
($\varnothing 36$ mm, G1/8)

Part.-No. 515900

SPECIFIC APPLICATIONS

SCHÜCO AWS 57RO, WICONA WICTEC 50, RAICO WING 105D – HSK

F10.8S



Application

Surface mounting on the **main closing edge** of casement profiles of outward opening windows, for drives with **front or rear suspension** with bore **Ø8 mm**

Part.-No. 151105

Material/Finish
aluminium

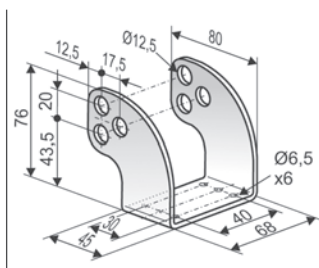
Feature/Equipment

1x nut M8,
1x screw M8x35

Load

max. 3000 N

K82



Application

Surface mounting on the **main closing edge** of window frame profiles or on the mullion/transom of outward opening (roof-)windows, for **swivelling suspension** of drives

PLA with **B4**,
SP8 with **B13**,
LKS with **B7**

Part.-No. 151320

Material/Finish
stainless steel

Feature/Equipment

drilled holes Ø12,5 mm

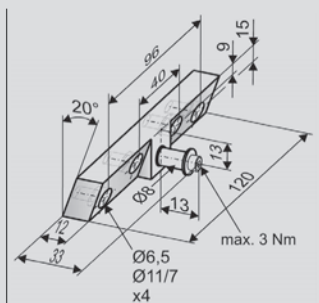
Accessories

B4 clamp ring PLA
(Ø36 mm, G1/8)

Part.-No. 515900

SCHÜCO AWS 57R – NSK

F36



Application

Surface mounting on the **side closing edge** of outward opening casement profiles of roof windows **Schüco AWS 57RO**, for drives with **front suspension** with bore **Ø8 mm**

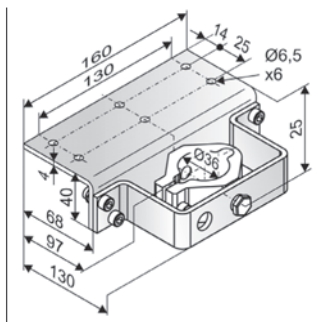
Part.-No. 155170

Material/Finish
aluminium,
stainless steel

Feature/Equipment

1x bolt Ø8 mm,
screw M4,
washer A4,3

K122-1



Application

Surface mounting on the **side closing edge** of window frame profiles of outward opening roof windows **Schüco AWS 57RO**, **Wicona Wictec 50** for **swivelling suspension** of drives
PLA with **B4**

Part.-No. 155116

Material/Finish
stainless steel

Feature/Equipment
without clamping ring B4

Accessories

B4 clamp ring PLA
(Ø 36 mm, G1/8)

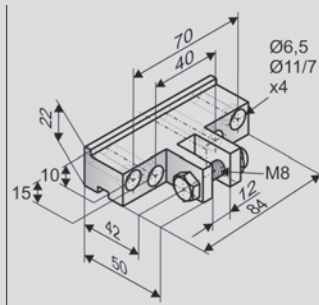
Part.-No. 515900

WICONA WICTEC 50 – NSK					
F30		Application Surface mounting on the side closing edge of the outward opening casement profiles of roof windows Wicona Wictec 50 , for drives with front suspension with bore Ø8 mm	Part-No. 155160 Material/Finish aluminium, stainless steel Feature/Equipment 1x bolt Ø8 mm, screw M4, washer A4,3		
K122-1		Application Surface mounting on the side closing edge of window frame profiles of outward opening roof windows Schüco AWS 57RO , Wicona Wictec 50 for swivelling suspension of drives PLA with B4	Part-No. 155116 Material/Finish stainless steel Feature/Equipment without clamping ring B4		
Accessories					
		B4 clamp ring PLA (Ø36 mm, G1/8)	Part-No. 515900		
RAICO WING 105D – NSK					
F11ST		Application Surface mounting on the side closing edge of casement/window frame profiles of in-/outward opening windows or on skylights, for drives with front or rear suspension with bore Ø8 mm, mounting holes aligned with central axis of drive	Part-No. 151400 Material/Finish steel galvanized Feature/Equipment 1x bolt Ø8 mm, washer, cotter pin Load max. 3000 N		
F11VA			Part-No. 151401 Material/Finish stainless steel		
K127		Application Surface mounting on the side closing edge of window frame profiles of outward opening roof windows Raico Wing 105D for swivelling suspension of drives PLA with B4	Part-No. 155119 Material/Finish stainless steel Feature/Equipment without clamping ring B4		
Accessories					
		B4 clamp ring PLA (Ø36 mm, G1/8)	Part-No. 515900		

SPECIFIC APPLICATIONS

HEROAL 085D – HSK

F29-1



Application

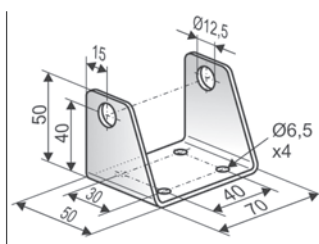
Surface mounting on the **main closing edge** of casement profiles of roof windows **Heroal 085D** for drives with **front suspension** with bore **Ø8 mm**

Part.-No. 155158

Material/Finish
aluminium
(natural anodized),
stainless steel

Feature/Equipment
1x screw M8x35,
nut M8

K5



Application

Surface mounting on the **main closing edge** of window frame profiles or on the mullion/transom of outward opening (roof-)windows, for **swivelling suspension** of drives

PLA with **B4**,
SP5 with **B13**,
LKS with **B7**

Part.-No. 155800

Material/Finish
steel galvanized

Feature/Equipment
drilled holes Ø12,5 mm

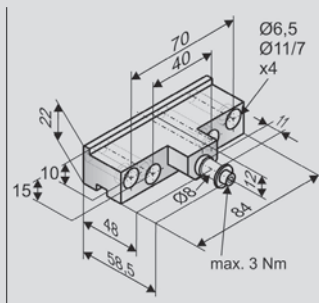
Accessories

B4 clamp ring PLA
(Ø36 mm, G1/8)

Part.-No. 515900

HEROAL 085D – NSK

F29



Application

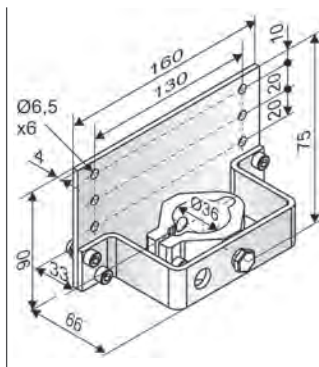
Surface mounting on the **side closing edge** of casement profiles of roof windows **Heroal 085D** for drives with **front suspension** with bore **Ø8 mm**

Part.-No. 155156

Material/Finish
aluminium
(natural anodized),
stainless steel

Feature/Equipment
1x bolt Ø8 mm,
screw M4,
washer A4,3

K122



Application

Surface mounting on the **side closing edge** of window frame profiles of outward opening roof windows **Schüco RS 106D**, **Heroal 085D** for **swivelling suspension** of drives
PLA with **B4**

Part.-No. 155115

Material/Finish
stainless steel

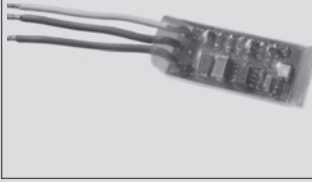
Feature/Equipment
without clamping ring B4
(#515900)

Accessories

B4 clamp ring PLA
(Ø36 mm, G1/8)

Part.-No. 515900

OPTIONAL ACCESSORIES

Main control unit					
M-COM		Application Configuration module for automatic configuration and surveillance of max. 4 opening drives / 2 locking drives version S12 / S3 in synchronised multi-drive systems Rated voltage: 24V DC (19V ... 28V) Current consumption: <12 mA Drive type: S12	Part.-No. 524177 Protection rating IP30 rubber envelope Ambient temperature range 0 °C ... + 70 °C Dimensions 45 x 17 x 6 mm Connecting wires 3 wires 0,5 mm ² x 50 mm Feature/Equipment Printed circuit board with components and connection wires to be installed in connection box to be supplied on site.		

Special model	PU/pcs.	Part.-No.			
Casement brackets painted / powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516032			
	21 – 50	516032			
	51 – 100	516032			
	from 101	516032			
Frame brackets painted / powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516031			
	21 – 50	516031			
	51 – 100	516031			
	from 101	516031			



SPECIAL FEATURES PLS

- For natural ventilation, smoke and heat exhausting and ferralux® NSHEV (EN12101-2)
- Powerful heavy duty drives for loads up to 5000 N
- Robust corrosion-resistant design in aluminium housing (D = 50 mm), optionally in RAL colors
- Easy installation due to adjustable clamp ring (Rear suspension on request)
- Spindle is ball beared with end position dampening and gentle soft-start and soft-stop mode
- Stainless steel spindle tube
- Programmable parameters of Intelligent Control Electronics S12
 - Synchronised multi-operation and sequence control without add. devices
 - Electronic soft-start, soft-close and soft-stop at end of stroke control
 - Stroke, force, speed
 - Rebate control
- With GoreTex membrane
- Suitable for operation with M-COM for the automatic configuration of synchronised run of multi drive systems and sequence control

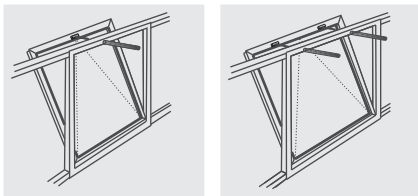
For this product series, a Type III Environmental Product Declaration (EPD) was issued according to ISO 14025 and EN 15804.

The LCA results of the different product types are listed at the end of this product catalogue.

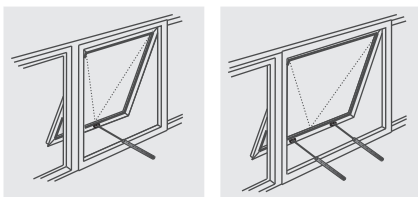
The EPD documents can be viewed or downloaded from our homepage www.aumueller-gmbh.de.

FACADE

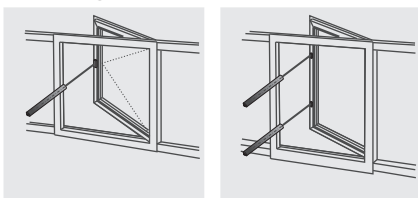
Bottom-hung



Top-hung

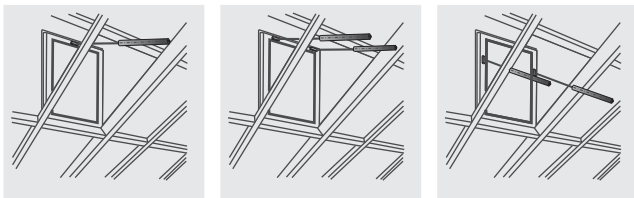


Side-hung

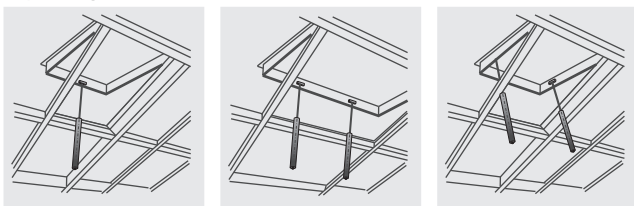


ROOF

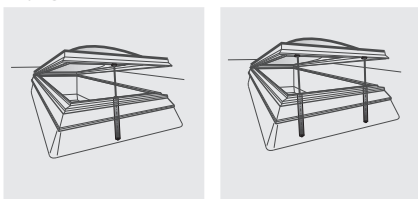
Bottom-hung



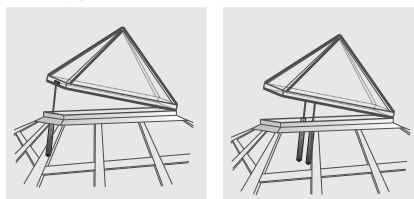
Top-hung



Skylight



Glass pyramid



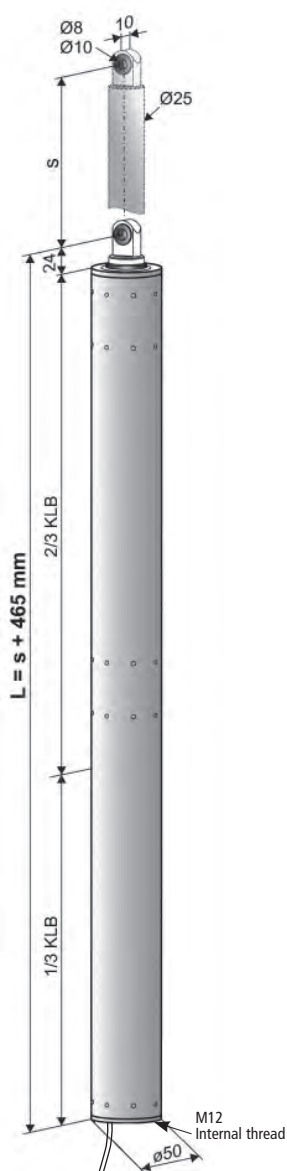


- Application: natural ventilation, SHEV, ferralux®-NSHEV

- Internal Intelligent Control Electronics S12

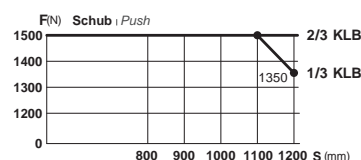
Options

- Programmable synchronised run (max. 4 drives) and special functions
- M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives (S3 / S12)
- Spindle tube end with interior thread for clevis
- Eyebolt and clevis for rear suspension

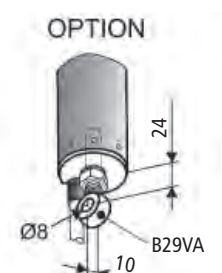


TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	3,0 A
I_A	Cut-off current	4,0 A
P_N	Rated power	72 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 54
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	1500 N
F_A	Pushing force max.	

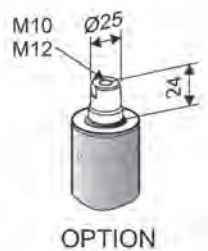


F_H	Pullout force	25000 N (fastening depended)
	Spindle tube	stainless steel
	Connecting cable	non-halogen, grey 3 x 1,0 mm ² , ~ 3 m
v	Speed	\times 16,0 mm/s \curvearrowright 16,0 mm/s
s	Stroke	300 – 1200 mm
L	Length	s + 465 mm see order data
	Sound pressure level	≤ 70 dB (A)



ORDER DATA						
s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.	
300	765	PLS15 300 S12	E6/C-0	1	576830	
400	865	PLS15 400 S12	E6/C-0	1	576840	
500	965	PLS15 500 S12	E6/C-0	1	576850	
600	1065	PLS15 600 S12	E6/C-0	1	576860	
750	1215	PLS15 750 S12	E6/C-0	1	576875	
1000	1465	PLS15 1000 S12	E6/C-0	1	576800	
1200	1665	PLS15 1200 S12	E6/C-0	1	576812	

OPTIONS						
Special model				PU/pcs.	Part.-No.	
Front Fixing						
Spindle tube end with interior thread M10				1	515062	
Spindle tube end with interior thread M12				1	515063	
Drive housing painted/powder coated in other RAL colours						
Lump sum for coating					516030	
Specify at order stage:				1 – 20	516004	
				21 – 50	516004	
				51 – 100	516004	
				from 101	516004	
Extra length connecting cable:						
5 m – non-halogen, grey – 3 x 1,0 mm ²					501037	
10 m – non-halogen, grey – 3 x 1,0 mm ²					501039	
Accessories for front / rear suspension						
B29VA Eyebolt M12x40mm, Ø8 mm, stainless steel				1	105430	
B28ST Clevis M10x20 mm, galvanized, thread M10x50 mm				1	105520	
Microprocessor programming S12						
Electronic stroke reduction 24V S12				1	524190	
Programming drives 24V / 230V S12				1	524180	
Other lengths available on request						
Optional accessories				PU/pcs.	Part.-No.	
M-COM Configuration module for synchronised multi-drive systems				1	524177	

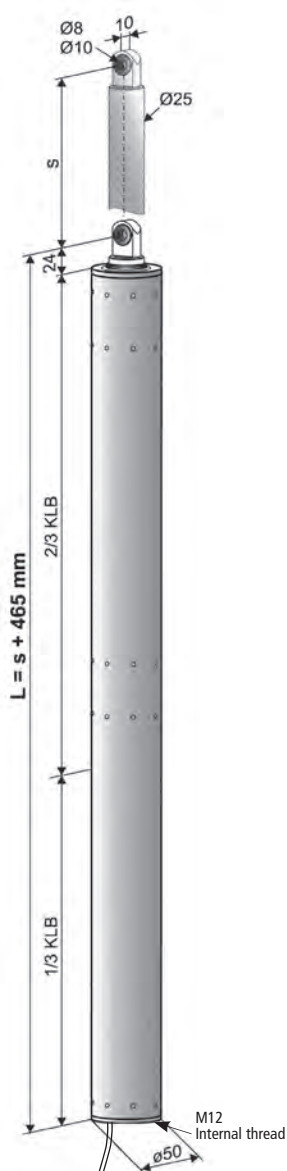


- Application: natural ventilation, SHEV, ferralux®-NSHEV

- Internal Intelligent Control Electronics S12

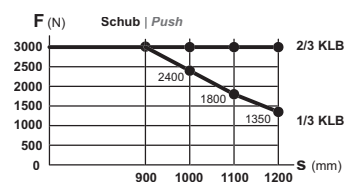
Options

- Programmable synchronised run (max. 4 drives) and special functions
- M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives (S3 / S12)
- Spindle tube end with interior thread for clevis
- Eyebolt and clevis for rear suspension



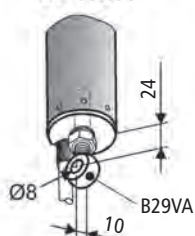
TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	3,8 A
I_A	Cut-off current	5,0 A
P_N	Rated power	91 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 54
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	3000 N
F_A	Pushing force max.	



F_H	Pullout force	25000 N (fastening depended)
	Spindle tube	stainless steel
	Connecting cable	non-halogen, grey 3 x 1,0 mm ² , ~ 3 m
v	Speed	$v_{\text{Schub}} = 7,8 \text{ mm/s}$ $v_{\text{Push}} = 7,8 \text{ mm/s}$
s	Stroke	300 – 1200 mm
L	Length	s + 465 mm see order data
	Sound pressure level	≤ 70 dB (A)

OPTION



ORDER DATA

s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.			
300	765	PLS30 300 S12	E6/C-0	1	577530			
400	865	PLS30 400 S12	E6/C-0	1	577540			
500	965	PLS30 500 S12	E6/C-0	1	577550			
600	1065	PLS30 600 S12	E6/C-0	1	577560			
750	1215	PLS30 750 S12	E6/C-0	1	577575			
1000	1465	PLS30 1000 S12	E6/C-0	1	577500			
1200	1665	PLS30 1200 S12	E6/C-0	1	577512			

OPTIONS

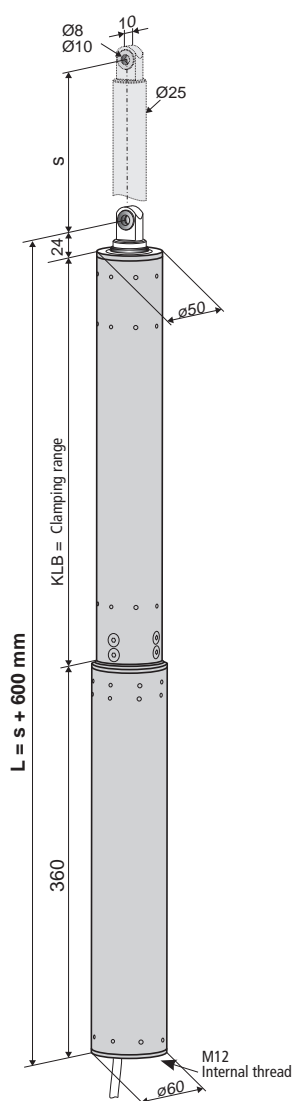
Special model	PU/pcs.	Part.-No.			
Front Fixing					
Spindle tube end with interior thread M10	1	515062			
Spindle tube end with interior thread M12	1	515063			
Drive housing painted/powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516004			
	21 – 50	516004			
	51 – 100	516004			
	from 101	516004			
Extra length connecting cable:					
5 m – non-halogen, grey – 3 x 1,0 mm ²		501037			
10 m – non-halogen, grey – 3 x 1,0 mm ²		501039			
Accessories for front / rear suspension					
B29VA Eyebolt M12x40mm, Ø8 mm, stainless steel	1	105430			
B28ST Clevis M10x20 mm, galvanized, thread M10x50 mm	1	105520			
Microprocessor programming S12					
Electronic stroke reduction 24V S12	1	524190			
Programming drives 24V / 230V S12	1	524180			
Other lengths available on request					
Optional accessories	PU/pcs.	Part.-No.			
M-COM Configuration module for synchronised multi-drive systems	1	524177			



- Application: natural ventilation, SHEV
- Internal Intelligent Control Electronics S12

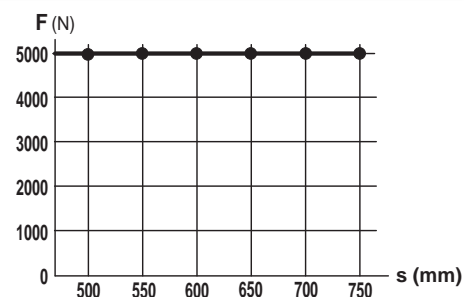
Options

- Programmable synchronised run (max. 4 drives) and special functions
- M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives (S3 / S12)
- Spindle tube end with interior thread for clevis
- Eyebolt and clevis for rear suspension

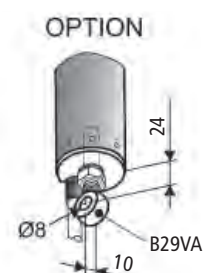


TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	3,0 A
I_A	Cut-off current	4,2 A
P_N	Rated power	72 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 54
	Ambient temperature range	-5 °C ... +60 °C
F_z	Pulling force max.	5000 N
F_A	Pushing force max.	



F_H	Pullout force	25000 N (fastening depended)
	Spindle tube	stainless steel
	Connecting cable	non-halogen, grey 3 x 1,0 mm ² , ~ 3 m
v	Speed	\nearrow 4,0 mm/s \searrow 4,0 mm/s
s	Stroke	200 – 750 mm
L	Length	s + 600 mm see order data
	Sound pressure level	≤ 70 dB (A)



ORDER DATA

s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.			
200	800	PLS50 200 S12	E6/C-0	1	577620			
300	900	PLS50 300 S12	E6/C-0	1	577630			
400	1000	PLS50 400 S12	E6/C-0	1	577640			
500	1100	PLS50 500 S12	E6/C-0	1	577650			
600	1200	PLS50 600 S12	E6/C-0	1	577660			
750	1350	PLS50 750 S12	E6/C-0	1	577675			

OPTIONS

Special model	PU/pcs.	Part.-No.			
Front Fixing					
Spindle tube end with interior thread M10	1	515062			
Spindle tube end with interior thread M12	1	515063			
Drive housing painted/powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516004			
	21 – 50	516004			
	51 – 100	516004			
	from 101	516004			
Extra length connecting cable:					
5 m – non-halogen, grey – 3 x 1,0 mm ²		501037			
10 m – non-halogen, grey – 3 x 1,0 mm ²		501039			
Accessories for front / rear suspension					
B29VA Eyebolt M12x40mm, Ø8 mm, stainless steel	1	105430			
B28ST Clevis M10x20 mm, galvanized, thread M10x50 mm	1	105520			
Microprocessor programming S12					
Electronic stroke reduction 24V S12	1	524190			
Programming drives 24V / 230V S12	1	524180			
Other lengths available on request					
Optional accessories	PU/pcs.	Part.-No.			
M-COM Configuration module for synchronised multi-drive systems	1	524177			

OVERVIEW OF BRACKETS

Typical applications					1	2	3	4	5	6	7
Frame bracket					K70	K82-1	K82-1	K121	K127-1	K-121-1	K121-1
Mounting aid											
Bracket accessories					clamping ring B6 (50 mm-G1/8)						
Casement bracket					F10.8S, F10.10		F28-1	F28	F11	F36	F30
Special application					Wictec 50, Wing 105 D	AWS 57RO, Wing 105D	Heroal 085D	Heroal 085D	Raico Wing 105 D	Schüco AWS 57RO	Wicona Wictec 50
Space requirement		min.	[mm]	120	50	50	35	35	50	50	
Window material		Alu		●	●	●	●	●	●	●	
		Wood		●	●						
		PVC		●	●						
Type of window and mounting	Bottom hung	inward	HSK	FM							
				RM							
			NSK	FM							
				RM							
		outward	HSK	RM		●					
				PR							
			NSK	RM							
				PR							
	Top hung	inward	HSK	FM							
				RM							
			NSK	FM							
				RM							
		outward	HSK	RM		●					
				PR							
			NSK	RM							
				PR							
	Side hung	inward	HSK	FM							
				RM							
			NSK	FM							
				RM							
	Roof	outward	HSK	RM	●	●	●				
				PR							
			NSK	RM			●	●	●	●	
				PR							
	Sky-light	outward	HSK	RM	●	●					
			NSK	RM							
FAB(*1		Solo	[mm]	450 – 1300							
		Sync2	[mm]	1200 – 2500							
FAH(*1		Solo	[mm]	450 – 1500							
		Sync2	[mm]	450 – 2500							

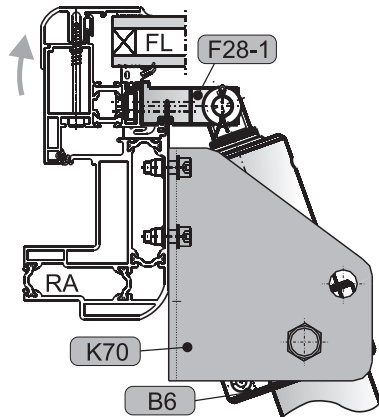
LEGEND

● suitable ■ not recommended

(*1) Sample value of the casement dimensions. The actual casement dimensions depend on the stroke and the position of the drives to the hinges. The values of FAB/FAH are to be used analogue for side hung windows.

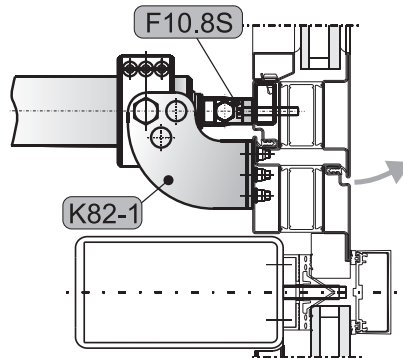
TYPICAL APPLICATIONS

1 RM, HSK, roof



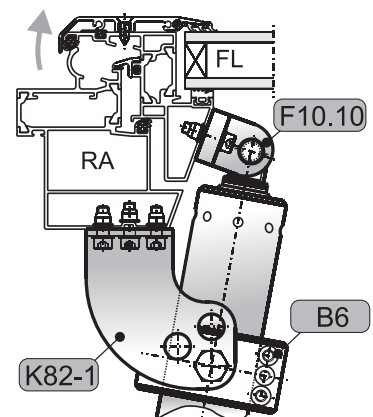
View on aluminium window

1 RM, HSK, op-hung outward opening



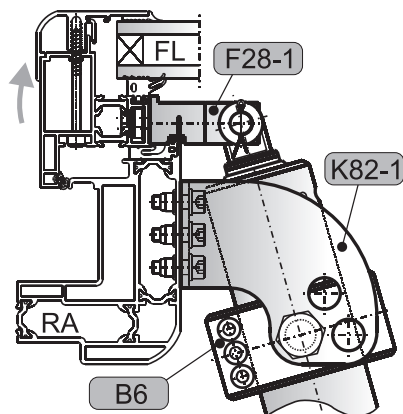
View on steel window

2 RM, HSK, roof



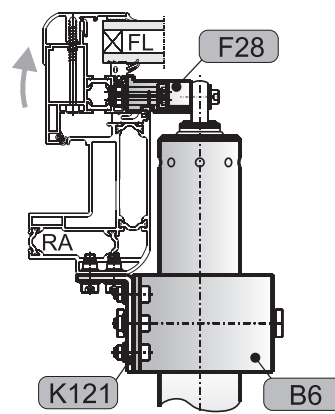
View on aluminium window

3 RM, HSK, roof



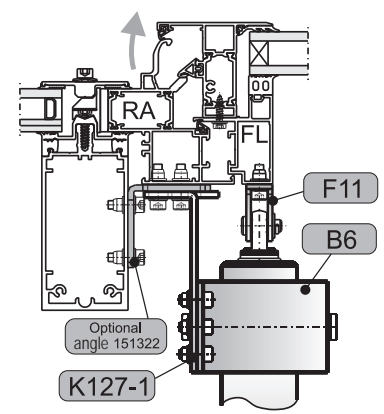
View on aluminium window

4 RM, NSK, roof



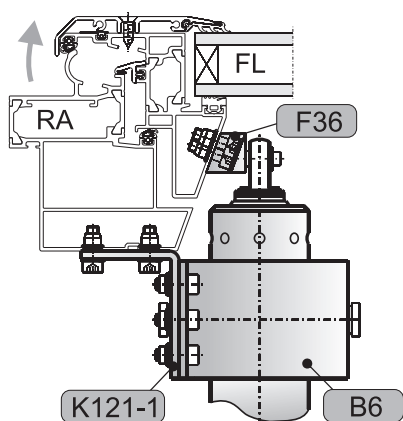
View on aluminium window

5 RM, NSK, roof



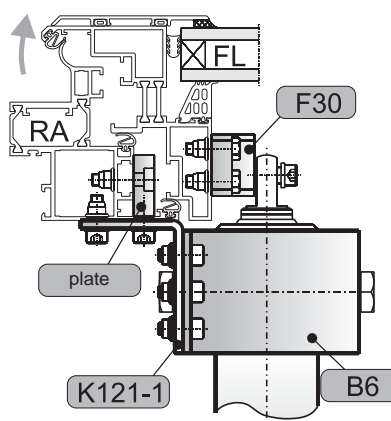
View on aluminium window

6 RM, NSK, roof



View on aluminium window

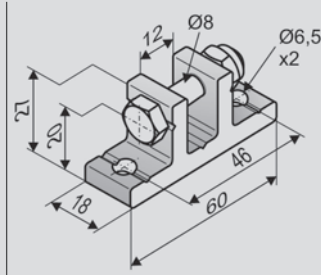
7 RM, NSK, roof



View on aluminium window

CASEMENT BRACKETS

F10.8S



Application

Surface mounting on the main closing edge of casement profiles of outward opening windows, for drives with front or rear suspension with bore Ø8 mm

Part.-No. 151105

Material/Finish

aluminium

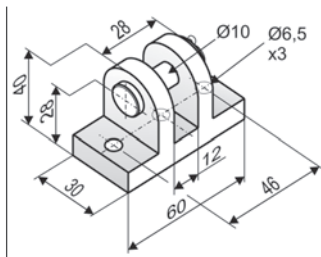
Feature/Equipment

1x nut M8,
1x screw M8x35

Load

max. 3000 N

F10.10



Application

Surface mounting on the main closing edge of the casement profiles of outward opening windows, for drives with front or rear suspension with bore Ø10 mm

Part.-No. 151201

Material/Finish

aluminium, stainless steel

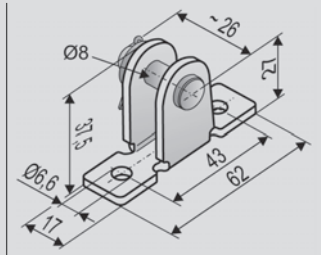
Feature/Equipment

1x bolt Ø10 mm,
washer, split pin

Load

max. 5000 N

F11ST



Application

Surface mounting on the side closing edge of casement/window frame profiles of in-/outward opening windows or on skylights, for drives with front or rear suspension with bore Ø8 mm, mounting holes aligned with central axis of drive

Part.-No. 151400

Material/Finish

steel galvanized

Feature/Equipment

1x bolt Ø8 mm,
washer,
cotter pin

Load

max. 3000 N

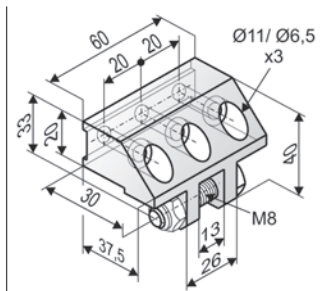
F11VA

Part.-No. 151401

Material/Finish

stainless steel

F40



Application

Surface mounting on the main closing edge of the casement profiles of outward opening roof windows, for drives with front or rear suspension with bore Ø8 mm

Part.-No. 155172

Material/Finish

aluminium

Feature/Equipment

1x screw M8x35,
nut M8

Load

max. 3000 N

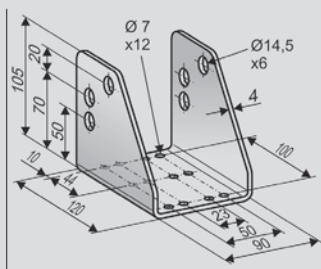
Optional accessories

B2 Base plate F39 / F40

Part.-No. 155173

FRAME BRACKETS

K70



Application

Surface mounting on the main closing edge of window frame profiles or on the mullion/transom of outward opening (roof-)windows, for swivelling suspension of drives
PLS with B6

Part.-No. 155002

Material/Finish

steel galvanized

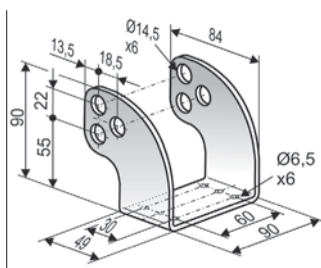
Feature/Equipment
drilled holes Ø14,5 mm

Accessories

B6 clamp ring PLS
(Ø50mm, G1/8)

Part.-No. 576001

K82-1



Application

Surface mounting on the main closing edge of window frame profiles or on the mullion/transom of outward opening (roof-)windows, for swivelling suspension of drives
PLS with B6

Part.-No. 151321

Material/Finish

stainless steel

Feature/Equipment
drilled holes Ø14,5 mm

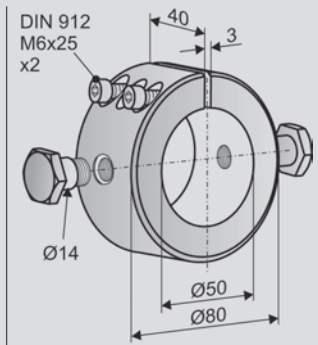
Accessories

B6 clamp ring PLS
(Ø50mm, G1/8)

Part.-No. 576001

OPTIONAL ACCESSORIES

B6



Application

Adjustable clamping of the PLS drive housing, for surface mounting with swivelling suspension on K70, K82-1, K121, K 21-1, K127-1 (preferably on outward opening windows.)

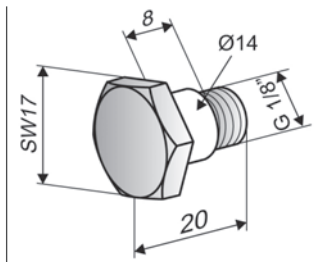
Part.-No. 576001

Material/Finish

aluminium (antreated), stainless steel

Feature/Equipment
2x B9 collar screw
Ø14mm, G1/8,
2x cylinder head screw
M6x25

B9



Application

Swivelling suspension of the clamp ring
B6 for PLS
for U-shaped frame brackets with bore Ø14,5 mm

Part.-No. 172900

Material/Finish

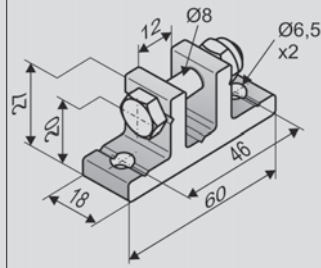
stainless steel

Feature/Equipment
Collar Ø14 mm, G1/8"

SPECIFIC APPLICATIONS

SCHÜCO AWS 57RO, WICONA WICTEC 50, RAICO WING 105D – HSK

F10.8S



Application

Surface mounting on the **main closing edge** of casement profiles of outward opening windows, for drives with **front or rear suspension** with bore **Ø8 mm**

Part.-No. 151105

Material/Finish
aluminium

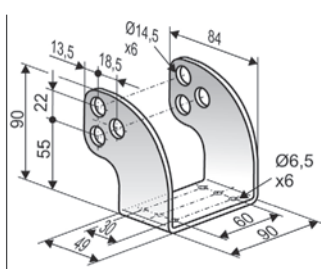
Feature/Equipment

1x nut M8,
1x screw M8x35

Load

max. 3000 N

K82-1



Application

Surface mounting on the **main closing edge** of window frame profiles or on the mullion/transom of outward opening (roof-)windows, for **swivelling suspension** of drives **PLS with B6**

Part.-No. 151321

Material/Finish

stainless steel

Feature/Equipment

drilled holes Ø14,5 mm

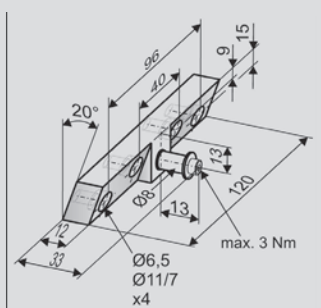
Accessories

B6 Clamp ring PLS
(Ø50 mm, G1/8)

Part.-No. 576001

SCHÜCO AWS 57RO – NSK

F36



Application

Surface mounting on the **side closing edge** of outward opening casement profiles of roof windows **Schüco AWS 57RO**, for drives with **front suspension** with bore **Ø8 mm**

Part.-No. 155170

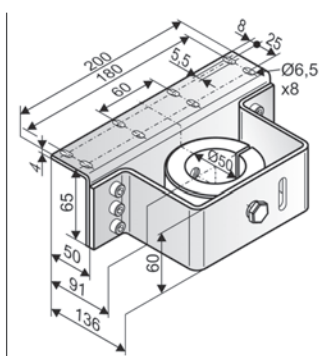
Material/Finish

aluminium
(natural anodized),
stainless steel

Feature/Equipment

1x bolt Ø8 mm,
screw M4,
washer A4,3

K121-1



Application

Surface mounting on the **side closing edge** of window frame profiles of outward opening roof windows **Schüco AWS 57RO**, **Wicona Wictec 50**, **Metra** for **swivelling suspension** of drives **PLS with B6**

Part.-No. 155117

Material/Finish

stainless steel

Feature/Equipment

without clamp ring B6

Accessories

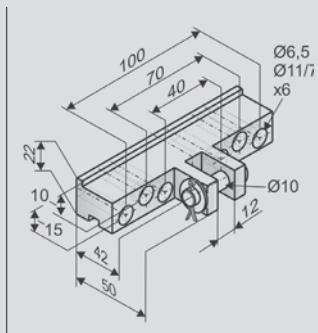
B6 Clamp ring PLS
(Ø50 mm, G1/8)

Part.-No. 576001

SPECIFIC APPLICATIONS

HEROAL 085 / 180 – HSK

F28-1



Application

Surface mounting on the **main closing edge** of outward opening casement profiles of roof windows **Heroal 085D**, for drives with **front suspension** with bore **Ø10 mm**

Part.-No. 155154

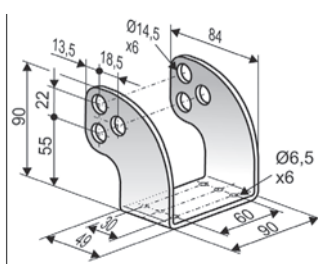
Material/Finish

aluminium
(natural anodized),
stainless steel

Feature/Equipment

1x bolt Ø10 mm,
screw M5,
washer A5,3
split pin 2x20

K82-1



Application

Surface mounting on the **main closing edge** of window frame profiles or on the mullion/transom of outward opening (roof-)windows, for **swivelling suspension** of drives **PLS** with **B6**

Part.-No. 151321

Material/Finish

stainless steel

Feature/Equipment

drilled holes Ø14,5 mm

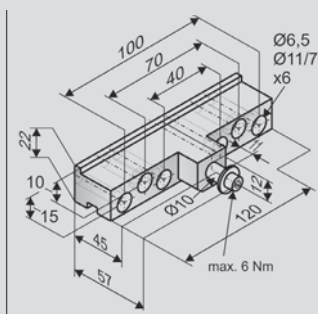
Accessories

B6 Clamp ring PLS
(Ø50 mm, G1/8)

Part.-No. 576001

HEROAL 085 / 180 – NSK

F28



Application

Surface mounting on the **side closing edge** of outward opening casement profiles of roof windows **Heroal 085D**, for drives with **front suspension** with bore **Ø10 mm**

Part.-No. 155155

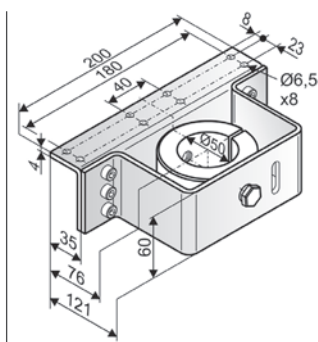
Material/Finish

aluminium
(natural anodized),
stainless steel

Feature/Equipment

1x bolt Ø10 mm,
screw M5,
washer A5,3

K121



Application

Surface mounting on the **side closing edge** of window frame profiles of outward opening roof windows **Schüco RS 106D**, **Heroal 085D** for **swivelling suspension** of drives **PLS** with **B6**

Part.-No. 155110

Material/Finish

stainless steel

Feature/Equipment

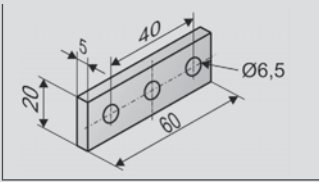
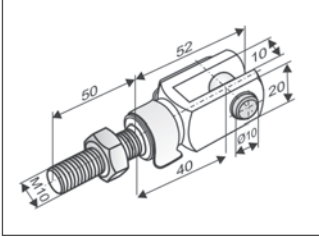
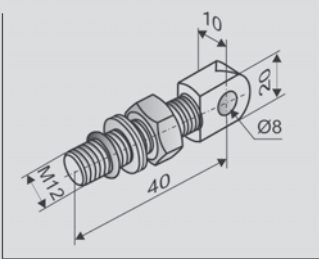
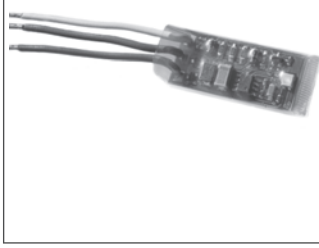
without clamping ring B6

Accessories

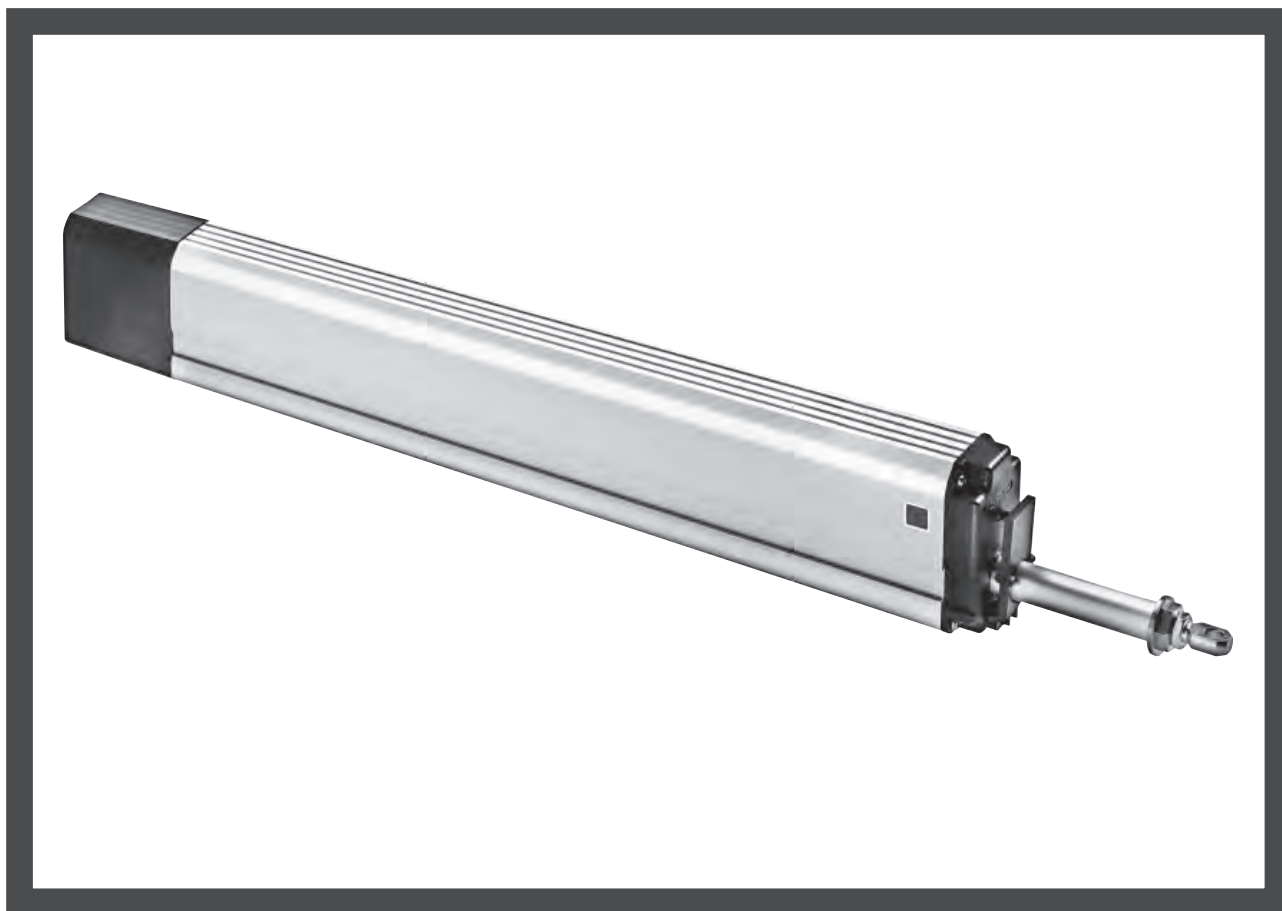
B6 Clamp ring PLS
(Ø50 mm, G1/8)

Part.-No. 576001

OPTIONAL ACCESSORIES

Base Plate			
B2		Application Support for F39 and F40 as packing plate for mounting on the casement profiles of outward opening roof windows	Part.-No. 155173 Material/Finish aluminium (natural anodized) Feature/Equipment 60 x 20 x 5 mm
Clevis			
B28ST		Application Clevis for rear or front suspension of spindle drives with M10 thread in the rear base cap or in the spindle tube	Part.-No. 105520 Material/Finish steel galvanized Feature/Equipment Clevis M10 x 50 mm with spring bolt Ø10 mm and thread M10x 50 mm 1x nut M10 + Nordlock-safety-washer + O-ring, max. screw-in depth in the drive 25 mm
Eyebolt			
B29VA		Application Eyebolt for rear or front suspension of spindle drives with M12 thread in the rear base cap or in the spindle tube	Part.-No. 105430 Material/Finish stainless steel Feature/Equipment M12x 40 (eye Ø8,2 mm), 1x nut M12 + Nordlock-safety-washer + o-ring, minimum depth drive 25 mm
Main control unit			
M-COM		Application Configuration module for automatic configuration and surveillance of max. 4 opening drives / 2 locking drives version S12 / S3 in synchronised multi-drive systems Rated voltage: 24V DC (19 V ... 28 V) Current consumption: <12 mA Drive type: S12	Part.-No. 524177 Protection rating IP30 rubber envelope Ambient temperature range 0 °C ... + 70 °C Dimensions 45 x 17 x 6 mm Connecting wires 3 wires 0,5 mm² x 50 mm Feature/Equipment Printed circuit board with components and connection wires to be installed in connection box to be supplied on site

Special model	PU/pcs.	Part.-No.	
Casement brackets painted / powder coated in other RAL colours			
Lump sum for coating		516030	
Specify at order stage:	1 – 20	516032	
	21 – 50	516032	
	51 – 100	516032	
	from 101	516032	
Frame brackets painted / powder coated in other RAL colours			
Lump sum for coating		516030	
Specify at order stage:	1 – 20	516031	
	21 – 50	516031	
	51 – 100	516031	
	from 101	516031	



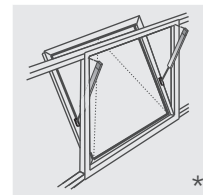
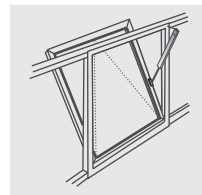
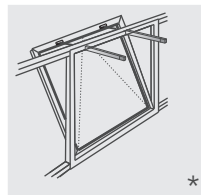
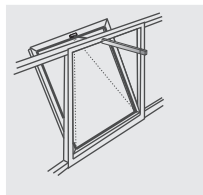
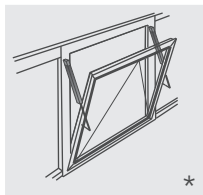
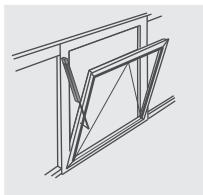
SPECIAL FEATURES SP

- For natural ventilation, smoke and heat exhausting systems
- Robust corrosion-resistant design
- Aluminium housing anodized finish or optionally in RAL colors - with plastic end caps
- Easy installation due to lateral dovetail guidance
- Phosphated steel spindle, aluminium spindle tube anodised finish, damped end positions
- Available in 24 V DC and 230 V AC
- Limit switch to protect against overload

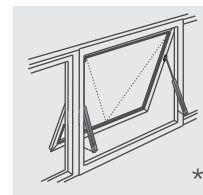
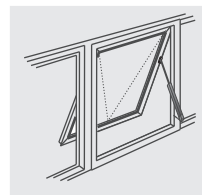
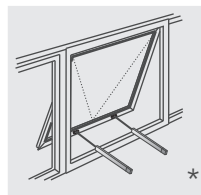
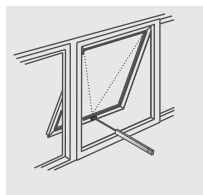
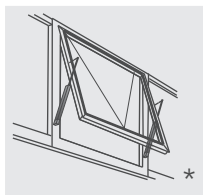
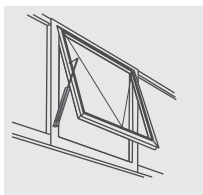
For this product series, a Type III Environmental Product Declaration (EPD) was issued according to ISO 14025 and EN 15804. The LCA results of the different product types are listed at the end of this product catalogue. The EPD documents can be viewed or downloaded from our homepage www.aumueller-gmbh.de.

FACADE

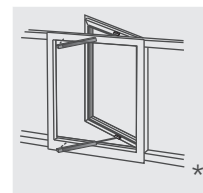
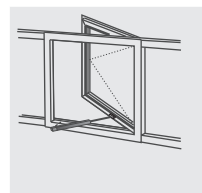
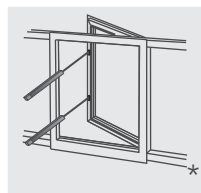
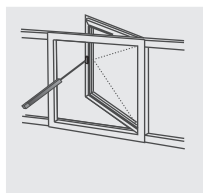
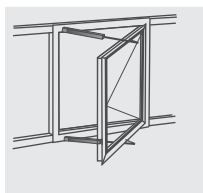
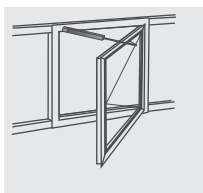
Bottom-hung



Top-hung

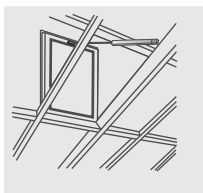


Side-hung

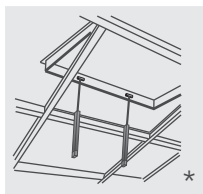
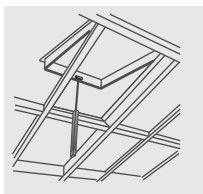


ROOF

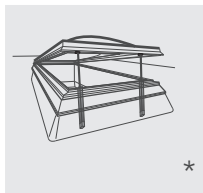
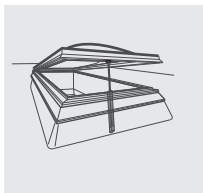
Bottom-hung



Top-hung



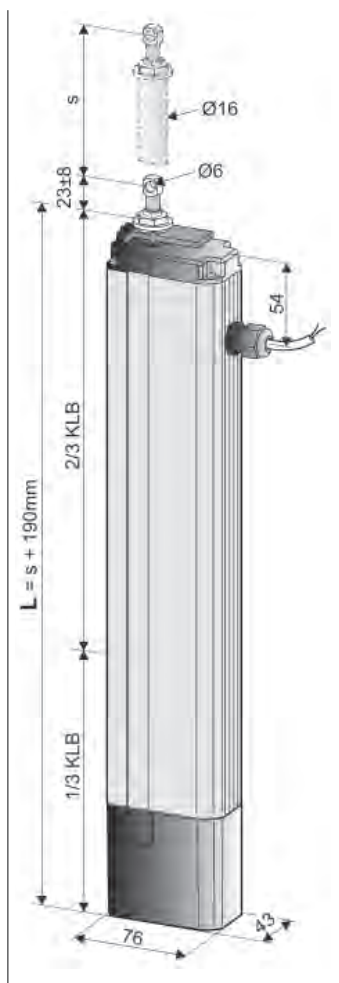
Skylight



Glass pyramid



* Monitored motion run up to $s = 300$ mm with USKM (Controll modul Part.-No.: 512140)



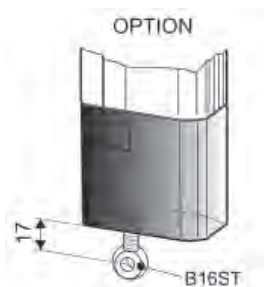
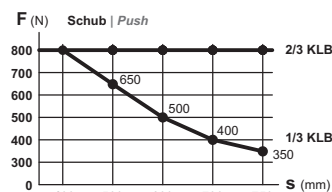
- Application: natural ventilation and SHEV
- Cut-off via limit switch
- „Z“-Version: Potential free NC contact for closed end position feedback (max. 24V, 500 mA)
- Preferably application for skylight domes

Options

- Rear suspension (only to 500 mm stroke)
- Stroke reduction
- Protection rating IP65

TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	0,8 A
I_A	Cut-off current	1,0 A
P_N	Rated power	20 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 54
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	800 N
F_A	Pushing force max.	

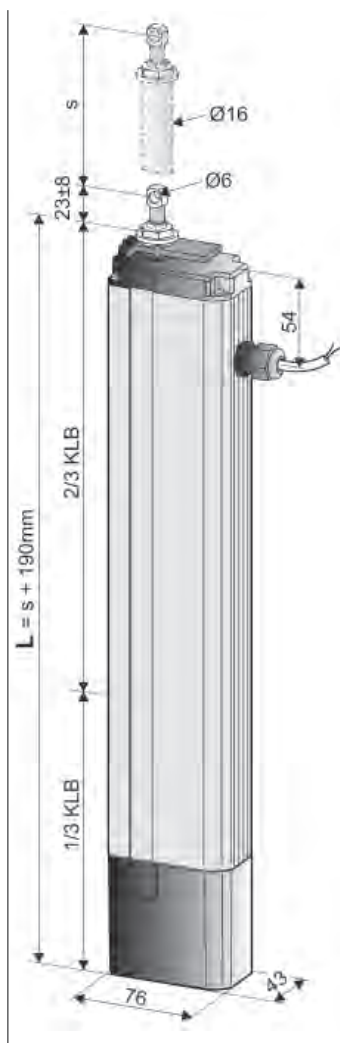


The rear suspension is fitted at the factory.
Only up to 500 mm stroke possible!

F_H	Pullout force	3000 N (fastening depended)
	Spindle tube	aluminium
	Connecting cable	non-halogen, grey SP8: 2 x 0,75 mm ² , ~ 1 m SP8-Z: 4 x 0,75 mm ² , ~ 1 m
v	Speed	7,0 mm/s 7,0 mm/s
S	Stroke	100 – 750 mm
L	Length	s + 190 mm see order data
	Sound pressure level	≤ 70 dB (A)

ORDER DATA						
s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.	
100	290	SP8 100 S2 24V	E6/C-0	1	514110	
		SP8-Z 100 S2 24V		1	514310	
200	390	SP8 200 S2 24V	E6/C-0	1	514120	
		SP8-Z 200 S2 24V		1	514320	
300	490	SP8 300 S2 24V	E6/C-0	1	514130	
		SP8-Z 300 S2 24V		1	514330	
400	590	SP8 400 S2 24V	E6/C-0	1	514140	
		SP8-Z 400 S2 24V		1	514340	
500	690	SP8 500 S2 24V	E6/C-0	1	514150	
		SP8-Z 500 S2 24V		1	514350	
600	790	SP8 600 S2 24V	E6/C-0	1	514160	
		SP8-Z 600 S2 24V		1	514360	
750	940	SP8 750 S2 24V	E6/C-0	1	514175	
		SP8-Z 750 S2 24V		1	514375	

OPTIONS						
Special model				PU/pcs.	Part.-No.	
Rear Suspension						
Cape for rear suspension (only to 500 mm stroke) incl. eyebolt B16ST M8 x 40 mm, bore Ø8 mm				1	512002	
Protection rating IP65						
Drive with additional gaskets for IP65					512005	
Mechanical stroke reduction						
Stroke reduction without construction length - mechanically					516000	
Drive housing painted/powder coated in other RAL colours						
Lump sum for coating					516030	
Specify at order stage:				1 – 20	516004	
				21 – 50	516004	
				51 – 100	516004	
				from 101	516004	
Extra length connecting cable:						
3 m – non-halogen, grey – 2 x 0,75 mm ²					501023	
5 m – non-halogen, grey – 2 x 0,75 mm ²					501024	
10 m – non-halogen, grey – 2 x 0,75 mm ²					501026	
5 m – non-halogen, grey – 4 x 0,75 mm ² („Z“-Version)					501044	
10 m – non-halogen, grey – 4 x 0,75 mm ² („Z“-Version)					501046	



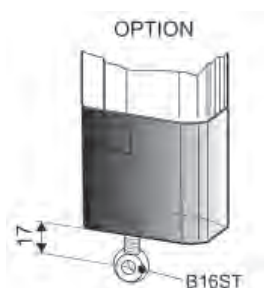
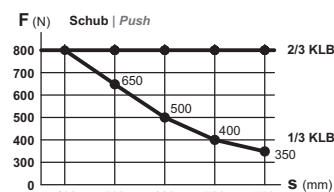
- Application: natural ventilation as single-drive
- Cut-off via limit switch
- Potential free NC contact for closed end position feedback (max. 24V, 500 mA)
- Parallel connection up to 8 drives in one group
- Preferably application for skylight domes
- Minimum basic length of housing for stroke $s = 300$ mm

Options

- Stroke reduction (for $s < 300$ mm)
- Rear suspension (only to 500 mm stroke)
- Protection rating IP65

TECHNICAL DATA

U_N	Rated voltage	230V AC (50 Hz)
I_N	Rated current	0,12 A
I_A	Cut-off current	0,2 A
P_N	Rated power	5 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 54
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	800 N
F_A	Pushing force max.	



The rear suspension is fitted at the factory.
Only up to 500 mm stroke possible!

F_H	Pullout force	3000 N (fastening depended)
	Spindle tube	aluminium
	Connecting cable	non-halogen, grey – 6 x 0,75 mm ² , ~ 1 m
v	Speed	7,0 mm/s 7,0 mm/s
s	Stroke	300 – 750 mm
L	Length	$s + 190$ mm see order data
	Minimum length of housing	490 mm ($s \geq 300$ mm)
	Sound pressure level	≤ 70 dB (A)

ORDER DATA						
s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.	
300	490	SP8-Z 300 S2 230V	E6/C-0	1	496231	
400	590	SP8-Z 400 S2 230V	E6/C-0	1	496241	
500	690	SP8-Z 500 S2 230V	E6/C-0	1	496251	
600	790	SP8-Z 600 S2 230V	E6/C-0	1	496261	
750	940	SP8-Z 750 S2 230V	E6/C-0	1	496276	

OPTIONS						
Special model				PU/pcs.	Part.-No.	
Rear Suspension						
Cape for rear suspension (only to 500 mm stroke) incl. eyebolt B16ST M8 x 40 mm, bore Ø8 mm				1	512002	
Protection rating IP65						
Drive with additional gaskets for IP65					512005	
Mechanical stroke reduction						
Stroke reduction without construction length - mechanically					516000	
Drive housing painted/powder coated in other RAL colours						
Lump sum for coating					516030	
Specify at order stage:				1 – 20	516004	
				21 – 50	516004	
				51 – 100	516004	
				from 101	516004	
Extra length connecting cable:						
3 m – non-halogen, grey – 6 x 0,75 mm ²					501163	
5 m – non-halogen, grey – 6 x 0,75 mm ²					501167	
10 m – non-halogen, grey – 6 x 0,75 mm ²					501169	

OVERVIEW OF BRACKETS

Typical applications					1	2	3	4	5	6	7		
Frame bracket					K4L	K7	K57, K57.2, K57.3	K59	K57, K57.2, K57.3, K59	K92	K82		
Mounting aid									K9				
Bracket accessories					B11	B13			B10 inkl.		B13		
Casement bracket					F2	F12			F1, F1V, F1.1, F10.6				
Special application					Sky light Eternit	Sky light Essmann				Sky light Lamilux			
Space requirement		min.	[mm]	140	120	40	35	50	60	45			
Window material		Alu					●	●	●	●	●		
		Wood					●	●	●	●	●		
		PVC			●	●	●	●	●	●	●		
Type of window and mounting	Bottom hung	inward	HSK	FM					■		■		
				RM									
				NSK	FM								
					RM								
		outward	HSK	RM					●		●		
				PR			●	●		●			
				NSK	RM								
					PR								
	Top hung	inward	HSK	FM						■		■	
				RM									
				NSK	FM								
					RM								
		outward	HSK	RM					●		●		
				PR			●	●		●			
				NSK	RM								
					PR								
	Side hung	inward	HSK	FM						■		■	
				RM									
				NSK	FM								
					RM								
		Roof	outward	HSK	RM				●		●		●
					PR			●	●		●		
				NSK	RM				●			●	
					PR				●	●			
	Sky-light	outward	HSK	RM	●	●	●	●		●	●		
			NSK	RM									
FAB(*1		Solo	[mm]	1200	1200	450 – 1300							
FAH(*1		Solo	[mm]	1200	1200	450 – 1500							

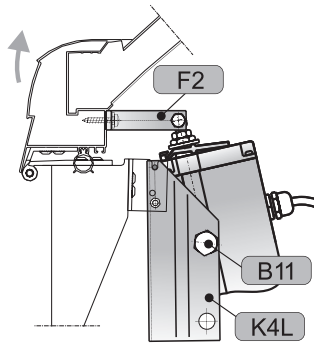
LEGEND

- suitable ■ not recommended

(*1) Sample value of the casement dimensions. The actual casement dimensions depend on the stroke and the position of the drives to the hinges. The values of FAB/FAH are to be used analogue for side hung windows.

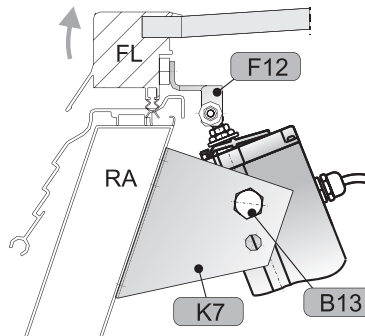
TYPICAL APPLICATIONS

1 RM, HSK, sky light



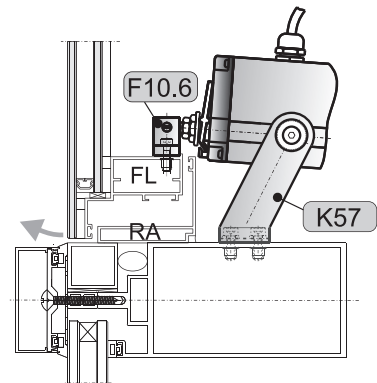
View on sky light Eternit

2 LRM, HSK, sky light



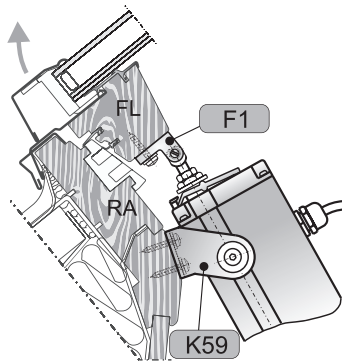
View on sky light Essmann

3 RM, HSK, top hung outward opening



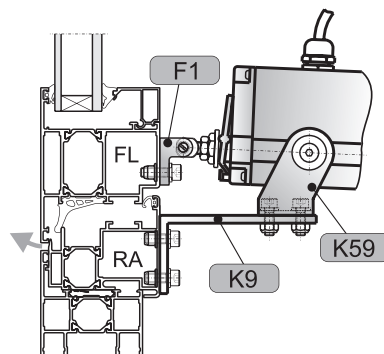
View on aluminium window

4 RM, HSK, roof



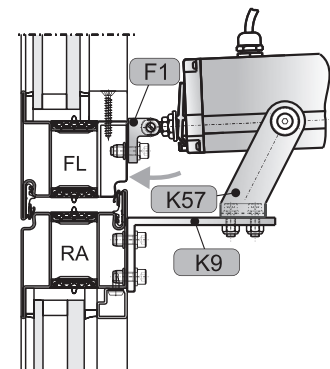
View on wooden window

5 RM, HSK, top hung outward opening



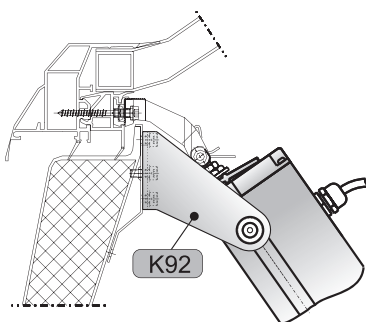
View on aluminium window

5 RM, HSK, top hung outward opening



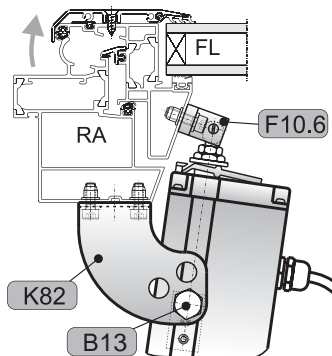
View on steel window

6 RM, HSK, sky light



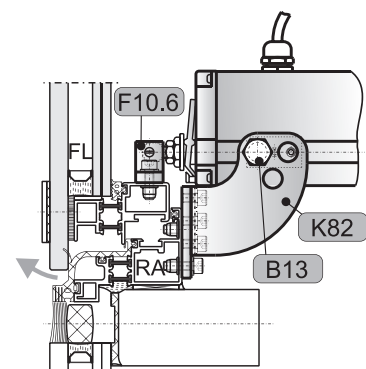
View on sky light Lamilux

7 RM, HSK, roof



View on aluminium window

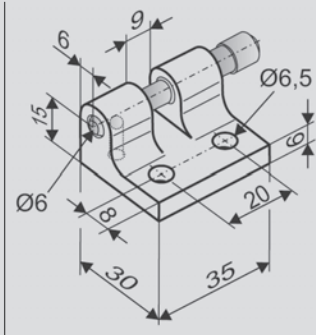
7 RM, HSK, top hung outward opening



View on aluminium window

CASEMENT BRACKETS

F1



Application

Surface mounting on the **main closing edge** of casement profiles of outward opening windows or skylights, for drives with **front or rear suspension** with bore **Ø6 mm**, manual removal of the drive is possible

Part.-No. 150102

Material/Finish
aluminium, diecast

Feature/Equipment

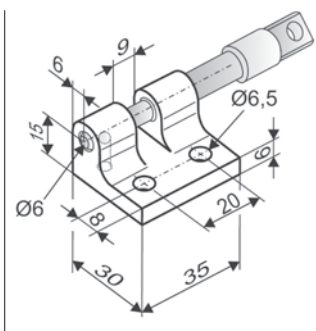
1x locking bolt

Ø6 mm

Load

max. 1000 N

F1.1



Application

Surface mounting on the **main closing edge** of casement profiles of outward opening windows or skylights, for drives with **front or rear suspension** with bore **Ø6 mm**, manual removal of the drive is possible

Part.-No. 150110

Material/Finish
aluminium, diecast

Feature/Equipment

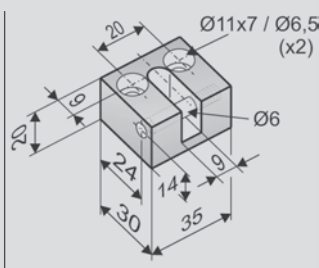
1x locking spring bolt

Ø6 mm

Load

max. 600 N

F1V



Application

Surface mounting on the **main closing edge** of casement profiles of outward opening windows or skylights, for drives with **front or rear suspension** with bore **Ø6 mm**

Part.-No. 150101

Material/Finish
aluminium

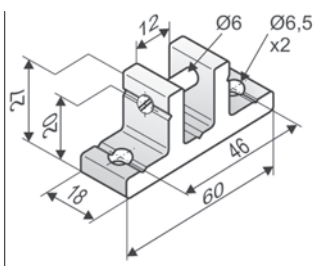
Feature/Equipment

1x grub screw Ø6 mm

Load

max. 1600 N

F10.6



Application

Surface mounting on **main closing edge** of casement profiles of outward opening windows or skylights, for drives with **front or rear suspension** with bore **Ø6 mm**, threaded stud bolt

Part.-No. 151000

Material/Finish
aluminium

Feature/Equipment

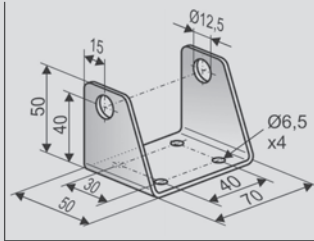
1x stud bolt Ø6 mm

Load

max. 1600 N

FRAME BRACKETS

K5

**Application**

Surface mounting on the **main closing edge** of window frame profiles or on the mullion/transom of outward opening (roof-)windows, for **swivelling suspension** of drives
PLA with B4,
SP8 with B13,
LKS with B7

Part.-No. 155800

Material/Finish

steel galvanized

Feature/Equipment
 drilled holes Ø12,5 mm
Accessories
B13 clamp block SP
 (12 mm, G1/8)

Part.-No. 513901

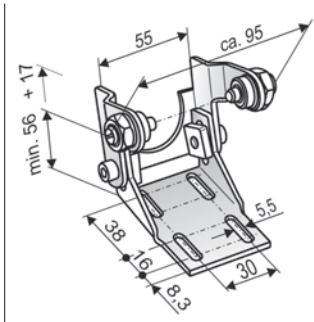
K21K Frame bracket

Part.-No. 159900

K21L Frame bracket

Part.-No. 159905

K17

**Application**

Surface mounting on the **main closing edge** of window frame profiles or on the mullion/transom of outward opening (roof-)windows, for **swivelling suspension** of drives
PLA with B5,
SP with B12

Part.-No. 159200

Material/Finish

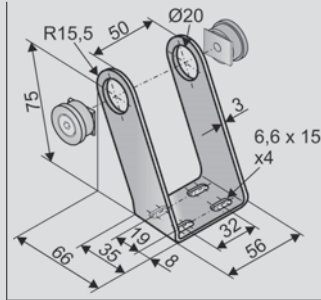
steel galvanized

Feature/Equipment
 adjustable height
Accessories
B12 clamp block SP
 (7,0 mm thick, Ø8 mm)

Part.-No. 513903

FRAME BRACKETS

K57



Application

Surface mounting on the **main closing edge** of the window frame of outward opening roof windows or skylight domes for **swivelling suspension** of drives **SP**, Space in between clamp axis and fixing level **75 mm**

Part.-No. 160930

Material/Finish

steel galvanized

Feature/Equipment

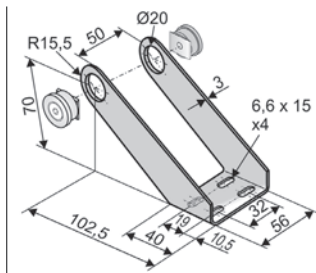
2x B10 clamping bolts

Accessories

K9 Frame bracket

Part.-No. 158501

**K57.2
ST**



Application

Surface mounting on the **main closing edge** of the window frame of outward opening roof windows or skylight domes for **swivelling suspension** of drives **SP**, Space in between clamp axis and fixing plane **70 mm**

Part.-No. 160931

Material/Finish

steel galvanized

Feature/Equipment

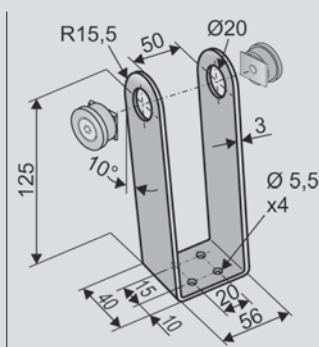
2x B10 clamping bolts

Accessories

K9 Frame bracket

Part.-No. 158501

K57.3



Application

Surface mounting on the **main closing edge** of the window frame of outward opening roof windows or skylight domes for **swivelling suspension** of drives **SP**, Space in between clamp axis and fixing plane **125 mm**

Part.-No. 160935

Material/Finish

steel galvanized

Feature/Equipment

2x B10 clamping bolts

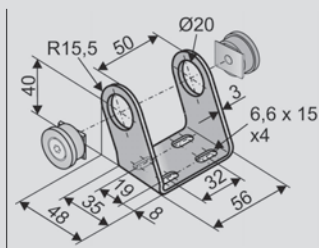
Accessories

K9 Frame bracket

Part.-No. 158501

FRAME BRACKETS

K59

**Application**

Surface mounting on the **main closing edge** of the window frame of outward opening roof windows or skylight domes for **swivelling suspension** of drives **SP**, Space in between clamp axis and fixing plane **40 mm**

Part.-No. 160934

Material/Finish

steel, powdercoated (RAL 9006-silver)

Feature/Equipment

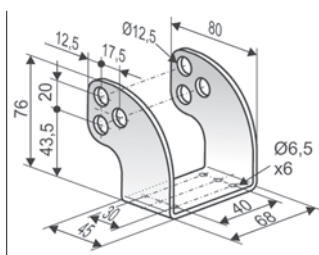
2x B10 clamping bolts

Accessories

K9 Frame bracket

Part.-No. 158501

K82

**Application**

Surface mounting on the **main closing edge** of window frame profiles or on the mullion/transom of outward opening (roof-)windows, for **swivelling suspension** of drives
PLA with **B4**,
SP with **B13**,
LKS with **B7**

Part.-No. 151320

Material/Finish

stainless steel

Feature/Equipment

drilled holes Ø12,5 mm

Accessories

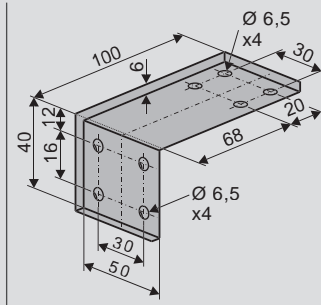
B13 clamp block SP
(12 mm, G1/8) thick

Part.-No. 513901

OPTIONAL ACCESSORIES

Window console

K9



Application

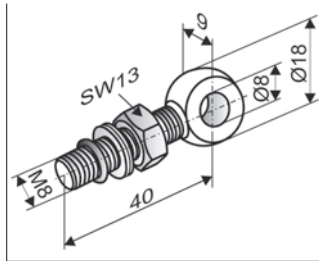
Shift the fastening level of the frame brackets **K57**, **K59** from the horizontal to the vertical side of the **main closing edge** of window frames

Part.-No. 158501

Material/Finish
aluminium

Eyebolt

B16ST



Application

Eye bolt for **rear or front suspension** of spindle drives with **M8** thread in the rear base cap or in the spindle tube

Part.-No. 100044

Material/Finish
steel galvanized
Feature/Equipment
M8x40 (Eye Ø8 mm),
1x nut M8,
1x Nordlock-safety-washer,
1x O-ring
max. screw-in depth in the drive 25 mm

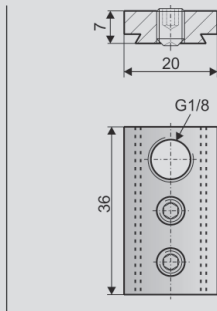
B16VA

Part.-No. 100144

Material/Finish
stainless steel (V2A)

Clamp blocks

B11



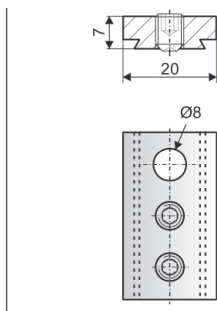
Application

Swivelling suspension of drives **SP8** on frame brackets **K4-L** with collar screw **B8**

Part.-No. 513902

Material/Finish
aluminium
Feature/Equipment
7,0 mm thick,
thread G1/8",
incl. 2 collar screws
B8, Ø12 mm

B12



Application

Swivelling suspension of drives **SP8** on frame brackets **K17**

Part.-No. 513903

Material/Finish
aluminium
Feature/Equipment
7,0 mm thick,
bore Ø8,2 mm
2 pieces

OPTIONAL ACCESSORIES

<p>B13</p> 	<p>Application</p> <p>Swivelling suspensin of drives SP8 on frame brackets K5, K7, K82 with collar screw B8</p>	<p>Part.-No. 513901</p> <p>Material/Finish aluminium</p> <p>Feature/Equipment 12,3 mm thick, thread G1/8", incl. 2 collar screws B8, Ø12 mm</p>	
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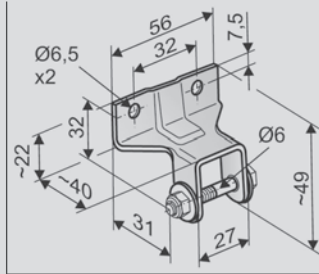
SPECIFIC APPLICATIONS

SKY-LIGHT ETERNIT			
F2		Application Surface mounting on the main closing edge of skylight domes Eternit , for drives with front suspension with bore Ø6 mm	Part.-No. 150303 Material/Finish aluminium Feature/Equipment 1x nut M6, 1x screw M6x35 Load max. 800 N
K4-L		Application Surface mounting on the main closing edge of the upstand of skylight domes Eternit for swivelling suspension of drives PLA with B4 , SP with B11 ,	Part.-No. 155610 Material/Finish steel galvanized Feature/Equipment 2x nut Taptite M4x10, 1x nut M4, 1x nut M4x65
Accessories			
	B11 clamp block SP (7 mm, G1/8)	Part.-No. 513902	
SKY-LIGHT LAMILUX			
K92		Application Surface mounting on the main closing edge of the upstand of skylight domes Lamilux for swivelling suspension of drives SP . For the front suspension the original casmet bracket of Lamilux is used	Part.-No. 160937 Material/Finish steel, powder coated (RAL 9010 white) Feature/Equipment 2x B10 clamping bolts

SPECIFIC APPLICATIONS

SKY-LIGHT ESSMANN TYP 810

F12



Application

Surface mounting on the main closing edge of the casement profiles of skylight domes
Essmann 810 for drives with front suspension with bore Ø6 mm

Part.-No. 151500

Material/Finish
steel galvanized

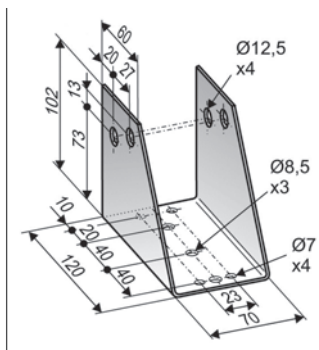
Feature/Equipment

1x screw M6,
washer,
nut

Load

max. 800 N

K7



Application

Surface mounting on the main closing edge of the upstand of skylight domes
Essmann 810 for swivelling suspension of drives
PLA with B4,
SP with B13,
LKS with B7

Part.-No. 157500

Material/Finish
steel galvanized

Feature/Equipment
drilled holes Ø12,5 mm

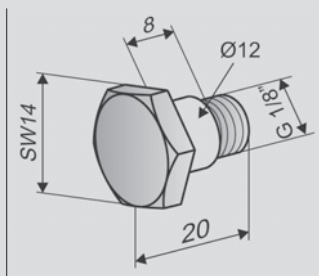
Accessories

B13 clamp block SP
(12 mm, G1/8)

Part.-No. 513901

OPTIONAL ACCESSORIES

B8



Application

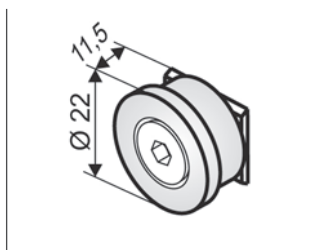
Swivelling suspension of the clamp rings
B4 for PLA
B7 for LKS
or of the clamping blocks
B11, B13 for SP
for U-shaped frame brackets with bore Ø12,5 mm

Part.-No. 172800

Material/Finish
stainless steel

Feature/Equipment
collar Ø12 mm, G1/8"

B10



Application

Swivelling suspension of drives
SP8 on frame brackets K57,
K57.2, K57.3, K59, K92

Part.-No. 155010

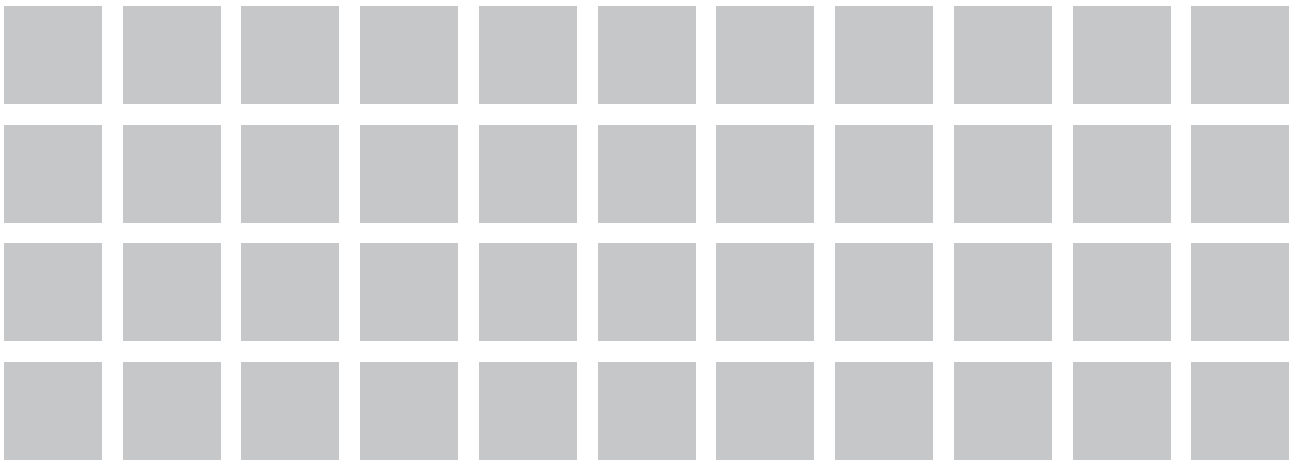
Material/Finish

cast steel, nickel plated

Feature/Equipment
2 pieces (for drilled holes
Ø20 mm)

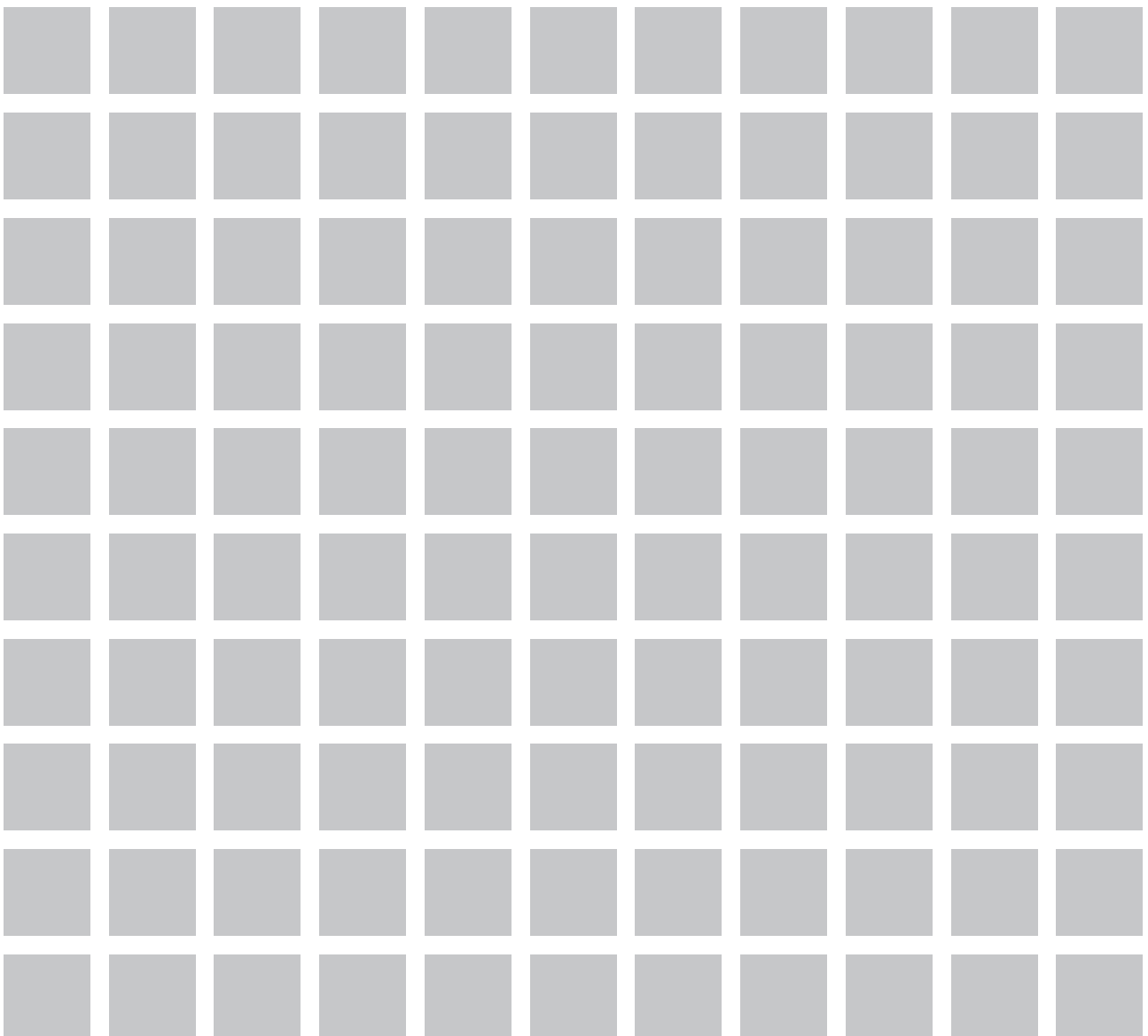
CASEMENT BRACKETS AND FRAME BRACKETS

Special accessories					
Special model	PU/pcs.	Part.-No.			
Casement brackets painted / powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516032			
	21 – 50	516032			
	51 – 100	516032			
	from 101	516032			
Frame brackets painted / powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516031			
	21 – 50	516031			
	51 – 100	516031			
	from 101	516031			



3

Rack and pinion drives



OVERVIEW OF RACK AND PINION DRIVES

Type	Form	Model		Stroke		Force		Speed		Stroke in	Cut-off current	Use			Location		Functions		
		Type of cut-off	Rated voltage	Range	Pushing force	Pulling force	OPEN	CLOSE	60 s	Max.		Natural ventilation	SHEV	NSHEV	Facade	Roof	Run monitoring	Synchronised run	Sequence control
			[VDC]	[mm]	[N]	[N]	[mm/s]	[mm/s]	[mm]	[A]									
LKS	LKS (SOLO)	S2	24	100–1000	550	550	6,0	6,0	350	0,8	●	●			●	●	○		○
	LKS-T			300–1000	550	550				0,8	●	●		■	●		●	○	
	LKS-TV			300–1000	1100	1100				1,6	●	●		■	●		●	○	

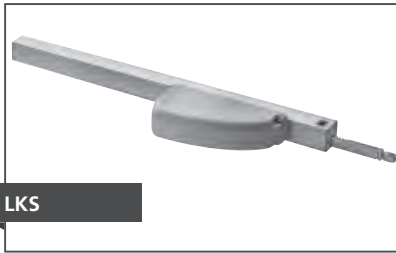
LEGEND

● suitable

■ not recommended

S2 internal load dependend cut-off switch

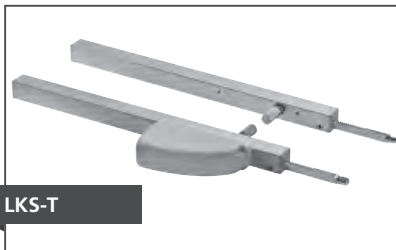
○ only with external control module USKM



LKS

LKS RACK AND PINION DRIVES

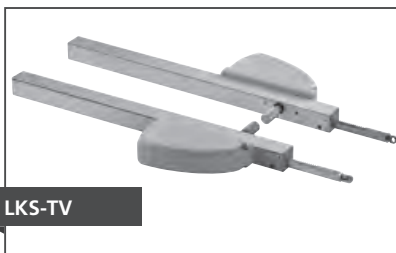
- Model 24V DC, S2
- Pulling/Pushing force 550 N
- Stroke length 100 – 1000 mm
- Speed 6,0 mm/s
- Housing (WxH) 30 x 30 mm x length depending on stroke
- Motor-gear-unit 40 x 113 x 156 mm
- **Opening mechanism** Chromated stainless steel rack
- Version SOLO
- Protection rating IP54



LKS-T

LKS-T RACK AND PINION DRIVES

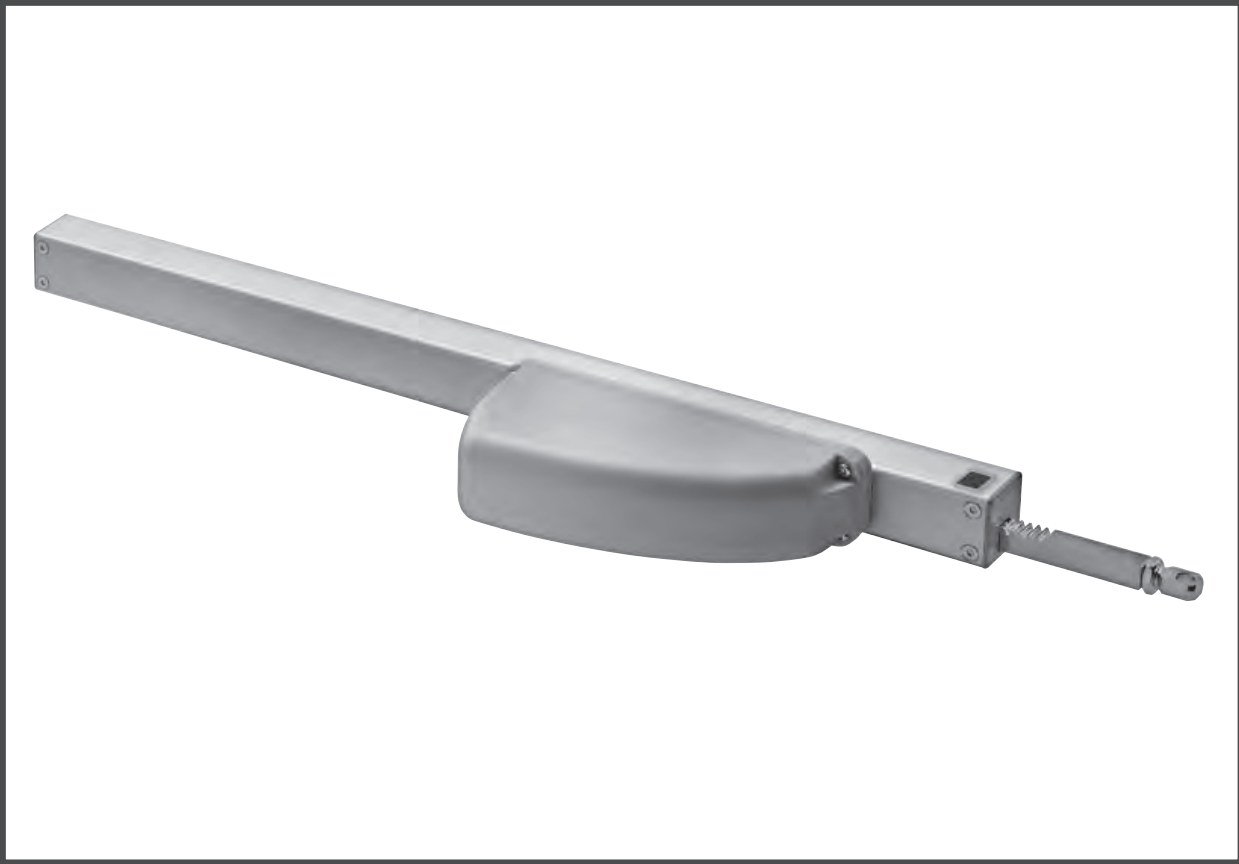
- Model 24V DC, S2
- Pulling/Pushing force 550 N
- Stroke length 300 – 1000 mm
- Speed 6,0 mm/s
- Housing (WxH) 30 x 30 mm x length depending on stroke
- **Opening mechanism** Chromated stainless steel rack
- Version SOLO with follower and connection shaft
- Protection rating IP54



LKS-TV

LKS-TV RACK AND PINION DRIVES

- Model 24V DC, S2
- Pulling/Pushing force 1100 N
- Stroke length 300 – 1000 mm
- Speed 6,0 mm/s
- Housing (WxH) 30 x 30 mm x length depending on stroke
- **Opening mechanism** Chromated stainless steel rack
- Version Tandem with connection shaft
- Protection rating IP54



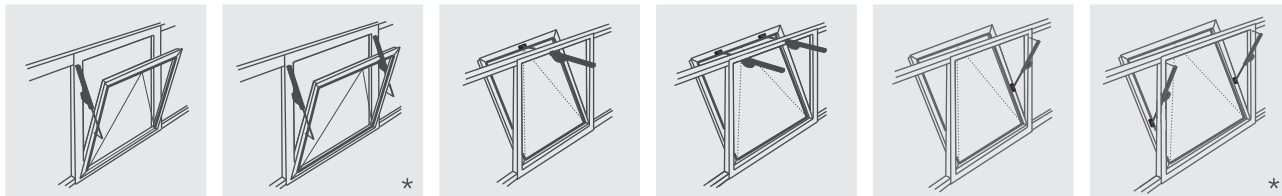
SPECIAL FEATURES LKS

- For natural ventilation and smoke and heat exhausting
- Robust corrosion-resistant design
- Slim natural anodised aluminium housing (30 x 30 mm)
- Grey plastic housing for motor-gear unit
- Easy installation due to adjustable clamp ring as well as front and rear suspension
- Chromated stainless steel rack with end position dampening

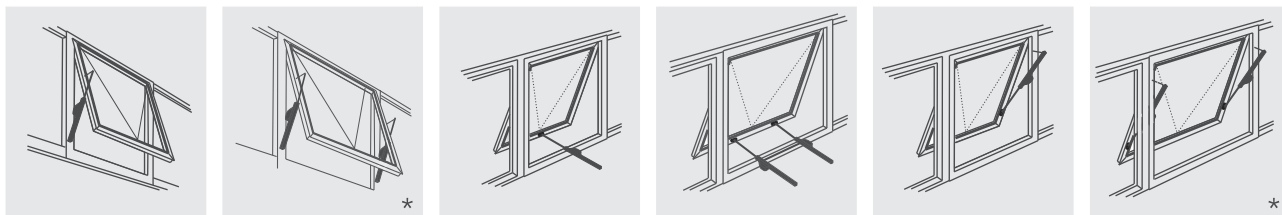
For this product series, a Type III Environmental Product Declaration (EPD) was issued according to ISO 14025 and EN 15804. The LCA results of the different product types are listed at the end of this product catalogue. The EPD documents can be viewed or downloaded from our homepage www.aumueller-gmbh.de.

FACADE

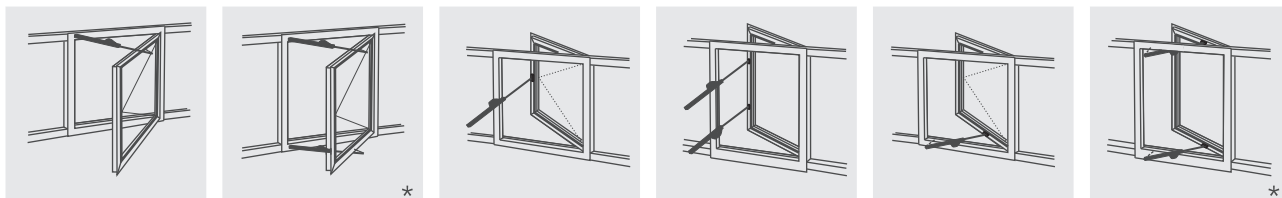
Bottom-hung



Top-hung

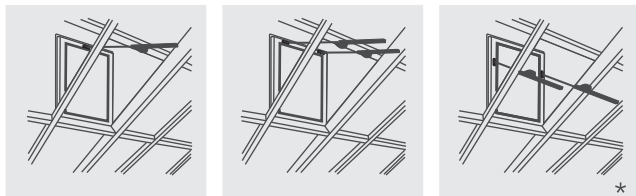


Side-hung

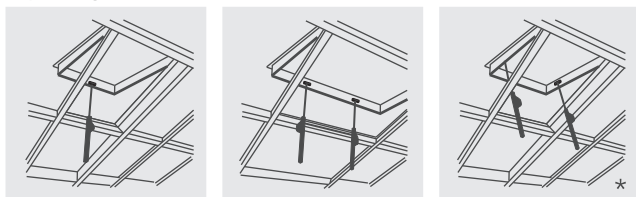


ROOF

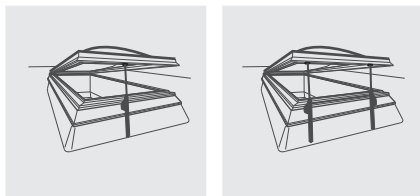
Bottom-hung



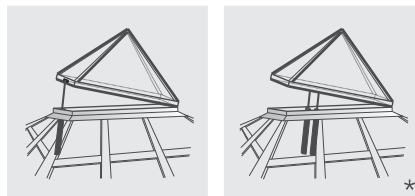
Top-hung



Sky light



Glass pyramid

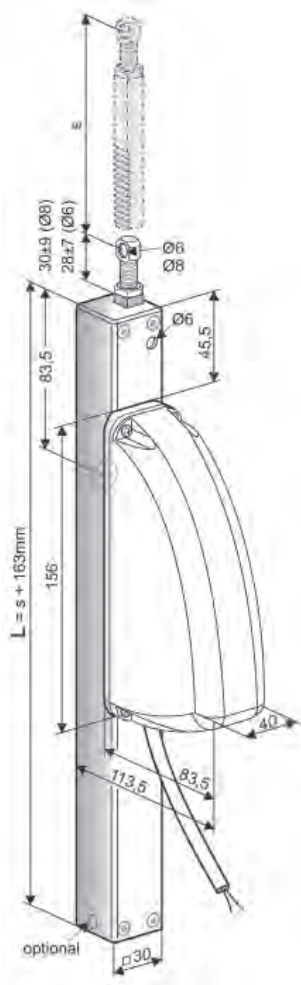


* Monitored motion run up to $s = 300$ mm with USKM (Controll modul Part.-No.: 512140)

- Application: natural ventilation and SHEV as single-drive
- Internal load dependent cut-off switch S2

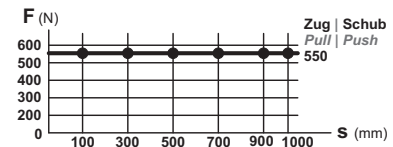
Options

- Drillings for front / rear suspension
- Monitored motion run of 2 drives up to $s = 300$ mm via USKM



TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	0,6 A
I_A	Cut-off current	0,8 A
P_N	Rated power	15 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 54
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	550 N
F_A	Pushing force max.	



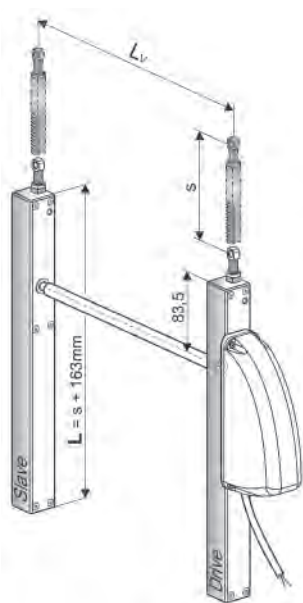
F_H	Pullout force	3000 N (fastening depended)
	Rack	stainless steel
	Connecting cable	non-halogen, grey 2 x 0,75 mm ² , ~ 1 m
v	Speed	\times 6,0 mm/s \rightarrow 6,0 mm/s
s	Stroke	100 – 1000 mm
L	Length	s + 163 mm see order data
	Sound pressure level	≤ 70 dB (A)

ORDER DATA

s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.			
100	263	LKS 100 S2	E6/C-0	1	513100.N			
200	363	LKS 200 S2	E6/C-0	1	513200.N			
300	463	LKS 300 S2	E6/C-0	1	513300.N			
400	563	LKS 400 S2	E6/C-0	1	513400.N			
500	663	LKS 500 S2	E6/C-0	1	513500.N			
600	763	LKS 600 S2	E6/C-0	1	513600.N			
750	913	LKS 750 S2	E6/C-0	1	513800.N			
1000	1163	LKS 1000 S2	E6/C-0	1	513805.N			

OPTIONS

Special model		PU/pcs.	Part.-No.			
Drive housing painted/powder coated in other RAL colours						
Lump sum for coating			516030			
Specify at order stage:		1 – 20	516004			
		21 – 50	516004			
		51 – 100	516004			
		from 101	516004			
Extra length connecting cable:						
3 m – non-halogen, grey – 2 x 0,75 mm ²			501023			
5 m – non-halogen, grey – 2 x 0,75 mm ²			501024			
10 m – non-halogen, grey – 2 x 0,75 mm ²			501026			
Accessories for front / rear suspension						
2 additional holes Ø6 mm in the bottom of housing for rear suspension with K28, K29		1	520901			
Mechanic stroke reduction						
Stroke reduction without construction length - mechanically		1	516000			
Other lengths available on request						
Tandem control with or without sequence control		PU/pcs.	Part.-No.			
Connection shaft						
USKM (s ≤ 300mm)		1	512140			



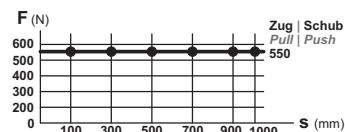
- Application: natural ventilation and SHEV as single-drive
- Internal load dependend cut-off switch S2
- Drive with follower operated by the connection shaft to divide the force on 2 points

Options

- Drillings for front / rear suspension
- Connection shaft with different lengths

TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	0,6 A
I_A	Cut-off current	0,8 A
P_N	Rated power	15 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 54
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	550 N
F_A	Pushing force max.	



F_H	Pullout force	3000 N (fastening depended)
	Rack	stainless steel
	Connecting cable	non-halogen, grey 2 x 0,75 mm ² , ~ 1 m
v	Speed	6,0 mm/s 6,0 mm/s
s	Stroke	300 – 1000 mm
L	Length	s + 163 mm see order data
L_v	Connection shaft	Standard length see order data
	Sound pressure level	≤ 70 dB (A)

ORDER DATA						
s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.	
300	463	LKS T 300 S2	E6/C-0	1	513300.T	
500	563	LKS T 500 S2	E6/C-0	1	513500.T	
600	663	LKS T 600 S2	E6/C-0	1	513600.T	
750	913	LKS T 750 S2	E6/C-0	1	513800.T	
1000	1163	LKS T 1000 S2	E6/C-0	1	513805.T	


OPTIONS						
Special model		PU/pcs.	Part.-No.			
Drive housing painted/powder coated in other RAL colours						
Lump sum for coating			516030			
Specify at order stage:		1 – 20	516004			
		21 – 50	516004			
		51 – 100	516004			
		from 101	516004			
Extra length connecting cable:						
3 m – non-halogen, grey – 2 x 0,75 mm ²			501023			
5 m – non-halogen, grey – 2 x 0,75 mm ²			501024			
10 m – non-halogen, grey – 2 x 0,75 mm ²			501026			
Accessories for front / rear suspension						
2 additional holes Ø6 mm in the bottom of of housing for rear suspension with K28, K29			1	520901		
Mechanic stroke reduction						
Stroke reduction without construction length - mechanically			1	516000		
Other lengths available on request						
Accessories	Lv [mm]	PU/pcs.	Part.-No.			
Connection shaft						
B17-1	1000	1	513050			
B17-2	1500	1	513052			
B17-3	2000	1	513054			

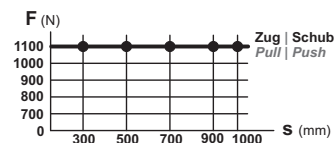
- Application: natural ventilation and SHEV as single-drive
- Internal load dependent cut-off switch S2
- 2 drives mechanical synchronised by the connection shaft

Options

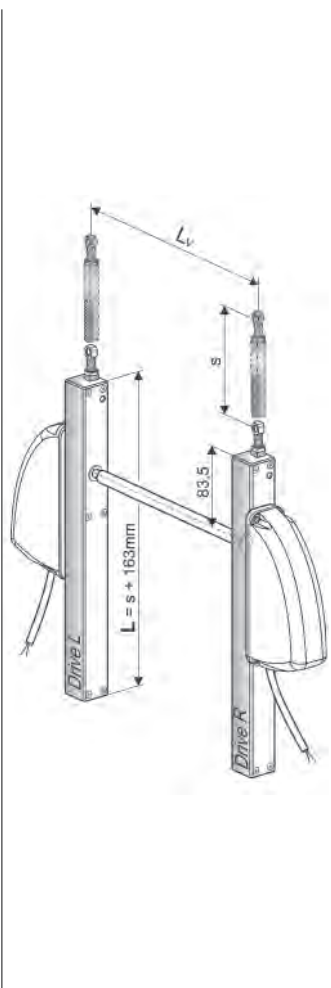
- Drillings for front / rear suspension
- Connection shaft with different lengths

TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	1,2 A
I_A	Cut-off current	1,6 A
P_N	Rated power	30 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 54
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	1100 N
F_A	Pushing force max.	



F_H	Pullout force	3000 N (fastening depended)
	Rack	stainless steel
	Connecting cable	non-halogen, grey 2 x 0,75 mm ² , ~ 1 m
v	Speed	 6,0 mm/s  6,0 mm/s
s	Stroke	300 – 1000 mm
L	Length	s + 163 mm see order data
L_v	Connection shaft	Standard length see order data
	Sound pressure level	≤ 70 dB (A)



ORDER DATA

s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.			
300	463	LKS TV 300 S2	E6/C-0	1	513300.TV			
500	563	LKS TV 500 S2	E6/C-0	1	513500.TV			
600	463	LKS TV 600 S2	E6/C-0	1	513600.TV			
750	913	LKS TV 750 S2	E6/C-0	1	513800.TV			
1000	1163	LKS TV 1000 S2	E6/C-0	1	513805.TV			

OPTIONS

Special model		PU/pcs.	Part.-No.			
Drive housing painted/powder coated in other RAL colours						
Lump sum for coating			516030			
Specify at order stage:		1 – 20	516004			
		21 – 50	516004			
		51 – 100	516004			
		from 101	516004			
Extra length connecting cable:						
3 m – non-halogen, grey – 2 x 0,75 mm ²			501023			
5 m – non-halogen, grey – 2 x 0,75 mm ²			501024			
10 m – non-halogen, grey – 2 x 0,75 mm ²			501026			
Accessories for front / rear suspension						
2 additional holes Ø6 mm in the bottom of housing for rear suspension with K28, K29		1	520901			
Mechanic stroke reduction						
Stroke reduction without construction length - mechanically		1	516000			
Other lengths available on request						
Accessories	Lv [mm]	PU/pcs.	Part.-No.			
Connection shaft						
B17-1	1000	1	513050			
B17-2	1500	1	513052			
B17-3	2000	1	513054			

OVERVIEW OF BRACKETS

Typical applications					1	2	3	4	5	6
Frame bracket					K5, K82	K5	K28	K29	K29	K41
Mounting aid						K21	K15, K16		K21	
Bracket accessories					B7		Rear holes	Front holes	Front holes	Front holes
Casement bracket					F1, F1V, F1.1, F2, F10.6		F1, F1V, F2, F10.6			F12
Special use										Sky light Essmann
Space requirement		min.	[mm]		50	40 – 50	40	40	40 – 50	90
Window material		Alu			●	●	●	●	●	
		Wood			●	●	●	●	●	
		PVC			●	●	●	●	●	●
Type of window and mounting	Bot- tom hung	in-ward	HSK	FM		■			■	
				RM						
			NSK	FM			●			
				RM						
		out-ward	HSK	RM		●			●	
				PR	●		●			
			NSK	RM			●			
				PR						
	Top hung	in-ward	HSK	FM		■			■	
				RM						
			NSK	FM						
				RM			●			
		out-ward	HSK	RM		●			●	
				PR	●		●			
			NSK	RM			●			
				PR						
	Side hung	in-ward	HSK	FM		■			■	
				RM						
			NSK	FM			●			
				RM						
	Roof	out-ward	HSK	RM		●			●	
				PR	●		●			
			NSK	RM		●			●	
				PR	●			●		
	Sky- light	out-ward	HSK	RM	●			●		●
			NSK	RM						
FAB*1		Solo	[mm]	700 – 1300						
		Sync2	[mm]	1200 – 2500						
FAH*1		Solo	[mm]	450 – 1500						
		Sync2	[mm]	450 – 2500						

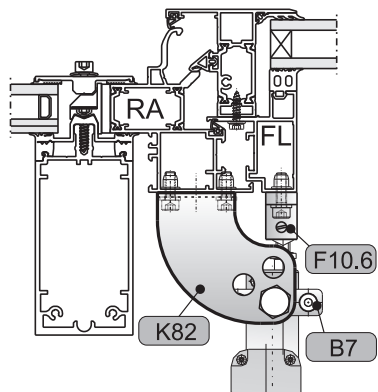
LEGEND

● suitable ■ not recommended

*1 Sample value of the casement dimensions. The actual casement dimensions depend on the stroke and the position of the drives to the hinges. The values of FAB/FAH are to be used analogue for side hung windows.

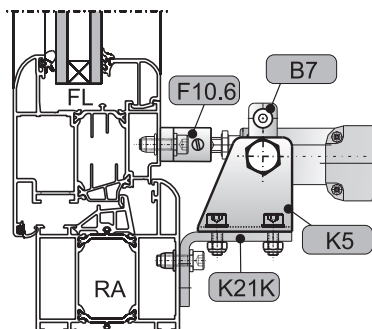
TYPICAL APPLICATIONS

1 RM, HSK, roof



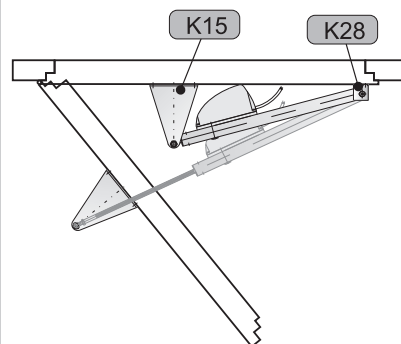
View on aluminium window

2 RM, HSK, top-hung outward opening



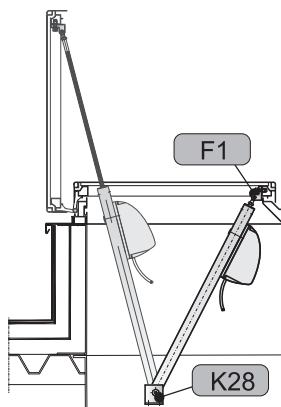
View on PVC-window

2 RM, NSK, side-hung inward opening



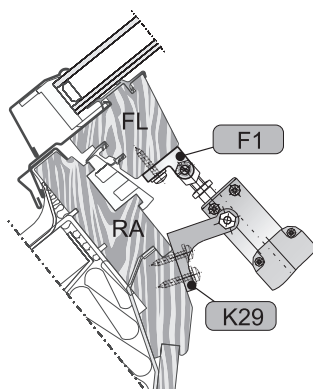
View for example

3 RM, HSK, roof



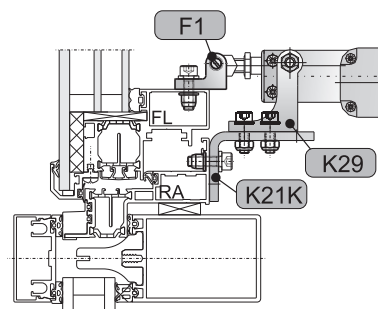
View on roof window

4 RM, HSK, roof



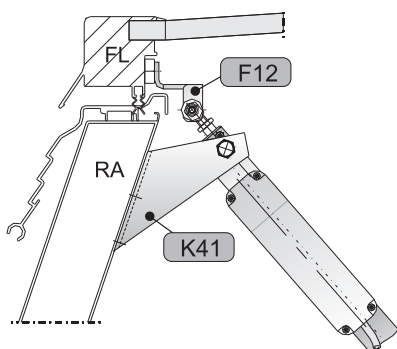
View on wooden window

5 RM, HSK, top-hung outward opening



View on aluminium window

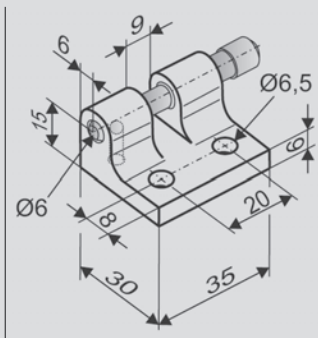
6 RM, HSK, sky light



View on sky light Essmann

CASEMENT BRACKETS

F1



Application

Surface mounting on the **main closing edge** of casement profiles of outward opening windows or skylights, for drives with **front or rear suspension** with bore **Ø6 mm**, manual removal of the drive is possible

Part.-No. 150102

Material/Finish

aluminium, diecast

Feature/Equipment

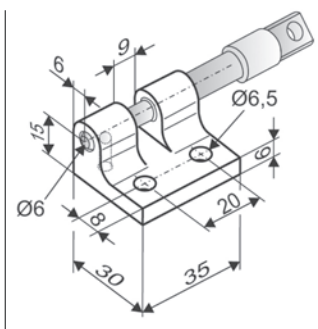
1x Locking bolt

Ø6 mm

Load

max. 1000 N

F1.1



Application

Surface mounting on the **main closing edge** of casement profiles of outward opening windows or skylights, for drives with **front or rear suspension** with bore **Ø6 mm**, manual removal of the drive is possible

Part.-No. 150110

Material/Finish

aluminium, diecast

Feature/Equipment

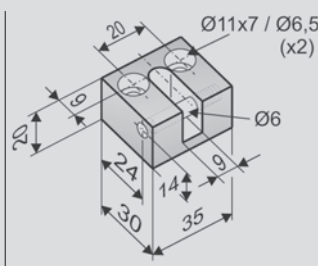
1x Locking spring bolt

Ø6 mm

Load

max. 600 N

F1V



Application

Surface mounting on the **main closing edge** of casement profiles of outward opening windows or skylights, for drives with **front or rear suspension** with bore **Ø6 mm**

Part.-No. 150101

Material/Finish

aluminium

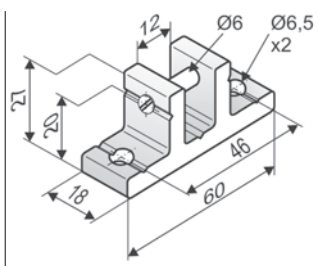
Feature/Equipment

1x grub screw Ø 6 mm

Load

max. 1600 N

F10.6



Application

Surface mounting on **main closing edge** of casement profiles of outward opening windows or skylights, for drives with **front or rear suspension** with bore **Ø6 mm**, threaded stud bolt

Part.-No. 151000

Material/Finish

aluminium

Feature/Equipment

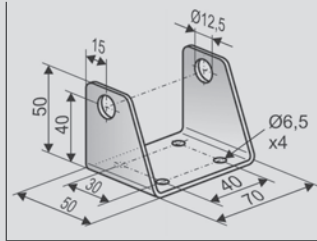
1x stud bolt Ø6 mm

Load

max. 1600 N

CASEMENT BRACKETS

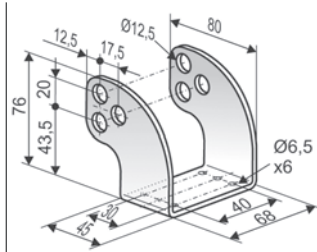
K5

**Application**

Surface mounting on the **main closing edge** of window frame profiles or on the mullion/transom of outward opening (roof-)windows, for **swivelling suspension** of drives
PLA with B4,
SP with B13,
LKS with B7

Part.-No. 155800**Material/Finish**
steel, galvanized**Feature/Equipment**
bore holes Ø12,5 mm**Accessories****B7** clamp ring LKS
(30 x 30 mm, G1/8)**Part.-No. 513900****K21K** Frame bracket**Part.-No. 159900****K21L** Frame bracket**Part.-No. 159905**

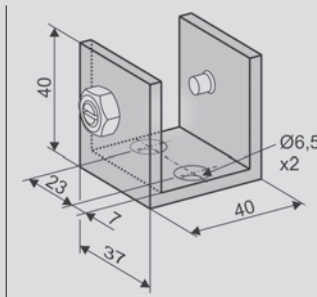
K82

**Application**

Surface mounting on the **main closing edge** of window frame profiles or on the mullion/transom of outward opening (roof-)windows, for **swivelling suspension** of drives
PLA with B4,
SP with B13,
LKS with B7

Part.-No. 151320**Material/Finish**
stainless steel**Feature/Equipment**
bore holes Ø12,5 mm**Accessories****B7** clamp ring LKS
(30 x 30 mm, G1/8)**Part.-No. 513900**

K28

**Application**

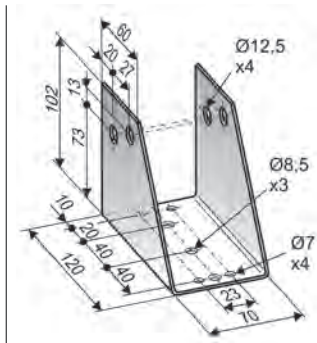
Surface mounting on the **main closing edge** of window frame profiles (or on the mullion/transom) of outward opening (roof-)windows, for **swivelling suspension** of drives **LKS with front or rear bore Ø6,0 mm**

Part.-No. 160800**Material/Finish**
aluminium, nature**Feature/Equipment**
2x grubscREW M8,
nut M8**Load**
max. 600 N**Accessories**

2 rear holes Ø6 mm

Part.-No. 520901

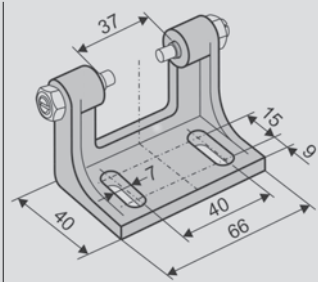
K7

**Application**

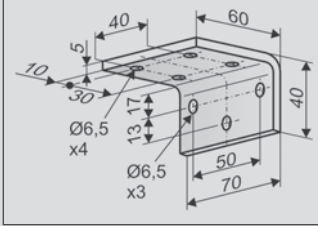
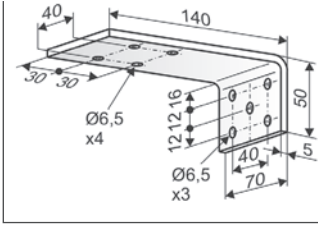
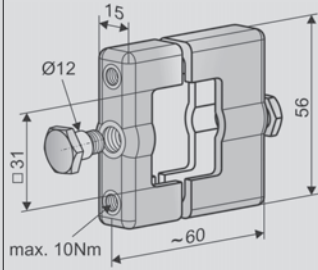
Surface mounting on the **main closing edge** of the upstand of skylight domes **Essmann 810** for **swivelling suspension** of drives
PLA with B4,
SP with B13,
LKS with B7

Part.-No. 157500**Material/Finish**
steel galvanized**Feature/Equipment**
drilled holes Ø12,5 mm**Accessories****B7** clamp ring LKS
(30 x 30 mm, G1/8)**Part.-No. 513900**

CASEMENT BRACKETS

K29 	Application Surface mounting on the main closing edge of window frame profiles (or on the mullion/transom) of outward opening (roof-) windows, for swivelling suspension of drives LKS with front or rear bore Ø6,0 mm	Part.-No. 160900 Material/Finish aluminium, nature Feature/Equipment 2x grubscREW M8, nut M8 Load max. 600 N	
Accessories			
	2 rear holes Ø 6 mm	Part.-No. 520901	
	K21K Frame bracket	Part.-No. 159900	
	K21L Frame bracket	Part.-No. 159905	

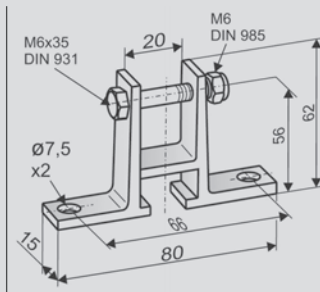
ACCESSORIES

Frame bracket			
K21K 	Application Shift the fastening level of the frame brackets K5 , K29 from the horizontal to the vertical position of the main closing edge of window frame profiles	Part.-No. 159900 Material/Finish steel, galvanized	
K21L 	Application Shift the fastening level of the frame brackets K5 , K29 from the horizontal to the vertical position of the main closing edge of window frame profiles	Part.-No. 159905 Material/Finish steel, galvanized	
Clamp ring			
B7 	Application Adjustable clamping of the LKS drive housing, for surface mounting with swivelling suspension on K5 , K7 , K82 , (preferably on outward opening windows)	Part.-No. 513900 Material/Finish aluminium (E6/C-0), stainless steel Feature/Equipment 2x B8 collar screw Ø12mm, G1/8 2x cylinder head screw M6x50	

SPECIFIC APPLICATIONS

SKY LIGHT ETERNIT

F2



Application

Surface mounting on the **main closing edge** of skylight domes **Eternit**, for drives with **front suspension** with bore **Ø6 mm**

Part.-No. 150303

Material/Finish
aluminium

Feature/Equipment

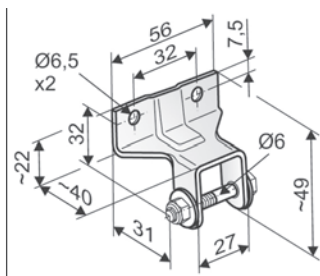
1x nut M6,
1x screw M6x35

Load

max. 800 N

SKY-LIGHT ESSMANN TYP 810

F12



Application

Surface mounting on the **main closing edge** of the case-ment profiles of skylight domes **Essmann 810** for drives with **front suspension** with bore **Ø6 mm**

Part.-No. 151500

Material/Finish
steel, galvanized

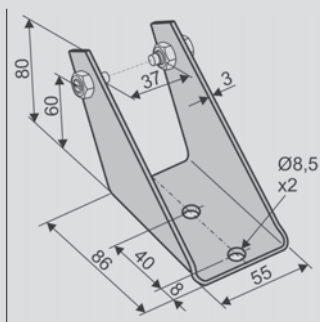
Feature/Equipment

1x screw M6,
washer,
nut

Load

max. 800 N

K41



Application

Finish mounting on the main closing edge (**HSK**) of the upstand of skylight domes **Essmann 810** for **swivelling suspension** of drives **LKS**

Part.-No. 160910

Material/Finish
steel, galvanized

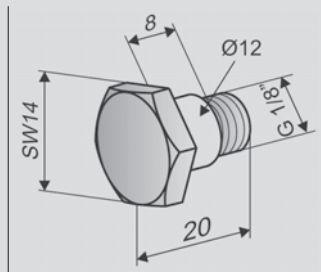
Feature/Equipment

2x grubscREW M8,
nut M8

OPTIONAL ACCESSORIES

Collar screw

B8



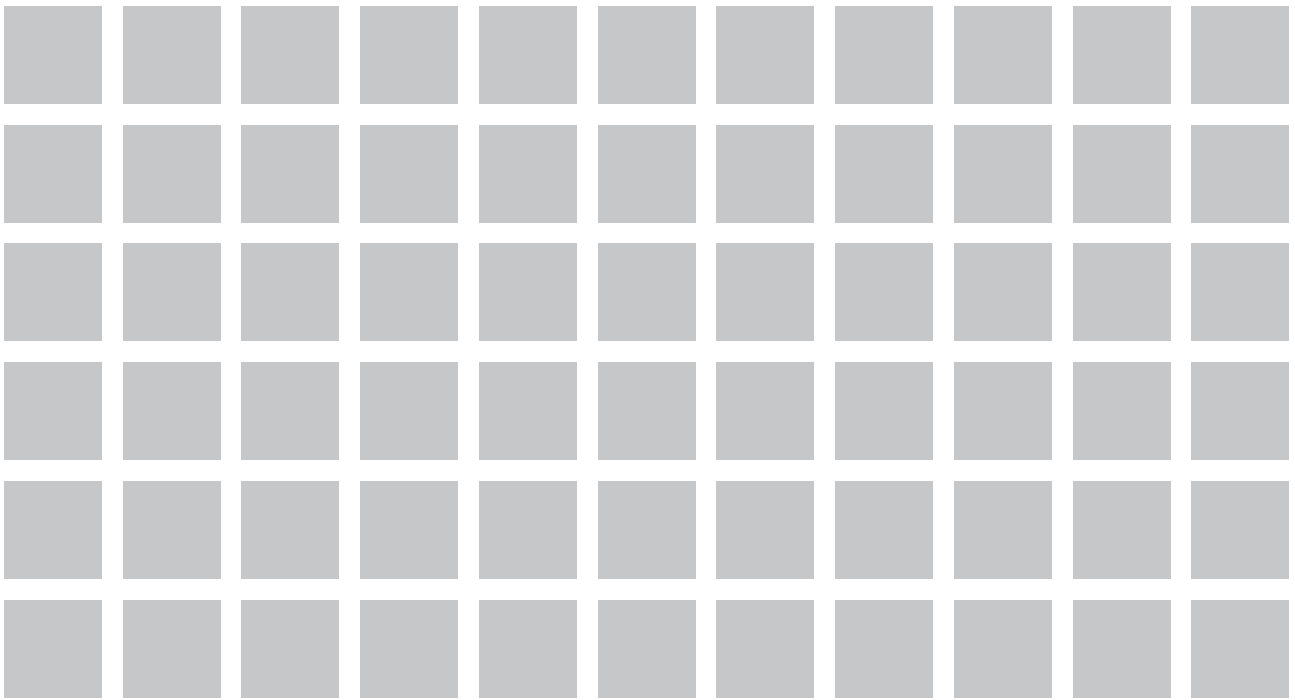
Application

Swivelling suspension
of the clamp rings
B4 for **PLA**
B7 for **LKS**
or of the clamping blocks
B11, B13 for **SP**
for U-shaped frame brackets
with bore **Ø12 mm**

Part.-No. 172800

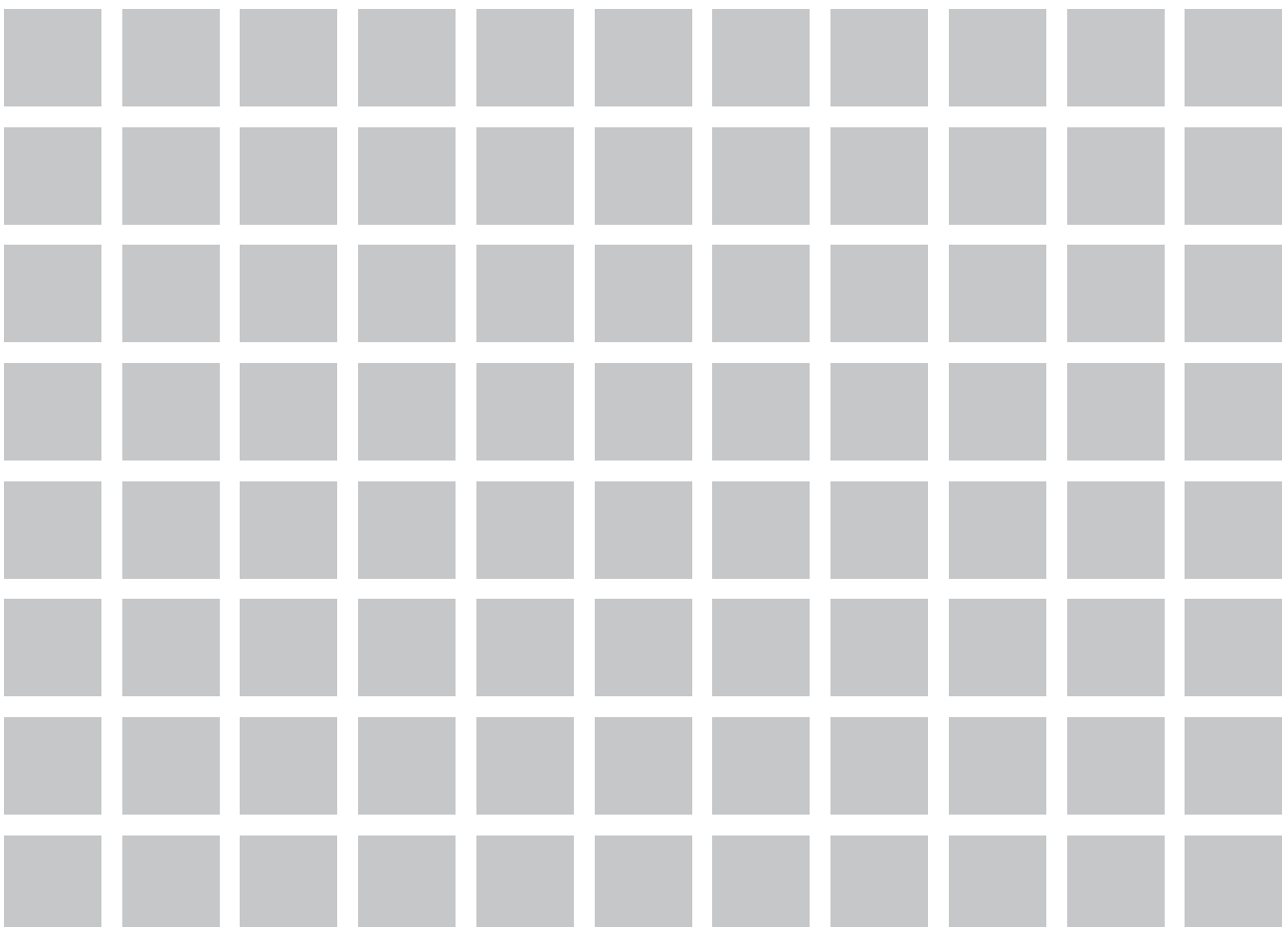
Material/Finish
stainless steel (1.4305)
Feature/Equipment
collar Ø12 mm, G1/8"

Special model	PU/pcs.	Part.-No.			
Casement brackets painted / powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516032			
	21 – 50	516032			
	51 – 100	516032			
	from 101	516032			
Frame brackets painted / powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516031			
	21 – 50	516031			
	51 – 100	516031			
	from 101	516031			



4

Folding arm drives

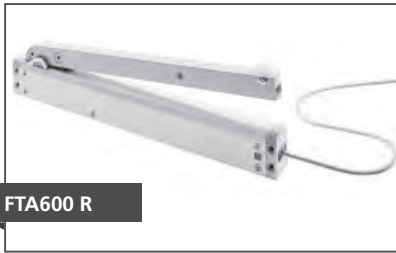


OVERVIEW OF FOLDING ARM DRIVES																	
Type	Form	Model		Stroke	Torque		Running time		Cut-off current	Use			Location		Functions		
		Type of cut-off	Rated voltage	Range	Opening torque	Closing torque	OPEN	CLOSE	Max.	Natural ventilation	SHEV	NSHEV	Facade	Roof	Run monitoring	Synchronised run	Sequence control
			[VDC]	[mm]	[Nm]	[Nm]	[mm/s]	[mm/s]	[A]								
FTA	FTA R	S12	24	0 – 93	215	215	45,0	45,0	1,4	●	●	●	●		●	●	●
	FTA DF					215				●	●	●	●		●	●	●
	FTA GF					215				●	●	●	●	■	●	●	●

LEGEND

● suitable ■ not recommended

S12 internal intelligent cut-off switch for synchronised run and programmable functions



FTA600 R

FTA600 R FOLDING ARM DRIVES

- Model 24V DC, S12
- Pulling/Pushing force 215 Nm / 215 Nm
- Stroke length (lever) 0 – 93 Degree
- Speed 2,0 Degree/s (45 s für 90°)
- Housing (WxH) 40 x 56 x 421 mm, aluminium
- Opening mechanism Lever arm 20 x 30 x 405 mm, aluminium
- Version SOLO with roller for air inlets
- Protection rating IP32



FTA600 DF

FTA600 DF FOLDING ARM DRIVES

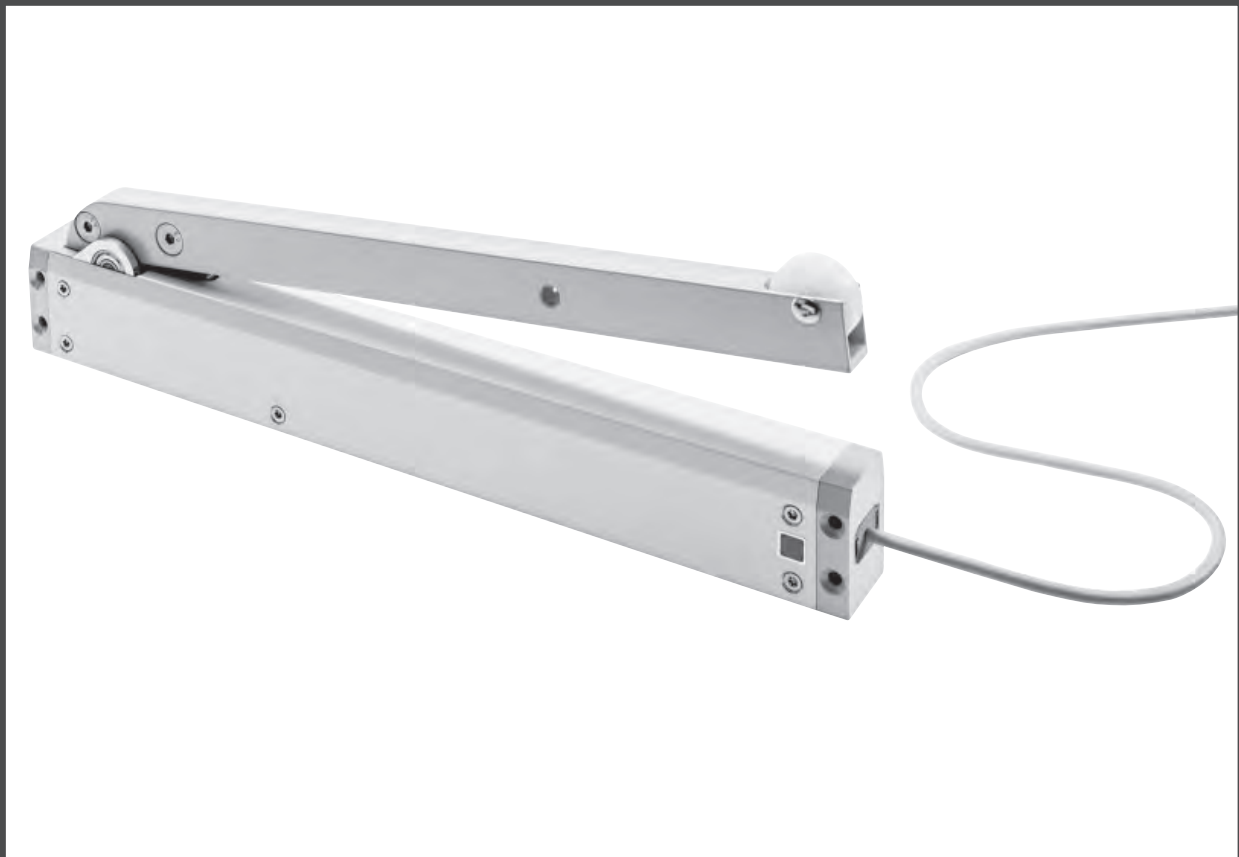
- Model 24V DC, S12
- Pulling/Pushing force 215 Nm / 215 Nm
- Stroke length (lever) 0 – 93 Degree
- Speed 2,0 Degree/s (45 s für 90°)
- Housing (WxH) 40 x 56 x 421 mm, aluminium
- Opening mechanism Lever arm 20 x 30 x 381 mm, aluminium
- Version SOLO with knuckle joint for side-hung inward opening windows
- Protection rating IP32



FTA600 GF

FTA600 GF FOLDING ARM DRIVES

- Model 24V DC, S12
- Pulling/Pushing force 215 Nm / 215 Nm
- Stroke length (lever) 0 – 93 Degree
- Speed 2,0 Degree/s (45 s für 90°)
- Housing (WxH) 40 x 56 x 421 mm, aluminium
- Opening mechanism Lever arm 20 x 30 x 444 mm, aluminium
- Version SOLO with slide rail for side hung outward opening windows
- Protection rating IP32



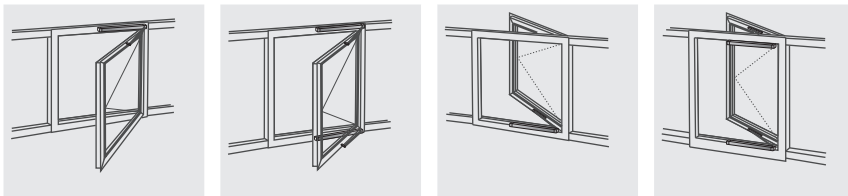
SPECIAL FEATURES FTA600

- For natural ventilation, smoke and heat exhausting systems and ferralux® NSHEV (EN12101-2)
- Type:
 - R – with role: The folding arm opens via role for air inlets at 90°
 - DF – with knuckle-joint for opening/closing of side hung inward opening windows at 90°
 - GF – with slide rail for opening/closing of side hung outward opening windows at 90°
- Opening time of 45 s for 90° opening angle
- Programmable voltage free contact
- Robust corrosion-resistant design
- Easy installation due to holes in the end caps of housing
- Programmable parameters of Internal Intelligent Control Electronics S12
 - Synchronised multi-operation and sequence control without add. devices
 - Electronic soft-start, soft-close and soft-stop at end of stroke control
 - Stroke, force, speed
 - Rebate control
- Integrated plug solution
- Suitable for M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives

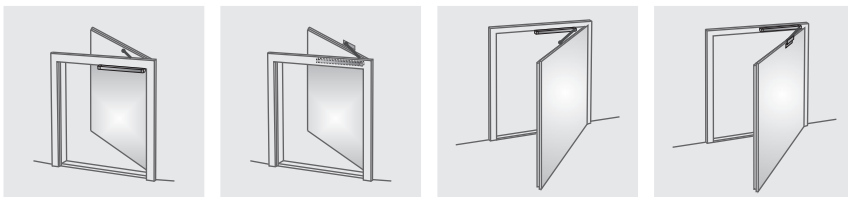
For this product series, a Type III Environmental Product Declaration (EPD) was issued according to ISO 14025 and EN 15804. The LCA results of the different product types are listed at the end of this product catalogue. The EPD documents can be viewed or downloaded from our homepage www.aumüller-gmbh.de.

FACADE

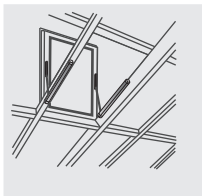
Side-hung (FTA600 DF/GF)

**INLET AIR**

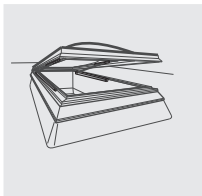
Floor-to-ceiling windows (FTA600 R)

**ROOF**

Bottom-hung (FTA600 GF)



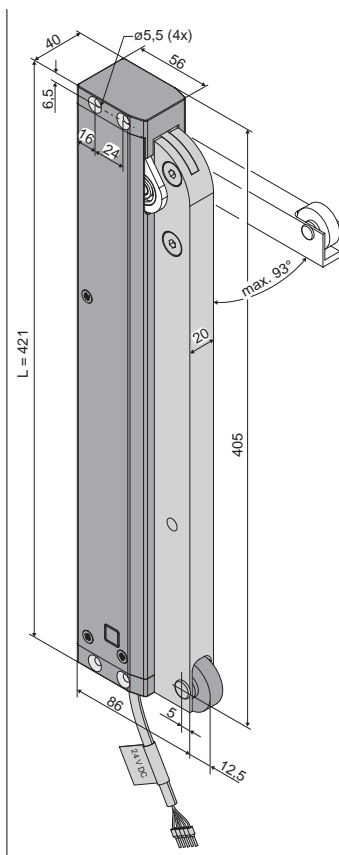
Sky-light (FTA600 GF)






- Application: natural ventilation, SHEV
- Mainly for supply air openings
- Internal Intelligent Control Electronics S12
- Programmable contact for opener
- Unified plug solution for all **AUMÜLLER** chain drives and **AUMÜLLER** folding arm drives

Options

- Programmable special functions
- M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives (S3 / S12)
- Various customised programmings on request

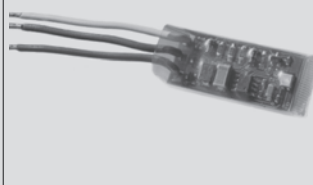



TECHNICAL DATA

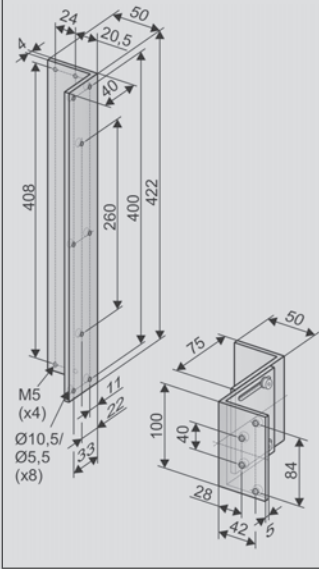
U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	1,0 A
I_A	Cut-off current	1,4 A
P_N	Rated power	24 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... +60 °C
M_A	Torque OPEN (max.)	215 Nm (~600 N)
M_Z	Torque CLOSE (max.)	215 Nm (~600 N)
F_H	Pullout force	3000 N (fastening depended)
	Lever arm	aluminium (RAL9006)
	Connecting cable	non-halogen, grey 5 x 0,5 mm ² , ~ 3 m
t	Running time (0° – 90°) (constant at 2/3 load)	 45 s (2,0°/s)  45 s (2,0°/s)
s	Stroke length (lever)	0 – 93 DEG (± 5%)
L	Length	421 mm
	Potential free contact	max. 24VDC / 0,5A programmable
	Sound pressure level	≤ 70 dB (A)

ORDER DATA						
s [DEG]	L [mm]	Version	Finish	PU/pcs.	Part.-No.	
0° – 93°	421	FTA600 R S12 24V	E6/C-0	1	524144	
Accessories				PU/pcs.	Part.-No.	
K88 Casement bracket FTA600 R				1	524156	
OPTIONS						
Special model				PU/pcs.	Part.-No.	
Drive housing painted/powder coated in other RAL colours						
Lump sum for coating					516030	
Specify at order stage:				1 – 20	516004	
				21 – 50	516004	
				51 – 100	516004	
				from 101	516004	
Microprocessor programming S12						
Electronic stroke reduction 24V S12				1	524190	
Programming drives 24V / 230V S12					524180	
Optional accessories				PU/pcs.	Part.-No.	
Configuration module for synchronised multi-drive systems				1	524177	

OPTIONAL ACCESSORIES

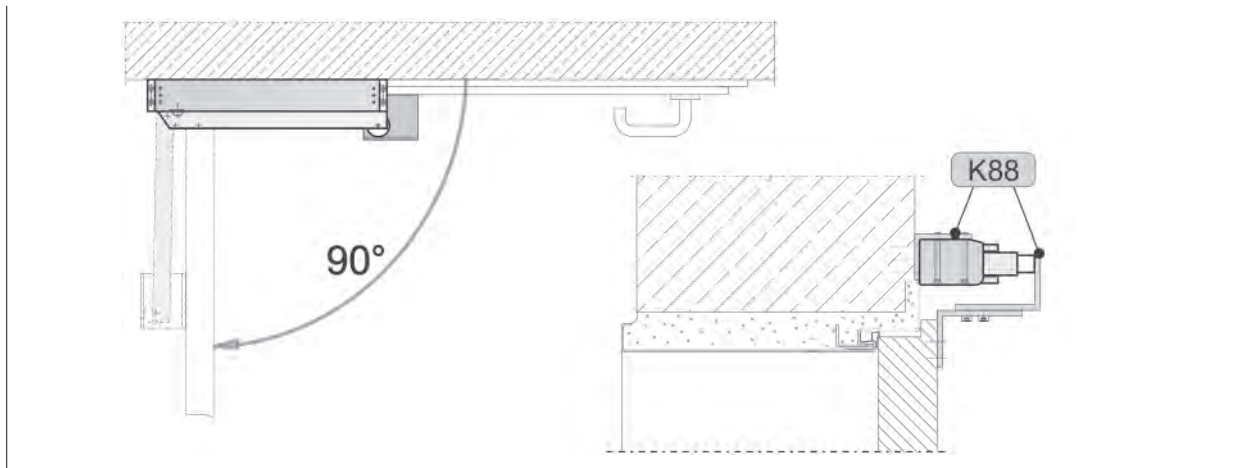
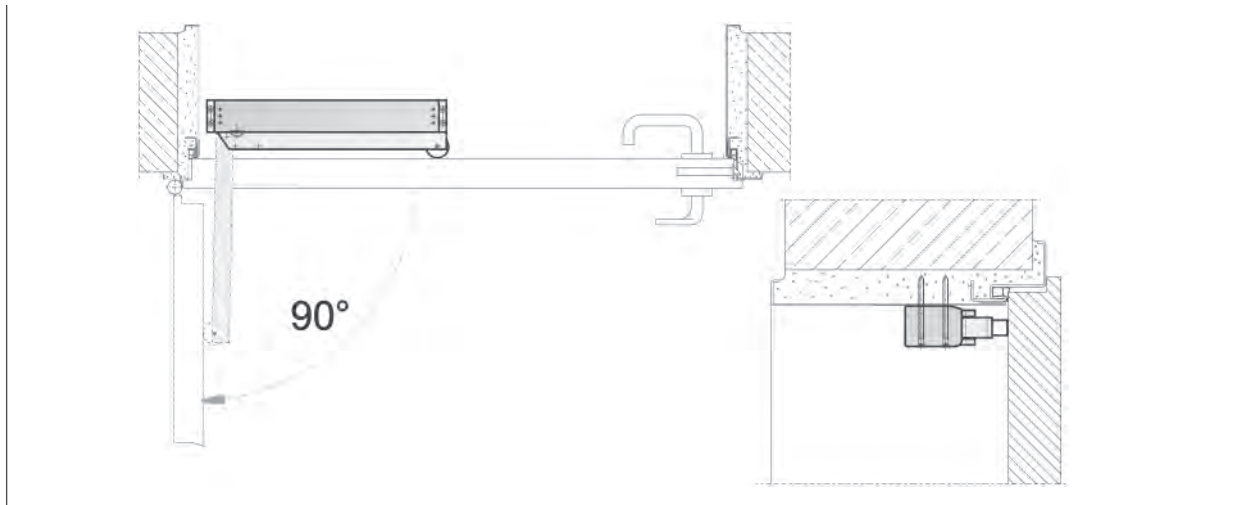
Main control unit and plug solution						
M-COM		Application	Part.-No. 524177			
		Configuration module for automatic configuration and surveillance of max. 4 opening drives / 2 locking drives version S12 / S3 in synchronised multi-drive systems	Ambient temperature range 0 °C ... + 70 °C			
		Rated voltage: 24V DC (19 V ... 28 V)	Dimensions 45 x 17 x 6 mm			
		Current consumption: <12 mA	Connecting wires 3 wires 0,5 mm² x 50 mm			
		Drive type: S12	Feature/Equipment			
		Protection rating IP30 rubber envelope	Printed circuit board with components and connection wires to be installed in connection box to be supplied on site			
Aumüller-Click plug solution		Aumüller-Click plug solution:	Feature/Equipment			
		Unified plug solution for all AUMÜLLER chain drives and AUMÜLLER folding arm drives.	<ul style="list-style-type: none">Flexible cable lengthConnect multiple drives in series connectionTorsion-plugLocking hooks prevent withdrawal of the plug under tensile loadStrain relief according DIN EN 60335-1 by screwing the housing halves			
		Rated voltage: 24V DC (19 V ... 28 V)				
		Connecting cable: non-halogen, grey 5 x 0,5 mm²				
		Terminal: to 1,5 mm²				
VARIANTS:						
		3 m cable length - 24 V DC	Part.-No. 501251			
		5 m cable length - 24 V DC	Part.-No. 501252			
		10 m cable length - 24 V DC	Part.-No. 501253			

OPTIONAL ACCESSORIES

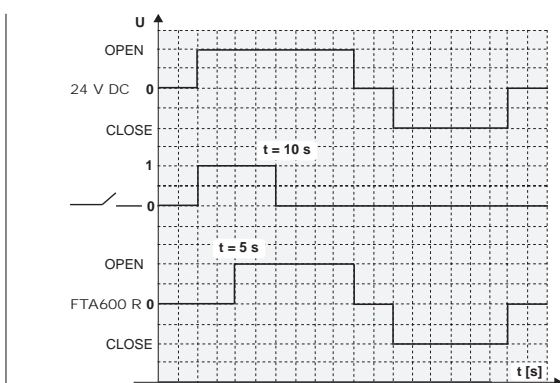
Casement bracket			
K88		<p>Application</p> <p>Surface mounting on the side closing edge of frame profiles of inward opening floor-to-ceiling windows as air inlets.</p> <p>Angle bracket 422 mm for mounting of FTA600-R on the frame profile.</p> <p>Two angle brackets 100 mm for mounting on the floor-to-ceiling windows as sliding guidance of the carrier role, adjustable for compensation of the overlap.</p>	<p>Part.-No. 524156</p> <p>Material/Finish aluminium</p> <p>Feature/Equipment 1x angle 50x40x422 (t = 4) mm 2x angles 50x75x100 (t = 5) mm fixing screws and nuts</p> <p>Load max. 600 N</p>

Special model	PU/pcs.	Part.-No.		
Frame brackets painted / powder coated in other RAL colours				
Lump sum for coating		516030		
Specify at order stage:	1 – 20	516031		
	21 – 50	516031		
	51 – 100	516031		
	from 101	516031		

Typical applications



Contact diagramm



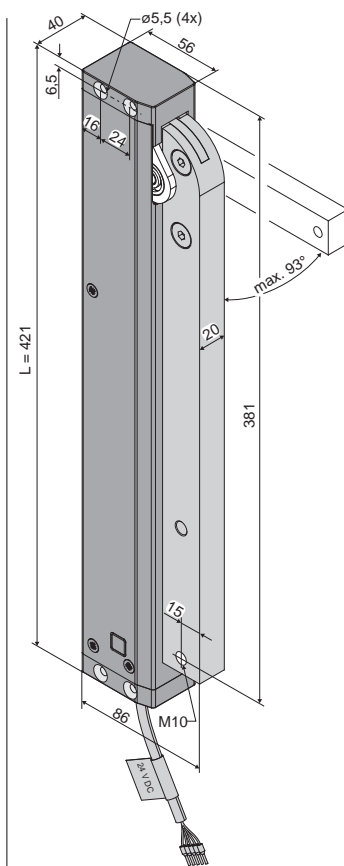
After application of the voltage, the floor-to-ceiling windows lock contact is activated for 10 seconds. With a delay of about 5 seconds, the drive arm of the folding arm drives **FTA600 R** starts moving and opens to an angle of max. 93° .

During the **closing operation**, the floor-to-ceiling window lock contact is not activated.




- Application: natural ventilation, SHEV
- Mainly for opening and closing of side-hung inward opening windows
- Internal Intelligent Control Electronics S12
- Programmable contact for feedback
- Unified plug solution for all **AUMÜLLER** chain drives and **AUMÜLLER** folding arm drives

Options

- Programmable special functions
- M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives (S3 / S12)
- Various customised programmings on request

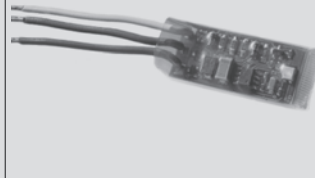



TECHNICAL DATA

U_N	Rated voltage	24V DC (19V ... 28 V)
I_N	Rated current	1,0 A
I_A	Cut-off current	1,4 A
P_N	Rated power	20 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... +60 °C
M_A	Torque OPEN (max.)	215 Nm (~ 600 N)
M_Z	Torque CLOSE (max.)	215 Nm (~ 600 N)
F_H	Pullout force	3000 N (fastening depended)
	Lever arm	aluminium (RAL9006)
	Connecting cable	non-halogen, grey 5 x 0,5 mm ² , ~ 3 m
t	Running time (0° – 90°) (constant at 2/3 load)	 45 s (2,0°/s)  45 s (2,0°/s)
s	Stroke length (lever)	0 – 93 DEG (± 5%)
L	Length	421 mm
	Potential free contact	max. 24VDC / 0,5A programmable
	Sound pressure level	≤ 70 dB (A)

ORDER DATA						
s [DEG]	L [mm]	Version	Finish	PU/pcs.	Part.-No.	
0° – 93°	421	FTA600 DF S12 24V	E6/C-0	1	524145	
Accessories				PU/pcs.	Part.-No.	
K103 Casement bracket FTA600 DF				1	524172	
OPTIONS						
Special model				PU/pcs.	Part.-No.	
Drive housing painted/powder coated in other RAL colours						
Lump sum for coating					516030	
Specify at order stage:				1 – 20	516004	
				21 – 50	516004	
				51 – 100	516004	
				from 101	516004	
Microprocessor programming S12						
Electronic stroke reduction 24V S12				1	524190	
Programming drives 24V / 230V S12					524180	
Optional accessories				PU/pcs.	Part.-No.	
Configuration module for synchronised multi-drive systems				1	524177	

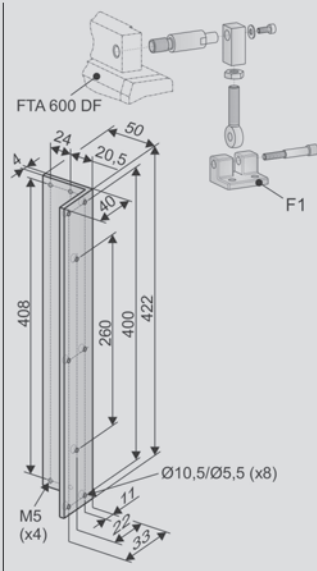
OPTIONAL ACCESSORIES

Main control unit and plug solution					
M-COM		Application	Part.-No. 524177		
		Configuration module for automatic configuration and surveillance of max. 4 opening drives / 2 locking drives version S12 / S3 in synchronised multi-drive systems	Ambient temperature range 0 °C ... + 70 °C		
		Rated voltage: 24V DC (19V ... 28V)	Dimensions 45 x 17 x 6 mm		
		Current consumption: <12 mA	Connecting wires 3 wires 0,5 mm² x 50 mm		
		Drive type: S12	Feature/Equipment		
		Protection rating IP30 rubber envelope	Printed circuit board with components and connection wires to be installed in connection box to be supplied on site		
Aumüller-Click plug solution		Aumüller-Click plug solution:	Feature/Equipment		
		Unified plug solution for all AUMÜLLER chain drives and AUMÜLLER folding arm drives.	<ul style="list-style-type: none">Flexible cable lengthConnect multiple drives in series connectionTorsion-plugLocking hooks prevent withdrawal of the plug under tensile loadStrain relief according DIN EN 60335-1 by screwing the housing halves		
		Rated voltage: 24V DC (19V ... 28V)			
		Connecting cable: non-halogen, grey 5 x 0,5 mm²			
		Terminal: to 1,5 mm²			
VARIANTS:					
		3 m cable length - 24 V DC	Part.-No. 501251		
		5 m cable length - 24 V DC	Part.-No. 501252		
		10 m cable length - 24 V DC	Part.-No. 501253		

ACCESSORIES

Casement bracket

K103



Application

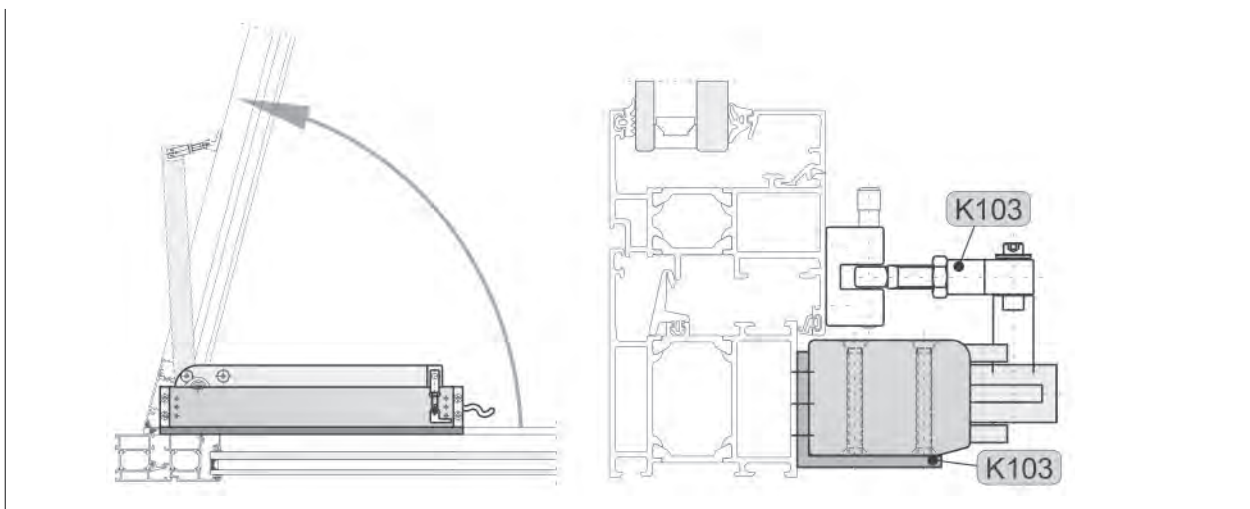
Surface mounting on the side closing edge of window frame profiles of inward opening side-hung windows. Angle bracket 422 mm for mounting of FTA600-DF on the window frame profile. F1 for mounting on the casement profile and for the fixing with the knuckle joint, adjustable for compensation of the overlap.

Part.-No. 524172

Material/Finish
aluminium
Feature/Equipment
1x angle 50x40x422
(t = 4) mm
1x casement bracket F1
1x fixing accessories
Load
max. 600 N

Special model	PU/pcs.	Part.-No.			
Frame brackets painted / powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516031			
	21 – 50	516031			
	51 – 100	516031			
	from 101	516031			

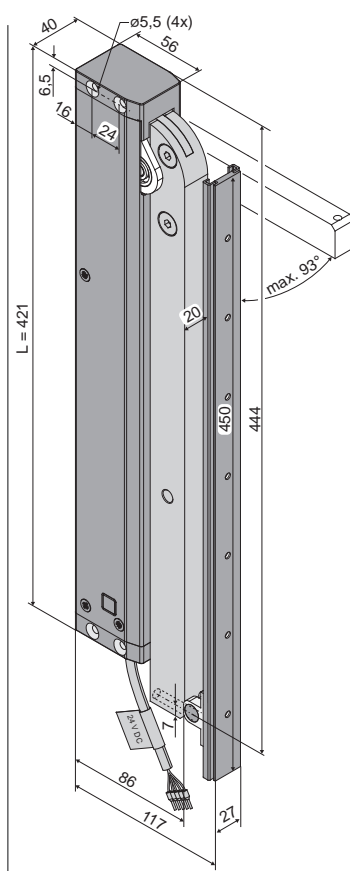
Typical applications






- Application: natural ventilation, SHEV
- Mainly for opening and closing of side-hung outward opening windows
- Internal Intelligent Control Electronics S12
- Programmable contact for feedback
- Unified plug solution for all **AUMÜLLER** chain drives and **AUMÜLLER** folding arm drives

Options

- Programmable special functions
- M-COM for automatic synchronised run of multi drive systems and automatic sequence control with locking drives (S3 / S12)
- Various customised programmings on request

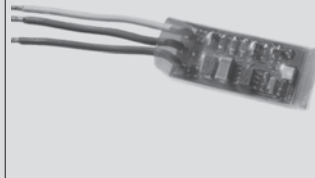



TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	1,0 A
I_A	Cut-off current	1,4 A
P_N	Rated power	20 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... +60 °C
M_A	Torque OPEN (max.)	215 Nm (~ 600 N)
M_Z	Torque CLOSE (max.)	215 Nm (~ 600 N)
F_H	Pullout force	3000 N (fastening depended)
	Lever arm	aluminium (RAL9006)
	Connecting cable	non-halogen, grey 5 x 0,5 mm ² , ~ 3 m
t	Running time (0° – 90°) (constant at 2/3 load)	 45 s (2,0°/s)  45 s (2,0°/s)
s	Stroke length (lever)	0 – 93 DEG (± 5%)
L	Length	455 mm
	Potential free contact	max. 24VDC / 0,5A programmable
	Sound pressure level	≤ 70 dB (A)

ORDER DATA						
s [DEG]	L [mm]	Version	Finish	PU/pcs.	Part.-No.	
0° – 93°	455	FTA600 GF S12 24V	E6/C-0	1	524146	
Accessories				PU/pcs.	Part.-No.	
K104 Casement bracket FTA600 GF				1	524173	
OPTIONS						
Special model				PU/pcs.	Part.-No.	
Drive housing painted/powder coated in other RAL colours						
Lump sum for coating					516030	
Specify at order stage:				1 – 20	516004	
				21 – 50	516004	
				51 – 100	516004	
				from 101	516004	
Microprocessor programming S12						
Electronic stroke reduction 24V S12				1	524190	
Programming drives 24V / 230V S12					524180	
Optional accessories				PU/pcs.	Part.-No.	
Configuration module for synchronised multi-drive systems				1	524177	

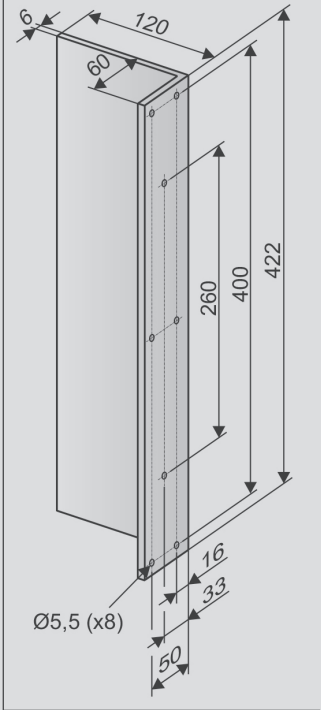
OPTIONAL ACCESSORIES

Main control unit and plug solution					
M-COM		Application	Part.-No. 524177		
		Configuration module for automatic configuration and surveillance of max. 4 opening drives / 2 locking drives version S12 / S3 in synchronised multi-drive systems	Ambient temperature range 0 °C ... + 70 °C		
		Rated voltage: 24V DC (19V ... 28V)	Dimensions 45 x 17 x 6 mm		
		Current consumption: <12 mA	Connecting wires 3 wires 0,5 mm² x 50 mm		
		Drive type: S12	Feature/Equipment Printed circuit board with components and connection wires to be installed in connection box to be supplied on site		
		Protection rating IP30 rubber envelope			
Aumüller-Click plug solution		Aumüller-Click plug solution:	Feature/Equipment		
		Unified plug solution for all AUMÜLLER chain drives and AUMÜLLER folding arm drives.	<ul style="list-style-type: none">Flexible cable lengthConnect multiple drives in series connectionTorsion-plugLocking hooks prevent withdrawal of the plug under tensile loadStrain relief according DIN EN 60335-1 by screwing the housing halves		
		Rated voltage: 24V DC (19V ... 28V)			
		Connecting cable: non-halogen, grey 5 x 0,5 mm²			
		Terminal: to 1,5 mm²			
VARIANTS:					
		3 m cable length - 24 V DC	Part.-No. 501251		
		5 m cable length - 24 V DC	Part.-No. 501252		
		10 m cable length - 24 V DC	Part.-No. 501253		

ACCESSORIES

Casement bracket

K104



Application

Surface mounting on the side closing edge of window frame profiles of outward opening side-hung windows.

Angle bracket 422 mm for mounting of FTA600-GF on the window frame profile.

The slide rail of has to be mounted on the casement profile.

Part.-No. 524173

Material/Finish
aluminium

Feature/Equipment

1x angle 120x60x422

(t = 6) mm

4x countersunk screws,

M5x45 mm

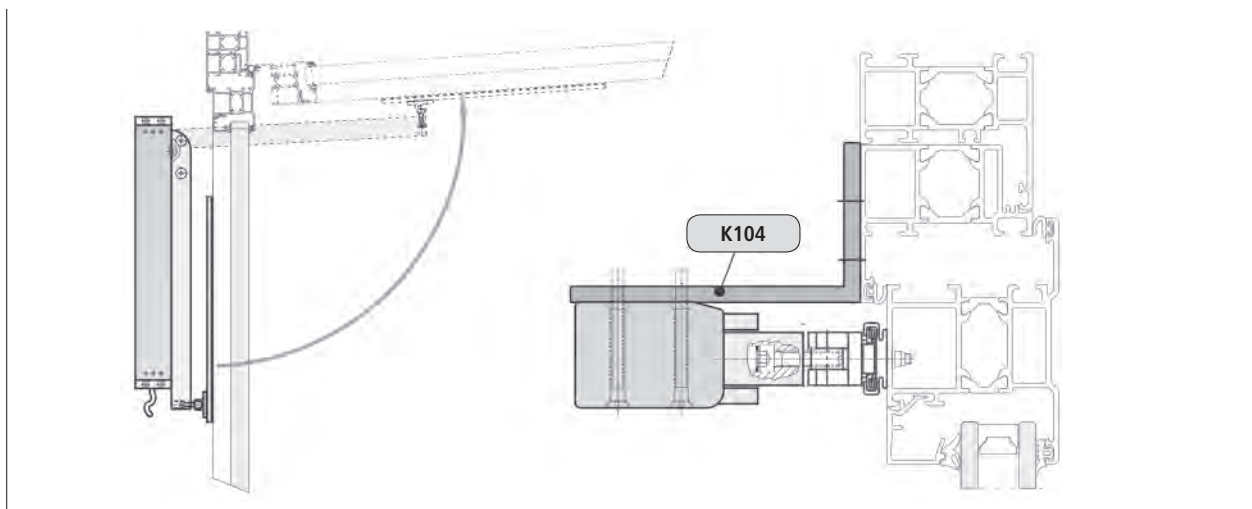
Load

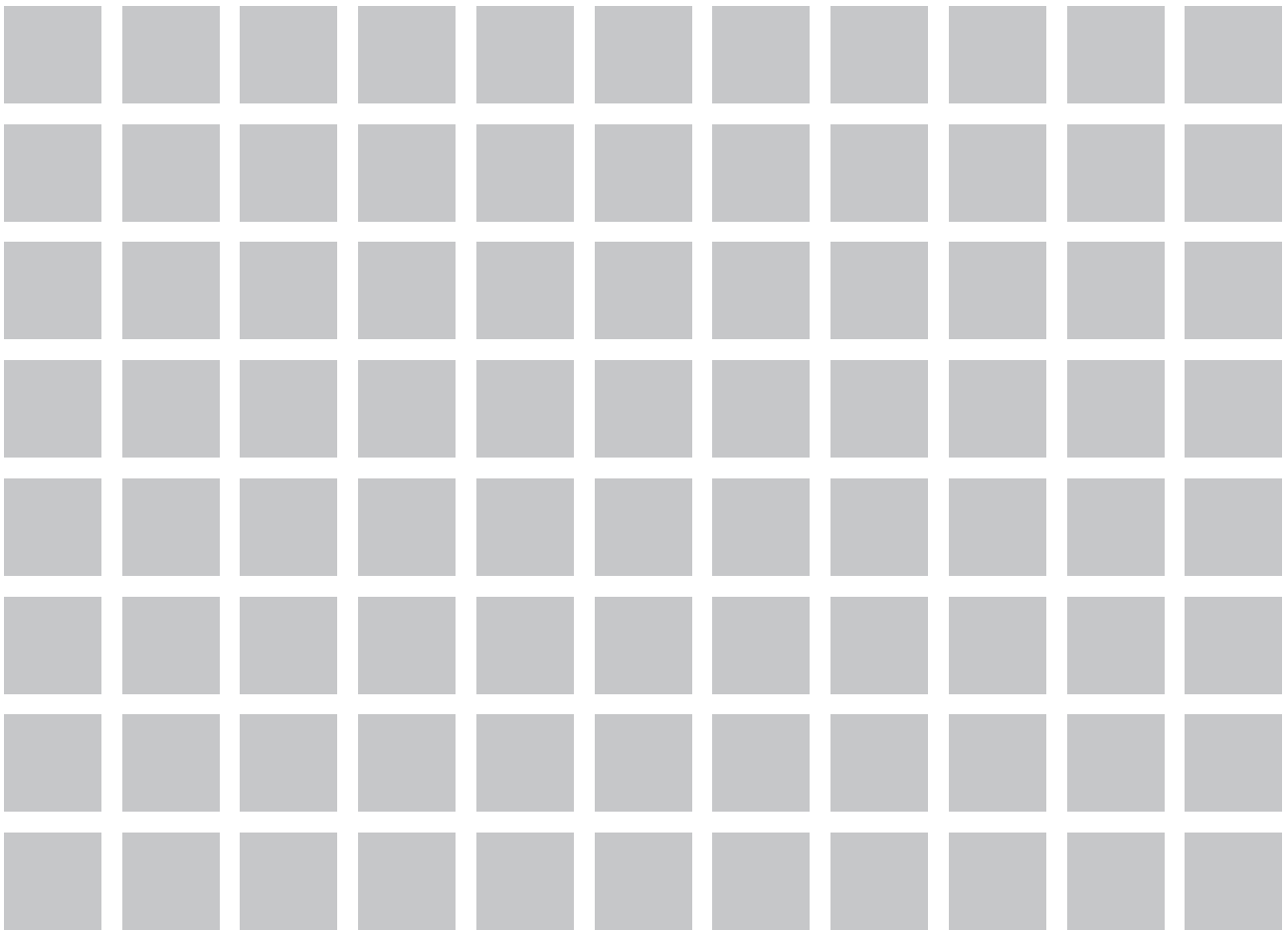
max. 600 N

Special model	PU/pcs.	Part.-No.			
Frame brackets painted / powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516031			
	21 – 50	516031			
	51 – 100	516031			
	from 101	516031			

ATTENTION: Slide rail may not be painted!

Typical applications

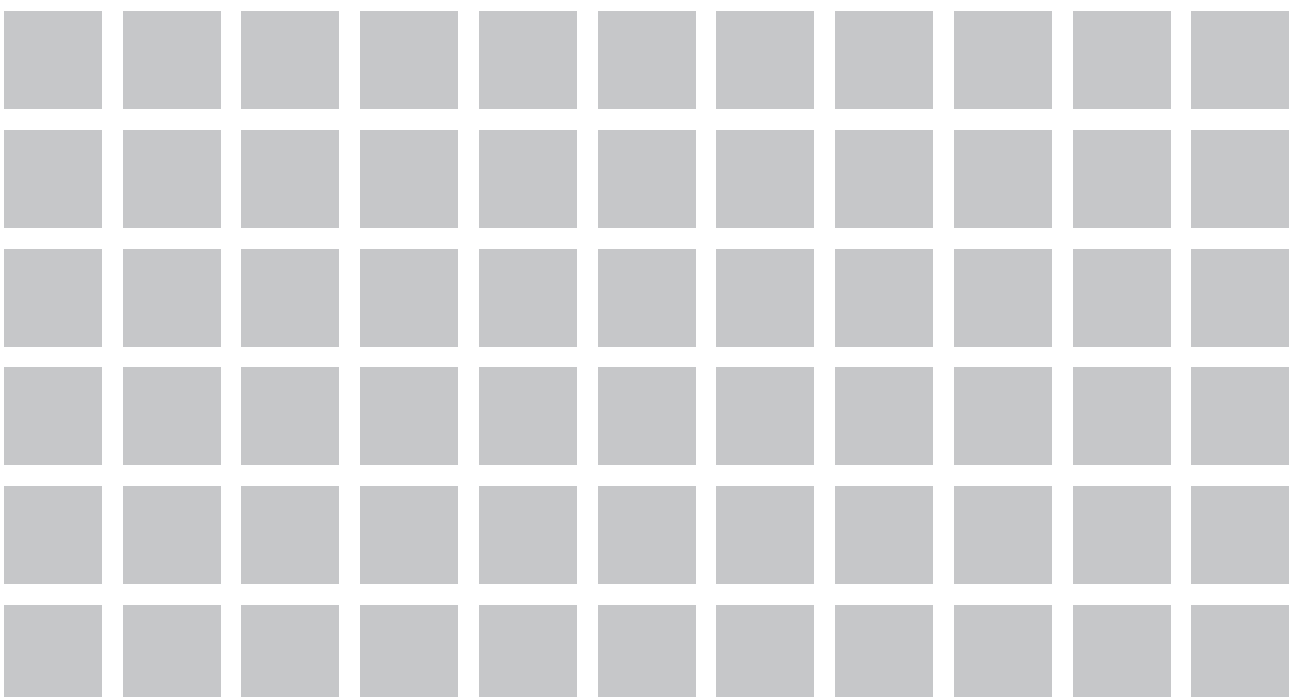




5

Louvre drives

Louvre drives

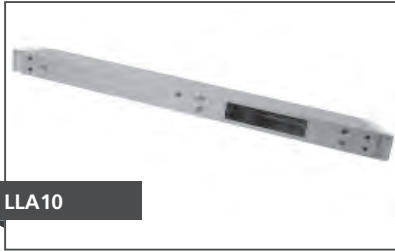


OVERVIEW OF LOUVRE DRIVES																		
Type	Form	Model		Stroke	Force		Speed		Stroke in	Cut-off current	Use			Location		Functions		
		Type of cut-off	Rated voltage	Range	Pushing force	Pulling force	OPEN	CLOSE	60 s	Max.	Natural ventilation	SHEV	NSHEV	Facade	Roof	Run monitoring	Synchronised run	Sequence control
			[VDC]	[mm]	[N]	[N]	[mm/s]	[mm/s]	[mm]	[A]								
LLA	LLA10	S12	24	60 – 200	1000	1000	4,0	4,0	200	1,0	●	●	●	●		■	●	●
	LLA16			60 – 200	1600	1600				1,2	●	●	●	●		■	●	●

LEGEND

● suitable ■ not recommended

S12 Internal Intelligent Control Electronics for synchronised run and programmable functions



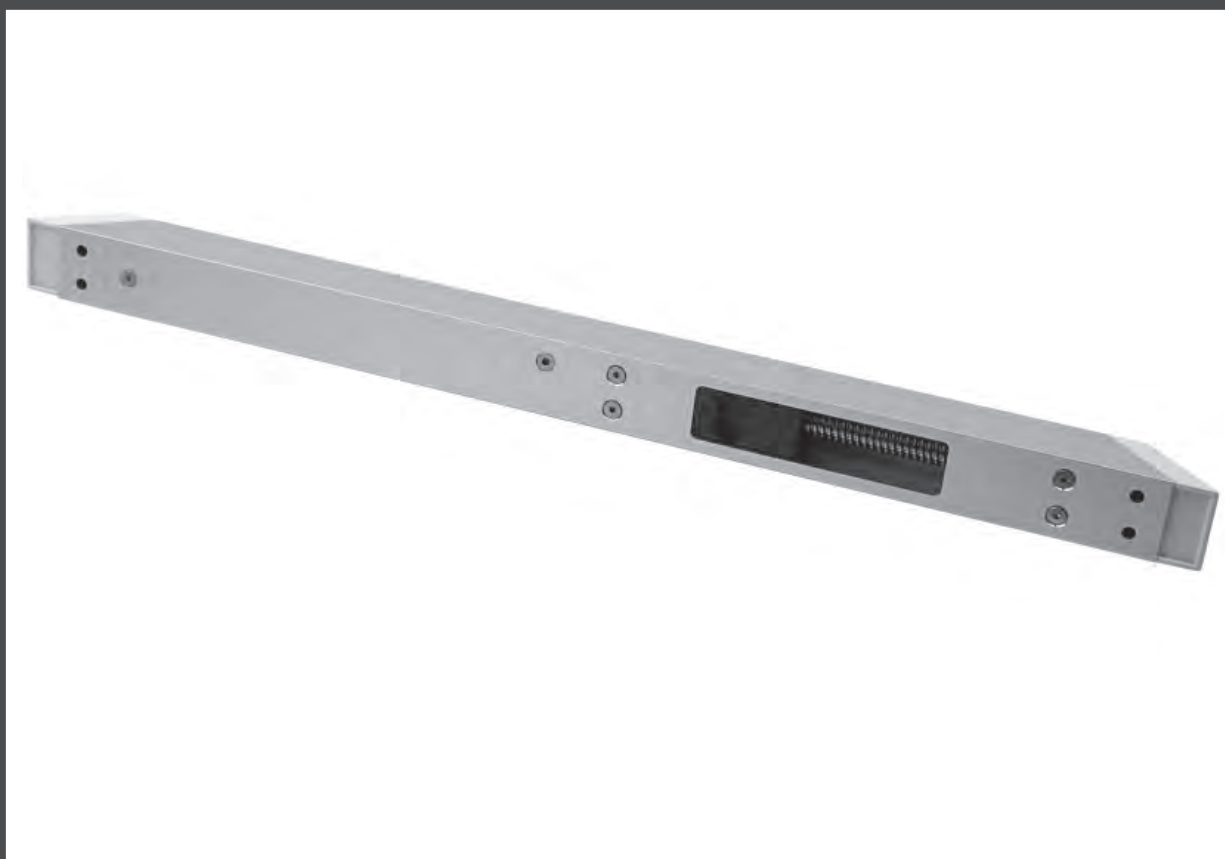
LLA10 LOUVRE DRIVES

▪ Model	24V DC, S12
▪ Pulling/Pushing force	1000 N / 1000 N
▪ Stroke length	60 – 200 mm
▪ Speed	4 mm/s
▪ Housing (WxH)	35 x 35 mm, length depends on stroke
▪ Coupling adapter	PA6 with milled groove (W x L x D): 13,8 x 19 x 8 mm
▪ Version	SOLO
▪ Protection rating	IP40



LLA16 LOUVRE DRIVES

▪ Model	24V DC, S12
▪ Pulling/Pushing force	1600 N / 1600 N
▪ Stroke length	60 – 200 mm
▪ Speed	4 mm/s
▪ Housing (WxH)	35 x 35 mm, length depends on stroke
▪ Coupling adapter	PA6 with milled groove (W x L x D): 13,8 x 19 x 8 mm
▪ Version	SOLO
▪ Protection rating	IP40



SPECIAL FEATURES LLA

- For smoke and heat exhausting, natural ventilation and ferralux® NSHEV (EN12101-2)
- DIP-Switches for the selection of the running direction and solo-/synchronised run
- Reed-contact for the activation of the emergency closing programm functions
- Self learning stroke recognition
- Robust corrosion-resistant design
- Easy installation by concealed holes below the oblique end caps
- Coupling adapter with milling groove Ø13,3 x 9,2 mm
- Programmable parameters of Internal Intelligent Control Electronics S12
 - Synchronised multi-operation and sequence control without add. devices
 - Electronic soft-start, soft-close and soft-stop at end of stroke control
 - Stroke, force, speed
 - Rebate control

For this product series, a Type III Environmental Product Declaration (EPD) was issued according to ISO 14025 and EN 15804. The LCA results of the different product types are listed at the end of this product catalogue. The EPD documents can be viewed or downloaded from our homepage www.aumueller-gmbh.de.

Typical applications

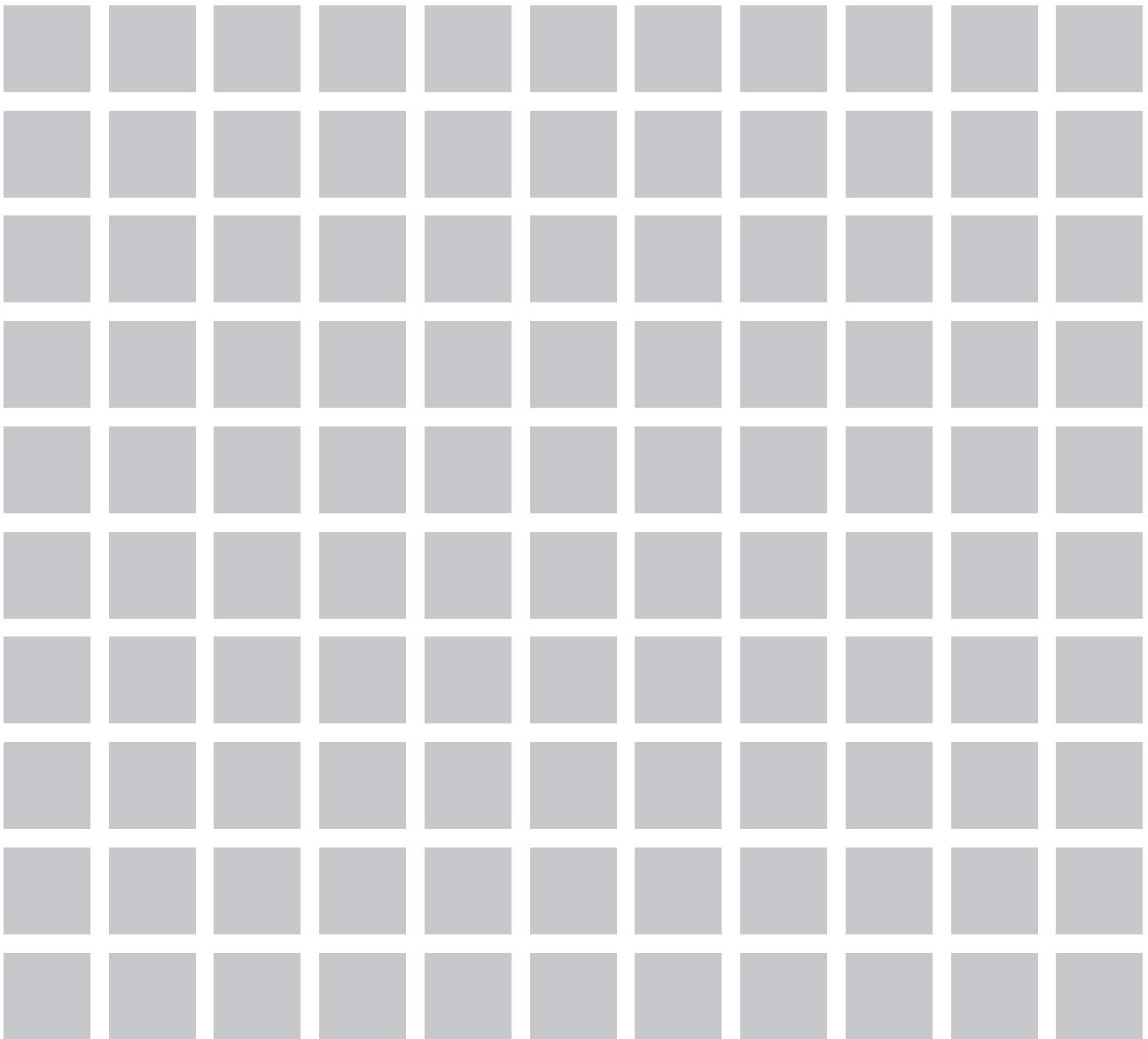


ORDER DATA

s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.			
60	530	LLA10 60 S12	E6/C-0	1	520306			
120	590	LLA10 120 S12	E6/C-0	1	520312			
200	670	LLA10 200 S12	E6/C-0	1	520343			
60	530	LLA16 60 S12	E6/C-0	1	520406			
120	590	LLA16 120 S12	E6/C-0	1	520412			
200	670	LLA16 200 S12	E6/C-0	1	520423			

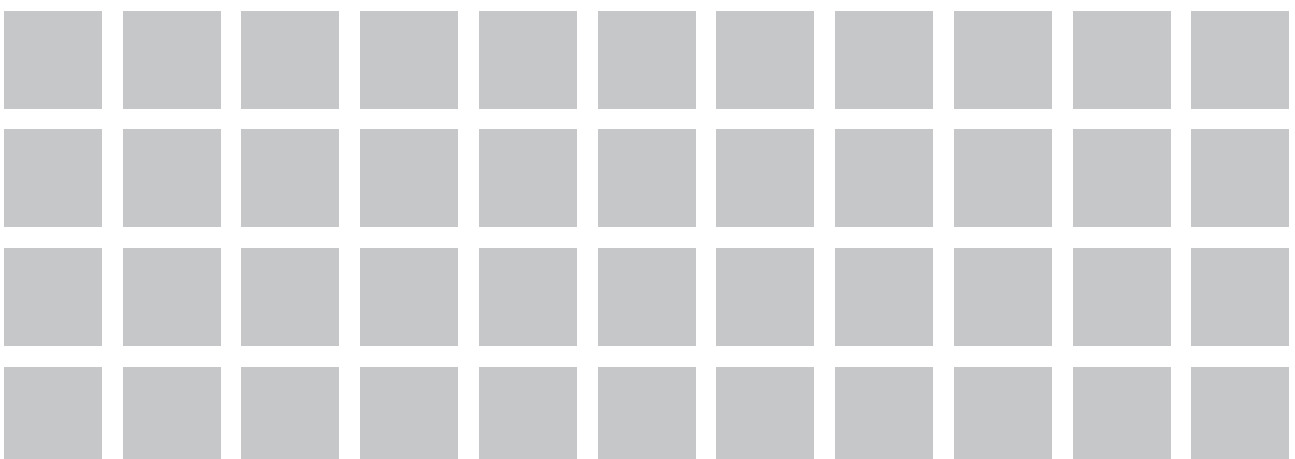
OPTIONS

Special model	PU/pcs.	Part.-No.			
Drive housing painted/powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516004			
	21 – 50	516004			
	51 – 100	516004			
	from 101	516004			
Extra length connecting cable:					
5 m – non-halogen, grey – 3 x 1,0 mm ²		501037			
10 m – non-halogen, grey – 3 x 1,0 mm ²		501039			
Microprocessor programming S12					
Programming drives 24V / 230V S12	1	524180			
Electronic stroke reduction 24V S12	1	524190			
Programming synchronised multi-drive systems 24V S3 / S12	1	524182			



6

Locking drives



OVERVIEW OF LOCKING DRIVES FV													
Type	Form	Rated voltage	Locking stroke	Force		Runtime	Quiescent current	Opening drives		Use			Functions
				Pulling / Pushing force	Initial force			Type	Breaking current	Natural ventilation	SHEV	NSHEV	
		[VDC]	[mm]	[N]	[N]	[s]	[A]		[A]				
FVUx	FVUI	24	18	600	1000	5,0	0,3	S3/S12	0,8	●	●	●	●
	FVUB	24	18	600	1000	5,0	0,3	S3/S12	0,8	●	●	●	●
	FVUR	24	18	600	1000	5,0	0,3	S3/S12	0,8	●	●	●	●
FV	FV1	24		600	1000	5,0	0,3	○	○	●	●	●	●
	FV3							S1	0,8	●	●	●	●
	FV4							S2/S3/S12		●	●	●	●
OFV	OFV	24	0° – 180°	10 Nm	22 Nm	4,5/9,0	0,3	S1	0,9	●	●	●	●
								S2/S3/S12		●	●	●	●

LEGEND

● suitable ■ not recommended

S1 without internal cut-off switch for operation with RWA1000-, RWA1100-, RWA1050-systems

S2 internal load dependend cut-off switch

S3 internal load dependend cut-off switch, post cycle resistant, programmable for motion monitored run (up to 300 mm stroke) and sequence control

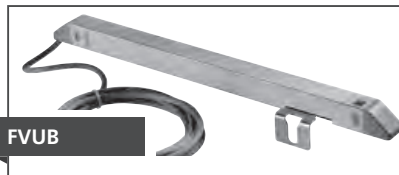
S4 without internal cut-off switch, with pulse generator for operation with external load cut-off-switch or synchronisation controller

S12 internal Intelligent Control Electronics S12 for synchronised run and programmable functions

○ only with external control module USKM



FVUI



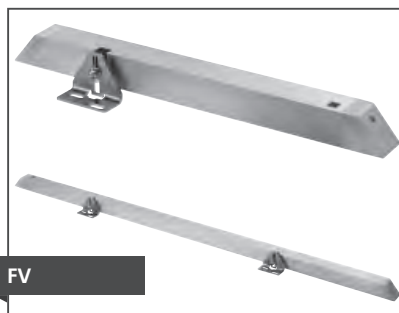
FVUB



FVUR

FVUx LOCKING DRIVES

- Model 24V DC
- Force 600 N
- Stroke 18 mm
- Runtime 5 s
- Housing (WxH) aluminium 26 x 26 mm, length depending on type
- Coupling adapter Locking plate (for FVUI)
Locking angle (for FVUB and FVUR)
- Versions FVUI, FVUB R, FVUB L, FVUR
- Protection rating IP 32



FV

FV LOCKING DRIVES

- Model 24V DC
- Force 600 N
- Stroke 15 mm
- Runtime 5 s
- Housing (WxH) aluminium 35 x 35 mm, length depending on type
- Coupling adapter Locking angle
- Versions FV1, FV3, FV4 with 1 – 3 locking points
- Protection rating IP32



OFV

OFV LOCKING DRIVES

- Model 24V DC, S3
- Torquet 10 Nm
- Rotation angle 90° / 180°
- Runtime 4,5 - 9 s
- Housing (WxH) aluminium/ABS 40 x 156 x 83 mm, grey
- Coupling adapter squared shaft for the chamber gearboxes
- Protection rating IP32

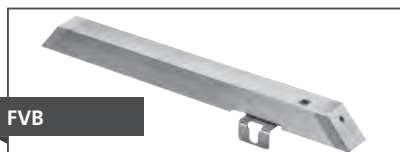
REPLACED BY LOCKING DRIVES



FV mini

FVM LOCKING DRIVES

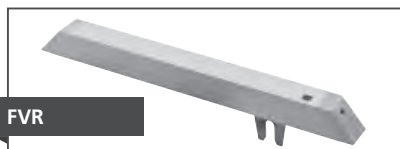
Replaced by: **FVUI LOCKING DRIVES**



FVB

FVB LOCKING DRIVES

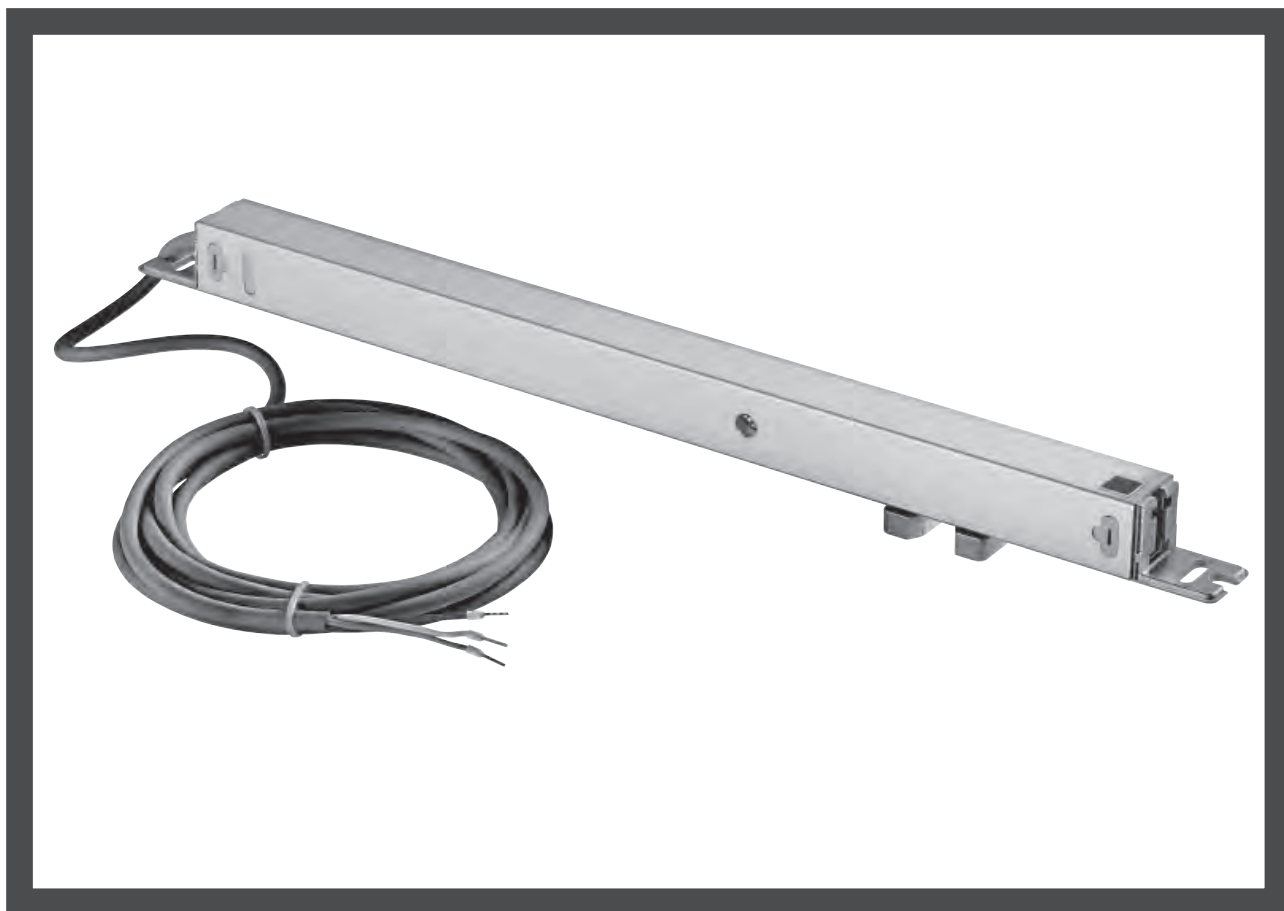
Replaced by: **FVUB LOCKING DRIVES**



FVR

FVR LOCKING DRIVES

Replaced by: **FVUR LOCKING DRIVES**



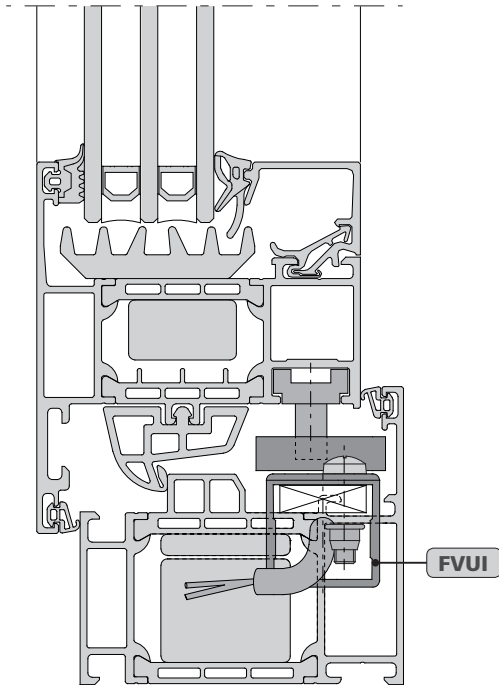
SPECIAL FEATURES FVUI

- For natural ventilation, smoke and heat exhausting and ferralux® NSHEV (EN12101-2)
- With M-COM suitable internal load dependent cut-off switch and sequence control for drives (star wiring, drive current does not run over FVUx - sequence control via communication wire)
- Suitable for concealed mounting inside profiles
- Locking plate activates the multi-point locking systems of the windows via additional locking roller, it can be mounted on both sides and can be rotated with 180°
- Manual unlocking mechanism
- Robust corrosion-resistant design in a aluminium housing (415 x 26 x 26 mm)
- Concealed cable terminals and internal push button for setting the running direction

For this product series, a Type III Environmental Product Declaration (EPD) was issued according to ISO 14025 and EN 15804. The LCA results of the different product types are listed at the end of this product catalogue. The EPD documents can be viewed or downloaded from our homepage www.aumueller-gmbh.de.

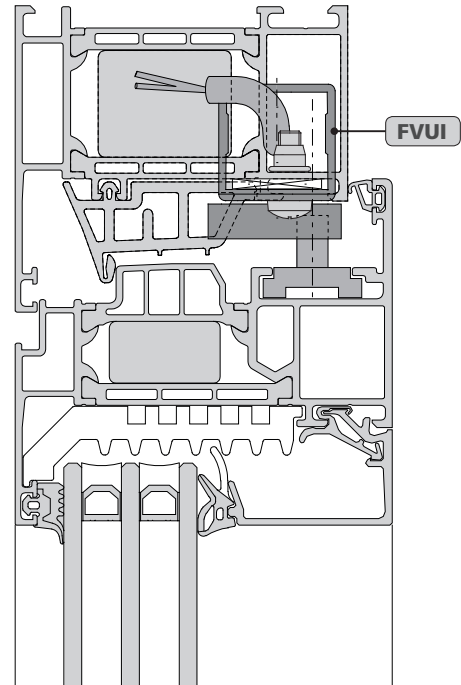
TYPICAL APPLICATIONS

- 1 Concealed mounting
outward opening



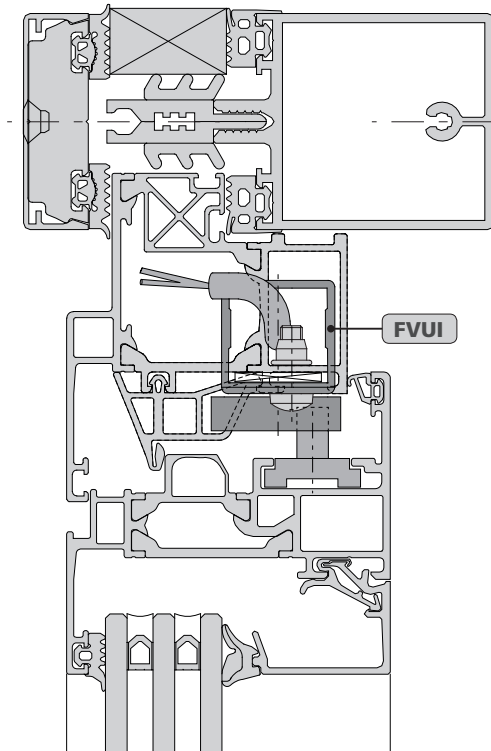
View on Alu window

- 2 Concealed mounting
inward opening



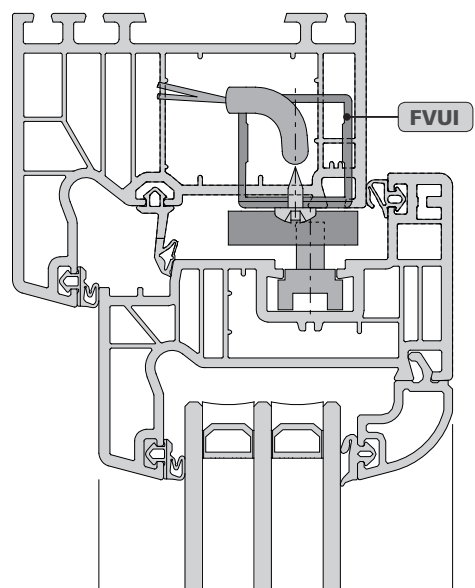
View on Alu window

- 3 Concealed mounting
inward opening



View on Alu window

- 4 Concealed mounting
inward opening



View on PVC window

- Application: natural ventilation, SHEV, ferralux®-NRWG
- Surface or concealed mounting inside profiles
- Locking plate (8 mm) or optional locking plate (6 mm)
- Locking position selectable
- Manual unlocking mechanism
- Running direction adjustable

Options

- Special functions programmable

- M-COM suitable internal Control Electronics and sequence control for drives S3 / S12
- Star wiring
- Current of the drives does not run over FVUI
- Sequence control via communication wire

TECHNICAL DATA

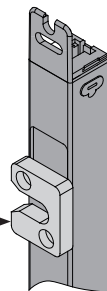
U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	0,6 A
I_A	Cut-off current	~ 1,0 A
P_N	Rated power	15 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... +60 °C
F_A	Pushing force max.	~ 600 N
F_L	Breakout force max.	~ 1000 N
F_H	Pullout force max.	1.500 N
t	Running time	~ 5,0 s
s	Stroke	~ 18 mm (± 1)
	Connecting cable	non-halogen, grey Ø 6,2 mm, 3 x 0,5 mm ² , ~ 3 m
	Coupling adapter	die-cast zinc
	Housing	aluminium (E6/C-O)
L, (WxH)	Dimensions	L = 415 mm, 26 x 26 mm (B x H)
	Sound pressure level	≤ 70 dB (A)

MOUNTING POSSIBILITIES OF THE LOCKING PLATE

Locking plate is included separately (optional installation possible)

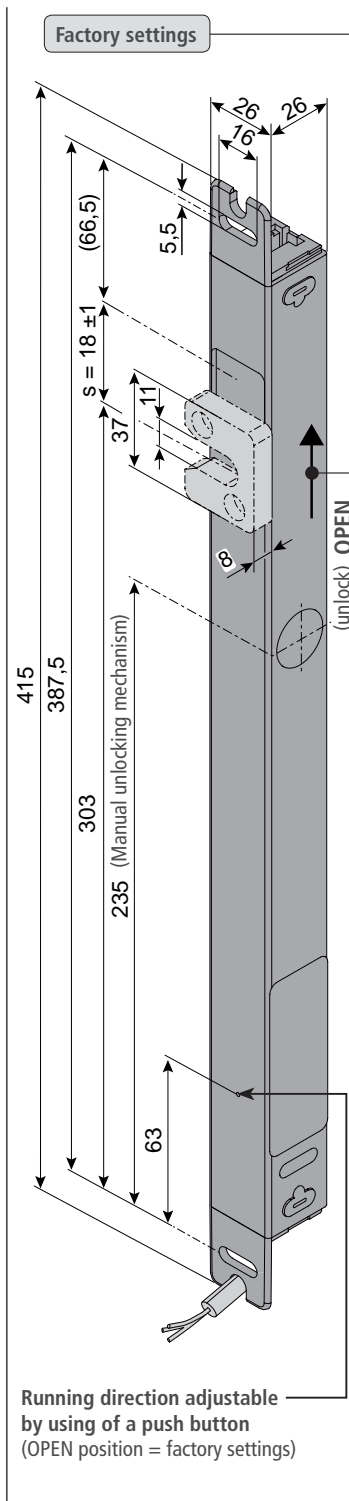
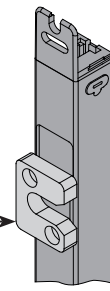
Mounting example
"Version - 1"

Locking plate
is included separately



Mounting example
"Version - 2"

Locking plate
is included separately



ORDER DATA

s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.			
18	415	FVUI	E6/C-0	1	515910			

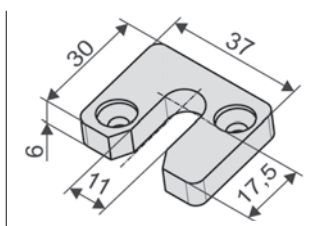
OPTIONEN

Special model	PU/pcs.	Part.-No.			
Drive housing painted/powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516004			
	21 – 50	516004			
	51 – 100	516004			
	from 101	516004			
Extra length connecting cable:					
5m – non-halogen, grey – 3 x 0,5 mm ²		501034			
10 m – non-halogen, grey – 3 x 0,5 mm ²		501036			
Microprocessor programming S12					
Programming drives 24V / 230V S12		524180			
Optional accessories	PU/pcs.	Part.-No.			
M-COM Configuration module for synchronised multi-drive systems	1	524177			

ACCESSORIES

Locking plate

B31



Application

Locking plate 6 mm alternative to the locking plate 8 mm due to limited rebate space

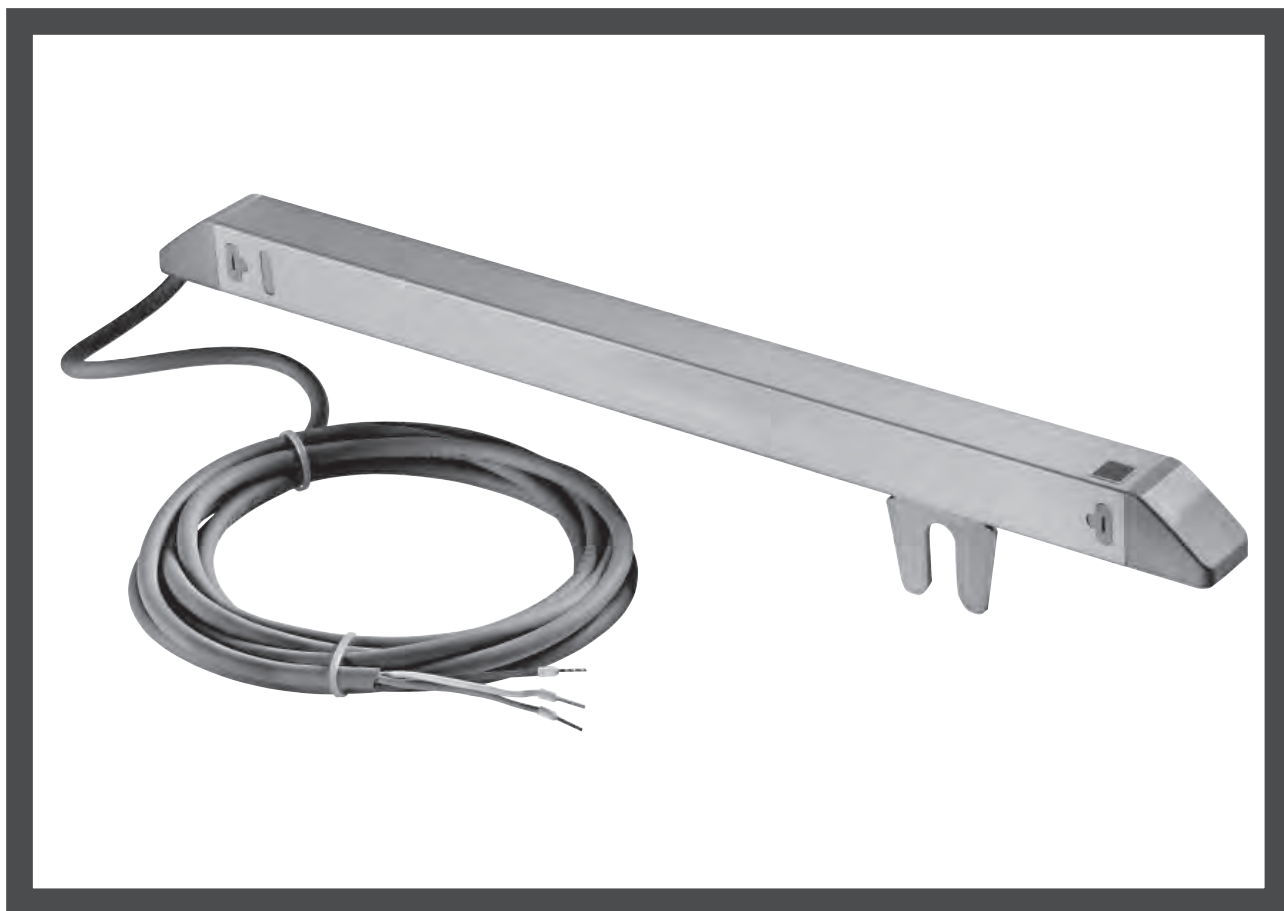
Part.-No. 515911

Material/Finish

die-cast zinc

Feature/Equipment

37 x 30 x 6 mm



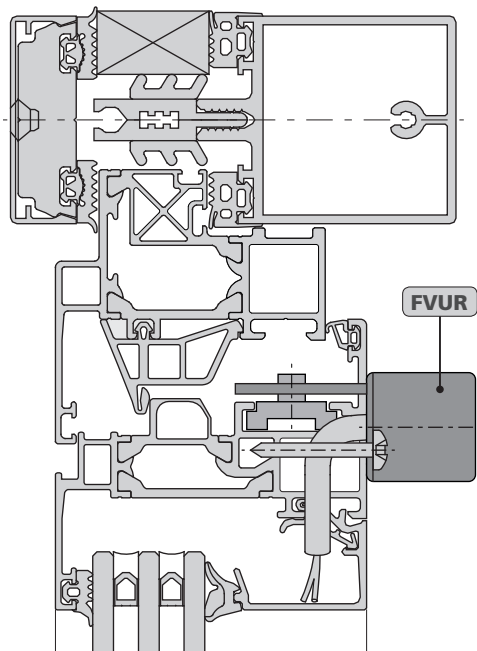
SPECIAL FEATURES FVUR

- For natural ventilation, smoke and heat exhausting and ferralux® NSHEV (EN12101-2)
- with M-COM suitable internal load dependent cut-off switch and sequence control for drives S3 / S12 (star wiring, drive current does not run over FVUx - sequence control via communication wire)
- Mounting on the window frame profiles of outward opening windows or on casement profiles of inward opening windows
- Locking plate activates the multi-point locking systems of the windows via additional locking roller
- Robust corrosion-resistant design in a aluminium housing (415 x 26 x 26 mm) or optionally in RAL colors
- Concealed cable terminals and internal push button for setting the running direction
- Locking plate customizable for project-/profile-specific demands

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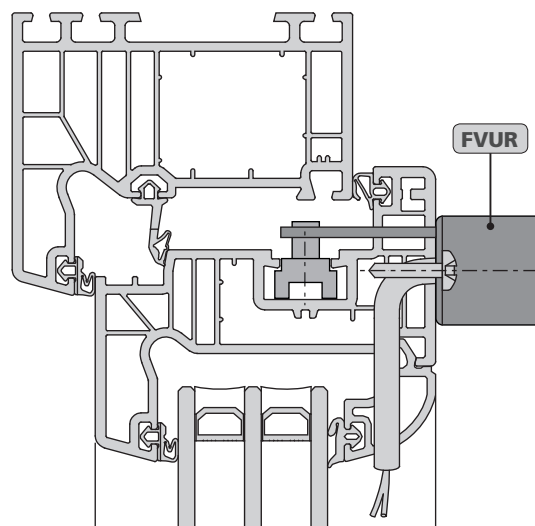
TYPICAL APPLICATIONS

1 FM, inward opening window



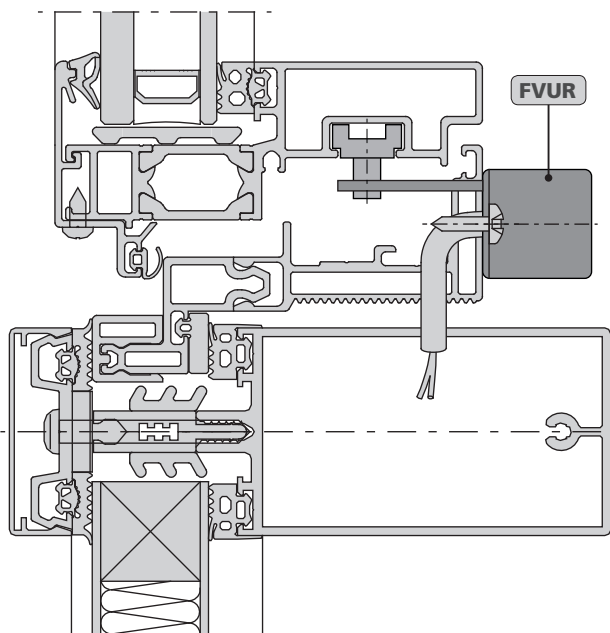
View on Alu window

2 FM, inward opening window



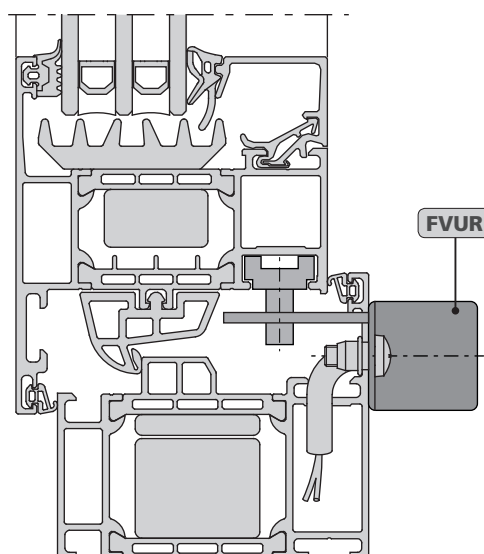
View on PVC window

3 RM, outward opening window



View on Alu window

4 RM, outward opening window



View on Alu window

- Application: natural ventilation, SHEV, ferralux®-NRWG
- Surface mounting on the on the main / side closing edge (HSK / NSK) of the window frame profiles (RM) of inward opening windows
- Required mounting space 26 mm
- Locking drives for existing locking bar
- Running direction adjustable

Options

- Locking plate customizable for project-/profile-specific demands

- M-COM suitable internal Control Electronics and sequence control for drives S3 / S12
- Star wiring
- Current of the drives does not run over FVUR
- Sequence control via communication wire

TECHNICAL DATA

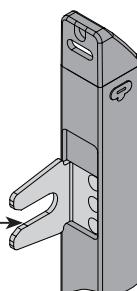
U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	0,6 A
I_A	Cut-off current	~ 1,0 A
P_N	Rated power	15 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... +60 °C
F_A	Pushing force max.	~ 600 N
F_L	Breakout force max.	~ 1000 N
F_H	Pullout force max.	1.500 N
t	Running time	~ 5,0 s
s	Stroke	~ 18 mm (± 1)
	Connecting cable	non-halogen, grey $\varnothing 6,2$ mm, 3 x 0,5 mm ² , ~ 3 m
	Coupling adapter	stainless steel
	Housing	aluminium (E6/C-O)
L, (WxH)	Dimensions	L = 415 mm, 26 x 26 mm (B x H)
	Sound pressure level	≤ 70 dB (A)

MOUNTED DIMENSIONS OF THE COUPLING ADAPTER

Coupling adapter wire is included separately (optional installation possible)

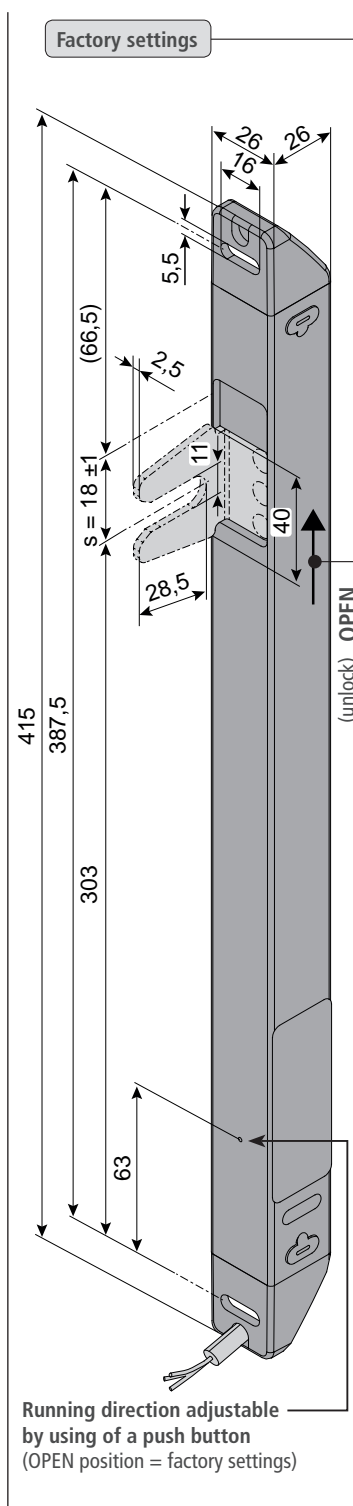
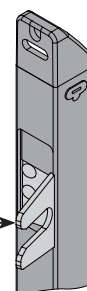
Mounting example
"Version - 1"

Coupling adapter
is included separately



Mounting example
"Version - 2"

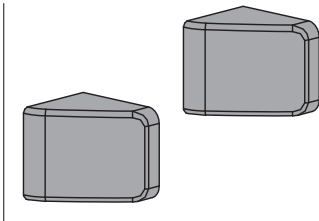
Coupling adapter
is included separately

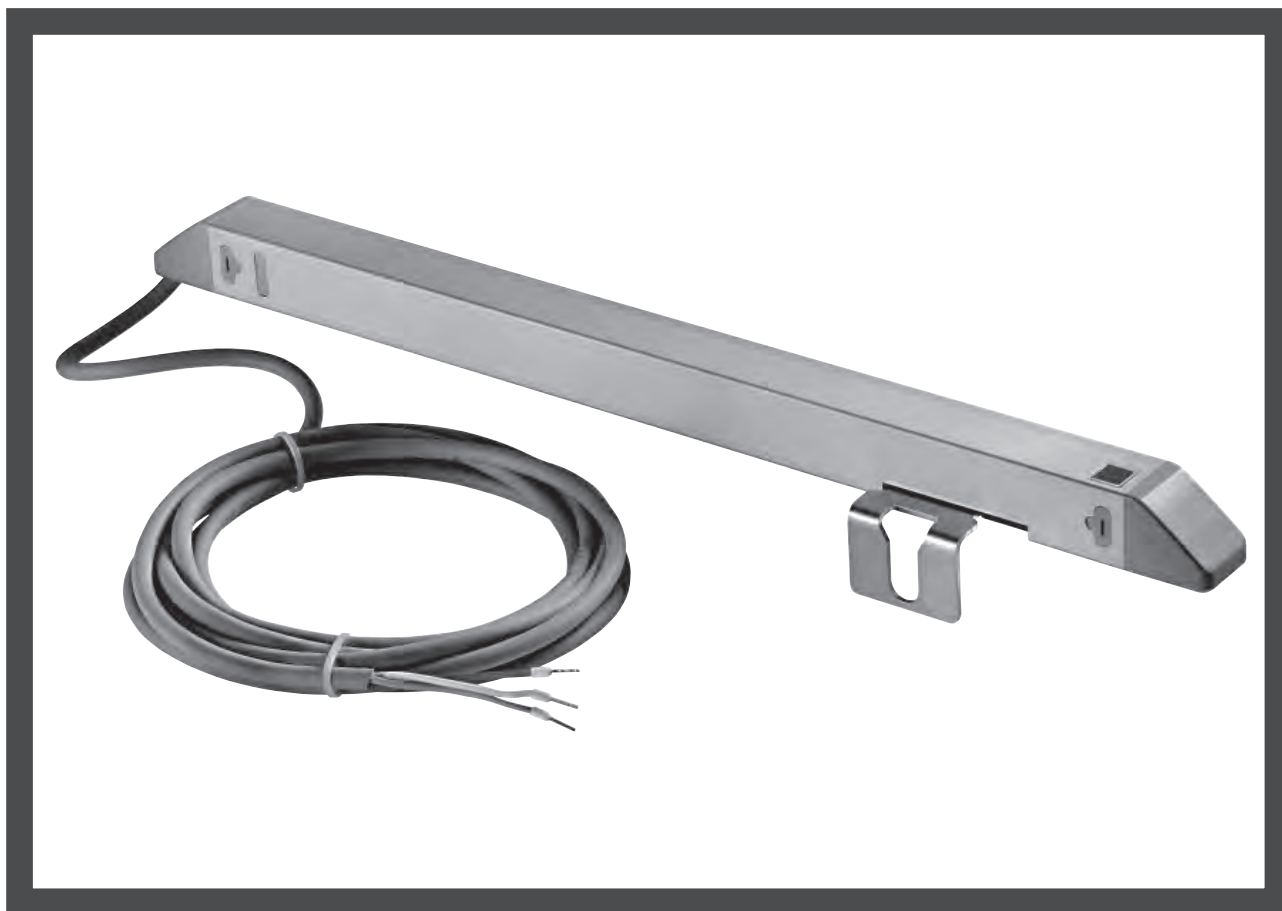


ORDER DATA						
s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.	
18	415	FVUR	E6/C-0	1	515920	

OPTIONEN						
Special model				PU/pcs.	Part.-No.	
Drive housing painted/powder coated in other RAL colours						
Lump sum for coating					516030	
Specify at order stage:				1 – 20	516004	
				21 – 50	516004	
				51 – 100	516004	
				from 101	516004	
Extra length connecting cable:						
5m – non-halogen, grey – 3 x 0,5 mm ²					501034	
10 m – non-halogen, grey – 3 x 0,5 mm ²					501036	
Microprocessor programming S12						
Programming drives 24V / 230V S12					524180	
Optional accessories				PU/pcs.	Part.-No.	
M-COM Configuration module for synchronised multi-drive systems				1	524177	

ACCESSORIES

Cover cap						
				Application Cover cap for FVUB and FVUR (replacement part).		
				Part.-No. 515921 Material/Finish plastic, RAL 7035 (light gray) Feature/Equipment 2 pieces		



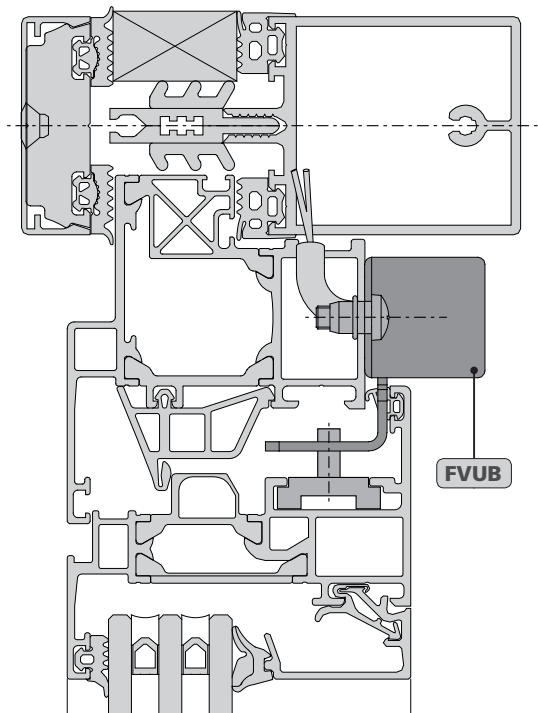
SPECIAL FEATURES FVUB

- For natural ventilation, smoke and heat exhausting and ferralux® NSHEV (EN12101-2)
- With M-COM suitable internal load dependent cut-off switch and sequence control for drives (star wiring, drive current does not run over FVUx - sequence control via communication wire)
- Mounting on the window frame profiles of inward opening windows
- Locking plate activates the multi-point locking systems of the windows via additional locking roller
- Robust corrosion-resistant design in a aluminium housing (415 x 26 x 26 mm) or optionally in RAL colors
- Concealed cable terminals and internal push button for setting the running direction
- Locking plate customizable for project-/profile-specific demands

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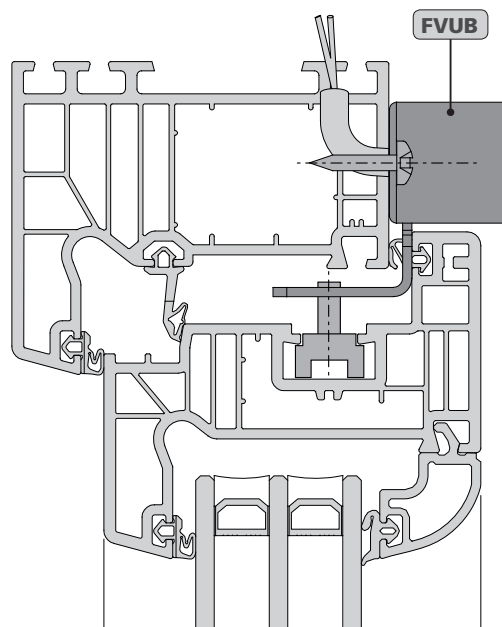
TYPICAL APPLICATIONS

1 RM, inward opening window



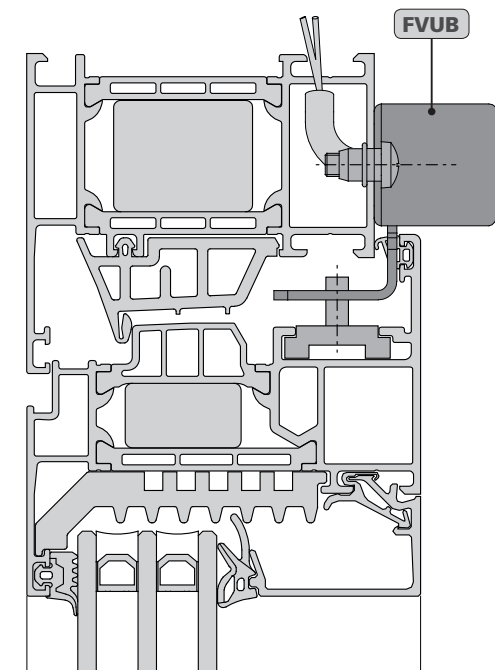
View on Alu window

2 RM, inward opening window



View on PVC window

3 RM, inward opening window



View on Alu window

- Application: natural ventilation, SHEV, ferralux®-NRWG
- Surface mounting on the on the main / side closing edge (HSK / NSK) of the window frame profiles (RM) of inward opening windows
- Required mounting space 28 mm
- Locking drives for existing locking bar
- Running direction adjustable

Options

- Locking plate customizable for project-/profile-specific demands

- M-COM suitable internal Control Electronics and sequence control for drives S3 / S12
- Star wiring
- Current of the drives does not run over FVUI
- Sequence control via communication wire

TECHNICAL DATA

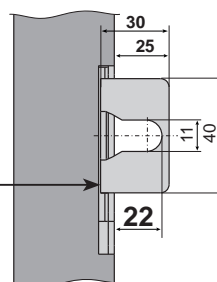
U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	0,6 A
I_A	Cut-off current	~ 1,0 A
P_N	Rated power	15 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... +60 °C
F_A	Pushing force max.	~ 600 N
F_L	Breakout force max.	~ 1000 N
F_H	Pullout force max.	1.500 N
t	Running time	~ 5,0 s
s	Stroke	~ 18 mm (± 1)
	Connecting cable	non-halogen, grey Ø 6,2 mm, 3 x 0,5 mm ² , ~ 3 m
	Coupling adapter	stainless steel
	Housing	aluminium (E6/C-O)
L, (WxH)	Dimensions	L = 415 mm, 26 x 26 mm (B x H)
	Sound pressure level	≤ 70 dB (A)

MOUNTED DIMENSIONS OF THE COUPLING ADAPTER

Coupling adapter is included separately

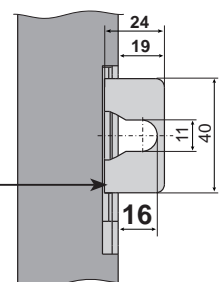
Accessories: Coupling adapter (separate order)

Coupling adapter
is included separately



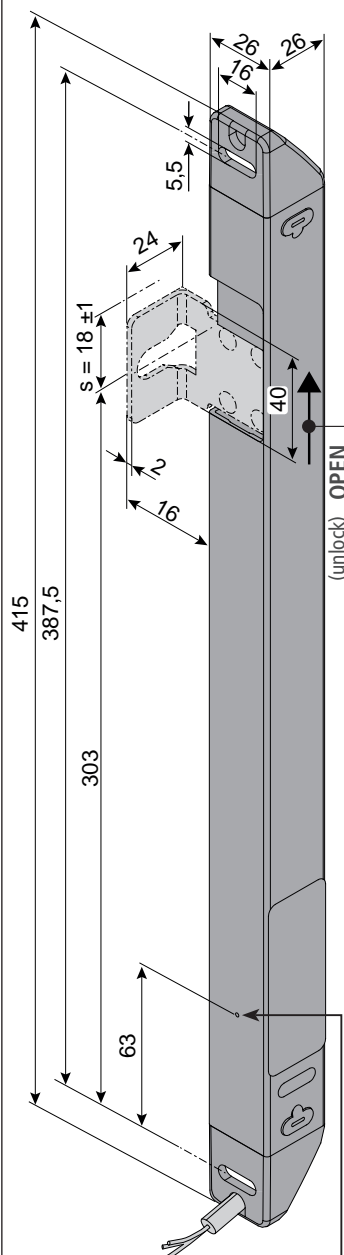
Coupling adapter
additionally order

Accessories
optional order
Part.-No. 515931



(right)

Factory settings



Running direction adjustable
by using of a push button
(OPEN position = factory settings)

- Application: natural ventilation, SHEV, ferralux®-NRWG
- Surface mounting on the on the main / side closing edge (HSK / NSK) of the window frame profiles (RM) of inward opening windows
- Required mounting space 28 mm
- Locking drives for existing locking bar
- Running direction adjustable

Options

- Locking plate customizable for project-/profile-specific demands

- M-COM suitable internal Control Electronics and sequence control for drives S3 / S12
- Star wiring
- Current of the drives does not run over FVUI
- Sequence control via communication wire

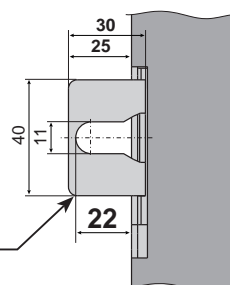
TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	0,6 A
I_A	Cut-off current	~ 1,0 A
P_N	Rated power	15 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... +60 °C
F_A	Pushing force max.	~ 600 N
F_L	Breakout force max.	~ 1000 N
F_H	Pullout force max.	1.500 N
t	Running time	~ 5,0 s
s	Stroke	~ 18 mm (± 1)
	Connecting cable	non-halogen, grey Ø 6,2 mm, 3 x 0,5 mm ² , ~ 3 m
	Coupling adapter	stainless steel
	Housing	aluminium (E6/C-O)
L, (WxH)	Dimensions	L = 415 mm, 26 x 26 mm (B x H)
	Sound pressure level	≤ 70 dB (A)

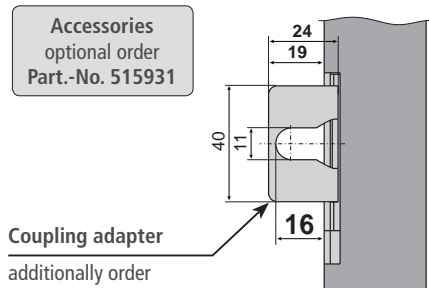
MOUNTED DIMENSIONS OF THE COUPLING ADAPTER

Coupling adapter is included separately

Accessories: Coupling adapter (separate order)



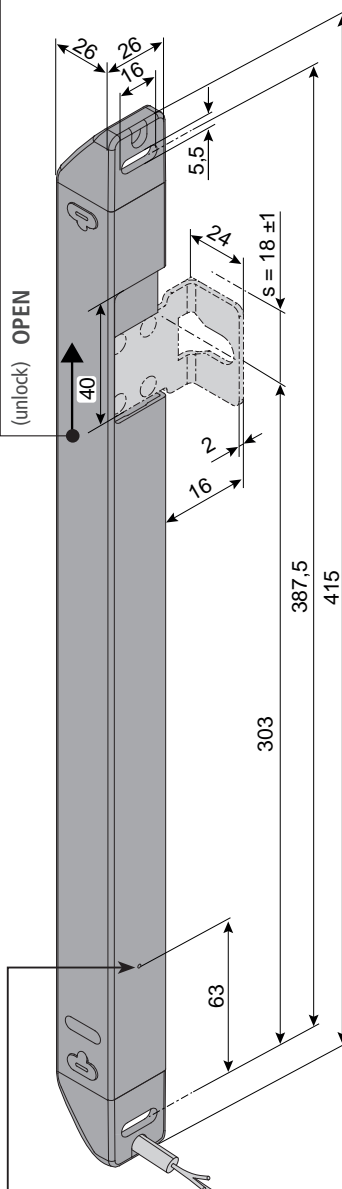
Coupling adapter
is included separately



Coupling adapter
additionally order

(left)

Factory settings



Running direction adjustable
by using of a push button
(OPEN position = factory settings)

ORDER DATA

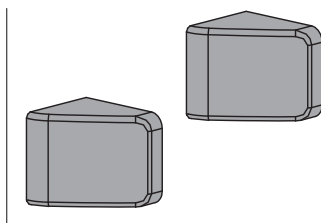
s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.			
18	415	FVUB R	E6/C-0	1	515930			
18	415	FVUB L	E6/C-0	1	515940			

OPTIONEN

Special model	PU/pcs.	Part.-No.			
Drive housing painted/powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516004			
	21 – 50	516004			
	51 – 100	516004			
	from 101	516004			
Extra length connecting cable:					
5m – non-halogen, grey – 3 x 0,5 mm ²		501034			
10 m – non-halogen, grey – 3 x 0,5 mm ²		501036			
Microprocessor programming S12					
Programming drives 24V / 230V S12		524180			
Optional accessories	PU/pcs.	Part.-No.			
M-COM Configuration module for synchronised multi-drive systems	1	524177			

ACCESSORIES

Cover cap



Application

Cover cap for FVUB and FVUR (replacement part).

Part.-No. 515921

Material/Finish

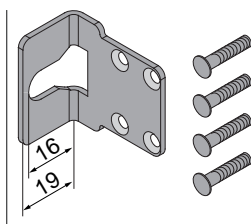
plastic
RAL 7035 (light gray)

Feature/Equipment

2 pieces

Coupling adapter

**FVUB
-16mm**



Application

Coupling adapter-16 mm for locking pin in the FVUB (coupling adapter length is 19 mm).
As an alternative to the coupling adapter-22 mm (coupling adapter length is 25 mm).

Part.-No. 515931

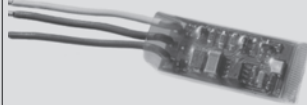
Material/Finish

stainless steel

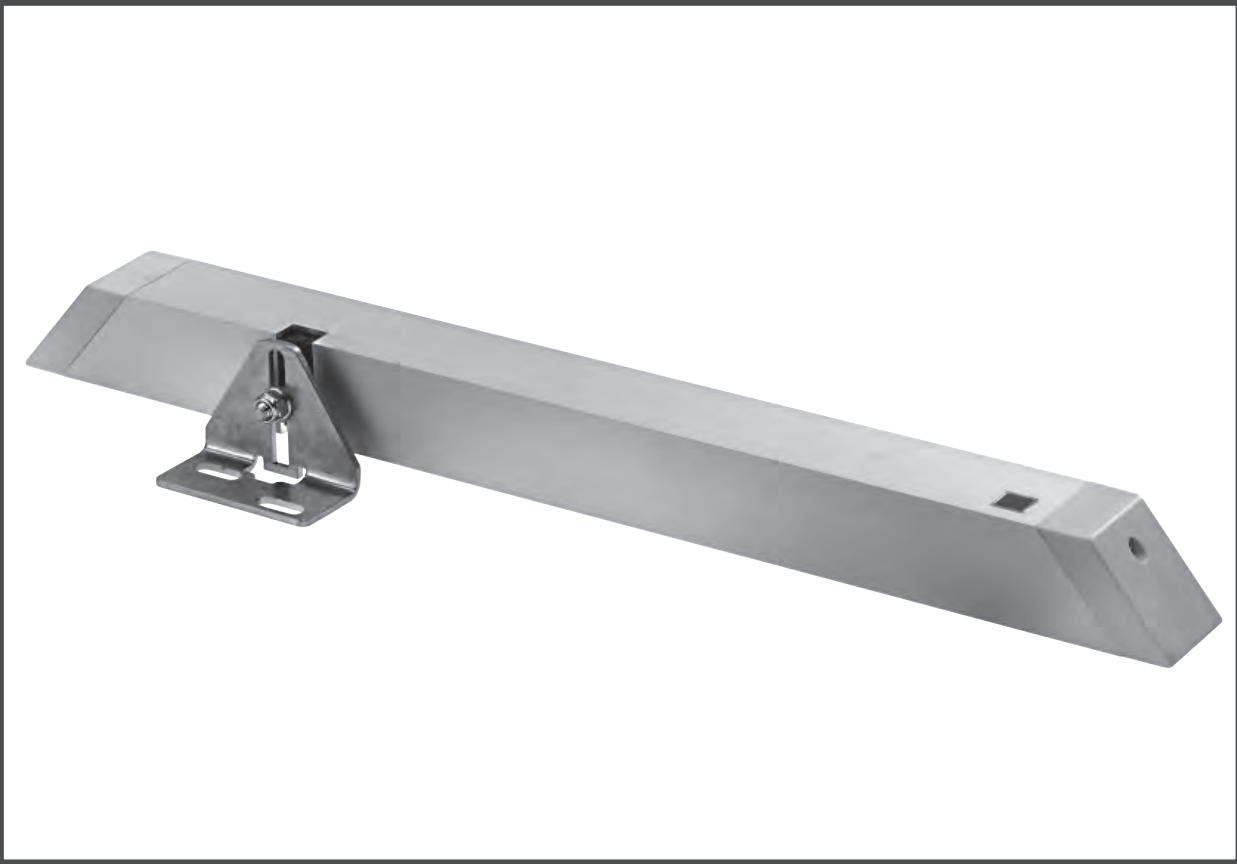
Feature/Equipment

1x coupling adapter,
4x screws

OPTIONAL ACCESSORIES

Main control unit			
M-COM		<p>Application</p> <p>Configuration module for automatic configuration and surveillance of max. 4 opening drives / 2 locking drives version S12 / S3 in synchronised multi-drive systems</p> <p>Rated voltage: 24V DC (19V ... 28V)</p> <p>Current consumption: <12 mA</p> <p>Drive type: S12</p>	<p>Part.-No. 524177</p> <p>Protection rating IP30 rubber coated</p> <p>Ambient temperature range 0 °C ... + 70 °C</p> <p>Dimensions 45 x 17 x 6 mm</p> <p>Connecting wires 3 wires 0,5 mm² x 50 mm</p> <p>Feature/Equipment Printed circuit board with components and connection wires to be installed in connection box to be supplied on site</p>

Special model	PU/pcs.	Part.-No.			
Casement brackets painted / powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516032			
	21 – 50	516032			
	51 – 100	516032			
	from 101	516032			
Frame brackets painted / powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516031			
	21 – 50	516031			
	51 – 100	516031			
	from 101	516031			



SPECIAL FEATURES FV1 / FV3 / FV4

- For natural ventilation, smoke and heat exhausting and ferralux® NSHEV (EN12101-2)
- Versions:
 - FV1 – without internal cut-off switch and sequence control, for use in RWA hardware systems with USKM module
 - FV3 – with internal load dependent cut-off switch and sequence control for drives PL6 S1 / PL10 S1
 - FV4 – Version SW-V2 (software) with M-COM suitable internal load dependent cut-off switch and sequence control for drives S3 /S12 (star wiring, drive current does not run over FV4, sequence control via communication wire)
- Number of locking points (VP)
 - 1 VP – Housing 420 mm as right or left handed version
 - 2 VP – Housing 1200 mm or 2000 mm
 - 3 VP – Housing 2000 mm
- Small locking bracket for 18 mm mounting space on window frame profile
- Robust corrosion-resistant design in a slim aluminium housing (Lx35x35 mm) or optionally in RAL colors
- Easy installation due to concealed holes below the oblique end caps
- Cable connection terminals below the end cap (in FV3 and FV4)

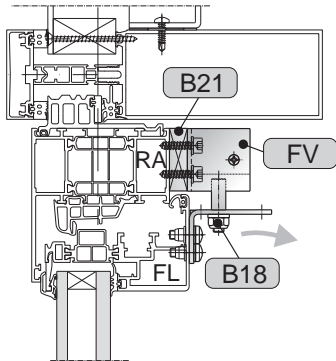
For this product series, a Type III Environmental Product Declaration (EPD) was issued according to ISO 14025 and EN 15804.

The LCA results of the different product types are listed at the end of this product catalogue.

The EPD documents can be viewed or downloaded from our homepage www.aumueller-gmbh.de.

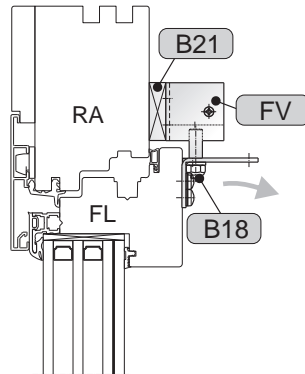
TYPICAL APPLICATIONS

1 RM, inward opening window



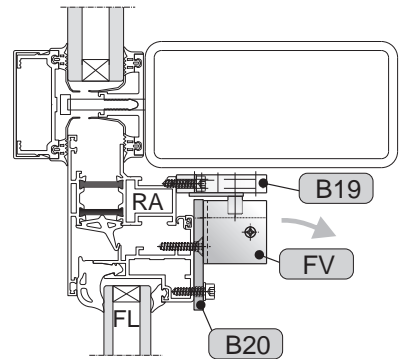
View on aluminium window

2 RM, inward opening window



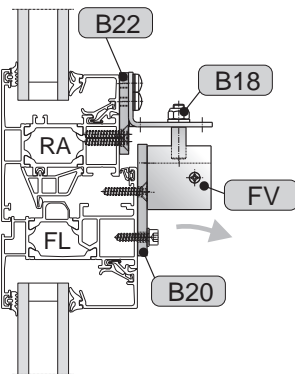
View on wooden window

3 FM, inward opening window



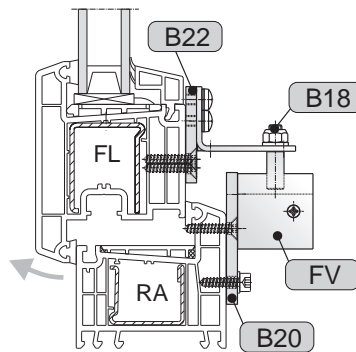
View on aluminium window

4 FM, inward opening window



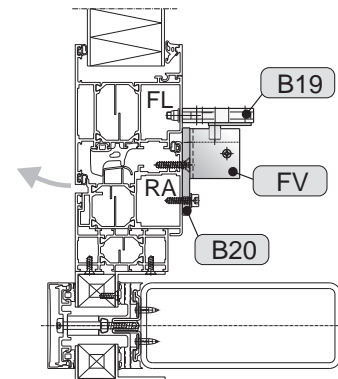
View on aluminium window

5 RM, outward opening window



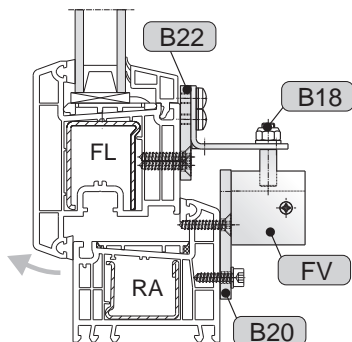
View on PVC-window

6 RM, outward opening window

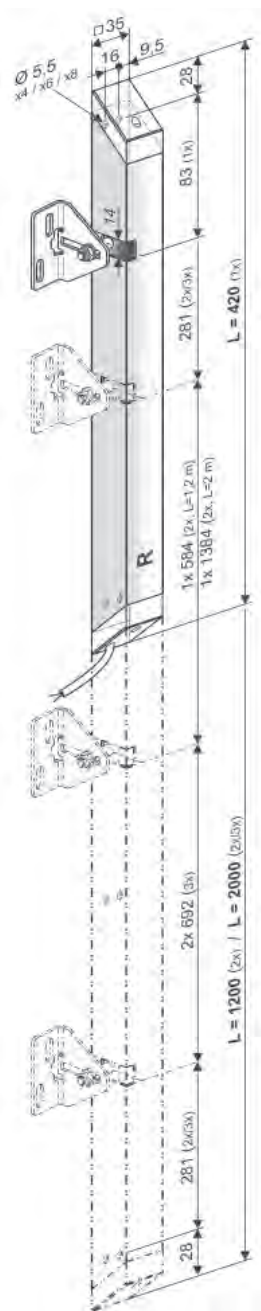


View on aluminium window

7 RM, outward opening window



View on aluminium window



- Application: natural ventilation, SHEV, ferralux®-NSHEV
- Surface mounting on the window frame/casement profiles of the main/side closing edge (HSK/NSK) of in-/outward opening windows. Locking bracket mounted on the casement
- Required mounting space 35 mm
- Can be installed without locking bar

Options

- Mounting plate for installation on the window frame profile (RM) of outward opening windows or on the casement profile (FM) of inward opening windows
- Slim locking bracket 18 mm for small mounting space on the window frame profiles

FV1

- Without internal cut-off switch and sequence control, for use in RWA hardware systems with USKM module


FV3

- With internal load dependent cut-off switch and sequence control for drives PL6 S1 / PL10 S1 (I = 0.8A)

FV4

- M-COM suitable internal load dependent cut-off switch and sequence control for drives S3 / S12
- Star wiring
- Current of the drives does not run over FV4
- Sequence control via communication wire

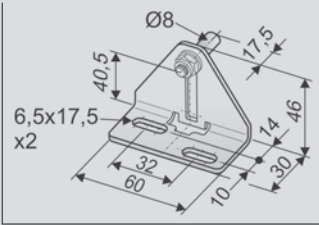
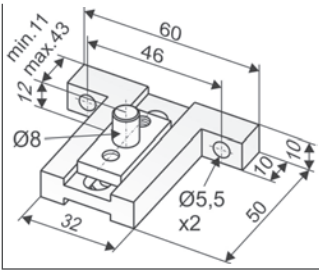
TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	0,6 A
I₀	Quiescent current	~ 300 mA
P_N	Rated power	20 W
I_D	Current of connected drives	FV1: USKM FV3: 0,8 A (PL 6/10 S1) FV4: S3 / S12 non relevant
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... + 60 °C
F	Pushing / Pulling force max.	~ 600 N
t	Runtime	~ 5,0 s
	Connecting cable	FV1: non-halogen, grey 2 x 0,75 mm ² , ~ 3 m FV3: non-halogen, grey 2 x 0,75 mm ² , ~ 3 m FV4: non-halogen, grey 3 x 0,50 mm ² , ~ 3 m
	Housing	aluminium 35 x 35 mm
L	Length	see order data
	Versions	FV1: 1x R/L, 2x R, 3x R FV3: 1x R/L, 2x R, 3x R FV4: 1x R/L, 2x R, 3x R
	Version name	1x = 1 locking point 2x = 2 locking point 3x = 3 locking point R = right hand version L = left hand version
	Sound pressure level	≤ 70 dB (A)

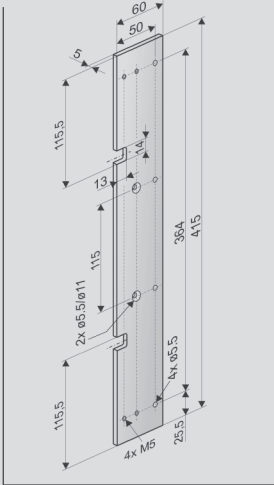
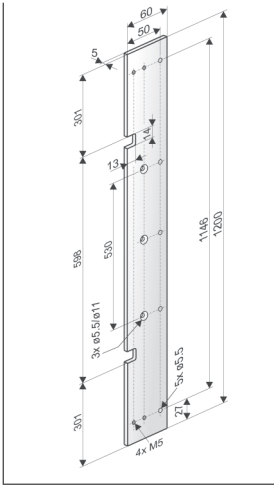
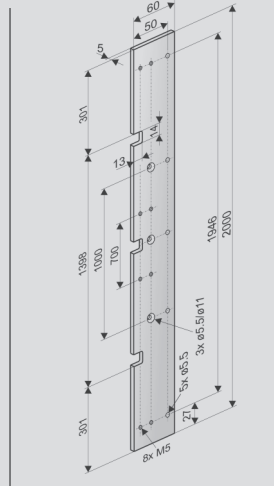


ORDER DATA								
Type	L [mm]	Version	Finish	PU/pcs.	Part.-No.			
Single right hand	420	FV1 R (1x)	E6/C-0	1	515103			
		FV3 R (1x)		1	515102			
		FV4 R (1x)		1	515129			
Single left hand	420	FV1 L (1x)	E6/C-0	1	515106			
		FV3 L (1x)		1	515105			
		FV4 L (1x)		1	515130			
Double right hand	1200	FV1 R (2x)	E6/C-0	1	515111			
		FV3 R (2x)		1	515110			
		FV4 R (2x)		1	515131			
Double right hand	2000	FV1 R (2x)	E6/C-0	1	515113			
		FV3 R (2x)		1	515112			
		FV4 R (2x)		1	515132			
Triple right hand	2000	FV1 R (3x)	E6/C-0	1	515116			
		FV3 R (3x)		1	515114			
		FV4 R (3x)		1	515136			
Special model				PU/pcs.	Part.-No.			
Drive housing painted/powder coated in other RAL colours								
Lump sum for coating					516030			
Specify at order stage:				1 – 20	516004			
				21 – 50	516004			
				51 – 100	516004			
				from 101	516004			
Extra length connecting cable:								
5 m –non-halogen grey – 2 x 0,75 mm²					501021			
10 m –non-halogen, grey – 2 x 0,75 mm²					501027			
5 m –non-halogen, grey – 3 x 0,50 mm²					501034			
10 m –non-halogen, grey – 3 x 0,50 mm²					501036			
Microprocessor programming S12								
Programming drives 24V / 230V S12					524180			
Optional accessories				PU/pcs.	Part.-No.			
M-COM Configuration module for synchronised multi-drive systems (for FV4)						1	524177	

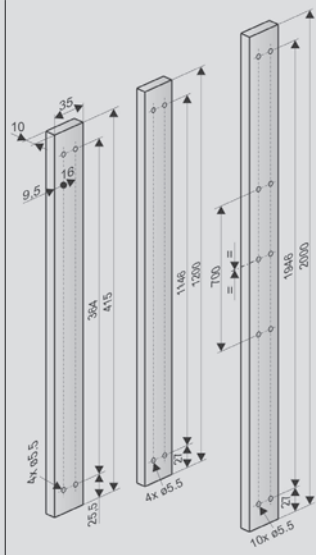
ACCESSORIES

Locking angle			
B18 	Application Surface mounting on the main/side closing edge of window frame profiles/case-ment profiles of in-/outward opening windows. Adjustable locking bolt for compensation of the profile overlap FÜ<10 mm . Required mounting space 35 mm	Part.-No. 301595 Material/Finish stainless steel (1.4301) Feature/Equipment 1x locking pin Ø 8x30, 1x nut M6, 1x washer A6,4	
	Accessories		
	B21-1 base plate for FÜ>10 mm FV L = 420	Part.-No. 515181	
	B21-2 base plate for for FÜ>10 mm FV L = 1200	Part.-No. 515183	
	B21-3 base plate for for FÜ>10 mm FV L = 2000	Part.-No. 515185	
	B22 base plate for glazing bead	Part.-No. 301599	
B19 	Application Surface mounting on the main/side closing edge of window frame profiles/case-ment profiles of in-/outward opening windows. Adjustable locking bolt for compensation of the profile overlap FÜ<10 mm . Required mounting space 15 mm	Part.-No. 301597 Material/Finish aluminium Feature/Equipment 1x locking pin Ø 8x10, 1x hex head screw M6x10, 1x washer A6,4	

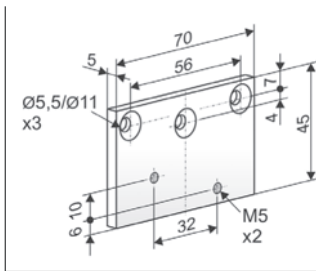
ACCESSORIES

Mounting plate			
<div><div>B20-1</div><div></div></div>	<div><div>Application</div><div>Mounting of FV1/FV3/FV4 L = 420 mm as right or left hand version on the window frame profiles of outward opening windows or on the casement profile of inward opening casements, e.g. RWA1100 hardware systems</div></div>	<div><div>Part.-No. 515191</div><div>Material/Finish aluminium Feature/Equipment 415 x 60 x 5 mm</div></div>	
<div><div>B20-2</div><div></div></div>	<div><div>Application</div><div>Mounting of FV1/FV3/FV4 L = 1200 mm on the window frame profiles of outward opening windows or on the casement profiles of inward opening casements, e.g. RWA1100 hardware system</div></div>	<div><div>Part.-No. 515193</div><div>Material/Finish aluminium Feature/Equipment 1200 x 60 x 5 mm</div></div>	
<div><div>B20-3</div><div></div></div>	<div><div>Application</div><div>Mounting of FV1/FV3/FV4 L = 2000 mm on the window frame profiles of outward opening windows or on the casement profiles of inward opening casements, e.g. RWA1100 hardware system</div></div>	<div><div>Part.-No. 515197</div><div>Material/Finish aluminium Feature/Equipment 2000 x 360 x 5 mm</div></div>	

B21



B22



CASEMENT BRACKETS AND FRAME BRACKETS

Special accessories					
Special model	PU/pcs.	Part.-No.			
Casement brackets painted / powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516032			
	21 – 50	516032			
	51 – 100	516032			
	from 101	516032			
Frame brackets painted / powder coated in other RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516031			
	21 – 50	516031			
	51 – 100	516031			
	from 101	516031			



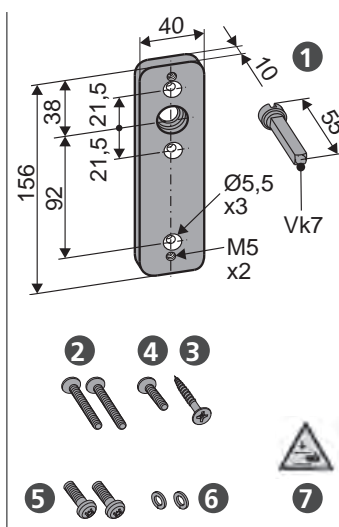
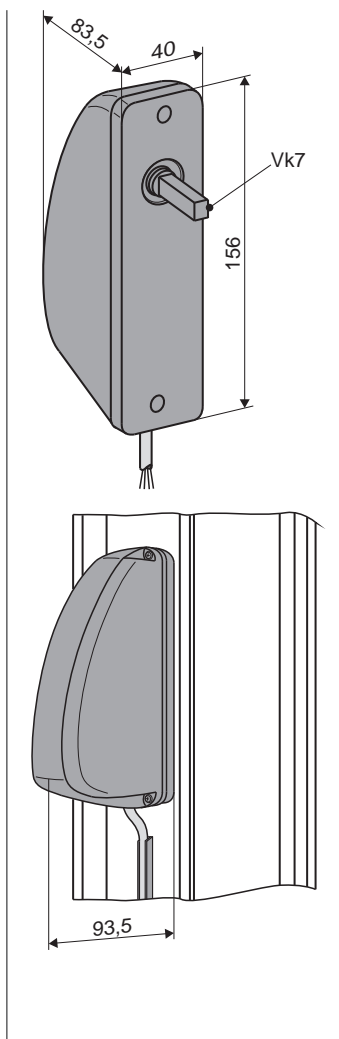
SPECIAL FEATURES OFV1 / OFV1 M-COM

- For natural ventilation, smoke and heat exhausting and ferralux® NSHEV (EN12101-2)
- Distinguishing marks:
 - Internal load dependent cut-off switch and sequence control for drives PL6 S1 / PL10 S1 as well as for drives type S2 / S3 / S12
 - Version **OFV1 M-COM** with M-COM suitable internal load dependent cut-off switch and sequence control for drives S3 / S12 (star wiring, drive current does not run over OFV1 (SW-V2 M-COM), sequence control via communication wire)
 - Rotating angle adjustable to 90° / 180°
 - Opening direction sectable to right / left turning
- Mounting on the gear of window handl of inward opening casements instead of the manual handl
- Square shaft activates the window multi-point locking systems via gear of the window handl
- Robust corrosion-resistant design in a plastic housing
- Easy installation due to concealed holes
- Concealed cable connection terminals and DIP-switches for settings

For this product series, a Type III Environmental Product Declaration (EPD) was issued according to ISO 14025 and EN 15804.

The LCA results of the different product types are listed at the end of this product catalogue.

The EPD documents can be viewed or downloaded from our homepage www.aumueller-gmbh.de.



- With Internal Intelligent Control Electronics and sequence control for drives PL6 S1 / PL10 S1 as well as for drives type S2 / S3 / S12 (I max. 3 A, drive current runs over OFV1 – undercurrent detection)
- Two adjustable rotation angles: 90° / 180°
- Opening direction selectable: right / left turning
- Square shaft adapter 7x55 mm

ORDER DATA

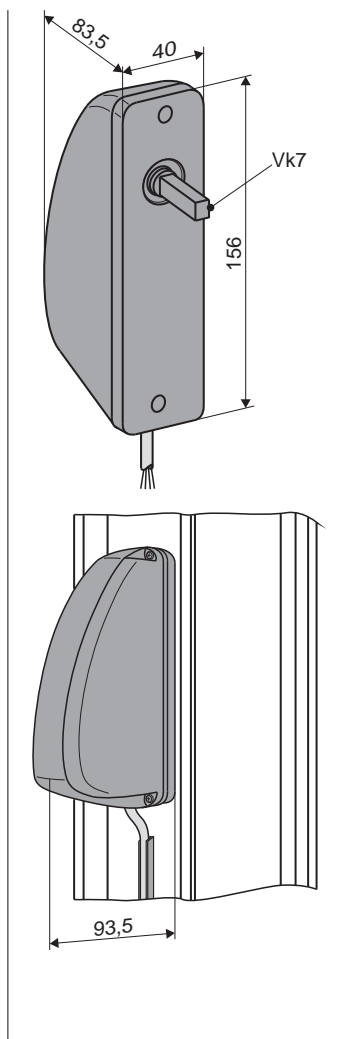
Version	PU/pcs.	Part.-No.			
OFV1	1	513850			

TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	0,8 A
I_A	Cut-off current	1,1 A
I₀	Quiescent current	< 28 mA (10 Nm)
I_D	Current of connected drives	S1: max. 0,9 A S3, S12: max. 3,0 A
P_N	Rated power	19 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... + 60 °C
M	Torque max.	10 Nm
F_H	Initial torque	22 Nm
	Rotating angle direction	yes (self-learning)
	Rotating angle	90 ° / 180° (right / left)
t	Runtime	90° - 4,5 s; 180° - 9,0 s
s	Connecting cable	non-halogen, grey 4 x 0,75 mm ² , ~ 3 m
	Housing	ABS, greywhite
L	Dimensions (B x H x T)	40 x 156 x 83,5 mm

In delivery

1	1x Mounting plate with Vk7x55
2	2x Countersunk screw M5x40
3	1x Spax-Countersunk screw 4,5x30
4	1x Countersunk screw M5x16
5	2x Head screw M 5 x 16
6	2x Spring rings
7	1x Warning label



- With Internal Intelligent Control Electronics and sequence control for drives type S3 / S12
- Two adjustable rotation angles: 90° / 180°
- Opening direction selectable: right / left turning
- Square shaft adapter 7x55 mm

- M-COM suitable internal Control Electronics and sequence control for drives S3 / S12
- Star wiring
- Current of the drives does not run over OFV1 (SW-V2 M-COM)
- Sequence control via communication wire

ORDER DATA

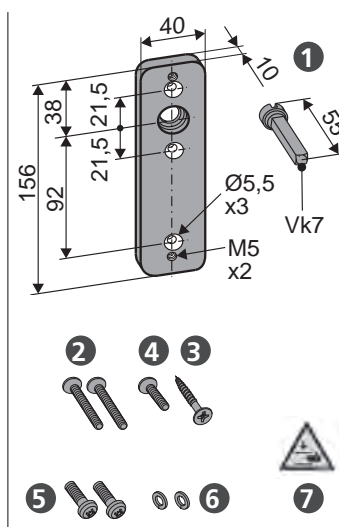
Version	PU/pcs.	Part.-No.			
OFV1 M-COM	1	513860			

TECHNICAL DATA

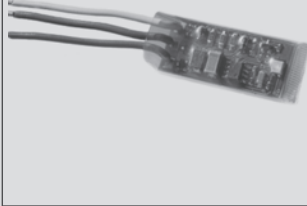
U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	0,8 A
I_A	Cut-off current	1,1 A
I₀	Quiescent current	< 28 mA (10 Nm)
	Connected drives (Opener drive)	with S3 / S12
P_N	Rated power	19 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 3 min./OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... + 60 °C
M	Torque max.	10 Nm
F_H	Initial torque	22 Nm
	Rotating angle direction	yes (self-learning)
	Rotating angle	90 ° / 180° (right / left)
t	Runtime	90° - 4,5 s; 180° - 9,0 s
s	Connecting cable	non-halogen, grey 3 x 0,5 mm², ~ 3 m
	Housing	ABS, greywhite
L	Dimensions (B x H x T)	40 x 156 x 83,5 mm
	Sound pressure level	≤ 70 dB (A)

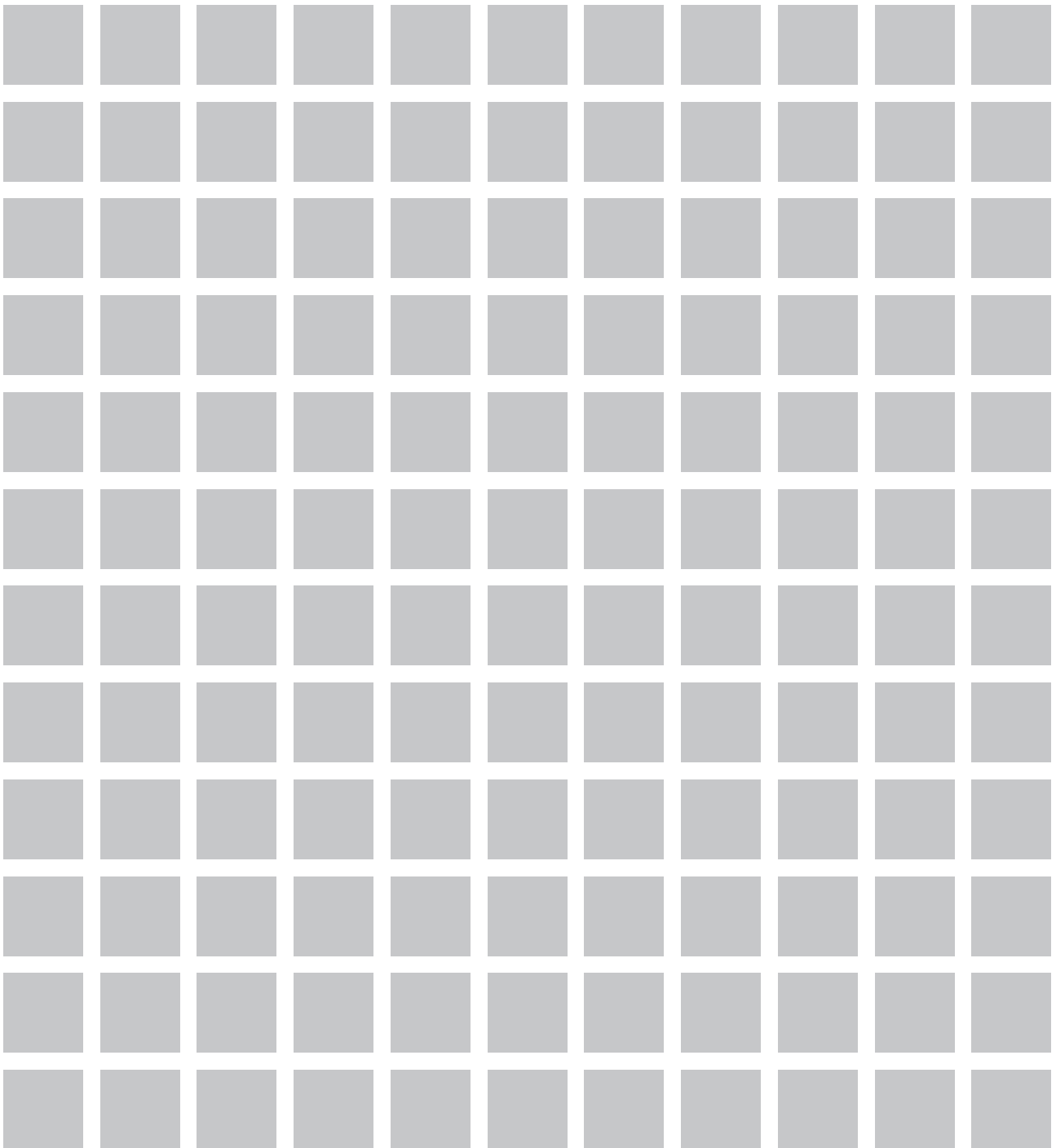
In delivery

1	1x Mounting plate with Vk7x55
2	2x Countersunk screw M5x40
3	1x Spax-Countersunk screw 4,5x30
4	1x Countersunk screw M5x16
5	2x Head screw M 5 x 16
6	2x Spring rings
7	1x Warning label



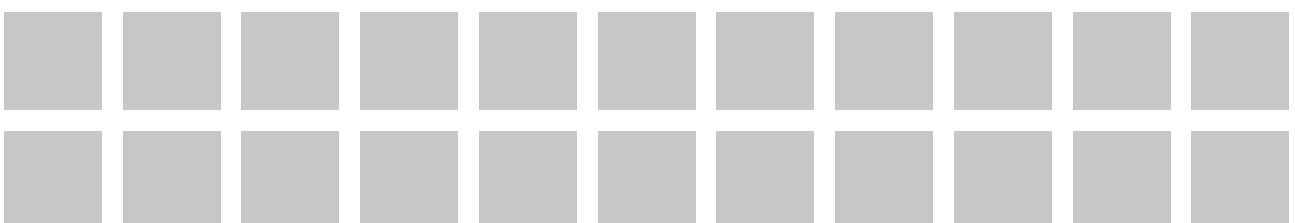
OPTIONAL ACCESSORIES

Main control unit			
M-COM		<p>Application</p> <p>Configuration module for automatic configuration and surveillance of max. 4 opening drives / 2 locking drives version S12 / S3 in synchronised multi-drive systems</p> <p>Rated voltage: 24V DC (19V ... 28 V)</p> <p>Current consumption: <12 mA</p> <p>Drive type: S12</p>	<p>Part.-No. 524177</p> <p>Protection rating IP30 rubber coated</p> <p>Ambient temperature range 0 °C ... + 70 °C</p> <p>Dimensions 45 x 17 x 6 mm</p> <p>Connecting wires 3 wires 0,5 mm² x 50 mm</p> <p>Feature/Equipment Printed circuit board with components and connection wires to be installed in connection box to be supplied on site</p>



7

Hardware sets



OVERVIEW OF RWA HARDWARE SYSTEMS																					
RWA hardware system	Rated voltage	Locking drive			Opening drives	Accessories			Casement dimensions						Required mounting space	Use			Location		
		Type	Number of VP	Lenght		Control modules Accessories	Frame bracket	Casement bracket	Bottom-/top-hung			Side-hung				Natural ventilation	RWA	NSHEV	Facade		Roof
									FAB	FAH	max. weight	FAB	FAH	max. weight					inward	outward	
	[VDC]			[mm]		[A]		[mm]	[mm]	[Kg]	[mm]	[mm]	[Kg]	[mm]							
1000	24	FV3	1 (*1)	450	PL6 PL10	(B20-1)	K15	F11	500 – 1200	600 – 1500	50	600	500 – 2400	90	40	●	●	●	●	■	■
		OFV (*3)	(*2)		PL6 PL10						90	– 1500		150		●	●	●	●	■	■
											50	500		90		●	●	●	●	■	■
											90	– 1500		150		●	●	●	●	■	■
1000-TE	24	FV1	2; 3	1200	2x PL6 2x PL10	USKM	2x K15	2x F11	1250 – 2400	600 – 2000	90	600	1250	130	40	●	●	●	●	■	■
					160						– 1500	200	●	●		●	●	■	■		
			3	2000	2x PL6 2x PL10	USKM			2050 – 2400	90	– 1500	2050	130	●		●	●	●	■	■	
					160				– 2400	200	●	●	●	●		■	■				
		OFV (*4)	(*2)		2x PL6 2x PL10	USKM			500 – 1200	600 – 1500	50 90	500 – 1500	500 – 2400	90 150		●	●	●	●	■	■
					●				●	●	●	■	■								
1100	24	FV3 (*3 (*2)	1 (*1)	450	PL6 PL10	B21-1	K15 (K37)	F11	500 – 1200	800 – 1600	70 120	600 – 1500	500 – 2400	90 150	40	●	●	●	■	●	■
					●						●	●	■	●		■					
1100-TE	24	FV1 (*4 (*2)	2; 3	1200	2x PL6 2x PL10	USKM (B20-2)	2x K15 (2x K37)	2x F11	1250 – 2400	800 – 2000	130 200	600 – 1500	1250 – 2400	130 200	40	●	●	●	■	●	■
					130 200						2050 – 2400		130 200	●		●	●	■	●	■	
			3	2000	2x PL6 2x PL10	USKM (B20-3)			2050 – 2400	130 200	2050 – 2400	130 200	●	●		●	■	●	■		
					●				●	●	■	●	■								
1050	24	FV3 (*3 (*2)			PL6 PL10		K97 (re/li)	F11				550 – 1250	500 – 1500	90 130 90	22	●	●	●	●	■	■
					PL6 PL10									90 130 90		●	●	●	●	■	■
		OFV (*3)	(*2)		PL6 PL10									90 130		●	●	●	●	■	■
					130									●		●	●	●	■	■	
1050-TE	24	FV1	(*1)		2x PL6 2x PL10	USKM	K97 re+li	2x F11				550 – 1500	500 – 2400	130 150 130	22	●	●	●	●	■	■
					150									130		●	●	●	●	■	■
		OFV (*4)	(*2)		2x PL6 2x PL10	USKM			130 150	130 150	●	●	●	●		■	■				
					150				150	●	●	●	●	■		■					

LEGEND

● suitable ■ not recommended

(*1) On the main closing edge of side-hung windows use of FV with 2 or 3 locking points (VP) is possible

(*2) Window specific multi-locking system

(*3) Use of FVR3 / FVB3 possible

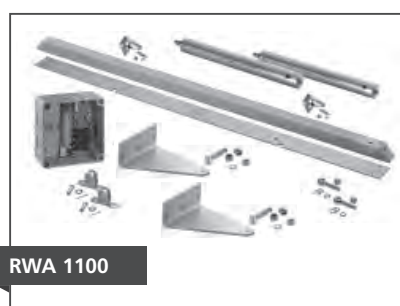
(*4) Use of FVR4 / FVB4 possible



RWA 1000

RWA 1000

- Model 24 V DC
- Application Bottom-/Top-/Side-hung inward opening windows
- Opening drives PL6 S1 (600 N) / PL10 S1 (1000 N)
on the side closing edge (NSK)
- Locking drives FV3 / OFV / FVR3 / FVB3 / (FV1 with USKM)
on the main closing edge (HSK)
- Frame brackets K15 (H = 150 mm), B20 für FV3 (FM)
- Casement brackets F11
- Version Opening drives SOLO / TE = Tandem (with USKM)
- Protection rating IP32



RWA 1100

RWA 1100

- Model 24 V DC
- Application Bottom-/Top-/Side-hung outward opening windows
- Opening drives PL6 S1 (600 N) / PL10 S1 (1000 N)
on the side closing edge (NSK)
- Locking drives FV3 / FVR3 / (FV1 with USKM)
on the main closing edge (HSK)
- Frame brackets K15 (H = 150 mm) / K37 (H = 250 mm) / B20
- Casement brackets F11
- Version Opening drives SOLO / TE = Tandem (with USKM)
- Protection rating IP32



RWA 1050

RWA 1050

- Model 24 V DC
- Application Side-hung inward opening windows
- Opening drives PL6 S1 (600 N) / PL10 S1 (1000 N)
on the side closing edge (NSK)
- Locking drives FV3 / OFV / (FV1 with USKM)
on the main closing edge (HSK)
- Frame brackets K97 right hand / left hand
- Casement brackets F11
- Version Opening drives SOLO / TE = Tandem (with USKM)
- Protection rating IP32

OVERVIEW OF SPINDLE DRIVES

Opening drives	Version		Stroke	Force		Speed		Stroke in	Cut-off current	Use			Location		Function		
	Cut-off switch	Rated voltage	up – to	Pulling force	Pushing force	OPEN	ZU	60 s	Max.	Natural ventilation	SHEV	NSHEV	Facade	Roof	Run monitoring	Synchronised run	Sequence control
		[VDC]	[mm]	[N]	[N]			[mm]	[A]								
PL6	S1	24	100–300	600	600	5,8	5,8	350	0,8	●	●	●	●		○		○
PL10	S1	24	100–300	1000	1000	2,6	2,6	150	0,8	●	●	●	●		○		○

OVERVIEW OF LOCKING DRIVES

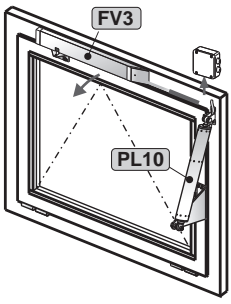
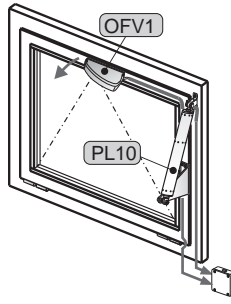
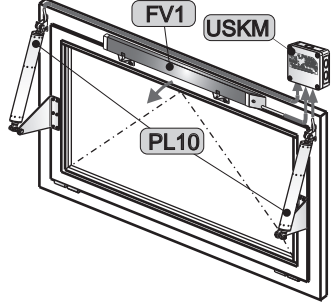
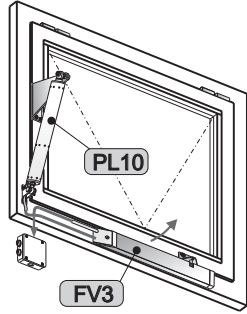
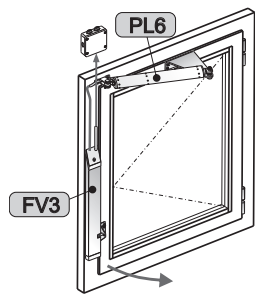
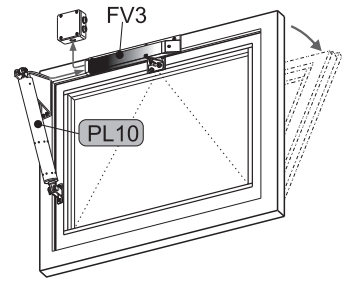
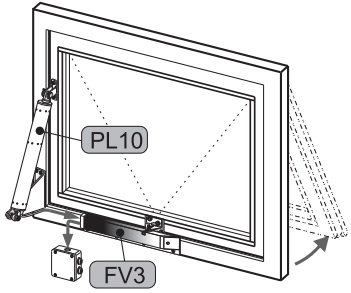
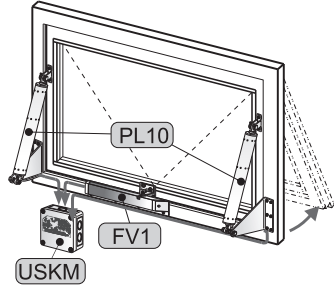
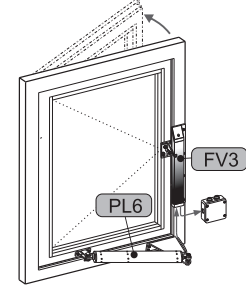
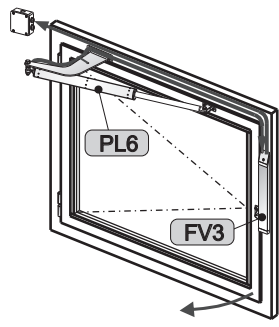
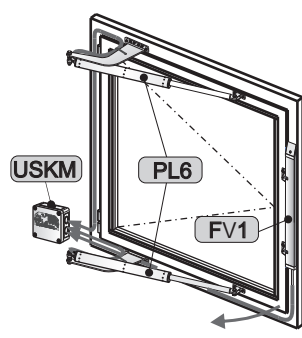
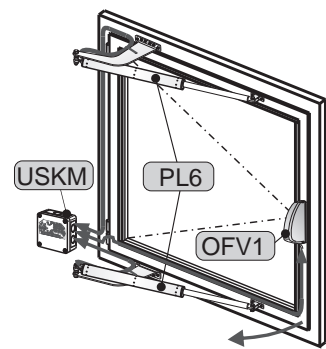
Locking drives	Locking stroke (Rotating angle)	Rated voltage	Force (Torque)		Runtime	Close circuit current	Opening drives		Use			Location		Functions		
			Pulling/Pushing force	Initial force (torque)			Model	Cut-off current	Natural ventilation	SHEV	NSHEV	Facade	Roof	Run monitoring	Synchronised run	Sequence control
	[mm]	[VDC]	[N]	[N]	[s]	[A]		[A]								
FV1		24	600	1000	5,0	0,3	○	○	●	●	●	●				○
FV3		24	600	1000	5,0	0,3	S1	0,8	●	●	●	●				●
FVR3	18	24	600	1000	5,0	0,3	S1	0,8	●	●	●	●				●
FVB3	16/22	24	600	1000	5,0	0,3	S1	0,8	●	●	●	●				●
OFV	90° – 180°	24	10 Nm	22 Nm	4,5/9,0	0,3	S1	0,9–3,0	●	●	●	●				●

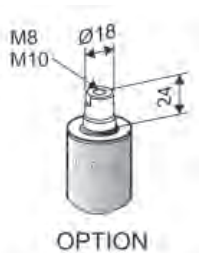
LEGEND

● suitable ■ not recommended

S1 without internal cut-off switch for operation with RWA1000-, RWA1100-, RWA1050-systems

○ only with external cut-off switch or control module USKM

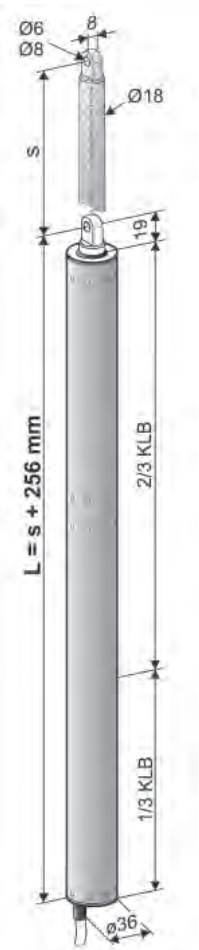
TYPICAL APPLICATION		
RWA1000 – inward opening	RWA1000 – inward opening	RWA1000 TE – inward opening
		
View on bottom-hung window	View on bottom-hung window	View on bottom-hung window
RWA1000 – inward opening	RWA1000 – inward opening	RWA1100 – outward opening
		
View on top-hung window	View on side-hung window	View on bottom-hung window
RWA1100 – outward opening	RWA1100 TE – outward opening	RWA1100 – outward opening
		
View on top-hung window	View on top-hung window	View on side-hung window
RWA1050 – inward opening	RWA1050 TE – inward opening	RWA1050 TE – inward opening
		
View on side-hung window	View on side-hung window	View on side-hung window



- Application: natural ventilation, SHEV, ferralux®-NSHEV
- Force: PL6 = 600 N / PL10 = 1000 N
- Without internal cutt-off switch – external cutt-off switch required!
(control module USKM or locking drive FV3 / FVR3 / FVB3 / OFV1)

Options

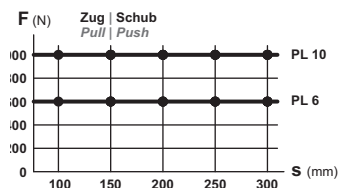
- Rear eye bolt, spindle tube with interior thread for clevis



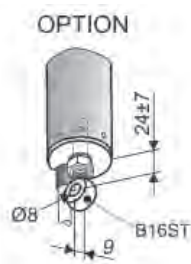
TECHNICAL DATA

U_N	Rated voltage	24V DC (19 V ... 28 V)
I_N	Rated current	0,6 A
I_A	Cut-off current	0,8 A
P_N	Rated power	15 W
DC	Duty cycle	5 cycles (ED 20% - ON: 2 min. / OFF: 8 min.)
	Protection rating	IP 65
	Ambient temperature range	-5 °C ... +60 °C
F_Z	Pulling force max.	PL6 = 600 N PL10 = 1000 N

F_A Pushing force max.



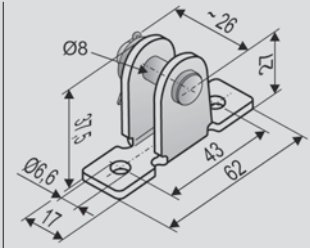
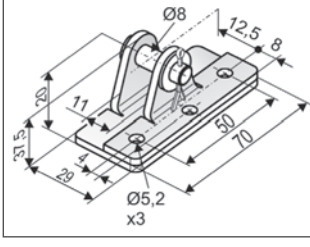
F_H	Pullout force	5000 N (fastening depended)
	Spindle tube	stainless steel
	Connecting cable	non-halogen, grey 2 x 0,75 mm ² , ~ 3 m
v	Speed	PL6 5,8 mm/s 5,8 mm/s PL10 2,6 mm/s 2,6 mm/s
s	Stroke	100 – 300 mm
L	Length	s + 256 mm see order data
	Sound pressure level	≤ 70 dB (A)



ORDER DATA						
s [mm]	L [mm]	Version	Finish	PU/pcs.	Part.-No.	
100	356	PL6 100 S1	E6/C-0	1	562010	
		PL10 100 S1		1	565010	
150	406	PL6 150 S1	E6/C-0	1	562015	
		PL10 150 S1		1	565015	
200	456	PL6 200 S1	E6/C-0	1	562020	
		PL10 200 S1		1	565020	
250	506	PL6 250 S1	E6/C-0	1	562025	
		PL10 250 S1		1	565025	
300	556	PL6 300 S1	E6/C-0	1	562030	
		PL10 300 S1		1	565030	

OPTIONS						
Special model				PU/pcs.	Part.-No.	
Front suspension						
Pushing rod end with interior thread M8				1	515061	
Pushing rod end with interior thread M10				1	515060	
Drive housing painted/powder coated in other RAL colours						
Lump sum for coating					516030	
Specify at order stage:				1 – 20	516004	
				21 – 50	516004	
				51 – 100	516004	
				from 101	516004	
Extra length connecting cable:						
5 m – non-halogen, grey – 2 x 0,75 mm ²					501024	
10 m – non-halogen, grey – 2 x 0,75 mm ²					501026	
Accessories for front / rear suspension				PU/pcs.	Part.-No.	
Rear Suspension						
B16ST Eyebolt Ø8 mm, galvanized				1	100044	
B16VA Eyebolt Ø8 mm, stainless steel				1	100144	
B27ST clevis M8x16 mm, galvanized, Grubscrew M8x45 mm				1	105510	
External cutt-off switch						
Control module USKM (up to max. s 300 mm)				1	512140	

FRAME BRACKETS

<p>F11ST</p> 	<p>Application</p> <p>Surface mounting on the side closing edge of case-ment/window frame profiles of in-/outward opening windows or on skylights, for drives with front or rear suspension with bore Ø8 mm, mounting holes aligned with central axis of drive</p>	<p>Part.-No. 151400</p> <p>Material/Finish steel galvanized</p> <p>Feature/Equipment 1x bolt Ø8 mm, washer, cotter pin</p> <p>Load max. 3000 N</p>		
<p>F11VA</p>		<p>Part.-No. 151401</p> <p>Material/Finish stainless steel</p>		
<p>F13</p> 	<p>Application</p> <p>Surface mounting on the side closing edge of case-ment/window frame profiles of in-/outward opening windows or on skylights, for drives with front or rear suspension with bore Ø8 mm, mounting holes not alignet with the central axis of drive</p>	<p>Part.-No. 151405</p> <p>Material/Finish steel galvanized</p> <p>Feature/Equipment 1x bolt Ø8 mm, washer, cotter pin</p> <p>Load max. 1600 N</p>		

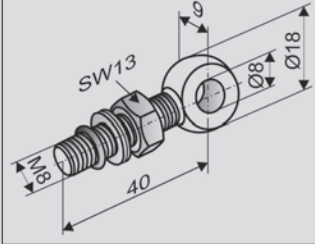
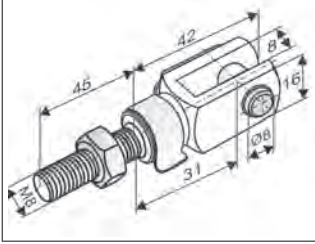
CASEMENT BRACKETS

K15		<p>Application</p> <p>Surface mounting on the side closing edge of window frame profiles of in-/outward opening windows, by obliquely arranged drives with rear suspension with bore Ø8 mm.</p> <p>Required space on the frame 40 mm</p>	<p>Part.-No. 307000</p> <p>Material/Finish steel galvanized</p> <p>Feature/Equipment H=150 mm, t=4 mm</p>			
Optional accessories						
B16ST Eyebolt (Ø8 x 40 mm ST)		Part.-No. 100044				
B16VA Eyebolt (Ø8 x 40 mm VA)		Part.-No. 100144				
K15-Set		<p>Application</p> <p>Surface mounting on the side closing edge like RWA-1000/1100 hardware sets.</p> <p>Required space on the frame 40 mm</p>	<p>Part.-No. 517590</p> <p>Material/Finish steel galvanized</p> <p>Feature/Equipment Set: 1x K15 1x F11ST 1x B16ST</p>			
K16		<p>Application</p> <p>Surface mounting on the side closing edge of window frame profiles of in-/outward opening windows, by obliquely arranged drives with rear suspension with bore Ø8 mm.</p> <p>Required space on the frame 40 mm</p>	<p>Part.-No. 307200</p> <p>Material/Finish steel galvanized</p> <p>Feature/Equipment H=90 mm, t=4 mm</p>			
Optional accessories						
B16ST Eyebolt (Ø8 x 40 mm ST)		Part.-No. 100044				
B16VA Eyebolt (Ø8 x 40 mm VA)		Part.-No. 100144				
K37		<p>Application</p> <p>Surface mounting on the side closing edge of window frame profiles of in-/outward opening windows, by obliquely arranged drives with rear suspension with bore D = 8 mm.</p> <p>Required space on the frame 40 mm</p>	<p>Part.-No. 307500</p> <p>Material/Finish steel galvanized</p> <p>Feature/Equipment H=250 mm, t=5 mm</p>			
Optional accessories						
B16ST Eyebolt (Ø8 x 40 mm ST)		Part.-No. 100044				
B16VA Eyebolt (Ø8 x 40 mm VA)		Part.-No. 100144				

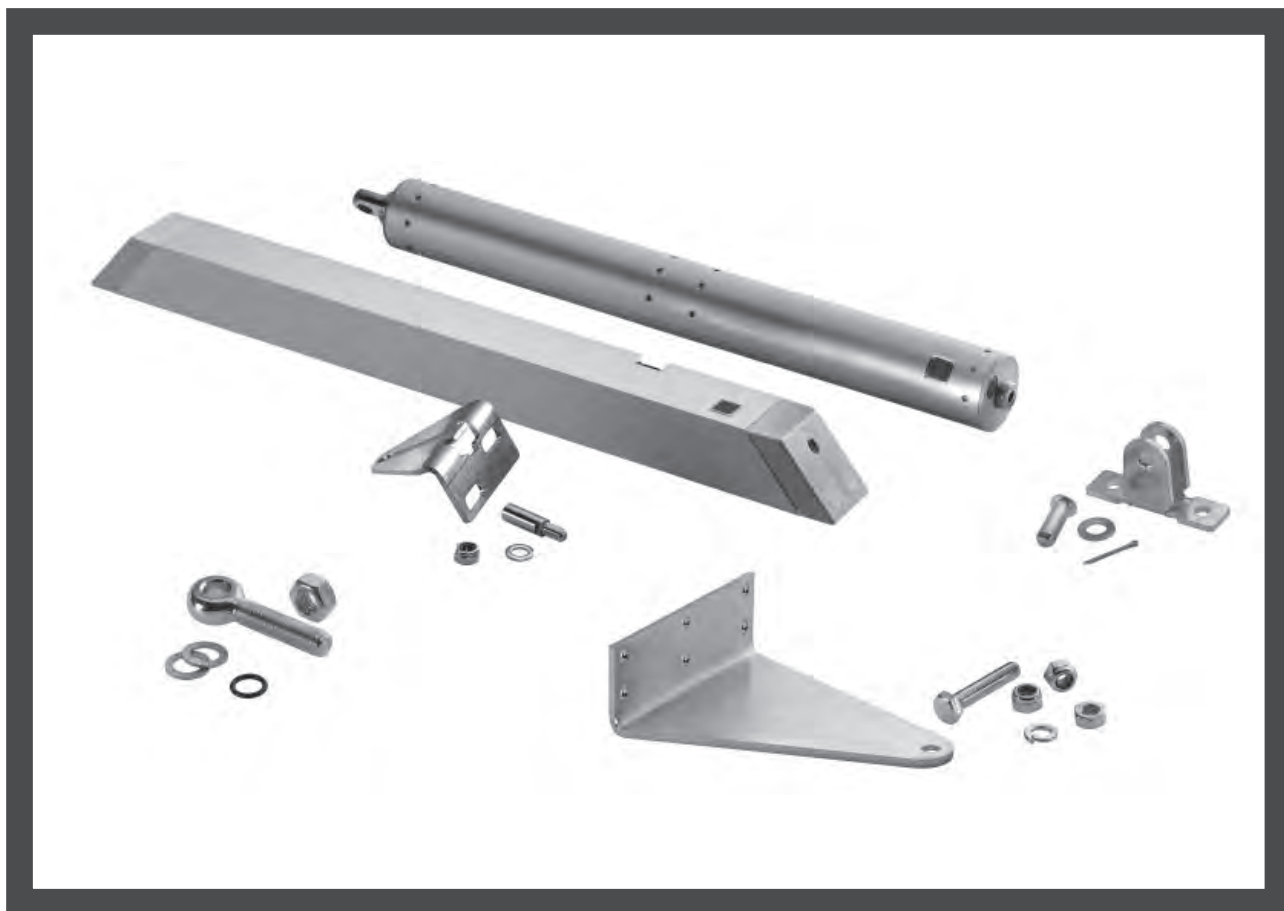
CASEMENT BRACKETS

K97L		<p>Application</p> <p>Surface mounting on the side closing edge of window frame profiles of inward opening side hung windows, by obliquely arranged drives with rear suspension with bore Ø8 mm. Required space on the frame 22 mm</p>	<p>Part.-No. 160938</p> <p>Material/Finish stainless steel, vibratory grinding</p> <p>Feature/Equipment left hand</p>			
Optional accessories						
B16ST Eyebolt (Ø8 x 40 mm ST)			Part.-No. 100044			
B16VA Eye bolt (Ø8 x 40 mm VA)			Part.-No. 100144			
K97R		<p>Application</p> <p>Surface mounting on the side closing edge of window frame profiles of inward opening side hung windows, by obliquely arranged drives with rear suspension with bore Ø8 mm. Required space on the frame 22 mm</p>	<p>Part.-No. 160939</p> <p>Material/Finish stainless steel, vibratory grinding</p> <p>Feature/Equipment right hand</p>			
Accessories						
B16ST Eyebolt (Ø 8 x 40 mm ST)			Part.-No. 100044			
B16VA Eyebolt (Ø 8 x 40 mm VA)			Part.-No. 100144			
K1050-L		<p>Application</p> <p>Surface mounting of drives on the side closing edge like RWA-1050 hardware system. Required space on the frame 22 mm</p>	<p>Part.-No. 307050</p> <p>Feature/Equipment Set: 1x K97L 1x F11 1x B16ST</p>			
K1050-R		<p>Application</p> <p>Surface mounting of drives on the side closing edge like RWA-1050 hardware system. Required space on the frame 22 mm</p>	<p>Part.-No. 307051</p> <p>Feature/Equipment Set: 1x K97R 1x F11 1x B16ST</p>			

ACCESSORIES

B16ST		Application Rear or front suspension of spindle drives with M8 thread in the rear base piece or in the spindle tube	Part.-No. 100044 Material/Finish steel, galvanized Feature/Equipment M8x40 (Eye Ø8 mm), 1x nut M8 + Nordlock-safety-washer + o-ring max. screw-in depth in the drive 25 mm			
B16VA			Part.-No. 100144 Material/Finish stainless steel (V2A)			
B27ST		Application Rear or front suspension of spindle drives with M8 thread in the rear base cap or in the spindle tube	Part.-No. 105510 Material/Finish steel, galvanized Feature/Equipment Clevis M10 x 40 mm with spring bolt Ø8 mm and thread M8 x 45 mm 1x nut M10 + Nordlock-safety-washer + O-ring, max. screw-in depth in the drive 25 mm			

Special model	PU/pcs.	Part.-No.	
Casement brackets painted / powder coated in other RAL colours			
Lump sum for coating		516030	
Specify at order stage:	1 – 20	516032	
	21 – 50	516032	
	51 – 100	516032	
	from 101	516032	
Frame brackets painted / powder coated in other RAL colours			
Lump sum for coating		516030	
Specify at order stage:	1 – 20	516031	
	21 – 50	516031	
	51 – 100	516031	
	from 101	516031	



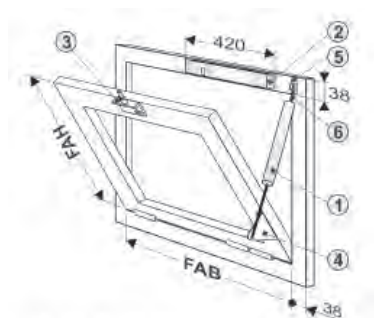
SPECIAL FEATURES RWA1000

- For natural ventilation, smoke and heat exhausting and ferralux® NSHEV (EN12101-2)
- Suitable for inwards opening bottom/top/side-hung windows
- Large opening angles realized with short strokes and opening times due to the mounting of the spindle drives at an acute angle to the side closing edge
- Maximum opening angles and balanced force-stroke ratio with K15 mounted on the side closing edge of the casement profile at app. 1/3 of the casement length related to the hinge side
- Other combinations of various spindle drives in SOLO or TANDEM arrangements with locking actuators for actuating of window profile-specific hardware systems on request

For this product series, a Type III Environmental Product Declaration (EPD) was issued according to ISO 14025 and EN 15804. The LCA results of the different product types are listed at the end of this product catalogue. The EPD documents can be viewed or downloaded from our homepage www.aumueller-gmbh.de.

MOUNTING DIMENSIONS OF RWA1000 FOR BOTTOM-/TOP-HUNG INWARD OPENING WINDOWS

Hardware set	Frame bracket	Stroke of the opening drive	CASEMENT CLOSED			Mounting dimension „X“ (*1 (*2	FAH (NSK) (side closing edge)	Opening angle	Opening width	CASEMENT OPEN			Weight of the casement (max.)		Required space on the window frame		FAB (HSK)	
			Angle of the drive force application	Applied force at the drive fixing point						Angle of the drive force application	Applied force at the drive fixing point							
				PL6	PL10						PL6	PL10	PL6	PL10	NSK	HSK		
			[DEG]	[N]	[N]	[mm]	[mm]	[DEG]	[mm]	[DEG]	[N]	[N]	[Kg]	[Kg]	[mm]	[mm]		
RWA 1000 (*3	K15	100	19	195	326	200	560	25	242	48	447	745	32	53	40	40	Depends of the used locking drive (*4	
						250	610	22	233	47	442	736	36	60				
						300	660	20	229	47	437	729	40	66				
						400	760	17	225	46	430	717	45	75				
						500	860	15	225	47	442	736	51	86				
						600	960	13	217	45	422	703	53	88				
		150	16	165	276	225	645	34	377	57	503	838	35	58	40	40		
						275	695	30	360	55	490	817	39	65				
						325	745	28	360	54	487	811	42	71				
						450	870	23	347	52	474	790	49	82				
						550	970	20	337	51	467	778	53	88				
						650	1070	18	335	50	462	769	56	93				
		200	15	155	259	250	720	42	516	64	541	902	38	63	40	40		
						300	770	38	501	62	531	885	41	69				
						350	820	35	493	61	523	872	45	74				
						400	870	32	480	59	516	861	47	79				
						500	970	27	453	57	503	839	52	86				
						600	1070	24	445	56	497	829	56	93				
						700	1170	22	446	55	491	818	59	98				
						800	1270	20	441	54	486	810	61	102				
		250	13	135	225	275	795	50	672	71	567	945	39	65	40	40		
						325	845	45	647	68	557	928	43	71				
						375	895	41	627	66	549	915	46	77				
						425	945	38	615	65	544	906	49	81				
						550	1070	31	572	62	528	880	54	90				
						650	1170	28	566	60	519	865	58	96				
						750	1270	25	550	59	513	854	61	101				
						850	1370	23	546	58	507	844	63	105				
		300	12	125	208	300	870	56	817	77	584	973	40	67	40	40		
						350	920	51	792	74	576	959	44	73				
						400	970	46	758	71	569	948	47	78				
						450	1020	43	748	69	561	935	50	83				
						500	1070	40	732	68	555	925	52	86				
						600	1170	35	704	65	544	907	56	93				
						700	1270	31	679	63	536	893	59	98				
						800	1370	28	663	62	529	882	62	103				
						900	1470	26	661	61	523	872	64	107				
						1000	1570	24	653	60	519	864	66	110				
		(*1 Mounting measure „X“ = distance K15 to hinge side (≥ 1/3 FAH)								(*3 For RWA1000TE (tandem) the drive forces and the max. window weights are doubled!								
		(*2 Other mounting measure and wing heights on request								(*4 FV1 – 1x = 450 mm								
										FV1 – 2x = 1200 or 2000 mm								
										FV1 – 3x = 2000 mm								



① 1x **PL10 S1**
(100 / 150 / 200 / 300 mm)



② 1x **FV3-R (1x) L = 420 mm**



③ incl. **B18**



1 x **K15-Set**

④ 1x **K15**



⑤ 1x **F11**



⑥ 1x **B16ST (8x40)**



ORDER DATA

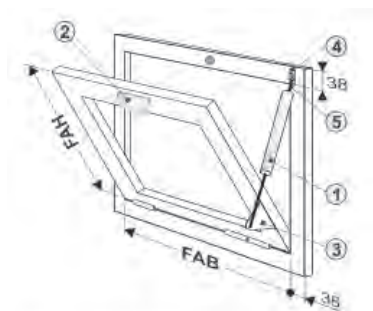
	Part.-No.			
Components				
1x PL10 S1				
PL10-100 (FAH min. 550 mm)	565010			
PL10-150 (FAH min. 600 mm)	565015			
PL10-200 (FAH min. 700 mm)	565020			
PL10-300 (FAH min. 1000 mm)	565030			
1x FV3-R L= 420 mm				
FV3-R (1x) FAB min. 450 mm	515102			
1x Frame bracket set				
K15 Set	517590			

Optional accessories

B21-1 base plate FV L = 420; FÜ>10 mm	515181			
B22 base plate for B18 glazing bead	301599			

Installation requirements

Opening direction	inward
Drive lenght (eye bolt – eye bolt)	280 ± 7 mm + Stroke
Required mounting space FV (on the window frame profile)	min. 38 mm
Required mounting space PL (on the window frame profile)	min. 38 mm
Weight of the casement	max. 30 kg/m²
Width of the casement (FAB)	450 – 1300 mm
Min. height of the casement (FAH)	see mounting dimensions
Rated voltage	24V DC (19 V ... 28 V)
Cut-off current	0,8 A
Rated power	15 W



① 1x **PL10 S1**
(100 / 150 / 200 / 300 mm)



② 1x **OFV1**



1 x **K15-Set**

③ 1x **K15**



④ 1x **F11**



⑤ 1x **B16ST** (8x40)

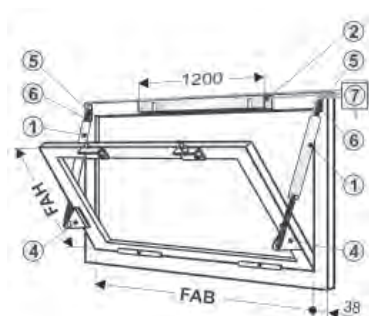


ORDER DATA

	Part.-No.			
Components				
1x PL10 S1				
PL10-100 (FAH min. 550 mm)	565010			
PL10-150 (FAH min. 600 mm)	565015			
PL10-200 (FAH min. 700 mm)	565020			
PL10-300 (FAH min. 1000 mm)	565030			
1x OFV1				
OFV1 (FAB min. 450 mm)	513850			
1x Frame bracket set				
K15 Set	517590			

Installation requirements

Opening direction	inward
Drive lenght (eye bolt – eye bolt)	280 ± 7 mm + Stroke
Required mounting space OFV (on the casemnet profile)	min. 40 mm
Required mounting space PL (on the window frame profile)	min. 38 mm
Weight of the casement	max. 30 kg/m ²
Width of the casement (FAB)	450 – 1300 mm
Min. height of the casement (FAH)	see mounting dimensions
Rated voltage	24V DC (19 V ... 28 V)
Cut-off current	1,1 A
Rated power	26 W



① 2x **PL 10 S1**
(100 / 150 / 200 / 300 mm)



② 1x **FV1** (2x) L= 1200 mm



③ incl. 2x **B18**



2x **K15-Set**

④ 2x **K15**



⑤ 2x **F11**



⑥ 2x **B16ST** (8x40)



⑦ 1x **USKM**



ORDER DATA

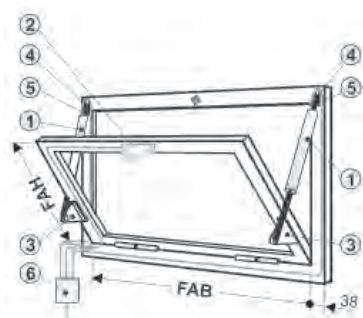
	Part.-No.			
Components				
2x PL10 S1 (price per drive)				
PL10-100 (FAH min. 550 mm)	565010			
PL10-150 (FAH min. 600 mm)	565015			
PL10-200 (FAH min. 700 mm)	565020			
PL10-300 (FAH min. 1000 mm)	565030			
1x FV1-R L= 1200 mm				
FV1-R (2x) (FAB min. 1200 mm)	515111			
2x Frame bracket set (price per frame bracket set)				
K15 Set	517590			
1x Control module				
USKM	512140			

Optional accessories

B21-2 base plate FV L = 1200; FÜ>10 mm	515183			
B22 base plate for B18 glazing bead	301599			

Installation requirements

Opening direction	inward
Drive lenght (eye bolt – eye bolt)	280 ± 7 mm + Stroke
Required mounting space FV (on the window frame profile)	min. 38 mm
Required mounting space PL (on the window frame profile)	min. 38 mm
Weight of the casement	max. 30 kg/m²
Width of the casement (FAB)	1200 – 2500 mm
Min. height of the casement (FAH)	see mounting dimensions
Rated voltage	24V DC (19 V ... 28 V)
Cut-off current	1,6 A
Rated power	30 W



① 2x **PL10 S1**
(100 / 150 / 200 / 300 mm)



② 1x **OFV1**



2 x **K15-Set**

③ 2x **K15**



④ 2x **F11**



⑤ 2x **B16ST (8x40)**



⑥ 1x **USKM**

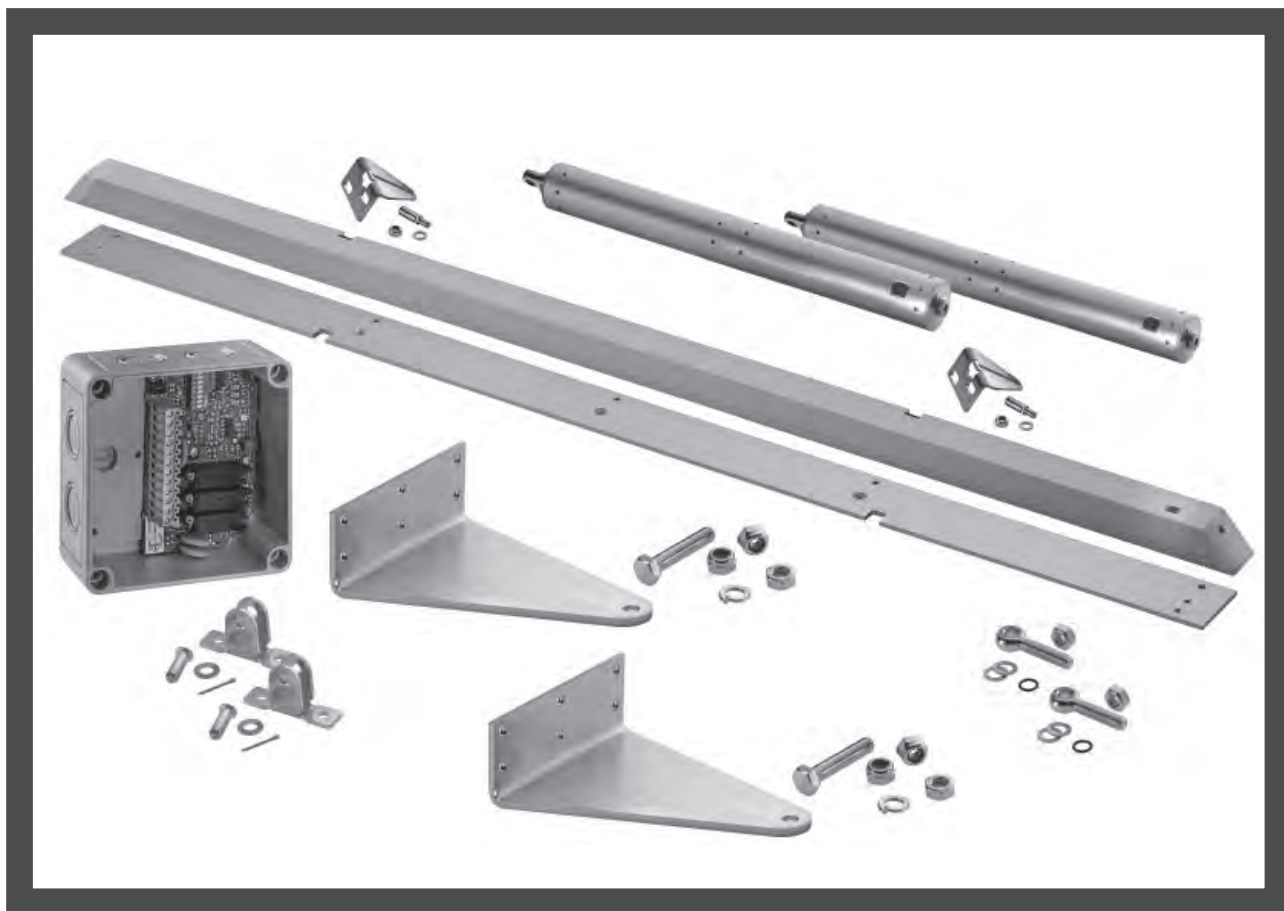


ORDER DATA

	Part.-No.			
Components				
2x PL10 S1 (price per drive)				
PL10-100 (FAH min. 550 mm)	565010			
PL10-150 (FAH min. 600 mm)	565015			
PL10-200 (FAH min. 700 mm)	565020			
PL10-300 (FAH min. 1000 mm)	565030			
1x OFV1				
OFV1 (FAB min. 450 mm)	513850			
2x Frame bracket set (price per frame bracket set)				
K15 Set	517590			
1x Control module				
USKM	512140			

Installation requirements

Opening direction	inward
Drive lenght (eye bolt – eye bolt)	280 ± 7 mm + Stroke
Required mounting space OFV (on the casemnet profile)	min. 40 mm
Required mounting space PL (On the window frame profile)	min. 38 mm
Weight of the casement	max. 30 kg/m ²
Width of the casement (FAB)	450 – 1300 mm
Min. height of the casement (FAH)	see mounting dimensions
Rated voltage	24V DC (19 V ... 28 V)
Cut-off current	1,6 A
Rated power	30 W



SPECIAL FEATURES RWA1100

- For natural ventilation, smoke and heat exhausting and ferralux® NSHEV (EN12101-2)
- Suitable for outward opening bottom/top/side-hung windows
- Large opening angles realized with short strokes and opening times due to the mounting of the spindle drives at an acute angle to the side closing edge
- Maximum opening angle and balanced force-stroke ratio with casement bracket F11 mounted on the side closing edge of the casement profile at
 - app. 1/2 of the casement length if using K15
 - app. 1/3 of the casement length related to the hinge side if using K37
- Other combinations of various spindle drives in SOLO or TANDEM arrangements with locking actuators for actuating of window profile-specific hardware systems on request
- Use for skylights on request

For this product series, a Type III Environmental Product Declaration (EPD) was issued according to ISO 14025 and EN 15804.

The LCA results of the different product types are listed at the end of this product catalogue.

The EPD documents can be viewed or downloaded from our homepage www.aumüller-gmbh.de.

MOUNTING DIMENSION OF RWA1100 FOR BOTTOM-/TOP-HUNG OUTWARD OPENING WINDOWS

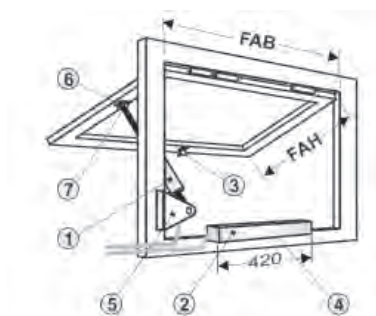
Hardware set	Frame bracket	Stroke of the opening drive	CASEMENT CLOSED			Mounting dimension „X“ (*1 (*2	FAH (NSK) (side closing edge)	Opening angle	Opening width	CASEMENT OPEN			Weight of the casement (max.)		Required space on the window frame		FAB (HSK)
		Angle of the drive force application	Applied force at the drive fixing point		Angle of the drive force application					Applied force at the drive fixing point							
			PL6	PL10						PL6	PL10	PL6	PL10	NSK	HSK		
			[DEG]	[N]	[N]	[mm]	[mm]	[DEG]	[mm]	[DEG]	[N]	[N]	[Kg]	[Kg]	[mm]	[mm]	[mm]
RWA 1100 (*3)	K15	100	19	194	324	400	800	26	365	67	554	923	55	92	40	40	Depends of the used locking drive (*4)
						500	900	23	360	64	537	896	60	100			
						600	1000	18	320	60	519	865	62	104			
		150	17	171	286	450	900	33	516	75	580	966	58	97	40	40	
						550	1000	28	479	69	559	932	61	103			
						650	1100	24	450	66	549	914	65	108			
						750	1200	21	429	63	536	894	67	112			
		200	15	153	255	500	1000	38	648	79	590	983	59	98	40	40	
						600	1100	32	608	74	577	962	63	105			
						700	1200	28	577	71	566	943	66	110			
						800	1300	25	554	88	600	999	74	123			
						900	1400	22	534	66	546	910	70	117			
		250	13	139	232	550	1100	41	778	82	595	991	60	99	40	40	
						650	1200	36	736	78	586	976	63	106			
						750	1300	31	704	74	576	961	66	111			
						850	1400	28	684	72	571	952	69	116			
						950	1500	25	657	69	559	932	71	118			
						1050	1600	23	638	67	552	921	72	121			
		250	12	127	211	600	1200	44	907	85	598	996	60	100	40	40	
						700	1300	39	861	80	591	985	64	106			
						800	1400	34	828	77	584	973	67	111			
						900	1500	31	799	74	576	960	69	115			
						1000	1600	28	777	72	569	948	71	119			
						1100	1700	26	756	70	563	938	73	121			
						1200	1800	24	742	68	557	928	74	124			
	K37	100	36	352	586	200	600	42	425	94	599	998	40	67	40	40	
						300	700	28	342	80	591	985	51	84			
						400	800	21	296	73	573	955	57	96			
		150	31	312	520	250	650	42	527	97	595	992	46	76	40	40	
						350	750	35	452	85	598	996	56	93			
						450	850	28	407	78	586	976	62	103			
						550	950	23	376	73	573	955	66	111			
		200	28	279	465	300	750	52	659	99	593	988	47	79	40	40	
						400	850	40	583	88	600	999	56	94			
						500	950	24	390	81	593	988	62	104			
						600	1050	28	499	76	583	972	67	111			
						800	1150	24	474	73	573	956	70	116			
		250	25	253	421	350	850	55	786	100	591	984	49	81	40	40	
						450	950	44	712	90	600	1000	57	95			
						550	1050	37	661	84	596	994	62	104			
						650	1150	31	622	79	589	982	67	111			
						750	1250	28	594	76	581	969	70	116			
						850	1350	25	573	73	573	956	72	120			
		300	23	231	384	400	1000	58	962	101	589	982	47	79	40	40	
						500	1100	47	879	92	600	999	55	91			
						600	1200	40	821	86	598	997	60	100			
						700	1300	35	775	81	593	988	64	106			
						800	1400	31	741	78	587	978	67	112			
						900	1500	28	713	75	580	967	70	116			
						1000	1600	25	693	73	574	957	72	120			

(*1) Mounting measure „X“ = distance **F11** to **hinge side** ($\geq 1/3$ FAH)

(*2) Other mounting measure and wing heights on request.

(*3) For the tandem sets RWA1100TE the drive forces and the max. window weights will be correspondingly higher. At outward opening windows the opening drives force axis needs to pass the hinge axis on its outward side with min. 25 mm. The above indicated mounting dimensions are valid for profile depths <75 mm.

(*4) FV1 – 1x = 450 mm
FV1 – 2x = 1200 or 2000 mm
FV1 – 3x = 2000 mm



① 1x **PL10 S1**
(100 / 150 / 200 / 300 mm)



② 1x **FV3-R** (1x) L = 420 mm



③ incl. **B18**



④ 1x **B20-1** (420 mm)



1 x **K15-Set**

⑤ 1x **K15**



⑥ 1x **F11**



⑦ 1x **B16ST** (8x40)

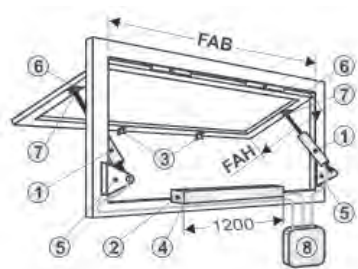


ORDER DATA

	Part.-No.			
Components				
1x PL10 S1				
PL10-100 (FAH min. 550 mm)	565010			
PL10-150 (FAH min. 600 mm)	565015			
PL10-200 (FAH min. 700 mm)	565020			
PL10-300 (FAH min. 1000 mm)	565030			
1x FV3-R L= 420 mm				
FV3-R (1x) (FAB min. 450 mm)	515102			
1x Mounting plate				
B20-1 L = 420 mm	515191			
1x Frame bracket set				
K15 Set	517590			
Optional 1x				
1x K37	307500			
1x F11	151400			
1x B16ST	100044			
Optional accessories				
B22 base plate for B18 glazing bead	301599			

Installation requirements

Opening direction	outward
Drive lenght (eye bolt – eye bolt)	280 ± 7 mm + Stroke
Required mounting space FV (on the window frame profile)	min. 38 mm
Required mounting space PL (on the window frame profile)	min. 38 mm
Weight of the casement	max. 30 kg/m ²
Width of the casement (FAB)	450 – 1300 mm
Min. height of the casement (FAH)	see mounting dimensions
Rated voltage	24V DC (19 V ... 28 V)
Cut-off current	0,8 A
Rated power	15 W



① 2x **PL10 S1**
(100 / 150 / 200 / 300 mm)



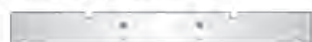
② 1x **FV1** (2x) L = 1200 mm



③ incl. 2x **B18**



④ 1x **B20-2** (1200 mm)



2 x **K15-Set**

⑤ 2x **K15**



⑥ 2x **F11**



⑦ 2x **B16ST** (8x40)



⑧ 1x **USKM**



ORDER DATA

	Part.-No.			
Components				
2x PL10 S1 (price per drive)				
PL10-100 (FAH min. 550 mm)	565010			
PL10-150 (FAH min. 600 mm)	565015			
PL10-200 (FAH min. 700 mm)	565020			
PL10-300 (FAH min. 1000 mm)	565030			
1x FV1-R L = 1200 mm				
FV1-R (2x) (FAB min. 1200 mm)	515111			
1x Mounting plate				
B20-2 L = 1200 mm	515193			
2x Frame bracket set (price per frame bracket set)				
K15 Set	517590			
Optional 2x				
K37	307500			
F11	151400			
B16ST	100044			
1x Control module				
USKM	512140			
Optional accessories				
B22 base plate for B18 glazing bead	301599			

Installation requirements

Opening direction	outward
Drive length (eye bolt – eye bolt)	280 ± 7 mm + Stroke
Required mounting space FV (on the window frame profile)	min. 40 mm
Required mounting space PL (on the window frame profile)	min. 38 mm
Weight of the casement	max. 30 kg/m ²
Width of the casement (FAB)	1200 – 2500 mm
Min. height of the casement (FAH)	see mounting dimensions
Rated voltage	24V DC (19V ... 28V)
Cut-off current	1,6 A
Rated power	30 W



SPECIAL FEATURES RWA1050

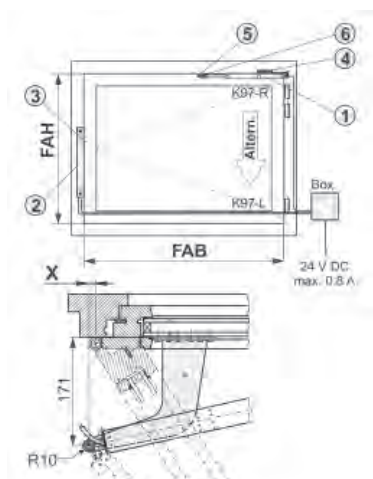
- For natural ventilation, smoke and heat exhausting and ferralux® NSHEV (EN12101-2)
- Suitable for inward opening side-hung windows
- Opening angles of 90° realized with short strokes and opening times due to the mounting of the spindle drives at an acute angle to the side closing edge and due to the displacement of the pivoted point of the frame bracket behind the mullion/transom construction
- Required space of only 22 mm for the mounting of the frame bracket on the side closing edge of the window frame profile
- Other combinations of various spindle drives in SOLO or TANDEM arrangements with locking actuators for actuating of window profile-specific hardware systems on request

For this product series, a Type III Environmental Product Declaration (EPD) was issued according to ISO 14025 and EN 15804. The LCA results of the different product types are listed at the end of this product catalogue. The EPD documents can be viewed or downloaded from our homepage www.aumueller-gmbh.de.

MOUNTING DIMENSION OF RWA1050 FOR SIDE-HUNG INWARD OPENING WINDOWS																	
hardware set	Frame bracket	Stroke of the opening drive	CASEMENT CLOSED			Mounting dimension „X“	min. FAB (NSK) (side closing edge)	Opening angle	Opening width	CASEMENT OPEN			Weight of the casement (max.)		Required space on the frame		FAH (HSK)
			Angle of the drive force application	Applied force at the drive fixing point						Angle of the drive force application	Applied force at the drive fixing point						
					PL6						PL10		PL6	PL10	PL6	PL10	
			[DEG]	[N]	[N]	[mm]	[mm]	[DEG]	[mm]	[DEG]	[N]	[N]	[Kg]	[Kg]	[mm]	[mm]	[mm]
RWA 1050 (*1)	K97	100	19	167	279	0	510	35	(*2)	16	163	272	90	130	10	22	500 – 1500
		150	13	139	232	20	600	55		11	112	187	90	130	30	22	
		200	11	119	198	40	680	75		6	60	100	90	130	50	22	
		250	10	103	172	80	740	85		6	60	100	90	130	90	22	

(*1) For the tandem sets RWA1100TE the drive forces and the max. window weights will be correspondingly higher.

(*2) Depends on FAB



① 1x **PL6 S1**
(100 / 150 / 200 / 250 mm)



② 1x **FV3** (1x) L = 420 mm)



③ inkl. **B18**



1x **K1050-R** altern. **K1050-L**

④ 1x **K97**



⑤ 1x **F11**



⑥ 1x **B16ST** (8x40)

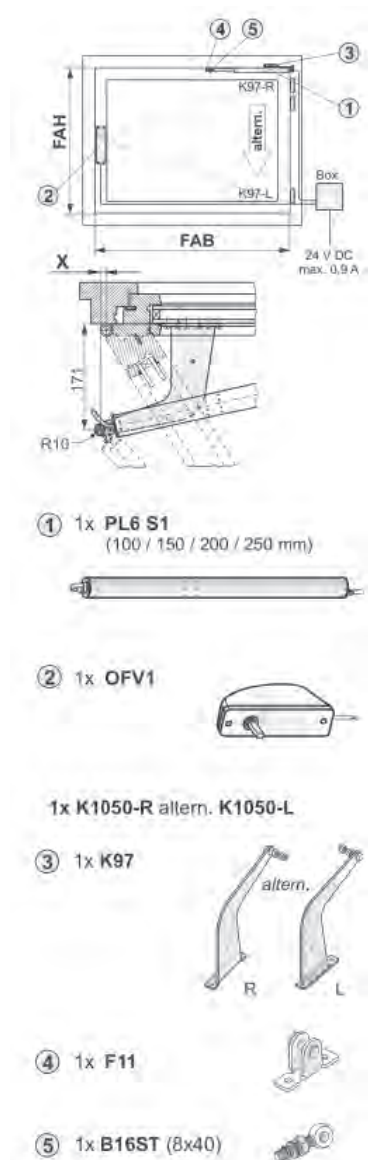


ORDER DATA

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Components				
1x PL6 S1				
PL6-100 (FAB min. 510 mm)	562010			
PL6-150 (FAB min. 600 mm)	562015			
PL6-200 (FAB min. 680 mm)	562020			
PL6-250 (FAB min. 740 mm)	562025			
1x FV3-R L= 420 mm				
FV3-R (1x) (FAB min. 450 mm)	515102			
1x Frame bracket set				
K1050-R Set	307051			
Alternativ 1x				
K1050-L Set	307050			
Optional accessories				
B22 base plate for B18 glazing bead	301599			

Installation requirements

Opening direction	inward
Drive length (eye bolt – eye bolt)	280 ± 7 mm + Stroke
Required mounting space FV (on the window frame profile)	min. 38 mm
Required mounting space PL (on the window frame profile)	min. 20 mm
Weight of the casement	max. 30 kg/m²
Width of the casement (FAB)	450 – 1300 mm
Min. height of the casement (FAH)	see mounting dimensions
Rated voltage	24V DC (19V ... 28V)
Cut-off current	0,8 A
Rated power	15 W

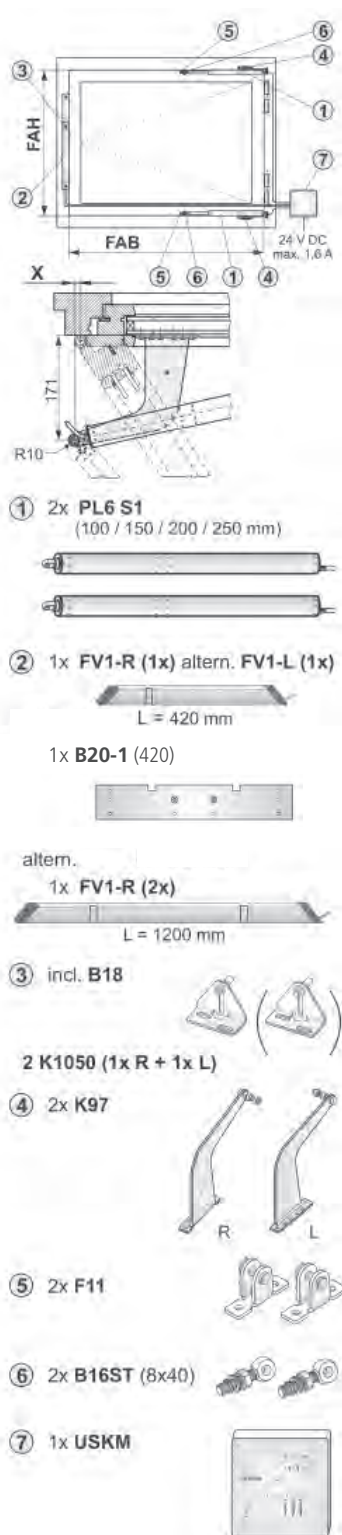


ORDER DATA

	Part.-No.			
Components				
1x PL6 S1				
PL6-100 (FAB min. 510 mm)	562010			
PL6-150 (FAB min. 600 mm)	562015			
PL6-200 (FAB min. 680 mm)	562020			
PL6-250 (FAB min. 740 mm)	562025			
1x OFV1				
OFV1 (FAH min. 450 mm)	513850			
1x Frame bracket set				
K1050-R Set	307051			
Alternativ 1x				
K1050-L Set	307050			
Optional accessories				
B22 base plate for B18 glazing bead	301599			

Installation requirements

Opening direction	inward
Drive length (eye bolt – eye bolt)	280 ± 7 mm + Stroke
Required mounting space OFV (on the casemnet profile)	min. 40 mm
Required mounting space PL (on the window frame profile)	min. 20 mm
Weight of the casement	max. 30 kg/m ²
Width of the casement (FAB)	1200 – 2500 mm
Min. height of the casement (FAH)	see mounting dimensions
Rated voltage	24V DC (19V ... 28V)
Cut-off current	1,6 A
Rated power	30 W

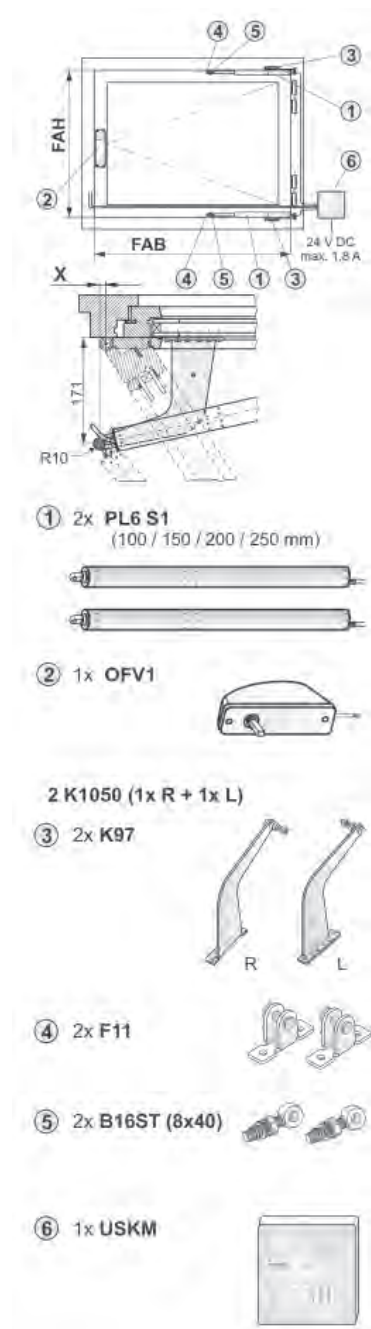


ORDER DATA

	Part.-No.			
Components				
2x PL6 S1 (price per drive)				
PL6-100 (FAB min. 510 mm)	562010			
PL6-150 (FAB min. 600 mm)	562015			
PL6-200 (FAB min. 680 mm)	562020			
PL6-250 (FAB min. 740 mm)	562025			
1x FV1-R L= 420 mm				
FV1-R (1x) (FAB min. 450 mm)	515103			
1x Mounting plate				
B21-1 base plate FV L = 420; FÜ>10 mm	515181			
B21-2 base plate FV L = 1200; FÜ>10 mm	515183			
2x Frame bracket set				
K1050-R Set	307051			
K1050-L Set	307050			
1x Control module				
USKM	512140			
Optional accessories				
B22 base plate for B18 glazing bead	301599			

Installation requirements

Opening direction	inward
Drive lenght (eye bolt – eye bolt)	280 ± 7 mm + Stroke
Required mounting space FV (on the window frame profile)	min. 38 mm
Required mounting space PL (on the window frame profile)	min. 20 mm
Weight of the casement	max. 30 kg/m ²
Width of the casement (FAB)	450 – 1300 mm
Min. height of the casement (FAH)	see mounting dimensions
Rated voltage	24V DC (19 V ... 28 V)
Cut-off current	0,8 A
Rated power	15 W



ORDER DATA

	Part.-No.			
Components				
2x PL6 S1 (price per drive)				
PL6-100 (FAB min. 510 mm)	562010			
PL6-150 (FAB min. 600 mm)	562015			
PL6-200 (FAB min. 680 mm)	562020			
PL6-250 (FAB min. 740 mm)	562025			
1x OFV1				
OFV1 (FAH min. 450 mm)	513850			
2x Frame bracket set				
K1050-R Set	307051			
K1050-L Set	307050			
1x Control module				
USKM	512140			
Optional accessories				
B22 base plate for B18 glazing bead	301599			

Installation requirements

Opening direction	inward
Drive lenght (eye bolt – eye bolt)	280 ± 7 mm + Stroke
Required mounting space OFV (on the casemnet profile)	min. 40 mm
Required mounting space PL (on the window frame profile)	min. 20 mm
Weight of the casement	max. 30 kg/m ²
Width of the casement (FAB)	1200 – 2500 mm
Min. height of the casement (FAH)	see mounting dimensions
Rated voltage	24V DC (19 V ... 28 V)
Cut-off current	1,6 A
Rated power	30 W




SPECIAL FEATURES

- For natural ventilation, smoke and heat exhausting and ferralux® NSHEV (EN12101-2)
- Use for skylights type Eternit Fumilux4000
- Opening angle app. 160°
- Use for other skylights on request

TECHNICAL DATA

PLA16-400 S12 A

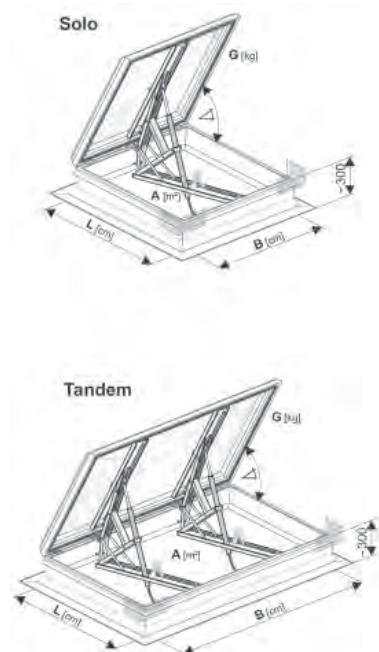
PLS30-400 S12 A

U_N	Rated voltage	24V DC (19 V ... 28 V)	24V DC (19 V ... 28 V)
I_N	Rated current	1,85 A	3,75 A
I_A	Cut-off current	2,5 A	5,0 A (10 A/10 ms)
P_N	Rated power	45 W	90 W
DC	Duty cycle	5 cycles (ED 30 % - ON: 2 min. / OFF: 8 min.)	5 cycles (ED 30 % - ON: 2 min. / OFF: 8 min.)
	Protection rating	IP 65	IP 54
	Ambient temperature range	-5 °C ... + 60 °C	-5 °C ... + 60 °C
F	Pulling / Pushing force	1600 N	3000 N
F_H	Pullout force	5000 N	25000 N
	Connecting cable	non-halogen 3 x 1,0 mm², ~ 5 m	non-halogen 3 x 1,0 mm², ~ 5 m
t	Opening time	< 60 s	< 60 s

For this product series, a Type III Environmental Product Declaration (EPD) was issued according to ISO 14025 and EN 15804.

The LCA results of the different product types are listed at the end of this product catalogue.

The EPD documents can be viewed or downloaded from our homepage www.aumüller-gmbh.de.



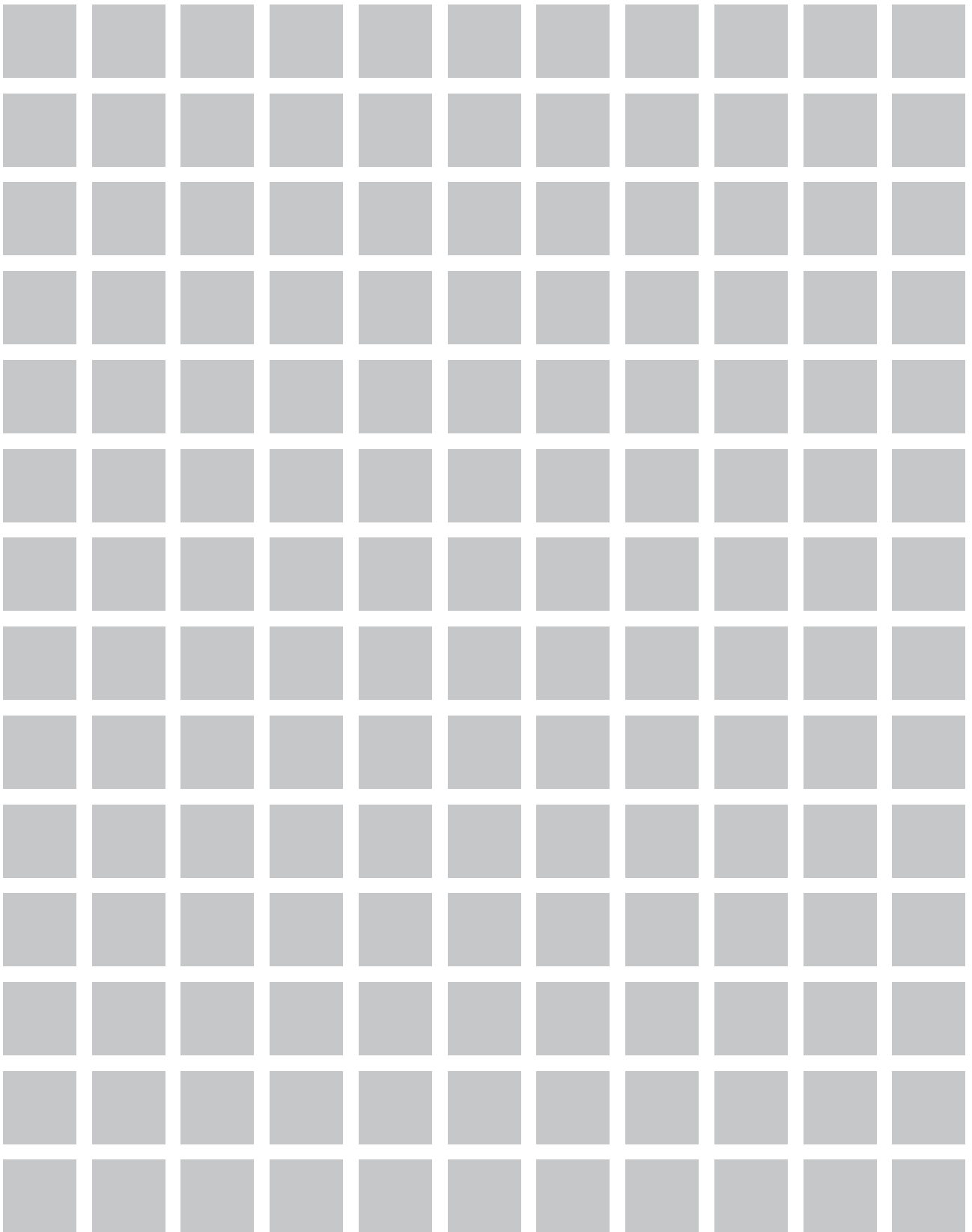
ORDER DATA

		Part.-No.			
Components					
Hardware w/o drives (price per piece)					
L = 100 cm Solo	B < 120 cm	1 x 578080			
L = 100 cm Tandem	B < 250 cm	2 x 578080			
L = 120 cm Solo	B < 120 cm	1 x 578090			
L = 120 cm Tandem	B < 250 cm	2 x 578090			
L = 125 cm Solo	B < 120 cm	1 x 578100			
L = 125 cm Tandem	B < 250 cm	2 x 578100			
L = 150 cm Solo	B < 120 cm	1 x 578110			
L = 150 cm Tandem	B < 250 cm	2 x 578110			
Drives with clamp ring					
PLA16-400 S12 A, s = 360 mm / L = 100 cm		565742			
PLA16-500 S12 A, s = 420 mm / L > 100 cm		565752			
PLS30-400 S12 A, s = 350 mm / L = 100 cm		577532			
PLS30-400 S12 A, s = 420 mm / L > 100 cm		577542			
PLS30-400 S12 A Set Sync2, s = 350 mm / L = 100 cm		1020577532			
PLS30-400 S12 A Set Sync2, s = 420 mm / L > 100 cm		1020577542			

APPLICATIONS ON SKYLIGHT ETERNIT FUMILUX4000

Nominal size of skylight						Drive and max. snow load [N/m²]				with (1) w/o (0) Locking
L	B	G	A	A _a w/ Sp. (*1)	A _a w/o Sp. (*1)	PLA16		PLS30		
[cm]	[cm]	[Kg]	[m²]	[m²]	[m²]	Solo	Tandem	Solo	Tandem	
100	100	16	1,00	0,750	0,650	600	–	1200	–	0
100	150	22	1,50	1,125	0,900	350	–	800	1700	0
100	200	33	2,00	1,500	1,200	–	600	–	1200	0
100	240	42	2,40	1,800	1,440	–	450	–	1000	0
100	250	44	2,50	1,875	1,500	–	400	–	950	0
120	120	21	1,44	1,080	0,864	350	–	800	–	0
120	150	25	1,80	1,350	1,080	250	700	650	1400	0
120	180	34	2,16	1,620	1,296	–	500	–	1100	0
120	240	46	2,88	2,160	1,584	–	–	–	800	0
120	250	55	3,00	2,250	1,650	–	–	–	750	0
125	125	23	1,56	1,170	0,936	300	–	750	–	1
125	250	56	3,13	2,348	1,690	–	300	–	700	1
150	150	28	2,25	1,688	1,350	–	–	450	1050	1
150	180	41	2,70	2,025	1,620	–	–	–	850	1
150	210	46	3,15	2,363	1,890	–	–	–	700	1
150	240	57	3,60	2,700	1,980	–	–	–	550	1
150	250	60	3,75	2,813	2,063	–	–	–	550	1

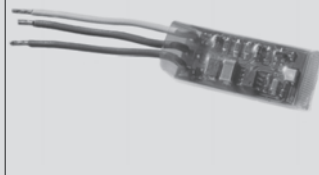
(*1) w/ Sp. = with Spoiler (wind deflectors)
w/o Sp. = without Spoiler (wind deflectors)



ACCESSORIES

Main control unit

M-COM



Application

Configuration module for automatic configuration and surveillance of max. 4 opening drives / 2 locking drives version S12/ S3 in synchronised multi-drive systems

Rated voltage:

24V DC (19 V ... 28 V)

Current consumption:

<12 mA

Drive type: S12

Part.-No. 524177

Protection rating

IP30 rubber envelope

Ambient temperature range

0 °C ... + 70 °C

Dimensions

45 x 17 x 6 mm

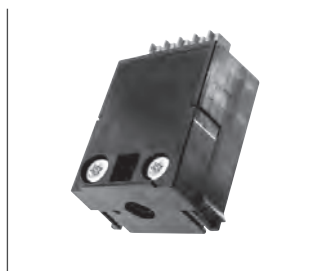
Connecting wires

3 wires 0,5 mm² x 50 mm

Feature/Equipment

Printed circuit board with components and connection wires to be installed in connection box to be supplied on site

M-COM® Click



Application

Configuration module for automatic configuration and surveillance of max. 4 opening drives / 2 locking drives version S12/ S3 in synchronised multi-drive systems

Rated voltage:

24V DC (19 V ... 28 V)

Current consumption:

<12 mA

Drive type: S12

Part.-No. 524167

Protection rating

IP30

Ambient temperature range:

-5 °C ... +70 °C

Dimensions:

40 x 26 x 15 mm

Connection:

for **AUMÜLLER** chain drives

with **AUMÜLLER-Click plug solution**

Equipment

Tongs for removing the

M-COM® Click

Plug solution

AUMÜLLER-Click plug solution



View: 24V

AUMÜLLER-Click plug solution:

Unified plug solution for all **AUMÜLLER** chain drives and **AUMÜLLER** folding arm drives.

Rated voltage:

24V DC (19 V ... 28 V)

Connecting cable:

non-halogen, grey

5 x 0,5 mm² (24V)

6 x 0,75 mm² (230V)

Terminal:

to 1,5 mm²

Feature/Equipment

- Flexible cable length
- Connect multiple drives in series connection
- Torsion-plug
- Locking hooks prevent withdrawal of the plug under tensile load
- Strain relief according DIN EN 60335-1 by screwing the housing halves

VARIANTS: 24V

3 m cable length - 24 V DC

Part.-No. 501251

5 m cable length - 24 V DC

Part.-No. 501252

10 m cable length - 24 V DC

Part.-No. 501253

VARIANTS: 230V

3 m cable length - 230 V AC

Part.-No. 501273

5 m cable length - 230 V AC

Part.-No. 501275

10 m cable length - 230 V AC

Part.-No. 501280

ACCESSORIES

Feedback module

RM-E



Application

Control module for feedback signal of end positions OPEN/ CLOSE from one ore more drives type S3/S12 via a potential-free changeover contact. Connection and power supply into/by the drive line

Rated voltage:

24V DC +/- 20%, (max. 2 Vpp)

Current consumption: < 5 mA

Drive type: S3, S12

Part.-No. 500158

Protection rating

IP 54

Ambient temperature range

0 °C ... + 70 °C

Surf. mount. plastic housing

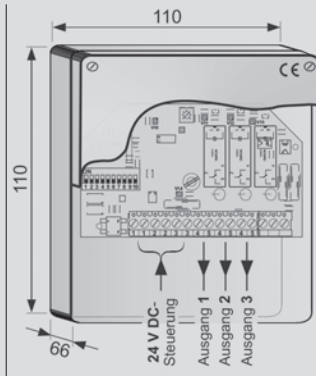
94 x 94 x 42 mm

Feature/Equipment

Evaluation of end positions due to the communication wire of drives type S3/S12

Control module

USKM



Application

Control module with 3 outputs and individual settuble cut-off current, monitored motion run, delayed sequence control.

Functions: Motion-monitoring up to 3 drives, 2 sequential controls

Rated voltage:

24V DC +/- 20%, (max. 2 Vpp)

Close circiut current : < 50 mA

Connections:

max. 3 drives; s < 300 mm

Part.-No. 512140

Rated current per drive

max. 2,5 A

Drive type

S1, S2, S3, S12, FV1, OFV1

Protection rating

IP 54

Ambient temperature range

0 °C ... + 70 °C



Surf. mount. plastic housing

110 x 110 x 66 mm

Feature/Equipment

DIP-Switches for settings, connection terminals: 2,5 mm²

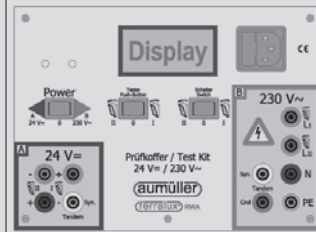
ACCESSORIES

Relay Interface			
TRM		<p>Application</p> <p>Really interface for connection of 230 V AC drives to a 24 V DC motor line. Control by changing the polarity of the 24 V DC power supply</p> <p>Rated voltage: 24V DC +/- 20%, (max. 2 Vpp)</p> <p>Close circuit current: < 100 mA</p> <p>Connections: 1 drive group</p>	<p>Part.-No. 670071</p> <p>Current per drive group 230V AC max. 3,0 A</p> <p>Drive type S2, S3, S12, MP</p> <p>Protection rating IP 54</p> <p>Ambient temperature range 0 °C ... + 70 °C</p> <p>Surf. mount. plastic housing 98 x 98 x 58 mm</p> <p>Feature/Equipment Connection terminals 4 mm²</p>
UniPC		<p>Application</p> <p>Hard- and software for the configuration of drives produced by AUMÜLLER AUMATIC GmbH</p> <p>Rated voltage: 24V DC +/- 20%</p> <p>Configurable drives: 24 V DC: S3, S12, S12 V.2 230 V AC: S12, S12 V.2</p> <p>Package contents: Software UniPC (Download link) Interface "ParInt" USB cable Connection cable</p> <p>Connections: 3x Pluggable screw terminals 1,0 mm² USB Port</p>	<p>Part.-No. 524178</p> <p>System requirements CPU 1 GHz or faster OS Microsoft® Windows 7 Windows 10 RAM min. 512 MB HDD min. 100 MB empty</p> <p>Feature/Equipment Power supply 24 V DC not included! Software licence for extended settings required!</p>

ACCESSORIES

Test kit for drives

PK

**Application**

Test kit to check running direction and communication of drives 24 VDC or 230 VA C drives (including batteries)

Supply voltage:
230V AC

Drive types:
24V DC / 230V AC

Drive current:
max. 3 A

Part.-No. 533981**Display**

drive current,
battery charging

Ambient temperature range

-5 °C ... + 40 °C

Plastic housing

250 x 220 x 210 mm

Weight

ca. 3,6 kg

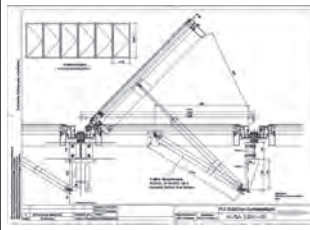
Feature/Equipment

Control elements:

2 switches + 1 push button

Wiring diagramm

DL240

**Application**

Providing of customized installation and wiring diagrams. Price per ventilation/SHEV line

Part.-No. 240

DL241

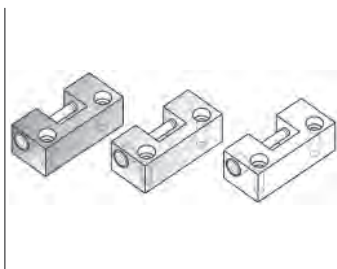
**Application**

Providing of customized installation drawings for drives – Draw in of drives in customers' drawings

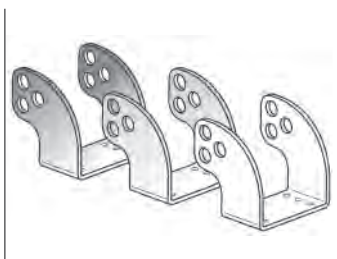
Part.-No. 241



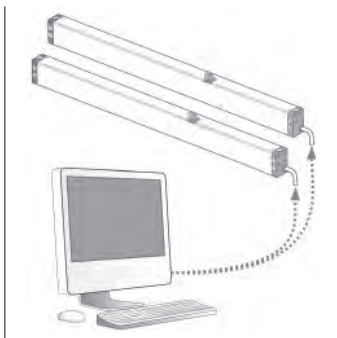
Special model	PU/pcs.	Part.-No.			
Drive housing painted / powder coated in RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516004			
	21 – 50	516004			
	51 – 100	516004			
	from 101	516004			



Special model	PU/pcs.	Part.-No.			
Casement brackets painted/powder coated in RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516032			
	21 – 50	516032			
	51 – 100	516032			
	from 101	516032			



Special model	PU/pcs.	Part.-No.			
Frame brackets painted/powder coated in RAL colours					
Lump sum for coating		516030			
Specify at order stage:	1 – 20	516031			
	21 – 50	516031			
	51 – 100	516031			
	from 101	516031			



Special model	PU/pcs.	Part.-No.			
Microprocessor programming S12					
Programming synchronised multi-drive systems 24V S3 / S12	1	524182			
Programming synchronised multi-drive systems 230V S12	1	495588			
Electronic stroke reduction 24V S12	1	524190			
Electronic stroke reduction 230V S12	1	495590			
Programming drives 24V / 230V S12	1	524180			

Special model	PU/pcs.	Part.-No.			
Mechanic stroke reduction PLA S3					
Stroke reduction without construction length - mechanically	1	516000			

NRWG SHEV						
Product	System	Profiles	Opening	Scope	ITT	CoCoP
Ferralux NRWG 011	Schüco AWS	AWS 50	inw/outw	Facade	11-002647-PR01 (PP-04)	0757_CPR-288-6032781-2-4
		AWS 60	inw/outw			
		AWS 65	inw/outw			
		AWS 70	inw/outw			
		AWS 75	inw/outw			
		AWS 57RO	outw			
		AWS 57RO	outw	Roof	11-002647-PR01 (PP-04)	0757-CPR-288-6032781-8-2
Ferralux NRWG 050	Forster	Unico	inw/outw	Fassade	12-001670-PR01 (PB-03)	0757-CPR-288-0632781-3-4
Ferralux NRWG 070	Raico	Frame+ 65W	inw/outw	Facade	15-001142-PR02 (PP-02)	0757-CPR-288-6032781-4-4
		Frame+ 75WE	inw/outw			
		Frame+ 75WA	inw/outw			
		Wing 105D	outw			
		Wing 105D	outw	Roof	15-001142-PR02 (PP-02)	0757-CPR-288-6032781-7-2
Ferralux NRWG 080	Hueck	Lambda WS 075	inw	Facade	16-002717-PR10 (PP-01)	0757-CPR-288-6032781-9-1
		Lambda WS 075 IS	inw			
		Lambda WS 075 CD/RD	inw			
		Lambda WS 075 OU	outw			
		Lambda duo90	inw			
		Lambda duo90 IF	inw			
Ferralux NRWG 100	Aliplast	Imperial IP 75	outw	Facade	16-004337-PR12 (PP-02)	0757-CPR-288-6032781-10-1
		Superial SP 85	outw			
		Ecofutural EF75	outw			
		Star GT 90	outw			

Since the publication of the harmonized EN 12101-2:2003 „Smoke and heat control systems“ – Part 2: „Specification for Natural Smoke and Heat Exhaust Ventilators“ the NSHEVs belongs to those construction products which may be labeled with a „CE“ mark in accordance with the Construction Products Regulation (CPR) if their performance matches the Declaration of Performance (DoP) issued by the manufacturer. On this basis they may be used to the purpose designated by the manufacturer in the DoP if they are required by the construction law as part of smoke and heat exhaust systems.

NSHEVs are multi-part complex construction products which are assembled from parts of various contractors of handcraft or industrial services. They basically are manufactured from a casement and a window frame for façade, wall or roof mounting and an electric opening drive, which will ensure the window opening for smoke and heat exhaust in case of fire.

The windows itself are also regulated construction products. Their design and manufacturing have to fulfil the provisions for weathertightness, environmental protection or energy saving measures. The provisions of EN 14351 (windows and doors), EN 13830 (curtain wall facades) and EN 14963 (rooflights) shall be noted.

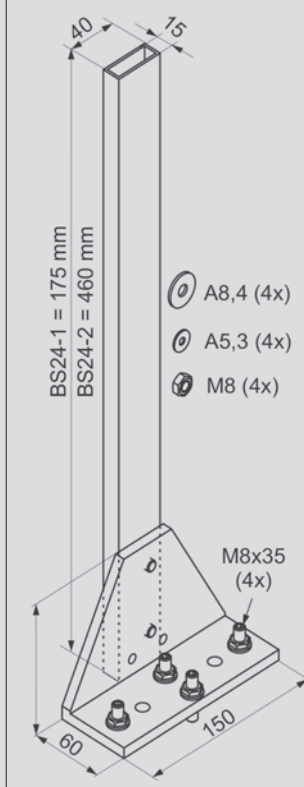
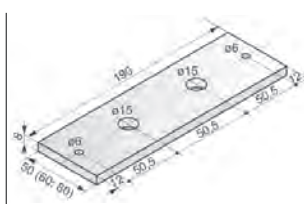
Window only may be declared as NSHEV if opening and locking drives with frame and casement brackets are installed. They must then in addition meet the technical demands and performance classes of EN 12101-2, which only regulates the status of a NSHEV as component of a smoke and heat exhaust system not as a part of the facade or roof.

As a result, NSHEV must meet all relevant standards for the building envelope, for smoke and heat exhaust systems and possibly the Machinery Directive for power operated windows and doors if the dual purpose for ventilation is used. Deviations from national standard should be noted in the design stage.

AUMÜLLER has tested various representative samples, has established a factory production control system and has got the Declarations of Conformity in accordance with annex ZA to EN 12101-2:2003 from the notified product certification body ift-Rosenheim. Therefore **AUMÜLLER** is a system provider as well as a certified manufacturer of NSHEVs.

Prices for licenses, manufacturing and project-specific design of NSHEVs on request.

ACCESSORIES FOR CUSTOMERS ON SITE WIND DEFLECTORS

Angle bracket			
BS24		BS24-1 H = 175 mm	Part.-No. 151605
		BS24-2 H = 460 mm	Part.-No. 151600
		Application Angle bracket with vertical holder for fastening of metal sheet wind deflectors on profile-specific, on-site provided stay bolts (2 pcs / bracket). Suitable for system-specific, visible screwed pressure profiles without cover strips . The load transfer of vertical and horizontal forces to the top level of the glazing system is via a pressure plate (BS24-3, -4, -5) . The angle bracket is to be horizontally and vertically aligned via 4 adjustment screws	
		Material/Finish aluminium Feature/Equipment incl. adjustment screws with accessories Height of wind deflectors: BS24-1 100 – 200 mm BS24-2 200 – 500 mm	
Pressure plate			
BS24		BS24-3 B = 50 mm	Part.-No. 151612
		BS24-4 B = 60 mm	Part.-No. 151610
		BS24-5 B = 80 mm	Part.-No. 151611
		Application Pressure plate for visible screwed pressure plates without cover strips for the load transfer of vertical and horizontal forces of wind deflectors onto the support plane of the glazing systems.	
		Material/Finish aluminium Feature/Equipment Width (W) according to basic profile depth and the plate profile	

The wind deflectors must be provided by the customer in accordance with NSHEV product passports.

Drives	GWP (green-house potential) (GWP 100)	Ozone depletion potential (ODP)	Acidification potential (AP)	Eutrophication potential (EP)	Photo-chemical oxidation potential (POCP)	Abiotic depletion - elements (ADP _{el})	Abiotic depletion - fossil (ADP _{foss})	Primary energy not renewable (PE _{n reg})	Primary energy renewable (PE _{reg})	Freshwater consumption (H ₂ O)
	kg CO ₂ -equivalent	kg R11-equivalent	kg SO ₂ -equivalent	kg PO ₄ ³⁻	kg C ₂ H ₄ -equivalent	kg Sb-equivalent	MJ	MJ	MJ	m ³
KS2 S2 24	9,20E+00	1,51E-06	9,46E+01	8,52E+00	6,01E+00	1,31E-02	1,15E+02	1,09E+02	2,85E+01	4,74E+01
KS2 S12 24	1,30E+01	2,14E-06	1,34E+02	1,21E+01	8,52E+00	1,86E-02	1,62E+02	1,54E+02	4,04E+01	6,72E+01
KS2 TWIN	2,61E+01	4,29E-06	2,68E+02	2,41E+01	1,70E+01	3,72E-02	3,25E+02	3,09E+02	8,07E+01	1,34E+02
KS2 Set	2,68E+01	4,41E-06	2,76E+02	2,49E+01	1,75E+01	3,83E-02	3,34E+02	3,18E+02	8,31E+01	1,38E+02
KS2 230	2,30E+01	3,78E-06	2,36E+02	2,13E+01	1,50E+01	3,28E-02	2,86E+02	2,73E+02	7,12E+01	1,19E+02
KSA 24	1,69E+01	2,78E-06	1,73E+02	1,56E+01	1,10E+01	2,41E-02	2,10E+02	2,00E+02	5,22E+01	8,69E+01
KSA 230	3,53E+01	5,80E-06	3,63E+02	3,27E+01	2,30E+01	5,03E-02	4,39E+02	4,18E+02	1,09E+02	1,82E+02
KSA TWIN/D	3,30E+01	5,42E-06	3,39E+02	3,05E+01	2,15E+01	4,71E-02	4,10E+02	3,91E+02	1,02E+02	1,70E+02
KS15	6,90E+01	1,14E-05	7,09E+02	6,39E+01	4,51E+01	9,85E-02	8,59E+02	8,18E+02	2,14E+02	3,56E+02
PLA6	1,15E+01	1,89E-06	1,18E+02	1,07E+01	7,52E+00	1,64E-02	1,43E+02	1,36E+02	3,56E+01	5,93E+01
PLA8	1,84E+01	3,03E-06	1,89E+02	1,70E+01	1,20E+01	2,63E-02	2,29E+02	2,18E+02	5,70E+01	9,48E+01
PLA101	1,46E+01	2,40E-06	1,50E+02	1,35E+01	9,52E+00	2,08E-02	1,81E+02	1,73E+02	4,51E+01	7,51E+01
PLA116	1,84E+01	3,03E-06	1,89E+02	1,70E+01	1,20E+01	2,63E-02	2,29E+02	2,18E+02	5,70E+01	9,48E+01
PLA10	3,45E+01	5,68E-06	3,55E+02	3,20E+01	2,25E+01	4,92E-02	4,30E+02	4,09E+02	1,07E+02	1,78E+02
PLA16	3,45E+01	5,68E-06	3,55E+02	3,20E+01	2,25E+01	4,92E-02	4,30E+02	4,09E+02	1,07E+02	1,78E+02
PLS15	5,52E+01	9,08E-06	5,68E+02	5,11E+01	3,61E+01	7,88E-02	6,87E+02	6,54E+02	1,71E+02	2,84E+02
PLS30	6,98E+01	1,15E-05	7,17E+02	6,46E+01	4,56E+01	9,96E-02	8,69E+02	8,27E+02	2,16E+02	3,60E+02
PLS50	5,52E+01	9,08E-06	5,68E+02	5,11E+01	3,61E+01	7,88E-02	6,87E+02	6,54E+02	1,71E+02	2,84E+02
SP8 24	1,53E+01	2,52E-06	1,58E+02	1,42E+01	1,00E+01	2,19E-02	1,91E+02	1,82E+02	4,75E+01	7,90E+01
SP8 230	3,83E+00	6,31E-07	3,94E+01	3,55E+00	2,51E+00	5,47E-03	4,77E+01	4,54E+01	1,19E+01	1,98E+01
LKS (-T)	1,15E+01	1,89E-06	1,18E+02	1,07E+01	7,52E+00	1,64E-02	1,43E+02	1,36E+02	3,56E+01	5,93E+01
LKS-TV	2,30E+01	3,78E-06	2,36E+02	2,13E+01	1,50E+01	3,28E-02	2,86E+02	2,73E+02	7,12E+01	1,19E+02
FTA R	1,84E+01	3,03E-06	1,89E+02	1,70E+01	1,20E+01	2,63E-02	2,29E+02	2,18E+02	5,70E+01	9,48E+01
FTA DF/GF	1,53E+01	2,52E-06	1,58E+02	1,42E+01	1,00E+01	2,19E-02	1,91E+02	1,82E+02	4,75E+01	7,90E+01
LLA10	1,15E+01	1,89E-06	1,18E+02	1,07E+01	7,52E+00	1,64E-02	1,43E+02	1,36E+02	3,56E+01	5,93E+01
LLA16	1,69E+01	2,78E-06	1,73E+02	1,56E+01	1,10E+01	2,41E-02	2,10E+02	2,00E+02	5,22E+01	8,69E+01
FV-FVR-FVB	1,53E+01	2,52E-06	1,58E+02	1,42E+01	1,00E+01	2,19E-02	1,91E+02	1,82E+02	4,75E+01	7,90E+01
FVM	7,67E+00	1,26E-06	7,88E+01	7,10E+00	5,01E+00	1,09E-02	9,54E+01	9,08E+01	2,37E+01	3,95E+01
OFV	1,46E+01	2,40E-06	1,50E+02	1,35E+01	9,52E+00	2,08E-02	1,81E+02	1,73E+02	4,51E+01	7,51E+01
FVU	1,15E+01	1,89E-06	1,18E+02	1,07E+01	7,52E+00	1,64E-02	1,43E+02	1,36E+02	3,56E+01	5,93E+01
PL6 / PL10	1,15E+01	1,89E-06	1,18E+02	1,07E+01	7,52E+00	1,64E-02	1,43E+02	1,36E+02	3,56E+01	5,93E+01

Declaration code: M-EPD-AZR-101
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The declaration is based on the PCR (Product Category Rules) document „Building Components for Smoke and Heat Control Systems“ No. PCR-RW-1.1:2013.

LCA calculations were based on the „cradle to grave“ life cycle including all upstream processes (e.g. raw material extraction, etc.).

The reference service life has been specified to 25 years. The calculation of the life cycle scenarios is based on a service life of **50 years** per electrical device.

The life cycle was modelled using the sustainability software tool „GaBi6“ for the development of Life Cycle Assessments. For the consideration of the impact categories the characterisation factors of the ELCD (European Reference Life Cycle Database) were used.

In accordance with the REACH candidate list, no substances of very high concern are contained.

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