Catalogue 2018

Window Automation

Ventilation Systems - Smoke and Heat Extraction (RWA)

nekos

Nekos was established in the early 2000s and in just a few years, with intense design and development activities and new products, it reached a leading position in the technological innovation of door and window automation systems; this pre-eminence was soon also recognised on the international market. The company dedicates great efforts to Research and Development, combining technological innovation and design through the expansion of its knowledge base and constant updating with the most modern technologies available, to produce innovation not only in automations but also in door and window construction techniques.

Nekos is the only company in the sector dedicated exclusively to automation systems for doors and windows, which has become its "core business": this is why Nekos, a sector specialist, always manages to meet particular and specific market needs, relying on skills acquired over time, introducing innovative ideas and new patents, and guaranteeing the important requirement of reliability and product quality.

Awareness of the need for a constant updating process provides an almost obsessive motivation to seek new solutions and to simplify and improve the work of installers and users, with attention also given to the environment.

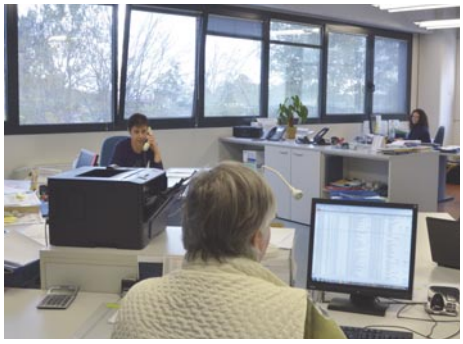
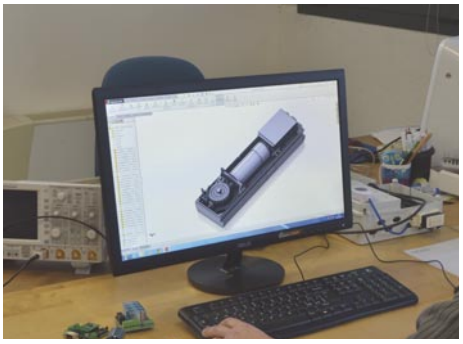
Production is a promise of quality that accompanies each phase of processing, in the choice of raw materials, manufacturing methods and careful control. Sensitivity to the particular and changing needs of the market finds concrete expression in the industrial operations, which produce innovation, technology, design, quality and reliability.

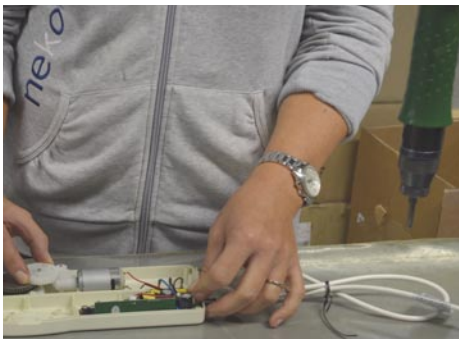
All the products conform to the required regulations and are subjected to objective quality testing by various certification bodies.

SYSTEMS FOR NATURAL VENTILATION OF ROOMS

SYSTEMS FOR SMOKE AND HEAT EXTRACTION

ACCESSORIES AND MACHINES FOR AUTOMATION OF WINDOWS, DOORS, CURTAINS...



neko



Choose your Actuator

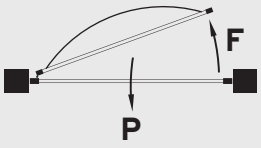
Window frames come in various types, sizes and weights. Some are installed where atmospheric agents such as wind and snow may play an important role in the determination of the forces required to move them.
This is why there are different families of automations that differ basically in their actuation system. The actuators can be **Chain, Rack or Rod actuators**.
Sometimes the frames must be moved automatically for practicality or security reasons, using electronic control devices such as control units for detection of atmospheric events or smoke and heat exhaust ventilation systems.
Before installing an actuator on the frame, it is necessary to check that the actuator is suited for the work to be carried out and, especially, that it has the desired performance characteristics.

FORMULAS TO CALCULATE THE PUSH OR PULL FORCE REQUIRED TO OPEN A WINDOW

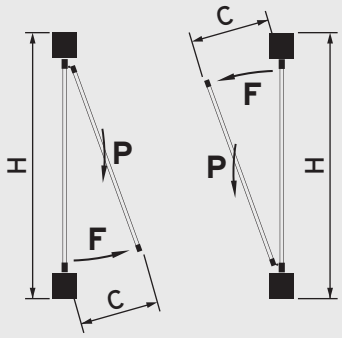
In order to determine the correct type of automation to be installed, it is essential to know the force required in order to move the frame.
A preliminary check can be made using the formulas provided below which, however, do not take into consideration the action of external agents on the frame such as friction, air currents, depressions, snow and wind.
A complete and fully updated formula is available on the website www.nekos.it, in the "Choose your product" section, which can be used to quickly find the right automation to be installed on the frame.

F = Force required to open and close - kg
P = Window weight (only movable part) - kg
C = Window opening truck run (actuator truck run) - cm
H = Window height - cm

1 N (Newton) = 0,102 kg
1 kg = 9,81 N

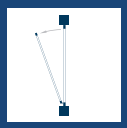


For horizontal domes and dormer windows
F = 0,54 x P



For outward opening or transom window
F = (0,54 x P) x (C:H)

OUTWARD FRAME
hinges in the top side, outside opening, actuator mounted inside in the bottom.



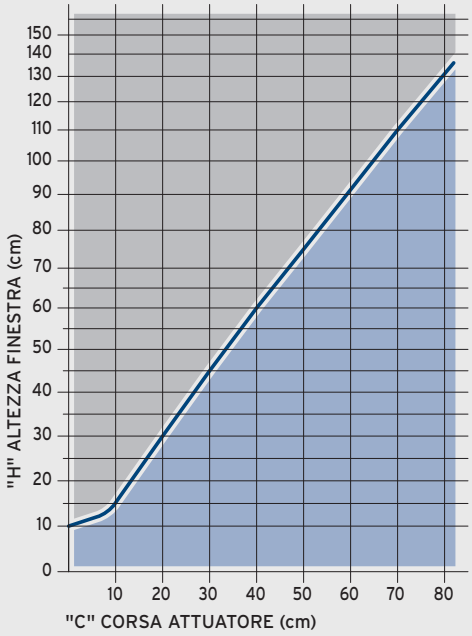
VASISTAS FRAME
hinges in the bottom side, inside opening, actuator mounted inside in the top.

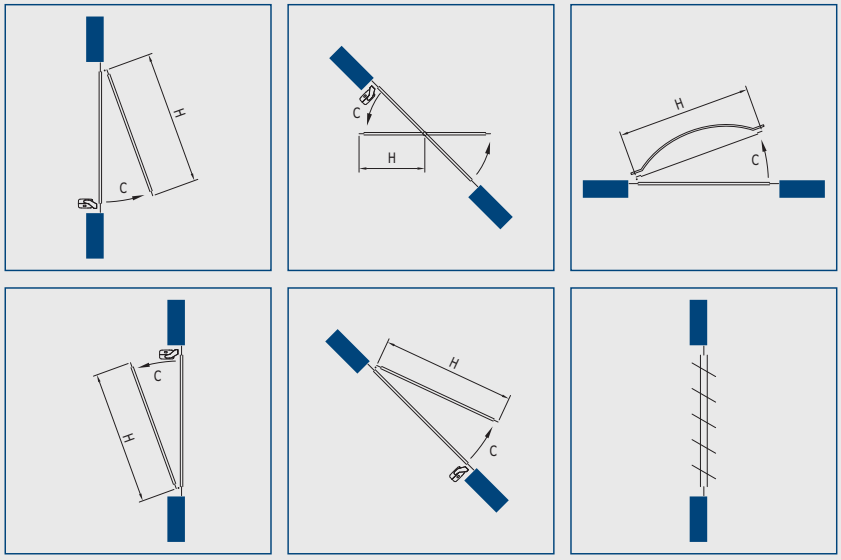
ROOF FRAME
hinges in a side, opposite outside opening, actuator mounted inside.

DOMES AND SKYLIGHTS
hinges in a side, opposite outside opening, actuator mounted inside.

DETERMINING THE ACTUATOR STROKE

The actuator stroke can be determined by considering the type of application. For linear actuators (rack and rod actuators) the user must consider the rotation and overall volume that the actuator occupies in the front compartment of the window; it is recommended that a technical check be carried out before installation.
For determining the maximum stroke that can be selected, refer to the chart below which indicates the maximum stroke attainable and/or settable considering the type and dimensions of the frame, its opening direction, and the need to ensure that no damage to the actuator or frame itself occurs during the movement.

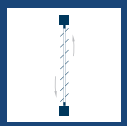




CASEMENT FRAME
hinges in a vertical side, inside opening, actuator mounted inside.

SLIDING FRAME
sliding, parallel to fix part.

PIVOTING FRAME
hinges in medium side position, 1/2 opening outwards 1/2 inwards, actuator mounted inside as outward or vasistas.



LOUVERS FRAME
rotation of louvers in medium side position, opening with a control lever.

Information on Safety

SAFETY IN MOTORISED WINDOWS AND IN SMOKE AND HEAT EXTRACTION SYSTEMS

The Machinery Directive and other applicable European Directives and Standards.
All the devices produced by Nekos and included in this catalogue are designed to open and close windows installed in domestic, commercial and industrial environments and to be used for both natural room ventilation and in the design of natural smoke and heat extraction systems for fire prevention.

Nekos actuators are designed and built to meet requirements for safety and the protection of persons and property, complying - where relevant - to the following European Directives and Standards:

1) 2006/42/EC - Machinery Directive,
2) 2014/35/EC - Low Voltage Directive (LVD),
3) 2014/30/EC - Electromagnetic Compatibility Directive,
4) 2014/53/EC - Radio Equipment Directive,
5) 2011/65/EC - Directive on the restriction of use of certain hazardous substances in electrical and electronic equipment (RoHS Directive),
6) STANDARD EN 60335-2-103 - Household and similar electrical appliances - Safety - Particular requirements for drives for gates, doors and windows,
7) STANDARD EN 12101-2 Smoke and heat control systems – natural smoke and heat exhaust ventilators.

BASIC CONCEPTS OF THE MACHINERY DIRECTIVE

According to the machinery directive, when a window or door is equipped with an actuator (electric, pneumatic or mechanical), it becomes a machine, which is defined as "an assembly, fitted with or intended to be fitted with a drive system other than directly applied human or animal effort, consisting of linked parts or components, at least one of which moves, and which are joined together for a specific application".
According to this directive, the manufacturer of the machine (natural or legal person), namely the person who places a "machine" on the market or in service, is responsible for its design, construction and compliance with the relevant standards. In specific cases, anyone who purchases an actuator, installs it on a window and places it in service (whether a builder, window manufacturer, design engineer, fitter, mechanical installer, electrician or even a private individual) is considered the manufacturer of the "window-machine".
The manufacturer must therefore:

A. ensure that a risk assessment is made to establish the safety requirements for the machine, which must then be designed and built based on the results of the risk assessment;
B. make sure that the machine meets the "essential safety and health protection requirements" before it is placed on the market;
C. provide a technical data sheet, which must be set out as required by the standard;
D. provide all necessary information, including instructions for use, installation and maintenance;
E. carry out the conformity assessment procedures and draft the EC Declaration of Conformity;
F. place CE marking on the window/machine.

CLASSIFICATION OF A PARTLY-COMPLETED MACHINE.

The Machinery Directive also regulates the field for "partly completed machinery", defined as "an assembly which is almost machinery but which cannot in itself perform a specific application. A drive system is "partly completed machinery".
Electric actuators for windows fall exactly into this category and are therefore "partly completed machinery", intended to be incorporated into a machine, namely a motorised window. The manufacturer of a partly completed machine must prepare relevant technical documentation and assembly instructions. It must also prepare and provide a Declaration of Incorporation, which will then be included in the machine technical file drafted by the manufacturer of the complete machine (e.g. the window). All electric actuators come under the standards mentioned above under points 2), 3), 4), 5).

According to these directives, the manufacturer must design and build the devices in conformity with the essential safety requirements for the risks covered by the standards, draft an EC Declaration of Conformity and place a label on the devices displaying all the required information (technical data) and the Mark.
Actuators for use in Smoke and Heat Extraction systems (abbreviated as RWA, from the German Rauch und Warm Abzug), as well as centralised control units, come under standard EN 12101-2 (point 7). Both the control units and the actuators must be tested within the window system - never alone - and are certified for use in the event of fire. The actuators are also tested under system loads in severe conditions, such as heat, wind, snow and low temperatures.
In conclusion, Nekos marks all their actuators with the CE mark and includes the EC Declaration of Conformity in its instruction booklets. It also provides the Declaration of Incorporation (on request from the sales department or as a download from the website), thereby complying with the provisions of the Machinery Directive and standard 60335-2-103.
For the RWA models, certifications are available for complete Smoke and Heat Evacuation systems in which the actuators are incorporated.

RISK ANALYSIS AND INSTALLATION CHOICES FOR MOTORISED WINDOWS

Throughout the entire process of design and production of its devices, Nekos, as manufacturer, pays close attention to the risk analysis required by the regulations. However, it cannot be held responsible for risks deriving from the final application of its products in the machine assembly, i.e. the window.
These risks must be assessed by the "manufacturer" through a thorough safety analysis, both during construction of the window and during installation and daily use, to identify and minimise any residual risks.
The risk analysis and protection measures are subject to national variations, depending on the local regulations in force. If these are lacking, for Europe, follow the indications of standard EN 60335-2-103.
This standard states that in certain situations (e.g. actuator H installation > 2.5 m), the risk analysis is not necessary because it is already in a safe situation. In other situations (e.g. H < 2.5 m), the standard itself indicates the safety measures to be taken to eliminate the risk (**for complete information, see the text of the standard).

Nekos has always had the important task of building products that are safe and comply with the regulations issued by the certification bodies. For its certifications, it relies on bodies and institutes of proven capacity and recognised at a worldwide level.

Nekos works with the following institutions and bodies for the certification of its products.

ift ROSENHEIM
c US
CMC Centro Misure Compatibilità
CREI Ven® Centro Ricerca Elettronica Industriale Veneto

Natural Ventilation

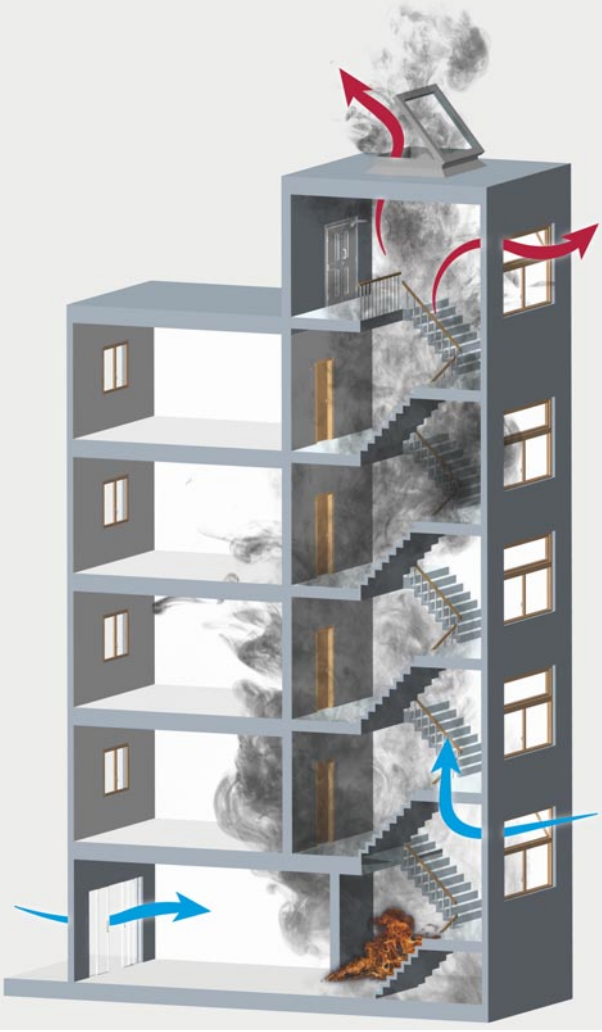
LET'S TALK ABOUT NATURAL VENTILATION (NRWG)

Most of us spend our daily lives indoors: it is essential that the air quality is healthy, clean and fresh in order to concentrate on our daily activities and for our physical well-being.
For healthy living, the air in the room should be changed several times a day.
There are various systems for air exchange in rooms: the simplest and cheapest, which is available to everyone, is the natural one: you open a window on one side and let out the stale air on the other.
At Nekos, we have been engaged for some time in the development and construction of door and window automation processes, designing and building devices and control units capable of autonomously ensuring the natural ventilation of rooms.

Around our actuators, which are machines that physically open and close windows, we have integrated a series of intelligent control units, to combine the entire natural ventilation process in one system.

Also for smoke and heat extraction systems, there are now various types of products capable of naturally expelling fumes and harmful gases completely autonomously and in compliance with current regulations.
In the event of a fire in a room, it is important to know the escape routes clearly and immediately, as these are essential for survival.

These points, examined more specifically below, in the chapter on control units for heat and smoke extraction, are intended to illustrate how controlled room ventilation can be implemented and how to ensure clean air and the expulsion of smoke and harmful gases when necessary.



Browsing through this catalogue, you will often come across abbreviations (e.g. RWA, NRWG, etc.), which are a legacy of the German nomenclature used for natural ventilation techniques.

Smoke and Heat Extraction

SMOKE AND HEAT EXTRACTION SYSTEMS (RWA)

Smoke and heat extraction systems are a fundamental component of fire prevention.
The chosen system must be suitable for the structure and construction of the building and must provide the best solution to save human lives and property. In any application, in the event of fire, the maximum reliability of the smoke and gas extraction system is fundamental; the RWA system presented in this catalogue offers the desired safety.
The essential operating concept of a fire prevention system consists in preventing smoke from remaining in enclosed spaces and entering escape routes and areas for the survival of people.
The safety system must be automatically activated to open all the windows from which the smoke and gases can be expelled, thereby freeing the escape routes to areas with clean, fresh air.

During normal daily life, the same system ensures a controlled supply of fresh air in the rooms, to improve the living environment and people's health, with no need to install any other system.
It should not be forgotten that the system produces economies of management, with a single system serving various different purposes, but above all, the natural ventilation of the rooms can be used without having to rely on forced air conditioning systems, with all the advantage of a better quality of life.

NATURAL SMOKE AND HEAT VENTILATION DEVICES (NRWG) IN ACCORDANCE WITH EUROPEAN STANDARD EN 12101-2

All heat and smoke evacuation devices must be manufactured in accordance with standard EN 12101-2.
The specific certification (NRWG) establishes testing systems for the devices that make up the system, such as the window, the automation, the detector devices and the control units.

The construction materials are also subject to this certification. According to the above standard EN 12101-2, building products B part 1, they must be tested and certified for use in buildings; the product catalogue includes motors, fixing materials, window profiles, glass, window fixtures (scissor hinges, sash hinges, etc.), seals, etc.

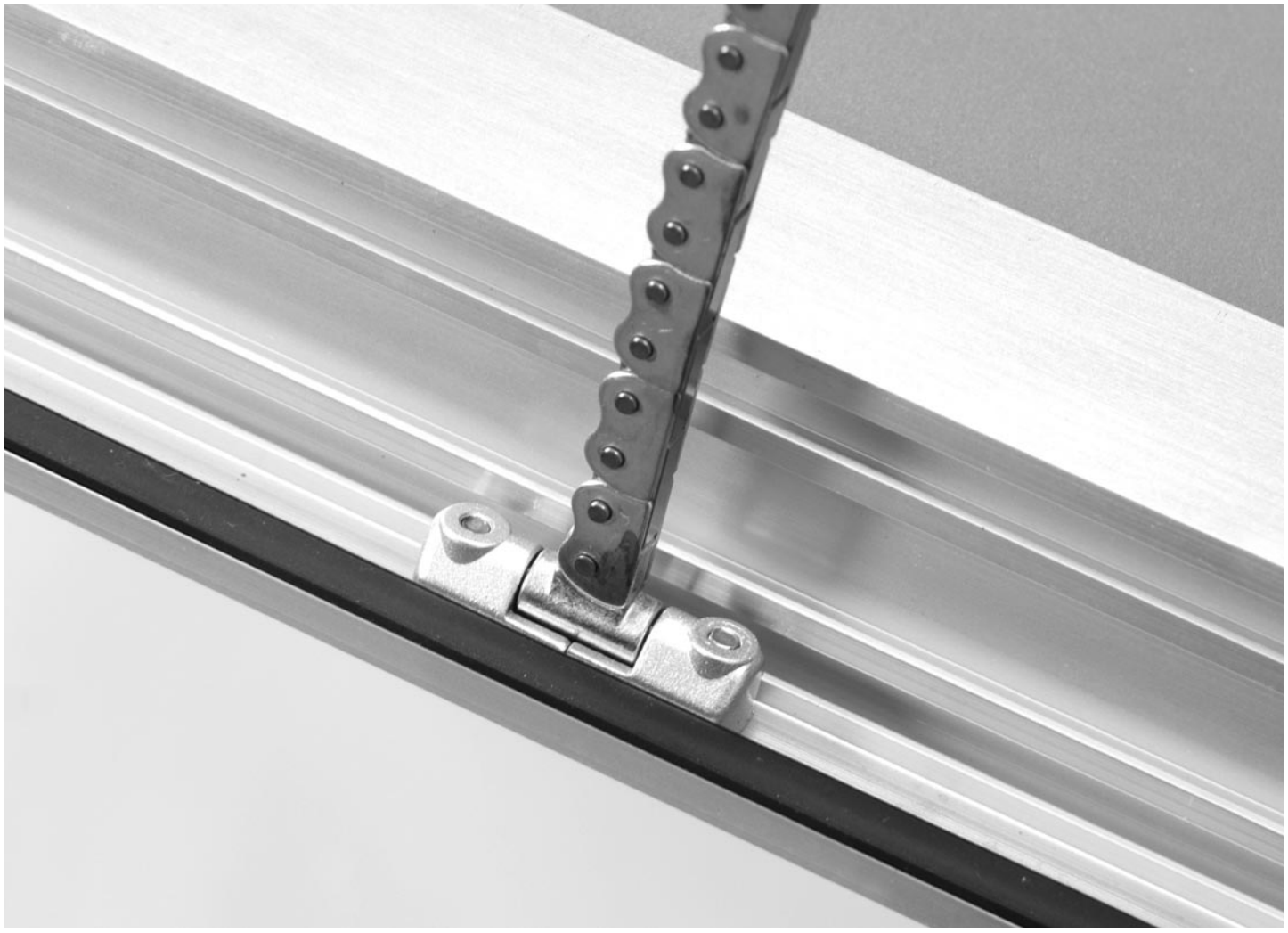
The construction and distribution of extraction systems should be studied in relation to the structure of the building, which can include vents in vertical walls, on the roof, in forced ducting, etc. Numerous manufacturers have introduced various solutions on the market, however the systems must be verified by the notified inspection authorities. If the test results are positive, the producers receive a classification report and can place their products on the market.
The automation and control systems presented on the following pages have obtained certifications that guarantee maximum reliability of operation in the event of fire.

WHY SMOKE AND HEAT EXTRACTION IS SO IMPORTANT

When a fire occurs, smoke and toxic gases put people's lives in danger. Statistics confirm that almost all cases of death in building fires are caused by poisoning from inhaling smoke and toxic gas rather than by the rapid rise in temperature. The spread of smoke inside the rooms causes considerable material damage to structures and equipment.
Lowering the temperature or delaying its increase preserves the stability of the buildings and facilitates fire-fighting, by creating visibility in the areas of access and delaying the lateral spread of the fire.

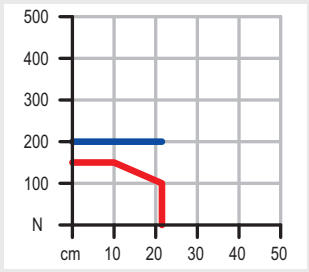
Nekos produces electrical actuators and systems for opening windows and ventilation outlets in the event of fire.
The use of an integrated SMOKE AND HEAT EXTRACTION system (RWA) linked to the actuators is aimed at protecting people, ensuring their maximum survival, and facilitating the extraction of hot air and smoke from the premises.
Creating a smoke-free zone at lower levels near the floor, freeing up stairwells and corridors, and lessening the concentration of toxic gases improves visibility in the escape routes for people and facilitates access for the emergency services.
For this purpose, the actuators have been designed and tested for use with integrated systems and with windows for smoke and heat extraction, in accordance with European standard EN12101-2.

CHAIN ACTUATORS



KIMO | Chain actuator 200N

- A flush-mounted electric chain actuator for awning windows, hopper windows and dormers. Kimo is a latest generation actuator equipped with a microprocessor that can be combined with a building automation system. It includes the following features:
- A progressive starting ramp and power control over the entire stroke.
- Intuitive and immediate stroke selection with dip-switches.
- Relax function, with release of tension on mechanical parts after each stoke-end generated by a mechanical lock.
- Nekos patented chain.
- Flush-mounted window brackets that allow the motor to be inspected, even during a power outage or product failure.
- Intelligent, compact and robust (built entirely of metal), it is the smallest commercially available window actuator. Combined with the K-LOCK and the perimeter fittings, it provides a burglar-proof window lock. Can be flush mounted in any European groove profile. It fixes to the frame with two brackets. Extremely quiet (42 dBA) and sturdy, with compact dimensions.



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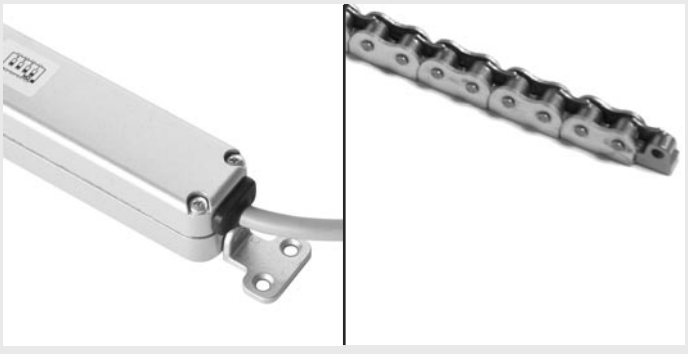


APPLICATIONS

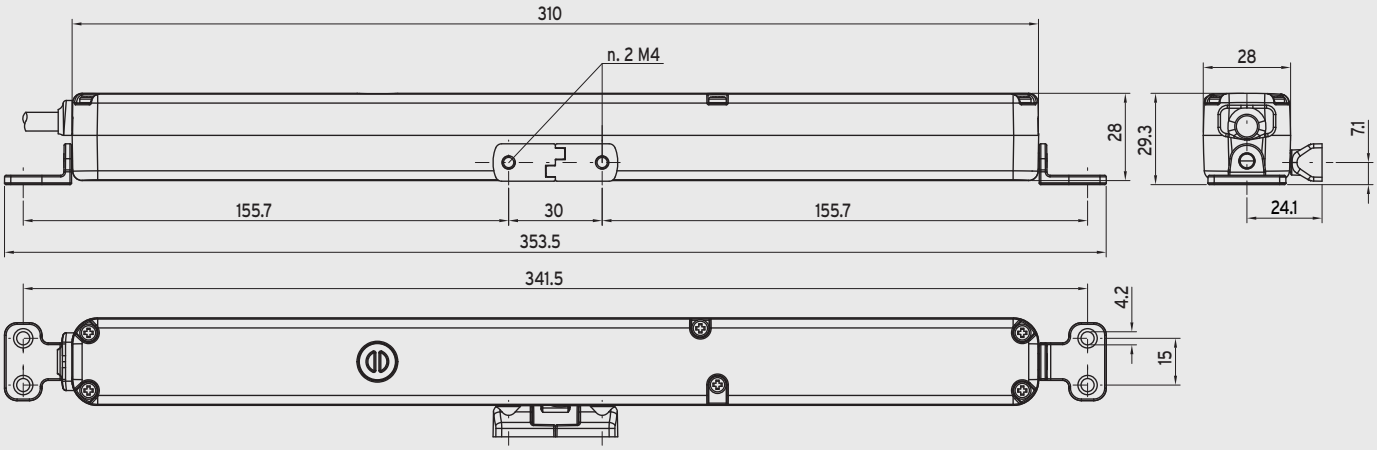
VASISTAS FRAME
OUTWARD FRAME
PIVOTING FRAME
ROOF FRAME

TO BE USED WITH:

K-LOCK and BK-LOCK
Series KL and Series KL-R
MODIX 2/4/6
MY-SUN1 and MY-SUN3
ALI'SW

TECHNICAL CHARACTERISTICS (Functional and mechanical features)

- Electric actuator with a three-link articulated chain (Nekos patent), enclosed in a sturdy metal housing, suitable for opening and closing awning and hopper windows. Traction power 200 N, thrust 100 N, operates only at low voltage (24V DC).
- Supplied complete with screw-less pivoting support brackets and a universal coupling bracket for awning and hopper windows.
- Opening stroke-end can be adjusted at any time by selecting the dip-switches, closing stroke-end with power absorption as protection against overload.
- Can be connected in parallel. Complies with EU directives (EMC Directive, Low Voltage Directive).
- Comes in only one colour: Grey (RAL9006) with a grey silicone cable.



MODEL	KIMO - 24V
Force exerted by thrust	100N
Force exerted by traction	200N
Strokes (can be selected at any time)	70, 125, 170, 210 mm
Power supply voltage	24 V
Rated absorbed current	0,36 A
Power absorbed at nominal load	8,6 W
No load speed	5,5 mm/s
Duration of no load stroke (210 mm)	38 s
Type of service	S2 of 3 min
Operating temperature	- 5 + 65 °C
Protection index for electrical devices	IP32
Adjustment of connection to window frame	Automatic definition of position

Parallel powering of two or more motors	YES (max 20 actuators)
Operation with BK-LOCK electromechanical lock	Yes
Synchronised function	Not foreseen
Holding nominal force (it can vary according to the chosen brackets)	1.700N
Stroke-end at opening	Electronic by dip-switch
Stroke-end at closing	At absorption of power
Chain exit	Central
Length of power cable	2 m
Dimensions	29x29x310 mm
Weight	0,720 Kg

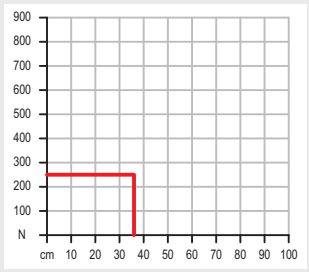
CODE	MODEL
6050072	Actuator KIMO 24V – max. stroke 210 mm

KATO253 | Chain actuator 250N

A chain actuator for awning windows, hopper windows, flat roof domes and dormers. KATO 253 is an ingenious evolution developed by Nekos to cater to market demands. Small, smart and affordable! Simple mechanical selection of two different strokes: 240 mm and 360 mm. Equipped with a microprocessor with the following functions:

- Progressive power ramp.
- Power control over the entire stroke.
- Simple and immediate stroke selection.
- Relax function for releasing tension in mechanical parts after each stroke end.
- Accessories compatible with the entire Kato series.

It has compact dimensions; the body and brackets are made from high-strength composite material (glass fibre-reinforced polyamide). This actuator also adopts the same patents as the chain actuators produced with Nekos technology, both for the quick coupling actuator support and for the window fixings.



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EP1723303 - EP1723304B1

APPLICATIONS

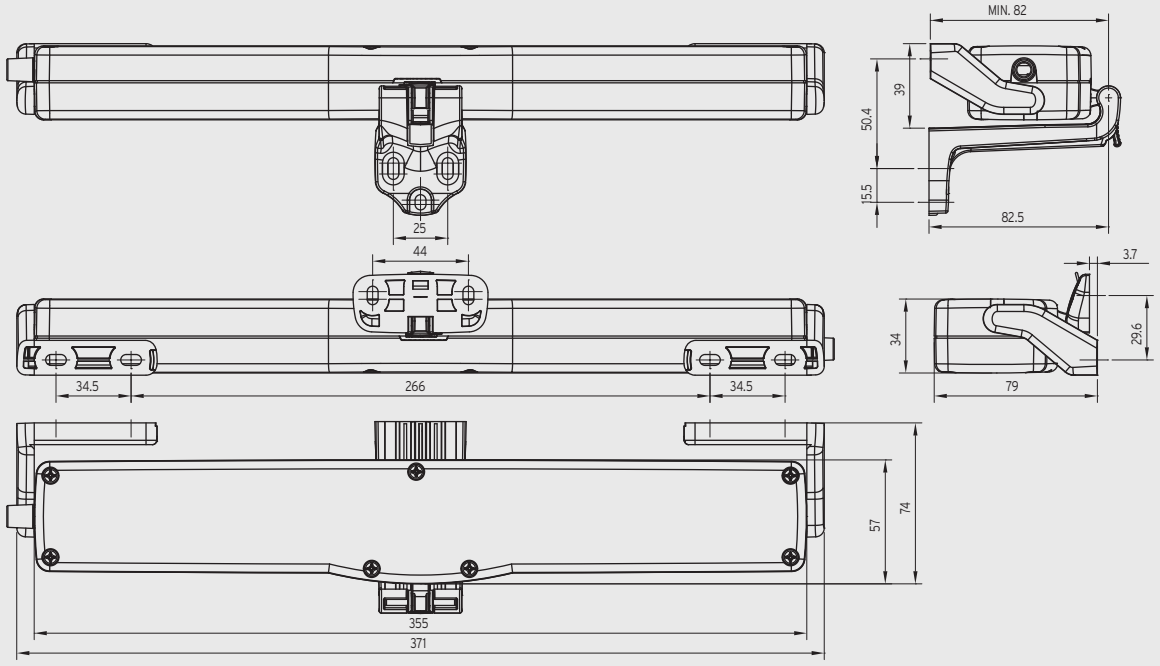
VASISTAS FRAME
OUTWARD FRAME
PIVOTING FRAME
DOMES
SKYLIGHTS
ROOF FRAME

TO BE USED WITH:

KATO 253 24V:
KOUPLE 24V
Series KL and Series KL-R
MODIX 2/4/6
MY-SUN1 and MY-SUN3

TECHNICAL CHARACTERISTICS (Functional and mechanical features)

- Electric actuator with double-row four-link articulated chain enclosed in a sturdy composite housing, suitable for opening awning windows, hopper windows, flat roof domes and dormers.
- Traction and thrust power 250N. Powered by 100-240V 50/60Hz or, alternatively, 24V DC. It is supplied complete with screw-less quick coupling brackets (patented) and quick coupling awning or hopper window brackets (patented).
- Two opening strokes with mechanical selection. Stroke-end stop during opening and closing with absorption of power and as protection against overload.
- Can be connected in parallel. Complies with EU directives (EMC Directive, Low Voltage Directive).
- Standard Colours: Black (similar to RAL9004) with black power cable, White (similar to RAL9003) and Grey (similar to RAL7047) with white cable.



MODEL	KATO253 230V	KATO253 24V
Force exerted by thrust and traction	250 N	
Strokes (can be selected at any time)	240, 360 mm	
Power supply voltage	100-240V~ 50/60Hz	24V
Rated absorbed current	0,42-0,21 A	0,78 A
Power absorbed at nominal load	~ 23-20 W	~ 19 W
No load speed	15 mm/s	13,3 mm/s
Duration of no load stroke (360 mm)	24 s	27 s
Double electrical insulation	YES	Low tension
Type of service	S_2 of 3 min	
Operating temperature	- 5 + 65 °C	

Protection index for electrical devices	IP30
Adjustment of connection to window frame	Automatic definition of position
Parallel powering of two or more motors	YES (max 30 actuators)
Synchronised function	Not foreseen
Holding nominal force (it can vary according to the chosen brackets)	1500N
Stroke-end at opening	At absorption of power
Stroke-end at closing	At absorption of power
Length of power cable	1 m
Dimensions	356x56x33,5 mm
Weight	0,83 Kg 0,80 Kg

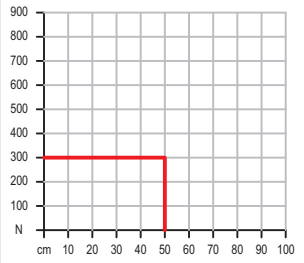
KATO 253 230V:
KOUPLE 230V
Series KH and Series KH-R
RR2-M

CODE	MODEL
6030080	KATO|253 230V stroke 240/360 black
6030081	KATO|253 230V stroke 240/360 white
6030082	KATO|253 230V stroke 240/360 grey
6050057	KATO|253 24V stroke 240/360 black
6050058	KATO|253 24V stroke 240/360 white
6050059	KATO|253 24V stroke 240/360 grey

KATO | Chain actuator 300N

The strengths of Nekos products are recognised in all the actuators, but KATO was and remains the parent product of the entire family. An idea made concrete in practice. For many years, it has been used by manufacturers of windows, dome rooflights and attic windows, by electricians and in special applications.

- Brackets for quick fitting of the actuator in its working position, variable strokes that can be selected electronically, easy chain to window attachment (Nekos patent) and the relax function are the main and defining characteristics that distinguish KATO and all other actuators developed after it.
- Compact overall dimensions, only 37x59 cm in section; the body and the brackets are made from strong composite material (glass fibre-reinforced polyamide).



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MODEL	KAT0230	KAT024
Force exerted by thrust and traction	300N	
Strokes (can be selected at any time)	110, 200, 300, 400 mm	
Power supply voltage	230V~	24V
Rated absorbed current	0,25 A	0,9 A
Power absorbed at nominal load	~27 W	~22 W
No load speed	14,6 mm/s	14,6 mm/s
Duration of no load stroke (400 mm)	27 s	27 s
Double electrical insulation	Yes	Low tension
Type of service	S_2 of 3 minutes	
Operating temperature	- 5 + 65 °C	
Protection index for electrical devices	IP30	

Adjustment of connection to window frame	Automatic definition of position
Parallel powering of two or more motors	Yes (max 20)
Synchronised function	No
Holding nominal force (it can vary according to the chosen brackets)	1.600 N
Stroke-end at opening	Electronic with regulation by means of dip-switches
Stroke-end at closing	At absorption of power
Signalling 'window open/window closed'	No
Length of power cable	2 m
Dimensions	386,5x59x37 mm
Weight (Kg)	0,98 0,97

APPLICATIONS

VASISTAS FRAME
OUTWARD FRAME
PIVOTING FRAME
DOMES
SKYLIGHTS
ROOF FRAME

CODE	MODEL
6030001	KATO 230V black
6030002	KATO 230V white
6030003	KATO 230V grey
6050001	KATO 24V black
6050002	KATO 24V white
6050003	KATO 24V grey

KATO Syncro³ | Actuator for Coordinated Synchronisation

- Kato Syncro³ is an evolution of the original Nekos patent. It allows perfectly coordinated synchronisation of up to 8 actuators without the use of external control units.
- Syncro³ is the only true window actuator synchronisation device available on the market and is only one of several patents registered by Nekos, confirming the high technological level reached by the company and its R&D department.

SYNCRO³

PATENTED

EP13156370 - EP1723303
EP1723304B1

MODEL	SYNCRO³230	SYNCRO³24
Force exerted by thrust and traction	300N	
Strokes (can be selected at any time)	100, 200, 400 mm	
Power supply voltage	100-240V~	24V
Rated absorbed current	0,34-0,21A	0,95 A
Power absorbed at nominal load	~26-27 W	~23 W
No load speed	8,9 mm/s	8,9 mm/s
Duration of no load stroke (400 mm)	44 s	44 s
Double electrical insulation	Yes	Low tension
Type of service	S_2 of 3 minutes	
Operating temperature	- 5 + 65 °C	
Protection index for electrical devices	IP30	

Adjustment of connection to window frame	Automatic definition of position
Parallel powering of two or more motors	Yes (max 10)
Synchronised function	Yes (max 8)
Holding nominal force (it can vary according to the chosen brackets)	1.600 N
Stroke-end at opening	Electronic with regulation by means of dip-switches
Stroke-end at closing	At absorption of power
Signalling 'window open/window closed'	No
Length of power cable	2,5 m
Dimensions	386,5x59x37 mm
Weight (Kg)	1,15

APPLICATIONS

VASISTAS FRAME
OUTWARD FRAME
PIVOTING FRAME
DOMES
SKYLIGHTS
ROOF FRAME

CODE	MODEL
6030504	KATO Syncro³ 230V black
6030505	KATO Syncro³ 230V white
6030506	KATO Syncro³ 230V grey
6050504	KATO Syncro³ 24V black
6050505	KATO Syncro³ 24V white
6050506	KATO Syncro³ 24V grey

KATO ADV Radio | Remote-controlled Actuator 230V

- KATO ADV Radio is the wireless evolution of the KATO family.
- It has the same body but a different and evolved intelligence. Complete with a radio frequency receiver integrated in the actuator body, it is suitable for installation wherever there is a need for remote control, through the PIK Radio Remote Control unit with rolling code technology.
- It can also be connected, at the same time, to a wired pulse control located near the window.
- Use together with the NRS1 and NRS1R rain detector series allows automatic closure of the window by wire or radio signal in the event of rain, without need for additional control units.

PATENTED

EP1723303 - EP1723304B1

MODEL	KATO ADV RADIO
Pressure and traction force	300 N
Strokes (can be selected at any time)	100, 200, 300, 400 mm
Voltage	100-240V~ 50/60 Hz
Current consumption at nominal charge	0,31-0,24 A
Current consumption with no charge	0,084-0,042 A
Charge absorbed at nominal load	23-27 W
No load speed	15,7 mm/s
No load duration (400 mm)	25 s
Double electrical insulation	YES
Type of service	S_2 of 3 min

Working temperature	- 5 + 65 ºC
Protection index	IP30
Adjustment of socket at casing	Autopositioning
Holding nominal force (it can vary according to the chosen brackets)	1.600 N
Connection in parallel	YES
Limit switch stop at opening	Electronic by means of dip-switches
Limit switch stop at closure	At absorption of charge
Dimensions	386,5x59x37
Weight	1,000 kg

APPLICATIONS

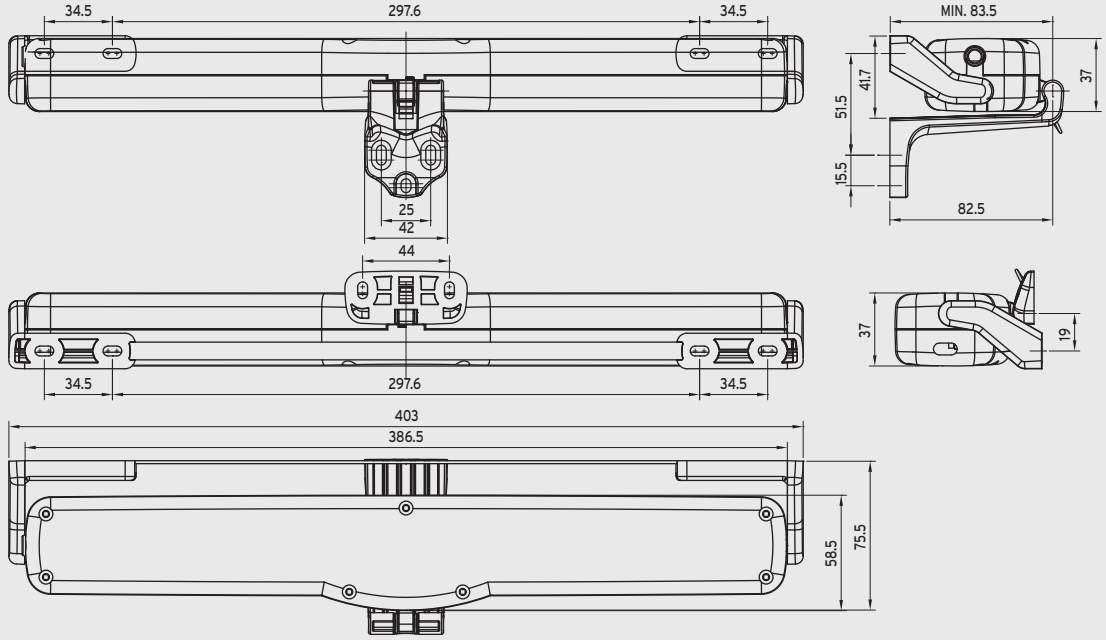
VASISTAS FRAME
OUTWARD FRAME
PIVOTING FRAME
DOMES
SKYLIGHTS
ROOF FRAME

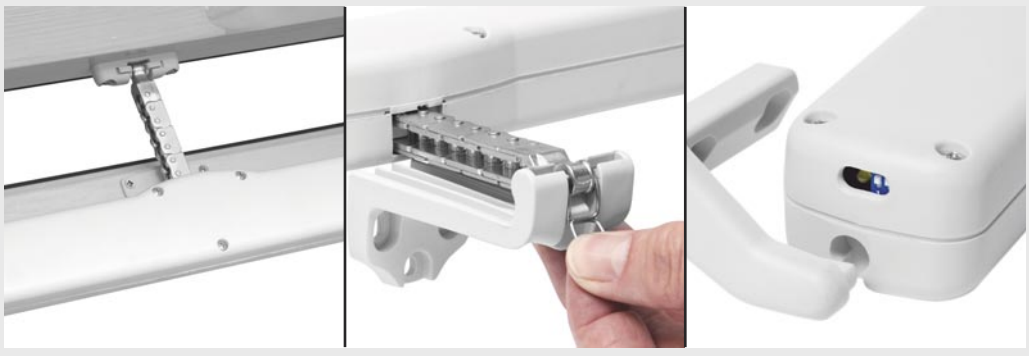
CODE	MODEL
6030580	KATO ADV Radio black
6030581	KATO ADV Radio white
6030582	KATO ADV Radio grey
7505021	NRS1 Heated Rain sensor
7505034	NRS1/R Rain sensor with radio transmission
7505025	PIK Remote control

IMPORTANT: remote control and rain sensor are provided separately.

TECHNICAL CHARACTERISTICS (Functional and mechanical features)

- Electric actuator with a double-row four-link articulated chain enclosed in a sturdy composite material housing (glass fibre-reinforced polyamide). Suitable for opening awning windows, hopper windows, dome rooflights and dormers.
- Traction and thrust power 300N. Powered by 230V 50Hz or, alternatively, 24V DC low voltage.
- Supplied complete with screw-less quick coupling actuator mounting brackets (patented) and quick coupling/release awning or hopper window brackets (patented).
- Stroke-end: electronic opening stroke-end with variable strokes that can be selected at any time with the dip-switches. Closing stroke-end with power absorption.
- Can be connected in parallel. Complies with EU directives (EMC Directive, Low Voltage Directive).
- Standard colours: Black (ref. RAL9004) with black power cable, White (ref. RAL9003) and Grey (ref. RAL7047) with white cable.





TO BE USED WITH:

KATO and KATO SYNCRO³ 24V:
BK-LOCK
Series KL and Series KL-R
MODIX 2/4/6
MY-SUN1 and MY-SUN3

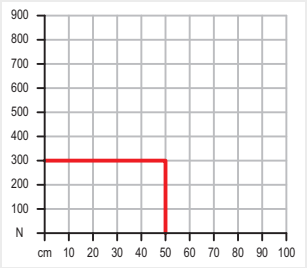
KATO and KATO SYNCRO³ 230V:
Series KH and Series KH-R
RR2-M

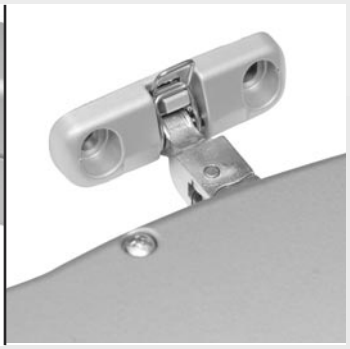
KATO ADV RADIO 230V:
PIK
NRS1
NRS1-R

KATO305 | Metal Chain actuator 300N

- The RWA version of KATO305 has passed the toughest heat and fire resistance tests indicated by standard EN 12101-2:2003-09 with flying colours, obtaining B 300 classification with certificate no. 13-000921 at the IFT testing institute in Rosenheim in 2013.
- KATO305 actuators ensure safety, quality, efficiency, reliability and simplicity of construction, in an attractive design for incorporation into state-of-the-art windows.
- They have new electronic technology with a microprocessor for position control and management of all phases of operation. The body is made of die cast aluminium and the brackets are zinc alloy (zamak).
- They are easy to install, thanks to quick-coupling installation on the support brackets and no need for screws or fixings (Nekos patented system); another Nekos patent is the quick release of the window for easy cleaning.
- Strokes can be selected through dip-switches.

PATENTED
EP1723303 - EP1723304B1





APPLICATIONS

VASISTAS FRAME
OUTWARD FRAME
PIVOTING FRAME
DOMES
SKYLIGHTS
ROOF FRAME

TO BE USED WITH:

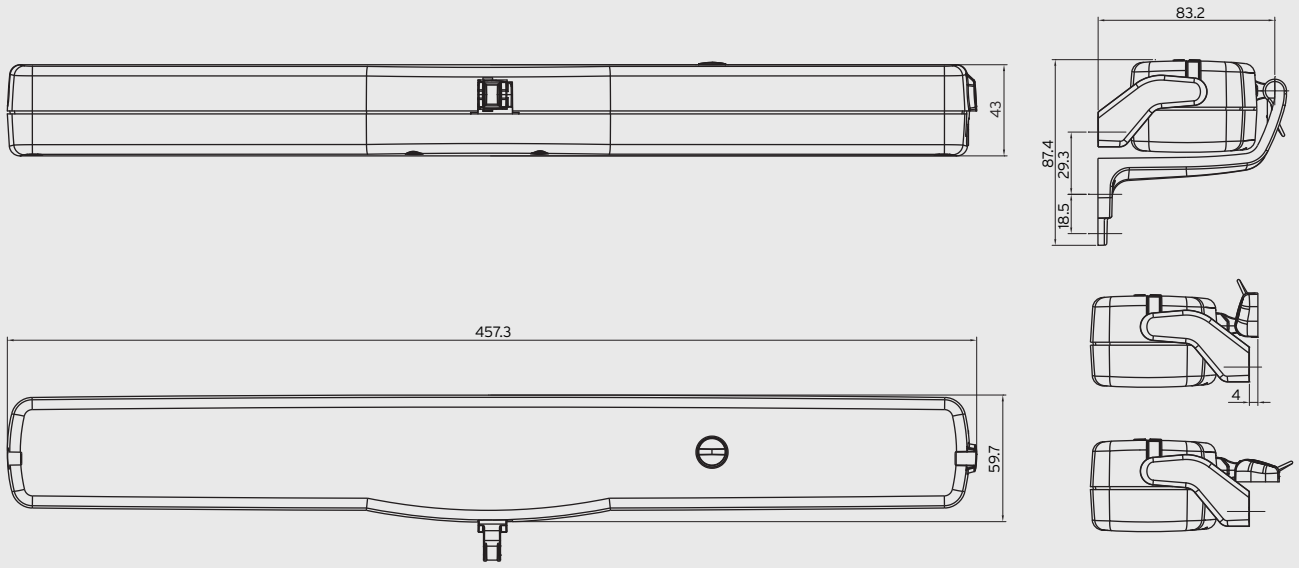
KATO305|RWA 24V:
BK-LOCK
Series KL and Series KL-R
FV3 - FV6
FV 25-50-75
MODIX 2/4/6

KAT0305|RWA 24V

KAT0305 230V

TECHNICAL CHARACTERISTICS (Functional and mechanical features)

- Electric linear actuator with double-row four-link articulated chain enclosed in a sturdy aluminium housing, suitable for opening awning windows, hopper windows, dome rooflights and dormers. Thrust and traction power 300 N.
- Built to operate at 100-240V 50/60Hz voltage or, for RWA systems, at 24V DC low-voltage, in accordance with European Standard EN12101-2.
- Supplied complete with universal quick-coupling, screw-less pivoting support brackets (patented).
- Electronic opening stroke-end with three strokes (200 - 300 - 500 mm), which can be selected at any time with dip switches; closing end-stroke with power absorption as protection against overload. Soft Stop and Relax Functions.
- Can be connected in parallel. Complies with EU directives (EMC Directive, Low Voltage Directive).
- Standard colours: Black (RAL9005) with black power cable, White (RAL9010) and Grey (RAL9006) with white cables. The 24V versions have a grey silicone cable.
- Window brackets must be requested separately.



MODEL	230V	RWA 24V
Force exerted by thrust and traction	300 N	
Strokes (can be selected at any time)	200, 300, 500 mm	
Power supply voltage	100-240V~ 50/60Hz	24V
Rated absorbed current	0,320 - 0,210 A	0,950 A
Power absorbed at nominal load	25-28 W	23 W
No load speed	9,2 mm/s	9,2 mm/s
Duration of no load stroke (500 mm)	54 s	54 s
Double electrical insulation	YES	
Type of service	S_2 of 3 min	
Operating temperature	- 5 + 65 °C	
Protection index for electrical devices	IP32	

Adjustment of connection to window frame	Automatic definition of position
Parallel powering of two or more motors	YES (max 10)
Synchronised function	YES (mod. Syncro^3- max 8)
Holding nominal force (it can vary according to the chosen brackets)	2.000N
Stroke-end at opening	Electronic by means of dip-switches
Stroke-end at closing	At absorption of power
Signalling 'window open/window closed'	No
Length of power cable	2 m
Dimensions	456x60x43 mm
Weight	1,55 Kg

KAT0305 230V:
Series KH and Series KH-R
RR2-M

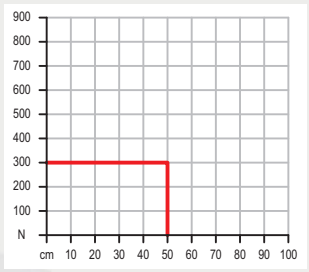
CODE	MODEL
6031001	KATO 305 230V black
6031002	KATO 305 230V white
6031003	KATO 305 230V grey
6051001	KATO 305|RWA 24V black
6051002	KATO 305|RWA 24V white
6051003	KATO 305|RWA 24V grey

KATO305 Syncro^3 | Metal Chain actuator for Synchronisation

- The Syncro^3 version, based on communication between the actuators through a direct connection, allows instantaneous control of the force, speed and resistance of each of them through an encoder that reads the work of the individual motors. This continuous exchange of information allows the actuators to open and close in synchrony.
- Syncro^3 software now allows you to directly connect up to 8 motors without the need for external synchronisation units.
- The designer must calculate the number of actuators to place on the windows, which varies according to the size, weight and type of the windows.
- Strokes can be selected through dip-switches.

PATENTED
EP13156370

SYNCRO^3



APPLICATIONS

VASISTAS FRAME
OUTWARD FRAME
PIVOTING FRAME
DOMES
SKYLIGHTS
ROOF FRAME

TO BE USED WITH:

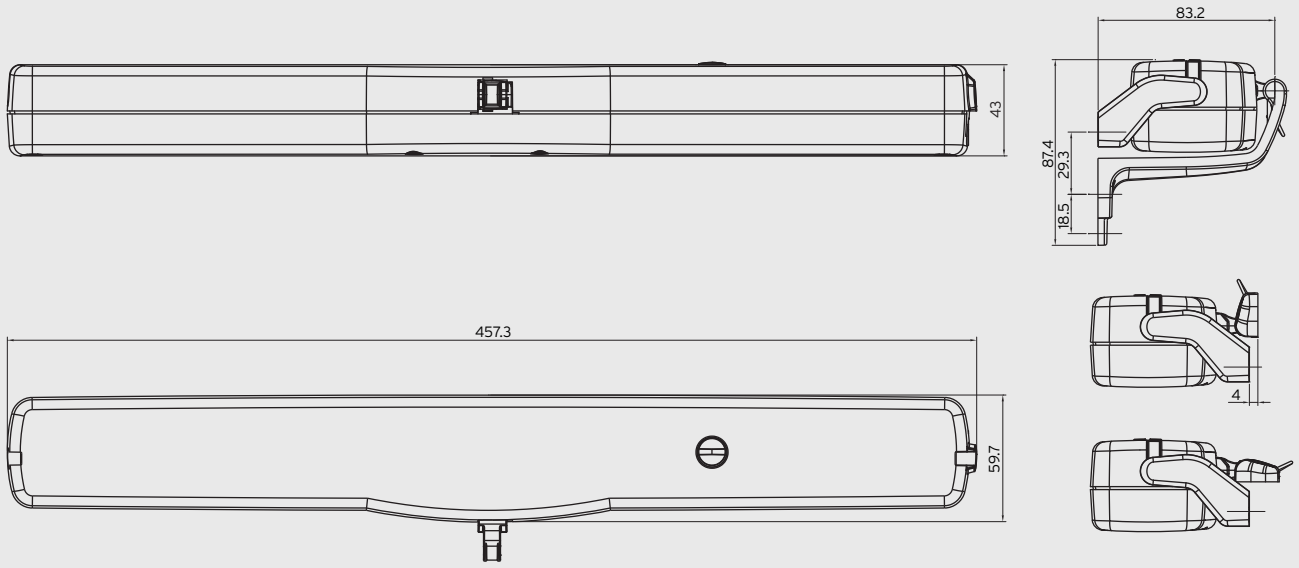
KATO305|RWA Syncro 24V:
BK-LOCK
Series KL and Series KL-R
FV3 - FV6
FV 25-50-75
MODIX 2/4/6

KAT0305|RWA Syncro 24V

KAT0305 Syncro 230V

TECHNICAL CHARACTERISTICS (Functional and mechanical features)

- Electric linear actuator with double-row four-link articulated chain enclosed in a sturdy aluminium housing, suitable for opening awning windows, hopper windows, dome rooflights and dormers. Thrust and traction power 300 N.
- Built to operate with 100-240V 50/60Hz voltage or 24V DC low voltage RWA systems, in accordance with European Standard EN12101-2.
- Supplied complete with universal quick-coupling, screw-free pivoting support brackets (patented).
- Electronic opening stroke-end with three strokes (200 - 300 - 500 mm), which can be selected at any time with dip switches; closing end-stroke with power absorption as protection against overload. Soft Stop and Relax Functions.
- Can be connected in parallel. Complies with EU directives (EMC Directive, Low Voltage Directive).
- Standard Colours: Black (RAL9005) with black power cable, White (RAL9010) and Grey (RAL9006) with white cables. The 24V versions have a grey silicone cable.
- Window brackets must be requested separately.



MODEL	230V	RWA 24V
Force exerted by thrust and traction	300 N	
Strokes (can be selected at any time)	200, 300, 500 mm	
Power supply voltage	100-240V~ 50/60Hz	24V
Rated absorbed current	0,320 - 0,210 A	0,950 A
Power absorbed at nominal load	25-28 W	23 W
No load speed	9,2 mm/s	9,2 mm/s
Duration of no load stroke (500 mm)	54 s	54 s
Double electrical insulation	YES	
Type of service	S_2 of 3 min	
Operating temperature	- 5 + 65 °C	
Protection index for electrical devices	IP32	

Adjustment of connection to window frame	Automatic definition of position
Parallel powering of two or more motors	YES (max 10)
Synchronised function	YES (mod. Syncro³- max 8)
Holding nominal force (it can vary according to the chosen brackets)	2.000N
Stroke-end at opening	Electronic by means of dip-switches
Stroke-end at closing	At absorption of power
Signalling 'window open/window closed'	No
Length of power cable	2,5 m
Dimensions	456x60x43 mm
Weight	1,55 Kg

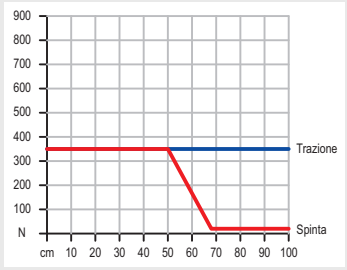
KAT0305 Syncro 230V:
Series KH and Series KH-R
RR2-M

CODE	MODEL
6031504	KATO 305 230V Syncro³ black
6031505	KATO 305 230V Syncro³ white
6031506	KATO 305 230V Syncro³ grey
6051504	KATO 305|RWA 24V Syncro³ black
6051505	KATO 305|RWA 24V Syncro³ white
6051506	KATO 305|RWA 24V Syncro³ grey

INKA356 | Metal Chain actuator 350N

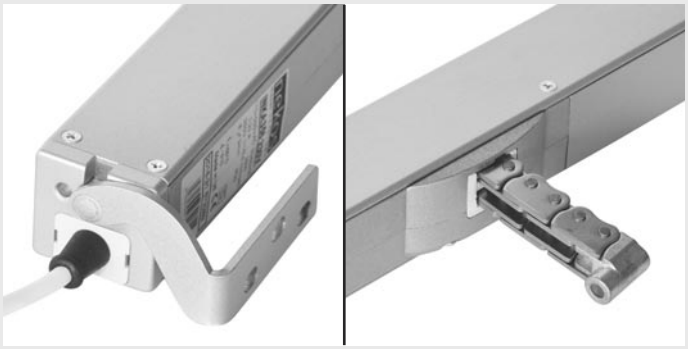
- INKA 356 is a new product that extends the product offer in terms of power (350N) and stroke range (from 100 to 1000 mm), while also adapting to all types of windows (awning windows, hopper windows, dome rooflights and dormers) and providing the possibility of flush mounting.
- The machine, enclosed in an aluminium housing, features an elegant design and compact dimensions (34.6x37 mm), allowing surface mounting with minimal visual impact, flush mounting and installation on curtain walls.
- Natural Smoke and Heat Extraction (N-SHE/RWA): INKA 356 is made entirely of metal and has been certified in accordance with standard EN12101-2 for use in RWA systems.
- Silent operation: only 41 dB, with no loss in power. The development of a new electronic energy performance concept allows the actuator to apply the right force as needed.
- Its sophisticated electronics and microprocessor allow easy integration into industrial and home automation systems and connection to other devices to transmit the window open/closed signal.
- The INKA 356 actuator combined with the K-LOCK electromechanical lock and perimeter fittings provides a reliable burglar-proof window system and high thermal insulation values thanks to perfect window closure.

- Optional window open/closed signal.
- Standard machine with stainless steel chain; a version with a galvanised chain is also available.
- All mounting brackets must be requested separately.



PATENTED

EP1723303 - EP1723304B1
EP13156370



APPLICATIONS

VASISTAS FRAME
OUTWARD FRAME
PIVOTING FRAME
DOMES
SKYLIGHTS
ROOF FRAME

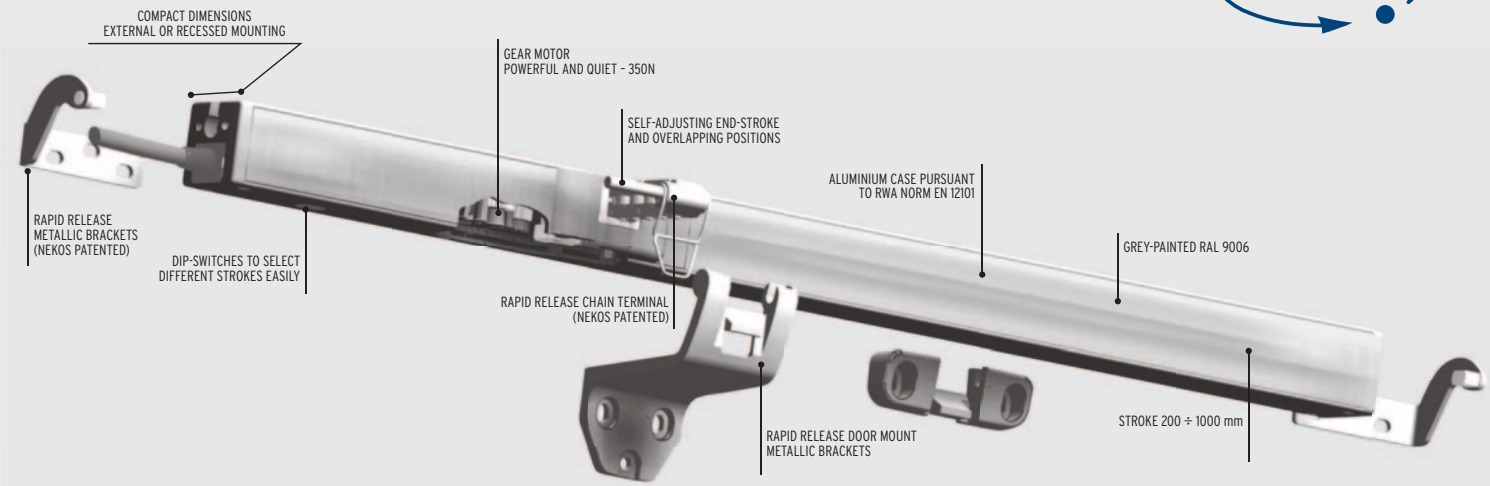
CODE	MODEL
6031050	Actuator INKA 356 230VAC - stroke 300
6031051	Actuator INKA 356 230VAC - stroke 600
6031052	Actuator INKA 356 230VAC - stroke 800
6031053	Actuator INKA 356 230VAC - stroke 1000
6051050	Actuator INKA 356|RWA 24VDC - stroke 300
6051051	Actuator INKA 356|RWA 24VDC - stroke 600
6051052	Actuator INKA 356|RWA 24VDC - stroke 800
6051053	Actuator INKA 356|RWA 24VDC - stroke 1000

INKA356 Syncro³

Metal Chain actuator 350N for Synchronisation

- The INKA356 Syncro³ has all the features of the solo version, with the addition of Syncro³ technology (Nekos patent): up to eight INKA Syncro³ actuators or electromechanical locks can be connected in perfect synchronisation, without the use of external control units.
- Optional window open/closed signal.
- Standard machine with stainless steel chain; a version with a galvanised chain is also available.
- All mounting brackets must be requested separately.

PATENTED
EP1723303 - EP1723304B1
EP13156370



APPLICATIONS

VASISTAS FRAME
OUTWARD FRAME
PIVOTING FRAME
DOMES
SKYLIGHTS
ROOF FRAME

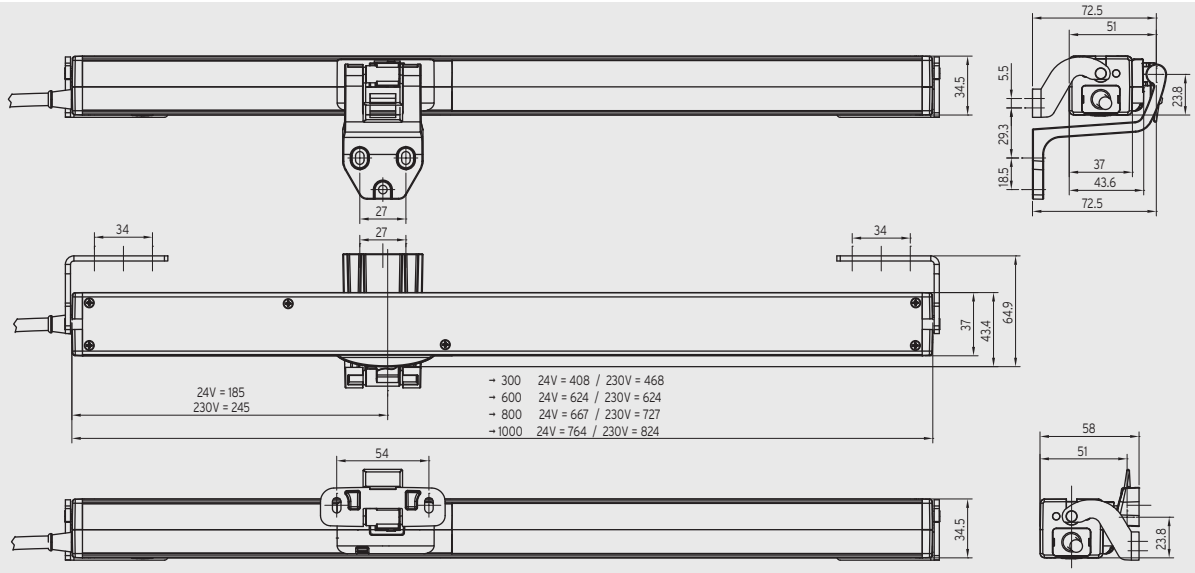
CODE	MODEL
6031550	Actuator INKA 356 230VAC Syncro³ - stroke 300
6031551	Actuator INKA 356 230VAC Syncro³ - stroke 600
6031552	Actuator INKA 356 230VAC Syncro³ - stroke 800
6031553	Actuator INKA 356 230VAC Syncro³ - stroke 1000
6051550	Actuator INKA 356|RWA 24VDC Syncro³ - stroke 300
6051551	Actuator INKA 356|RWA 24VDC Syncro³ - stroke 600
6051552	Actuator INKA 356|RWA 24VDC Syncro³ - stroke 800
6051553	Actuator INKA 356|RWA 24VDC Syncro³ - stroke 1000

INKA356|RWA 24V
INKA356|RWA Syncro³ 24V

INKA356 230V
INKA356 Syncro³ 230V

TECHNICAL CHARACTERISTICS (Functional and mechanical features)

- Power control over the entire stroke (stops in the event of overload).
- Progressive starting (SOFT START) and closing (SOFT STOP).
- Stroke end: electronic stroke-end during opening, with a variable stroke that can be selected through dip-switches, self-adjustment of the closing position (with power absorption) and automatic overlap acquisition.
- Relax Function: release of tension in mechanical parts after each stroke-end generated by a stop for power absorption.
- Syncro³ technology (Nekos patent). Complies with EU directives (EMC Directive, Low Voltage Directive).
- Aluminium housing painted grey (RAL 9006) with a white power cord (230V version) or a grey power cord (24V version), screw-less quick-coupling metal (die cast aluminium) window support and connection brackets (Nekos patent).
- Stainless steel double-row four-link articulated chain for greater durability and resistance to weather and corrosion.



MODEL	230V	RWA 24V
Force exerted by thrust and traction	350 N (see force chart)	
Strokes (can be selected at any time)	300 (100,200) - 600 (400,500) 800 (600,700) - 1000 (800,900)	
Power supply voltage	100-240V~ 50/60Hz	24V
Rated absorbed current	0,33 - 0,22 A (230V)	0,950 A
Power absorbed at nominal load	27-29 W	23 W
No load speed	11 / 9,5 mm/s	
Duration of no load stroke	Stroke 300/600/800/1000 = 28/54/72/90 s	
Double electrical insulation	Yes	low voltage
Type of service	S_2 of 3 min	
Operating temperature	-20 +70 °C	
Protection index for electrical devices	IP32	
Soft-stop function	Yes	

Relax function	Yes
Adjustment of connection to window frame	Position self-determining
Connection in parallel	Yes (max 10)
Holding nominal force (it can vary according to the chosen brackets)	1.800 N
Stroke-end at opening	Electronic by dip-switch setting
Stroke-end at closing	At absorption of power
Protection at overload	At absorption of power
Signalling 'window open/window closed'	Yes, with specific device to request at order
Type and length of power cable	FRR/2 - 2,5 m
Dimensions 230V	34,6x37 L468/624/727/824
Dimensions 230V	34,6x37 L408/564/667/764
Weight	0,9/1,4/1,8/2,2 kg 0,8/1,3/1,7/2,1 kg

TO BE USED WITH:

INKA356 24V:
K-LOCK
Series KL and Series KL-R
MODIX 2/4/6
MY-SUN1 and MY-SUN3
FV CONTROL UNITS

INKA356 230V:
K-LOCK
Series KH and Series KH-R
RR2-M

ELECTROMECHANICAL LOCKS

K-LOCK | Electromechanical Lock 600N

- K-LOCK is a development of Nekos technology for the automatic locking of windows, curtain walls and doors: an electric lock with integrated electronic control of the closing/opening sequence.
- The power (600 N when running 850 N when starting) ensures highly reliable operation even in harsh conditions.
- A low current consumption (0.85 A) and silent functioning are its essential characteristics.
- Reliable: it has been subjected to fatigue testing for 10,000 cycles at maximum load with a positive outcome.
- Safe: the accurate design of the components, the quality of the materials used, the meticulous assembly and functional testing of each individual machine in production ensure a high standard of reliability.
- All the basic functions are integrated with the sophisticated electronics and microprocessor. Used alone or in combination with other electric locks and/or actuators with Syncro^3 technology (Nekos patent), through the integrated control it knows the situation of the entire window/actuator/closure system at all times and performs the right opening/closing sequence totally automatically.
- The BK-LOCK version is used only in combination with the KATO and KIMO series 24V actuators.

- Versatile: its aluminium housing, with a simple design and compact dimensions (25x25 mm), allows surface mounting, with minimum aesthetic impact, or flush mounting in almost all profiles and types of windows.
- Simple to install: its compact dimensions require minimum work on the profiles, and the electronic stroke adjustment and immediate setting with the dip-switches ensure simple and rapid installation.
- Burglar resistance: together with the window perimeter fittings (with or without actuators) it provides an excellent burglar-proof window lock and also ensures higher thermal insulation values thanks to a perfect window closure.
- The accessory with the 90° fork is available upon request (see drawing "A").

Drawing "A"

APPLICATIONS

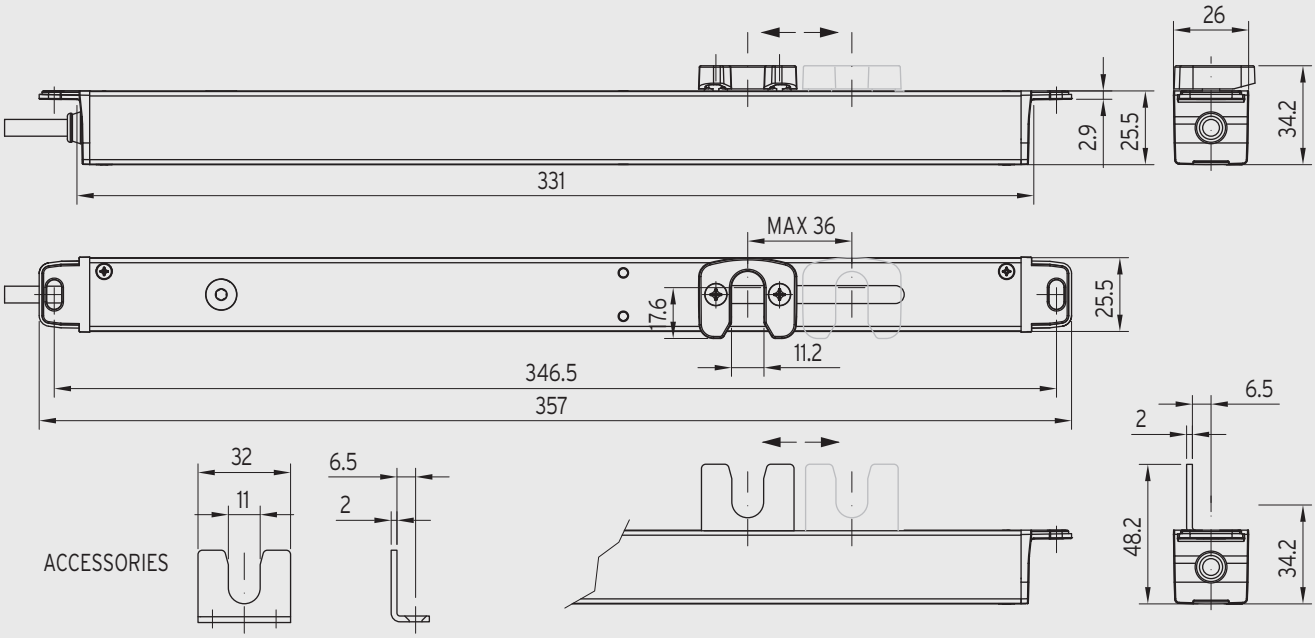
WINDOWS AND DOORS WITH PERIMETER FITTINGS

TO BE USED WITH:

K-LOCK:
INKA356 24V
INKA356 24V Syncro^3
INKA356 230V with 24V feeder for K-LOCK with optional electronic board

TECHNICAL CHARACTERISTICS (Functional and mechanical features)

- Electromechanical lock for centralised operation of window perimeter fittings, in association with prepared chain actuators or by itself in burglar-proof applications or for opening and closing louvre windows or shutters.
- Power control over the entire stroke with safety stop in the event of overload.
- Electronic opening and closing stroke-end (encoder); strokes can be selected through dip-switches.
- Can be connected in parallel with other K-LOCKs and actuators with Syncro^3 technology (Nekos patent) up to a total of eight units.
- Complies with EU directives (EMC Directive, Low Voltage Directive).
- Anodised aluminium housing, with a silicone cable and metal fixing heads.

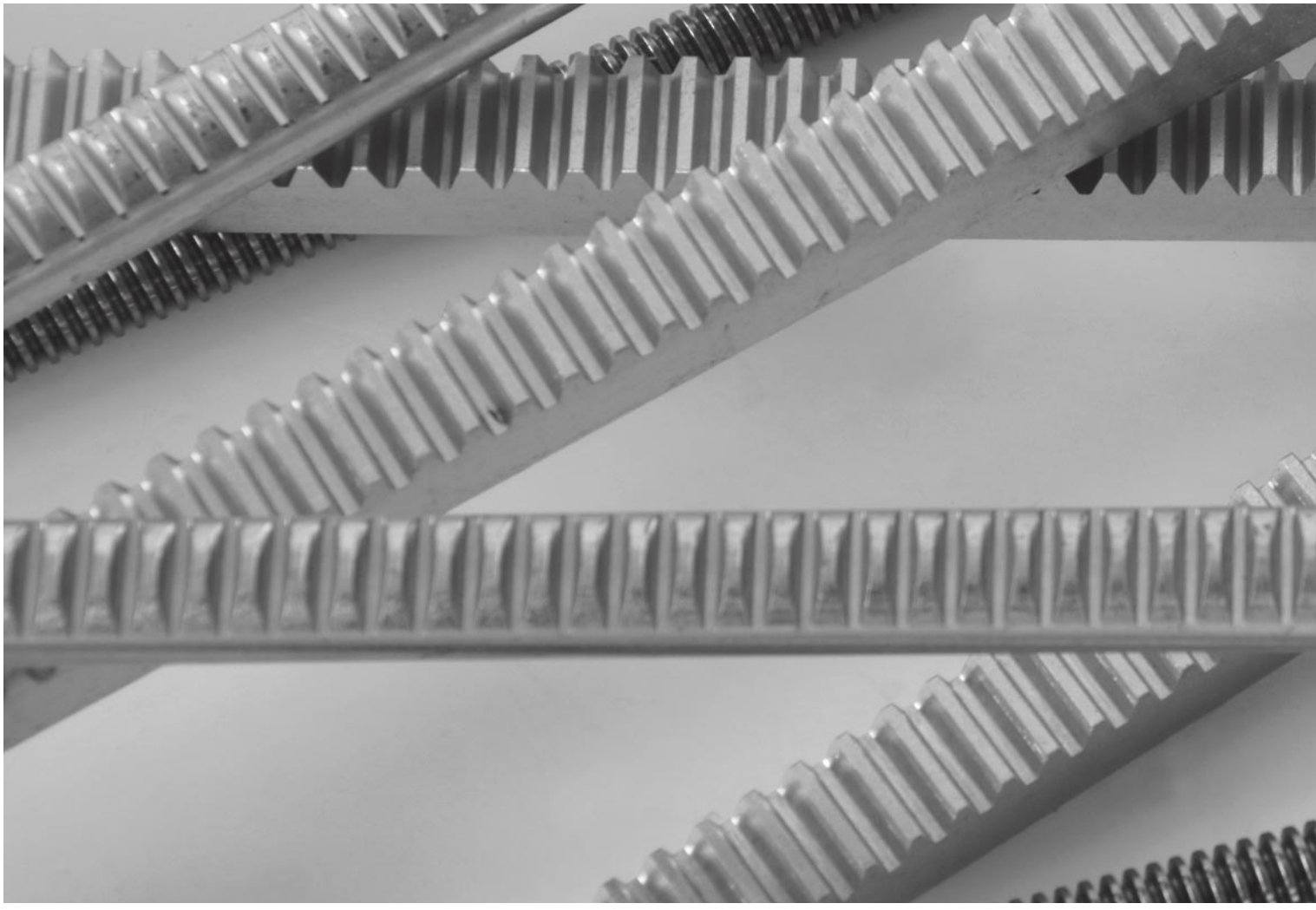


MODEL	K-LOCK
Push and pull force	600 N - 850 N starting force
Strokes	18 mm / 36 mm
Power supply voltage	24V (20,4 ÷ 28,8V)
Current absorbed at nominal load	0,85 A during the stroke 1,2 A
	at intervention of the current - interlock
Power absorbed at nominal load	~ 20 W
No-load speed	5 mm/s
No-load stroke time	4 s (18 mm) - 7.2 s (36 mm)
Double electrical insulation	Extra-low voltage (SELV) device
Insertion ratio	30%
Service	S_2 of 1 minute

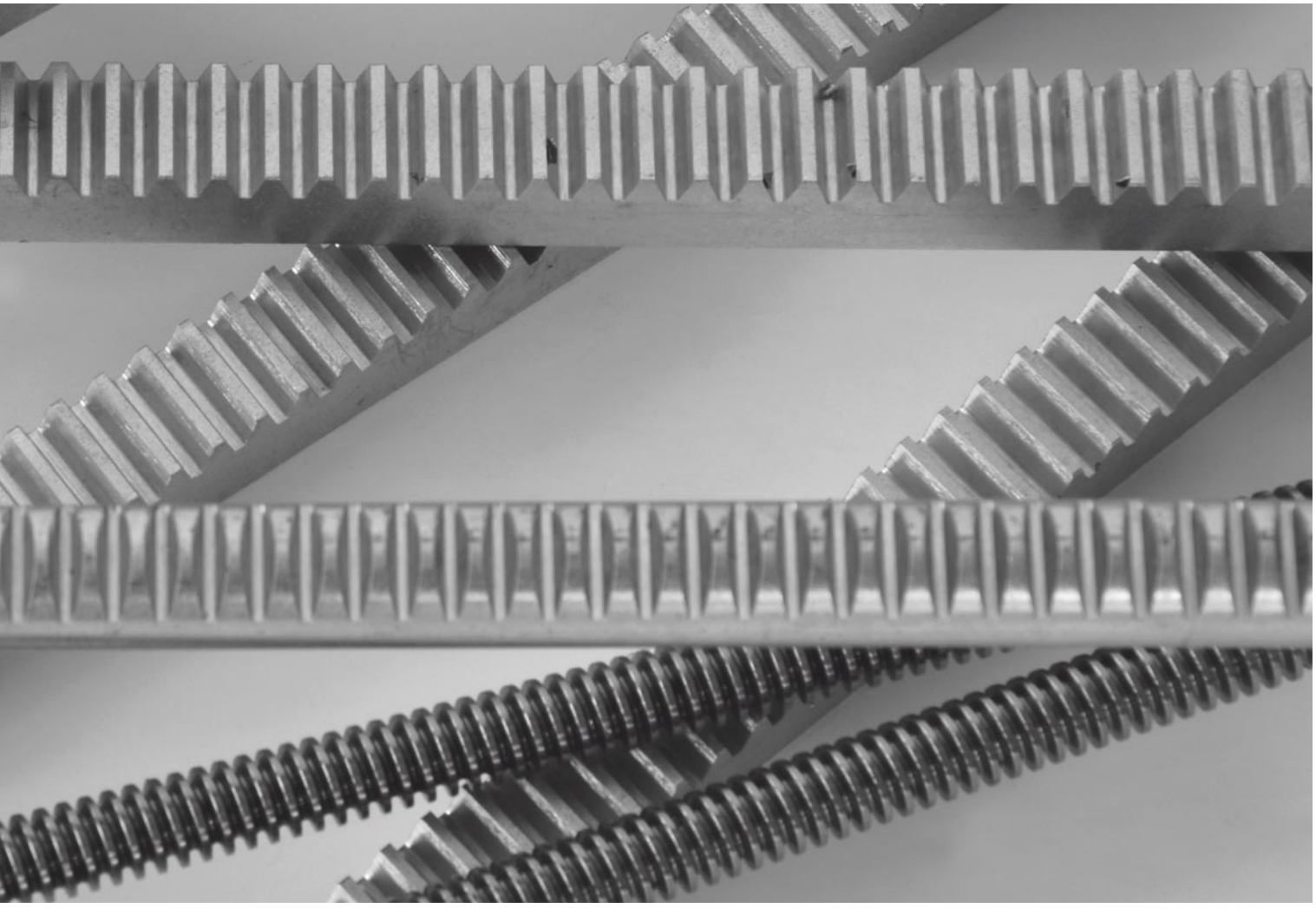
Structure material	Extruded aluminium alloy
Operating temperature	-20°C - +70°C
Degree of protection for electrical devices	IP 40
Opening and closing stroke-end	Electronic by means of dip-switches
Operation with chain actuator	Selectable
Operation without actuator	Selectable
Power supply cable in silicone	3x0,5 mm^2 - 2,00 m
Open/Close overload protection	Current cut-off due to power absorption
Dimensions (mm)	25.5 x 25.5 x 357
Weight (kg)	0.560

BK-LOCK:
KIMO
KATO 24V
KATO SYNCRO^3 24V
KATO 305 RWA
KATO 305 RWA SYNCRO^3 24V

CODE	MODEL
6275006	K-LOCK Electromechanical Lock 24V Stroke 18/36 mm (for INKA series)
6275008	BK-LOCK Electromechanical Lock 24V Stroke 18/36 mm (for KATO series and KIMO)



LINEAR ACTUATORS

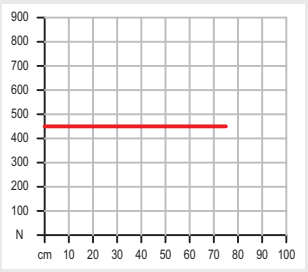


SKY450 | Gear Rack Actuator 450N

Designed based on the Sky family, it combines strength and versatility in a machine with a thrust and traction force of 450N.

- The load-bearing structure is made from high-strength composite material (glass fibre-reinforced polyamide), with a round-section stainless steel gear rack.
- Thanks to the sliding clamp system, the actuator can be fixed anywhere along the entire length of the rod, even at the head and the support pivots to adjust to the rotation of the window. Sky 450 can be applied in tandem with a single rod for a second push point.
- Available strokes: 180, 230 mm for louvres and solar shading blades, 350, 550, 750 and 1000 mm for application on windows.

PATENTED
EP2141316



APPLICATIONS

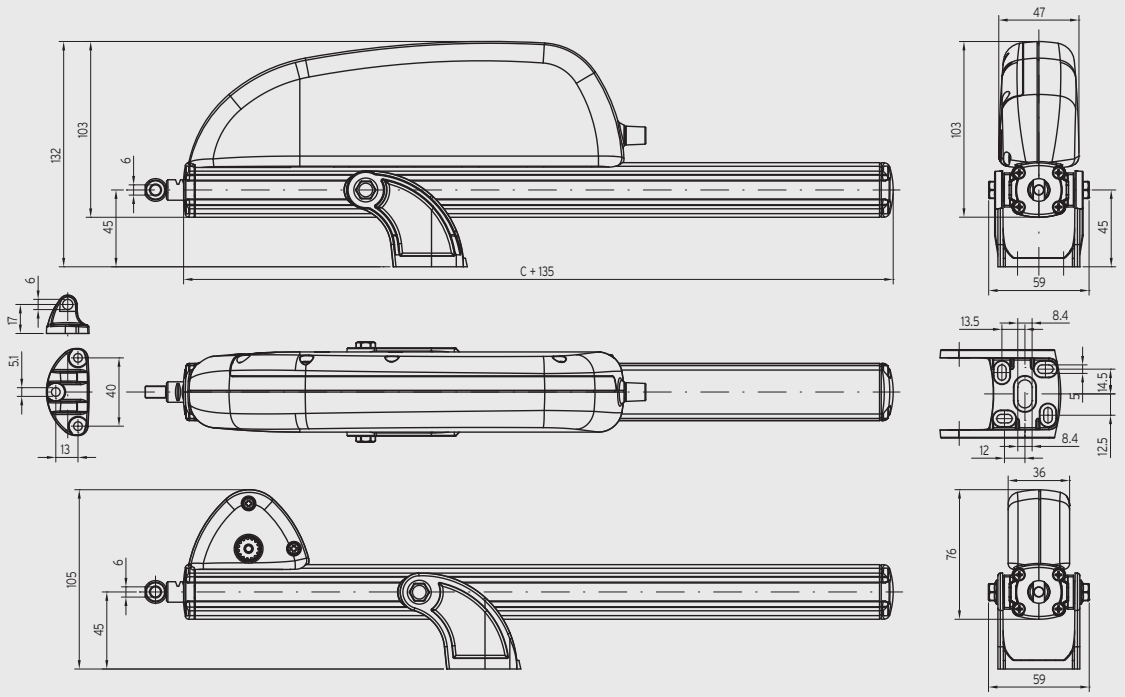
DOME
SKYLIGHT
OUTWARD FRAME
SOLAR SHADING BLADES

TO BE USED WITH:

Actuator Rod
Connection Bar
KOUPLE 230V
Series KH and Series KH-R
RR2-M

TECHNICAL CHARACTERISTICS (Functional and mechanical features)

- Linear gear rack actuator suitable for opening awning windows, hopper windows, dome rooflights and dormers. Thrust and traction power 450N. One or two push points. Operates at 100-240V 50/60Hz. Supplied with a universal pivoting bracket that can be fixed along the entire length of the rod by means of two sliding clamps.
- Opening and closing end-stroke with power absorption as electronic protection against overload.
- Can be connected in parallel.
- Complies with EU directives (EMC Directive, Low Voltage Directive).
- Standard colours: Anodised Silver for the metal parts in extruded aluminium and Grey (similar to RAL7035) for the gearmotor housing. The power cable is always white.
- Additional specifications are given in the Technical Data table.



MODEL	SKY450
Thrust and traction force	450 N
Strokes	180, 230, 350, 550, 750, 1000 mm
Input voltage	100-240V~ 50/60 Hz
Current absorption at nominal load	0,28 A / 0,19 A
Travel speed without load	6,7 mm/s
Length of run without load	In accordance with length of truck run
Double electrical insulation	Yes
Type of service	S_2 of 4 min
Max. and min. temperatures for function	-5 +65 °C

Degree of protection for electrical devices	IP44
Adjustment of socket at casing	Position self regulating
Connection in parallel	Yes
Holding nominal force (it can vary according to the chosen brackets)	2200 N
Limit switch stop at opening and closure	At absorption of power
Protection against overload at opening and closure	At absorption of power
Feeding cable length	1 m
Dimensions	103x47x(Course length+135) mm
Weight	Varies according to construction

CODE	MODEL
6221001	SKY450 230V stroke 180 mm
6221002	SKY450 230V stroke 230 mm
6221003	SKY450 230V stroke 350 mm
6221004	SKY450 230V stroke 550 mm
6221005	SKY450 230V stroke 750 mm
6221006	SKY450 230V stroke 1000 mm

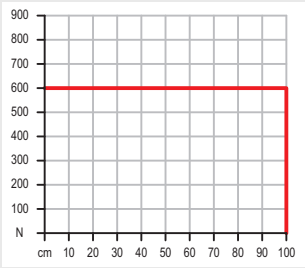
CODE	MODEL
6291001	Actuator rod SKY450 stroke 180 mm
6291002	Actuator rod SKY450 stroke 230 mm
6291003	Actuator rod SKY450 stroke 350 mm
6291004	Actuator rod SKY450 stroke 550 mm
6291005	Actuator rod SKY450 stroke 750 mm
6291006	Actuator rod SKY450 stroke 1000 mm
4010009	Connection Bar 1 m
4010010	Connection Bar 1,5 m
4010011	Connection Bar 2 m
4010012	Connection Bar 2,5 m

SKY650 | Gear Rack Actuator 600N

After the first ten years of production, Nekos also introduced changes and evolution to its gear rack actuator family. The new Sky 650 improves its performance, reliability and possibilities of use. 600N of traction and thrust, controlled and managed by microprocessor, ensures its reliability and durability over time.

- The application is versatile and modular, with no particular or costly accessories; the addition of the new electronics and latest-generation mechanical structure further contributes to making this actuator unique in its class.
- Use on dome rooflights, skylights and hopper windows in series are the most frequent applications.
- The variety of strokes between 180 and 1000 mm on the rack offer a wide range of uses.
- The actuator can be fixed in position by a clamp system along the entire length of the rod with a pivoting support that allows the actuator to follow the opening radius of the window.

PATENTED
EP2141316



APPLICATIONS

DOME
SKYLIGHT
OUTWARD FRAME

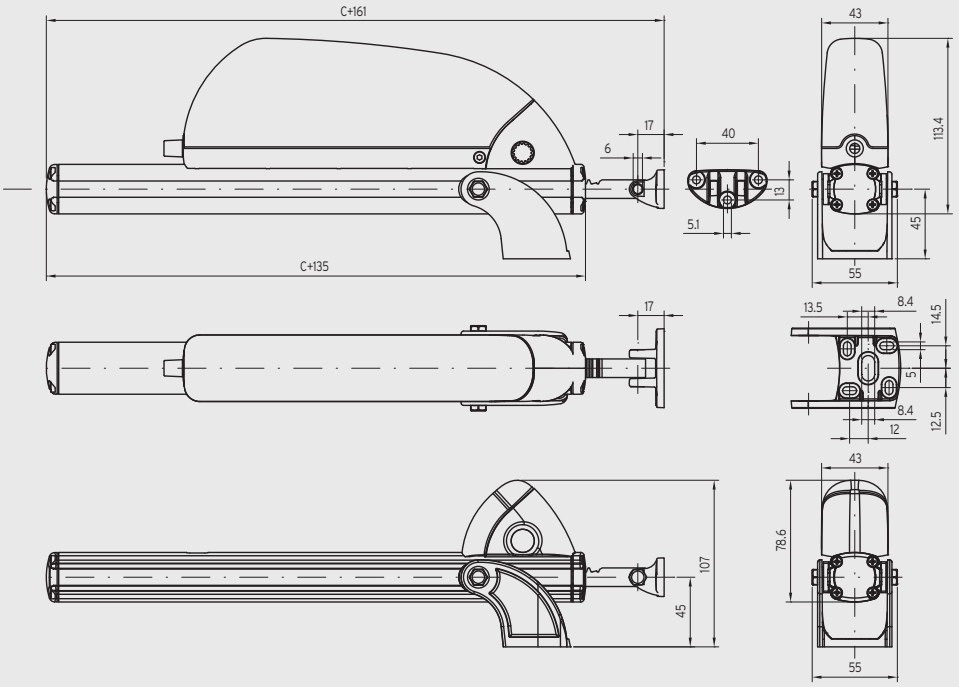
TO BE USED WITH:

SKY650 230V:
Actuator Rod
Connection Bar
KOUPLE 230V
Series KH and Series KH-R
RR2-M

SKY650 24V:
Actuator Rod
Connection Bar
KOUPLE 24V
Series KL and Series KL-R
MODIX 2/4/6
MY-SUN1 and MY-SUN3

TECHNICAL CHARACTERISTICS (Functional and mechanical features)

- Linear gear rack actuator suitable for opening awning windows, hopper windows, dome rooflights and dormers. 600 N thrust and traction power. One or more push points can be provided with a maximum of four motorised actuators.
- Operates at 100-240V 50/60Hz or 24V DC. Supplied with a universal pivoting bracket, which can be fixed along the entire length of the rod by means of two sliding clamps. Opening and closing end-stroke with power absorption as protection against overload.
- Can be connected in parallel.
- Complies with EU directives (EMC Directive, Low Voltage Directive).
- Standard colours: Anodised Silver for the extruded aluminium metal parts, Zinc-plated die-cast parts and Grey (similar to RAL7035) for the gear motor housing. White power cable.



MODEL	230V	24V
Thrust and traction force	600 N	
Strokes	180, 230, 350, 550, 750, 1000 mm	
Input voltage	100÷240V~ 50/60 Hz	24V
Current absorption at nominal load	0,45 - 0,22 A	1,10 A
Power absorption at nominal load	~ 30-31 W	~ 27 W
Travel speed without load	7,5 mm/s	7,6 mm/s
Length of run without load	In accordance with length of truck run	
Double electrical insulation	Yes	Low tension
Type of service	S_2 of 3 min	
Max. and min. temperatures for function	-5 +65 °C	

Degree of protection for electrical devices	IP 42
Adjustment of socket at casing	Position self regulating
Connection in parallel	Yes
Holding nominal force (it can vary according to the chosen brackets)	3500 N
Limit switch stop at opening and closure	At absorption of power
Protection against overload at opening and closure	At absorption of power
Feeding cable length	2 m
Dimensions	115x42x(Course length+135) mm
Weight	Varies according to construction

CODE	MODEL
6220020	SKY650 230V stroke 180 mm
6220021	SKY650 230V stroke 230 mm
6220022	SKY650 230V stroke 350 mm
6220023	SKY650 230V stroke 550 mm
6220024	SKY650 230V stroke 750 mm
6220025	SKY650 230V stroke 1000 mm

CODE	MODEL
6230020	SKY650 24V stroke 180 mm
6230021	SKY650 24V stroke 230 mm
6230022	SKY650 24V stroke 350 mm
6230023	SKY650 24V stroke 550 mm
6230024	SKY650 24V stroke 750 mm
6230025	SKY650 24V stroke 1000 mm

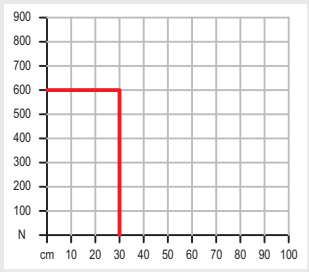
CODE	MODEL
6290020	Actuator rod SKY650 stroke 180 mm
9290021	Actuator rod SKY650 stroke 230 mm
6290022	Actuator rod SKY650 stroke 350 mm
6290023	Actuator rod SKY650 stroke 550 mm
6290024	Actuator rod SKY650 stroke 750 mm
6290025	Actuator rod SKY650 stroke 1000 mm

4010009	Connection Bar 1 m
4010010	Connection Bar 1,5 m
4010011	Connection Bar 2 m
4010012	Connection Bar 2,5 m

ROCK | Linear Actuator with Rigid Rod 600N

ROCK is a linear electric actuator with a rigid rod designed for industrial applications.

- It has compact dimensions, is easy to install and can also be used for opening louvre windows, solar shading blades, hopper windows and dome rooflights.
- Made in two versions with a 230V or 24V power supply for a variety of applications, thanks also to its force of thrust (600 N) and high IP65 protection rating, for use in dusty and damp environments.
- Fixed electronic, non-programmable return end-stroke; the outward end-stroke is programmable with a magnetic device according to the application needs. This end-stroke technology allows numerous applications wherever non-standard strokes are required.
- Supplied complete with fixing brackets, can be connected in parallel or synchronised with the Syncro[3] system (Nekos patent) and has electrical protection against overload.



APPLICATIONS

LOUVERS FRAME
SOLAR SHADING BLADES
OUTWARD FRAME
DOME
SHED

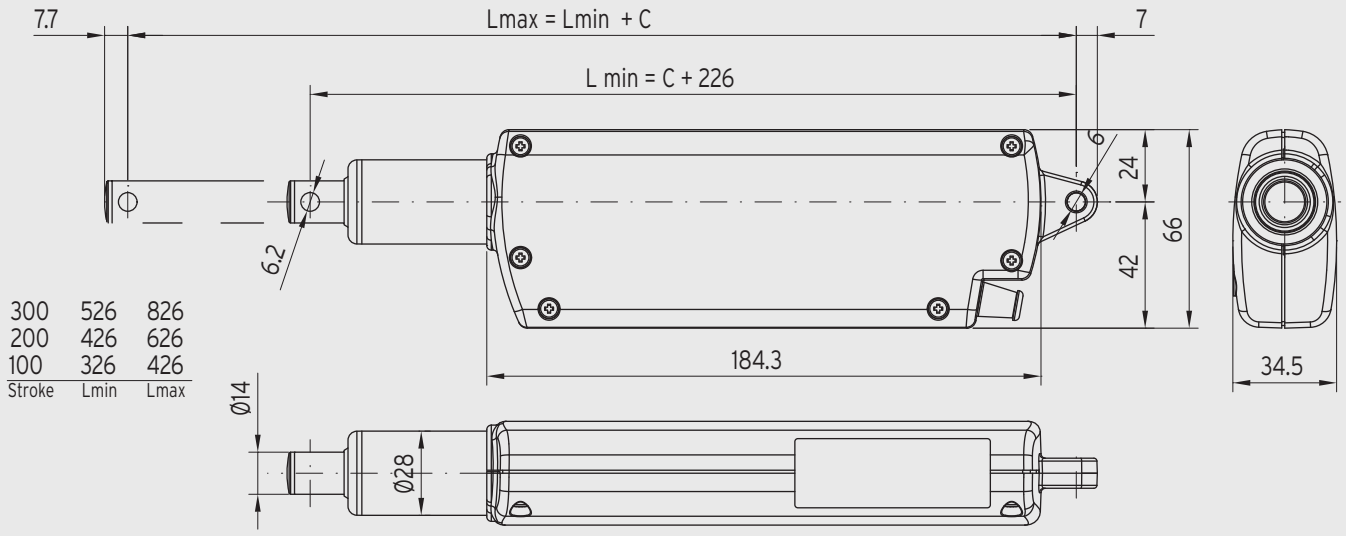
TO BE USED WITH:

ROCK 230V:
Series KH and Series KH-R
RR2-M

ROCK 24V:
Series KL and Series KL-R
MODIX 2/4/6
MY-SUN1 and MY-SUN3

TECHNICAL CHARACTERISTICS (Functional and mechanical features)

- Thrust and traction power 600N.
- Power supply voltage: 100-240V 50/60Hz or 24V low voltage.
- Body structure made from high-strength composite material (Pa6+35%GF). Aluminium rod.
- Electrical circuit protection rating IP65.
- Power cable length 2 m; always white.
- Complies with EU directives (EMC Directive, Low Voltage Directive).
- Colours: Anodised Silver for the extruded aluminium metal parts and Grey (similar to RAL7035) for the body.



MODEL	230V	24V
Thrust and traction force	600N	
Strokes	100, 200, 300 mm	
Power supply voltage	100-240V~ 50/60Hz	24V
Absorbed current at nominal load	0,15 A	0,66 A
Power absorbance on charge	~ 17 W	~ 16 W
Travel speed with/without load	4 mm/s	
Duration of no load stroke	In accordance with length of truck run	
Double electrical insulation	YES	L.T.
Type of service	S_2 of 3 min	
Working temperature	-5 +65 °C	
Protection degree	IP 65	

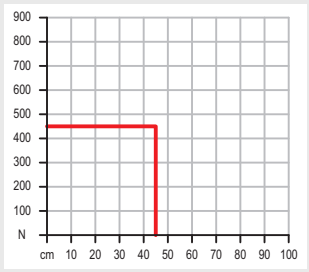
Soft-stop function	YES	
Relax function	YES	
Synchronized function (Syncro[3])	NO	YES
Connection in parallel	YES (max 20)	YES
Power supply cable length	2 m	
Opening end stroke	Programmable electronic	
Closure end stroke	Electronic, fix	
Protection at overload	At absorption of power	
Dimensions	115x42x (stroke +135) mm	
Weight	Varies according to model	

CODE	MODEL
6270001	ROCK1 230V stroke 100 mm
6270002	ROCK2 230V stroke 200 mm
6270003	ROCK3 230V stroke 300 mm
6275100	ROCK1 24V stroke 100 mm
6275101	ROCK1 24V stroke 200 mm
6275102	ROCK1 24V stroke 300 mm

NKL450 | Linear Actuator with Rod 450N

An electric actuator with a rigid rod designed for opening dome rooflights, shed windows, hopper and strip windows, solar shading blades and louvre windows, particularly suitable for opening windows where high reliability and strength at peak loads are required.

- Made with fixed strokes of 180 mm or 300 mm, it is contained in an extruded aluminium housing. The NKL 450 actuator blends well into the architectural structure of the window thanks to its compact dimensions and attractive design.
- The balance between pushing force, silent operation and speed are its strong points.
- Operates at 230V, equipped with micro-switch stroke-ends and thermal protection.
- Can be connected in parallel with other actuators and is provided with a cable already connected inside the actuator.
- The support brackets (included in the supply) can be fixed along the entire length of the rod for the best adaptability of application.



APPLICATIONS

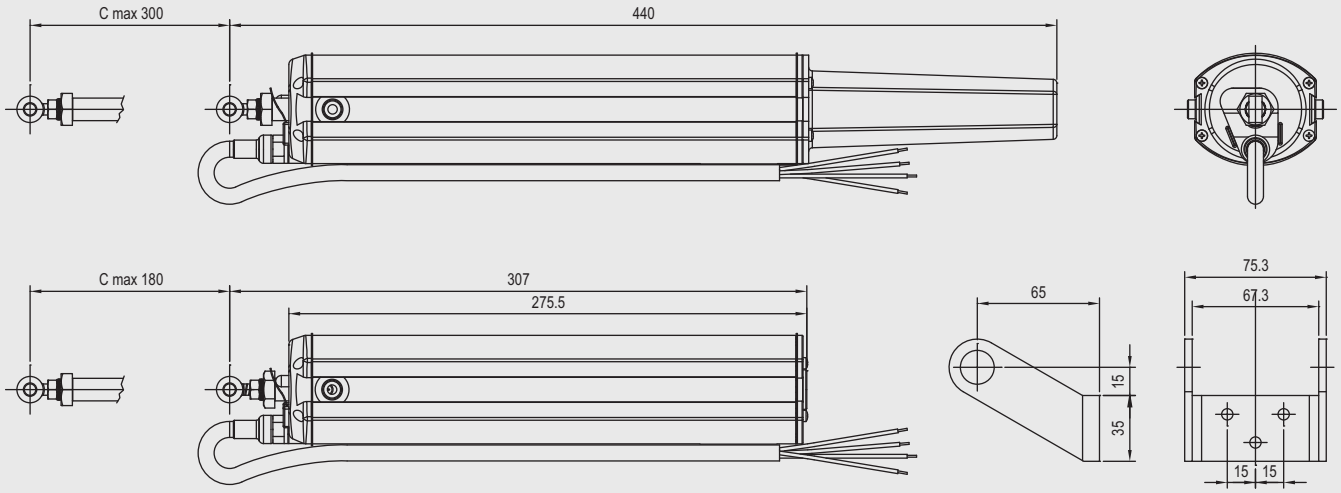
DOME
SKYLIGHT
OUTWARD FRAME
SOLAR SHADING BLADES

TO BE USED WITH:

Series KH and Series KH-R
RR2-M

TECHNICAL CHARACTERISTICS (Functional and mechanical features)

- A linear electric actuator with a rigid rod and aluminium housing, operates at 230V.
- 450N thrust and traction power with fixed strokes of 180 mm and 300 mm. Can be connected in parallel, equipped with micro-switch stroke-ends and thermal protection.
- 1.5 metre black fixed power cable, already connected.
- Further specifications are given in the Technical Data table.



MODEL	NKL450
Thrust and traction force	450N
Strokes (mm)	180 mm / 300 mm
Power supply voltage	230V~ (A.C.) 50 Hz
Absorbed current at nominal load	0,70 A
Power absorbance on charge	150 W
Travel speed without load	23 mm/s
Duration of no load max stroke	8 s / 13 s
Double electrical insulation	No
Thermic protection	140° C
Working temperature	-20 °C ÷ +70 °C
Protection degree	IP55

Soft Stop	No
Relax function	No
Frame rebated overlap self-learning	No
Connection in parallel	Yes
Power supply cable length	1,5 m
Opening end stroke	Microswitch
Closure end stroke	Microswitch
Protection at overload	Thermic
Dimensions	419x52x45 mm
Weight	1,70 Kg

CODE	MODEL
6270011	NKL Linear Actuator 450N stroke 180 mm
6270012	NKL Linear Actuator 450N stroke 300 mm

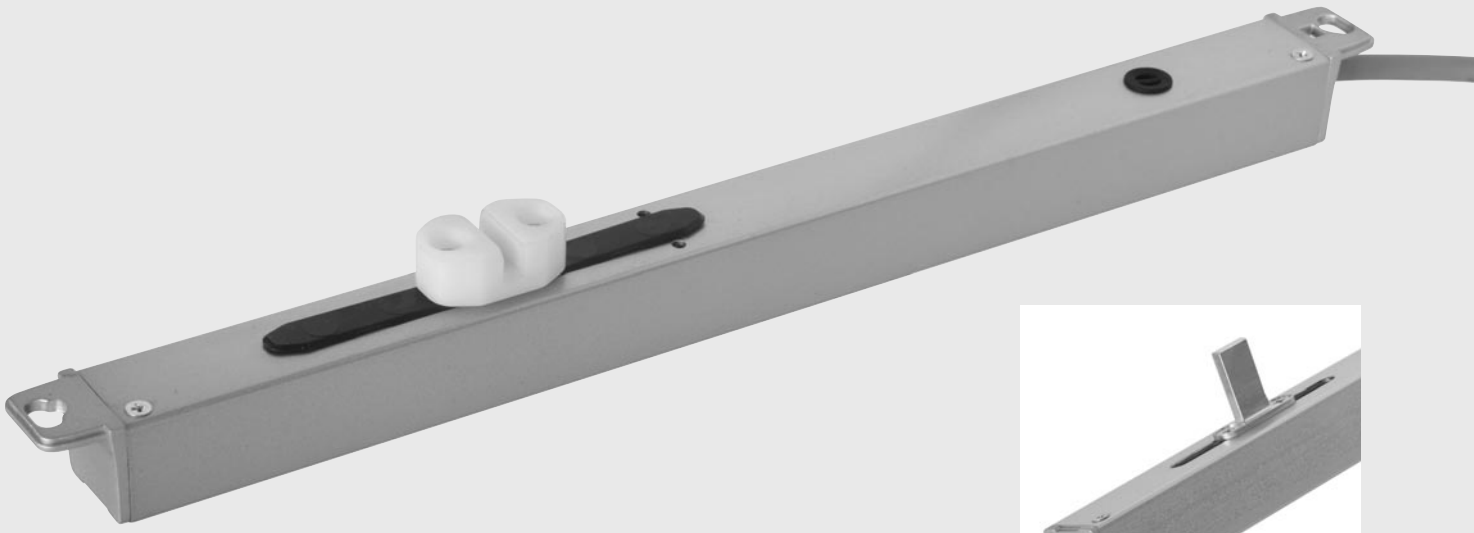
K-DARK

Actuator for Louvre Windows and Jalousies

K-DARK is an actuator derived from the K-LOCK and is designed for opening and closing louvre windows and shutters.
The product's great versatility allows it to be installed on any window of this type, whether surface mounted or flush mounted.
Its design allows the strokes to be modified to open and close louvred windows and shutters (fixed strokes 50 and 72 mm) or jalousies (10-36 mm).

- The power (600 N when running and 850 N when starting) ensures highly reliable operation even in harsh conditions. A low current consumption (0.85 A) and silent functioning are its essential characteristics.
- Variable: to cater to the great demand for applications in these types of windows, the strokes, power and opening/closing speeds can be modified on request and a stroke-end signal can also be provided.
- Reliable: it has been subjected to fatigue testing for 10,000 cycles at maximum load with a positive outcome.
- Safe: the careful design of the components, the quality of the materials used, the meticulous assembly and the functional testing of each individual machine in production ensure a high standard of reliability.

- All the basic functions are integrated with the sophisticated electronics and microprocessor. It can be installed alone or combined with other K-DARK actuators using Syncro3 Technology (Nekos patent).
- Versatile: its aluminium housing, with a simple design and compact dimensions (25x25 mm), allows flush mounting in almost all profiles and types of profile as well as surface mounting, with minimum aesthetic impact.
- Simple to install: its compact dimensions require minimum work on the window profiles, and the electronic stroke adjustment and setting with the dip switches ensure simple and rapid product installation.
- Accessories are available for use to open and close louvred windows and shutters, solar shading blades and jalousies, both with flush mounting or surface mounting. If required, several locks can be synchronised to obtain a perfect alignment.



APPLICATIONS

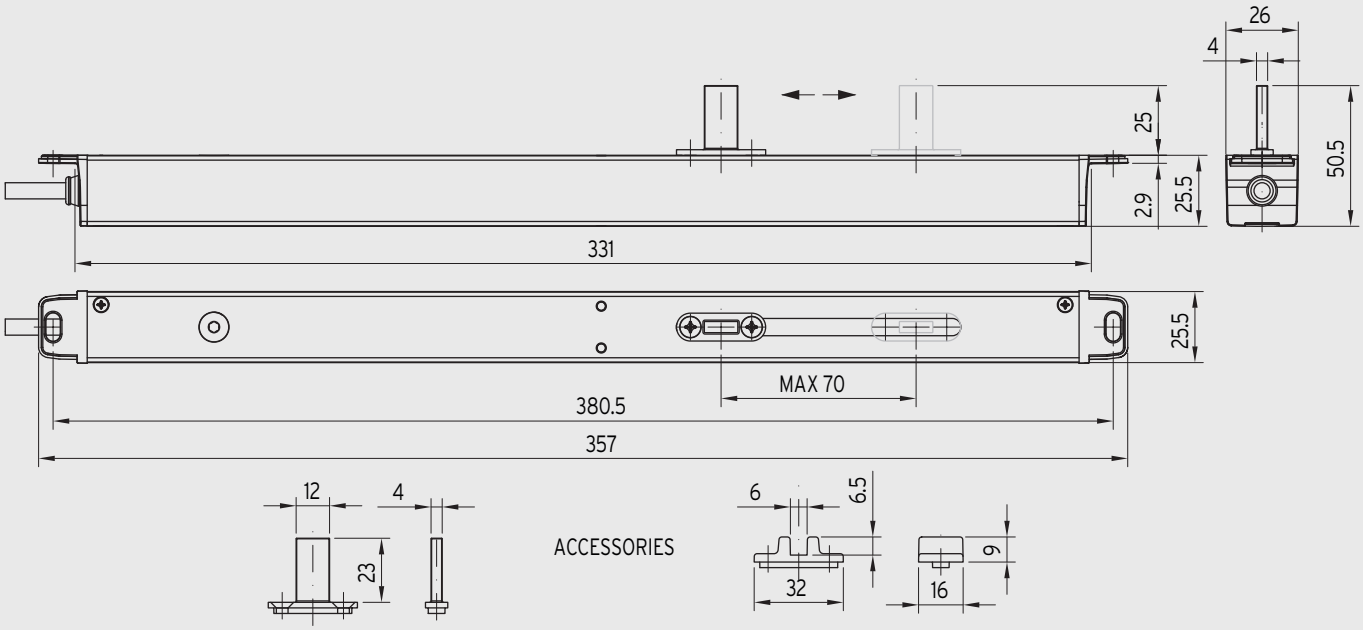
WINDOWS AND DOORS WITH
PERIMETER FITTINGS
LOUVRE FRAME
JALOUSIES

TO BE USED WITH:

INKA356 24V
INKA356 24V Syncro^3
INKA356 230V with 24V feeder for K-LOCK
KIMO
KATO 24V
KATO 305 RWA

TECHNICAL CHARACTERISTICS (Functional and mechanical features)

- Linear actuator for opening louvred windows, solar shading blades and jalousies.
- 24V DC power supply, 600N power (850 on starting) and power control during the entire stroke, with safety stop in the event of overload.
- Electronic stroke-end (encoder) for opening and closing. Strokes selectable with dip-switches.
- Can be connected in parallel with other K-DARKs and/or actuators with Syncro^3 technology (Nekos patent) up to a total of eight units;
- Complies with EU directives (EMC Directive, Low Voltage Directive).
- Anodised aluminium housing, with a silicone cable and metal fixing heads.



MODEL	K-DARK
Push and pull force	600 N - 850 N starting force
Strokes	18/36 mm - 50/72 mm
Power supply voltage	24V (20,4 ÷ 28,8V)
Current absorbed at nominal load	0,85 A during the stroke 1,2 A at intervention of the current interlock
Power absorbed at nominal load	~ 20 W
No-load speed	5 mm/s
No-load stroke time	4 s (18 mm) - 7.2 s (36 mm)
Double electrical insulation	Extra-low voltage (SELV) device
Insertion ratio	30%
Service	S_2 of 1 minute

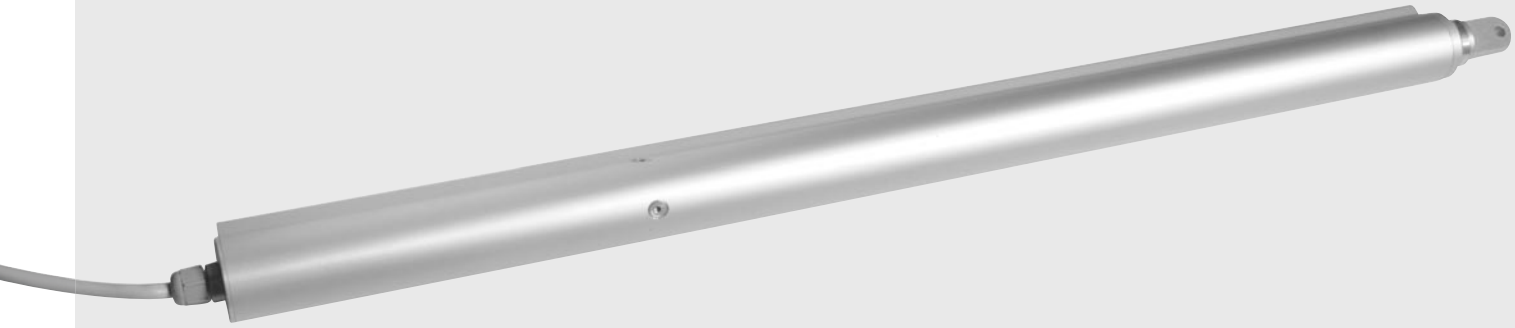
Structure material	Extruded aluminium alloy
Operating temperature	-20°C - +70°C
Degree of protection for electrical devices	IP 40
Opening and closing stroke-end	Electronic by means of dip-switches
Operation with chain actuator	Selectable
Operation without actuator	Selectable
Power supply cable in silicone	3x0,5 mm^2 - 2,00 m
Open/Close overload protection	Current cut-off due to power absorption
Dimensions (mm)	25.5 x 25.5 x 357
Weight (kg)	0.560

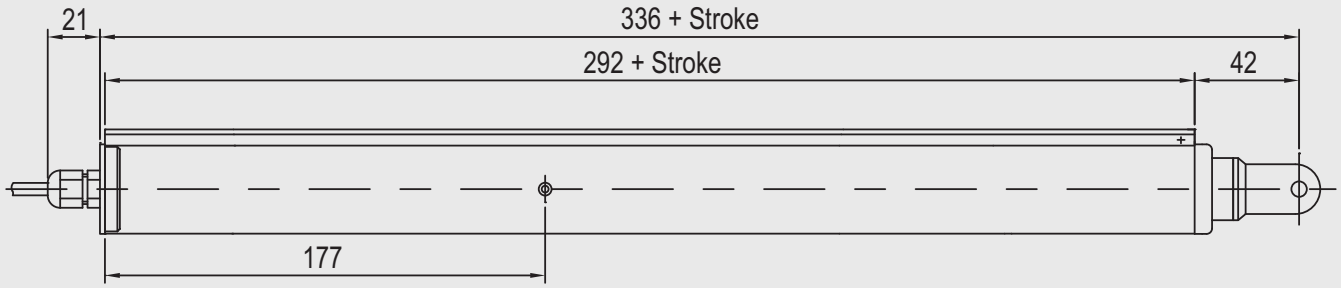
CODE	MODEL
6275006	K-LOCK Electromechanical Lock 24V Stroke 18/36 mm (for INKA series)
6275008	BK-LOCK Electromechanical Lock 24V Stroke 18/36 mm (for KATO series and KIMO)
9800118	K-DARK - Alternative element for jalousies movement 18/36 mm
9800121	K-DARK - Alternative element for louvres 50/72 mm

EA-L | Linear Actuator with Rigid Rod 24V

This actuator with a rigid rod offers multiple application options. Within the range of standard actuators, it is distinguished by a pair of exclusive characteristics that enhance its sales and make its application as simple as possible. Its special aluminium profiled tube with integrated multifunction nut allows a flexible support bracket system and concealed wiring.

- Resistance to high temperatures and permanent loads, and other quality characteristics in accordance with standard DIN EN 12101/2, are included as a rule.
- Version EA-L 1000/400 certified in accordance with standard EN 12101/2.
- Support brackets must be ordered separately!





MODEL	500	750	1000
Push and pull force	500 N	750 N	1000 N
Strokes	500, 750 mm		
Power supply voltage	24V ⎓ (DC) (- 10% / + 25%), Ripple < 0,5V		
Current absorbed at nominal load	1,00/1,40 A		
No-load/load speed	4,5/8,5 mm/s		

Type of service	30%
Operating temperature	-5 °C ÷ +75 °C
Degree of protection for electrical devices	IP54
Power supply cable length	0,5 m

APPLICATIONS

DOME
SKYLIGHT
OUTWAR FRAME
SOLAR SHADING BLADES

TO BE USED WITH:

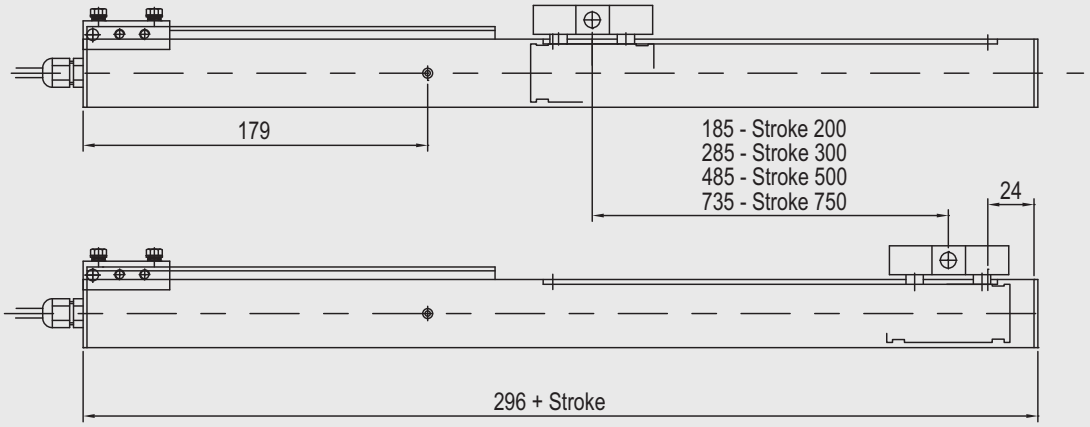
Series KL and Series KL-R
FV CONTROL UNIT
MODIX 2/4/6

CODE	MODEL
6260002	EA-L 500N stroke 500 mm
6260003	EA-L 500N stroke 750 mm
6260006	EA-L 750N stroke 500 mm
6260007	EA-L 750N stroke 750 mm
6260010	EA-L 1000N stroke 500 mm
6260011	EA-L 1000N stroke 750 mm

EA-L/S | Lateral Sliding Pivot Actuator

The lateral sliding pivot actuator, with its patent-protected mobile mechanism, defines new standards in the sector of electrically operated windows, with opening towards the inside and now also towards the outside.

- Ideal for mounting on the side of the window (right / left), also in pairs.
- Very wide opening angles can be obtained with short strokes.
- The integrated electronics provides protection from overload and electronic torque balancing by comparing current consumption in relation to the increase in force.
- The lateral sliding pivot actuator is certified for RWA systems in accordance with standard EN 12101-2.



MODEL	EA-L/S
Push and pull force	500 N
Strokes (mm)	185 (200) - 285 (300) - 500 (750)
Power supply voltage	24V (DC)
Current absorbed at nominal load	<1,2 A
No-load/load speed	8,4 mm/s
Double electrical insulation	L.T.

Type of service	30%
Operating temperature	-5 °C ÷ +75 °C
Degree of protection for electrical devices	IP20
Power supply cable length	2 m
Dimensions	see instruction manual
Weight	About 3 kg

APPLICATIONS

DOME
SKYLIGHT
OUTWAR FRAME
SOLAR SHADING
BLADES

TO BE USED WITH:

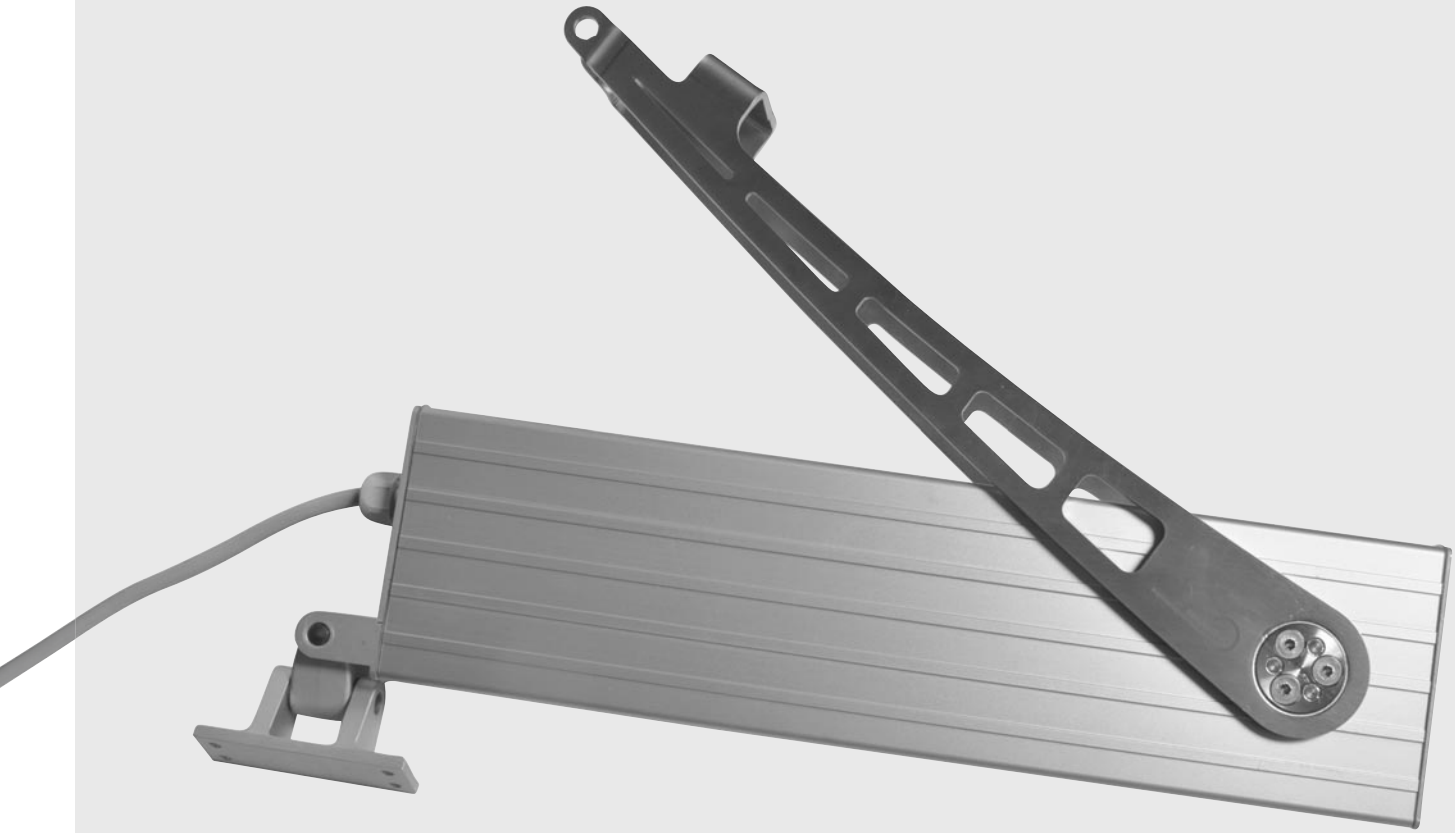
Series KL and Series KL-R
FV CONTROL UNIT
MODIX 2/4/6

CODE	MODEL
6275200	EA-L/S stroke 200
6275201	EA-L/S stroke 300
6275202	EA-L/S stroke 500
6275203	EA-L/S stroke 750

EA-KL^2 | Arm Actuator

L'EA-KL^2 is an extraordinary and innovative development for applications on windows and doors. The technology applied to these actuators, characterised by power and style, is unique on the market and offers numerous different applications.

- The possibility of very wide opening angles and high resistance to variable loads (i.e. due to wind).
- Product certified for smoke and heat extraction systems (RWA) in accordance with standard EN 12101-2.
- Compact dimensions and attractive looks thanks to its symmetrical design.
- High performance mechanism (>20,000 cycles) and availability of tandem and synchronised versions.
- Intelligent support bracket system that allows flexible installations in the centre and on the side of the closing edges.
- Application programming interface (API).
- Low power consumption and high output.
- Support brackets must be ordered separately.



APPLICATIONS
DOME
SKYLIGHT
OUTWARD FRAME

TO BE USED WITH:
Series KL and Series KL-R
FV CONTROL UNIT
MODIX 2/4/6

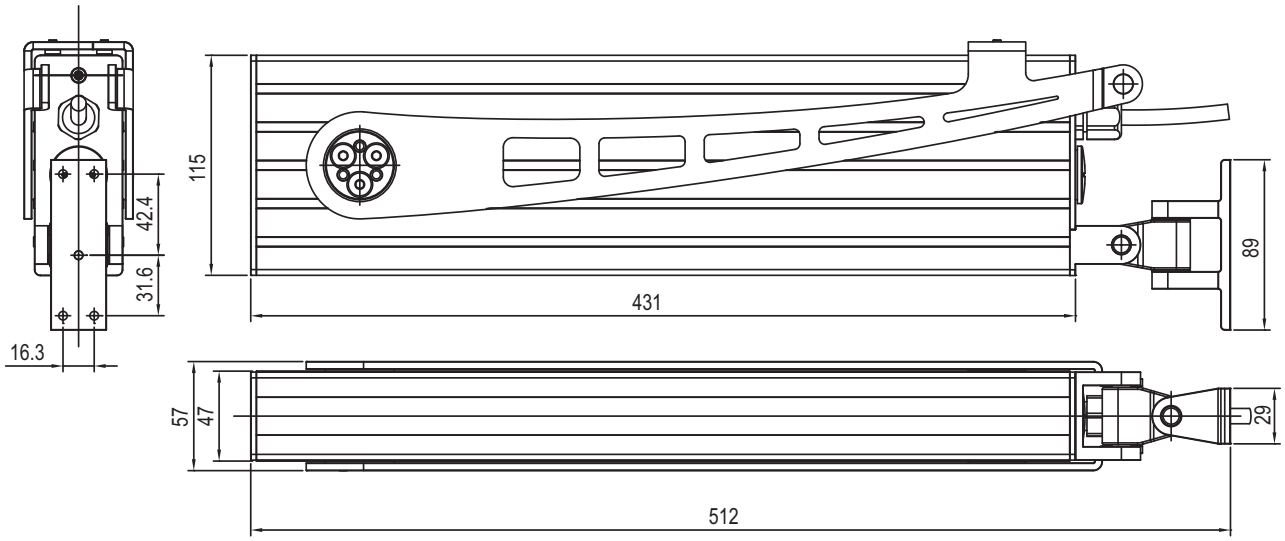
EA-KL²-DF | Rotary Arm Actuator

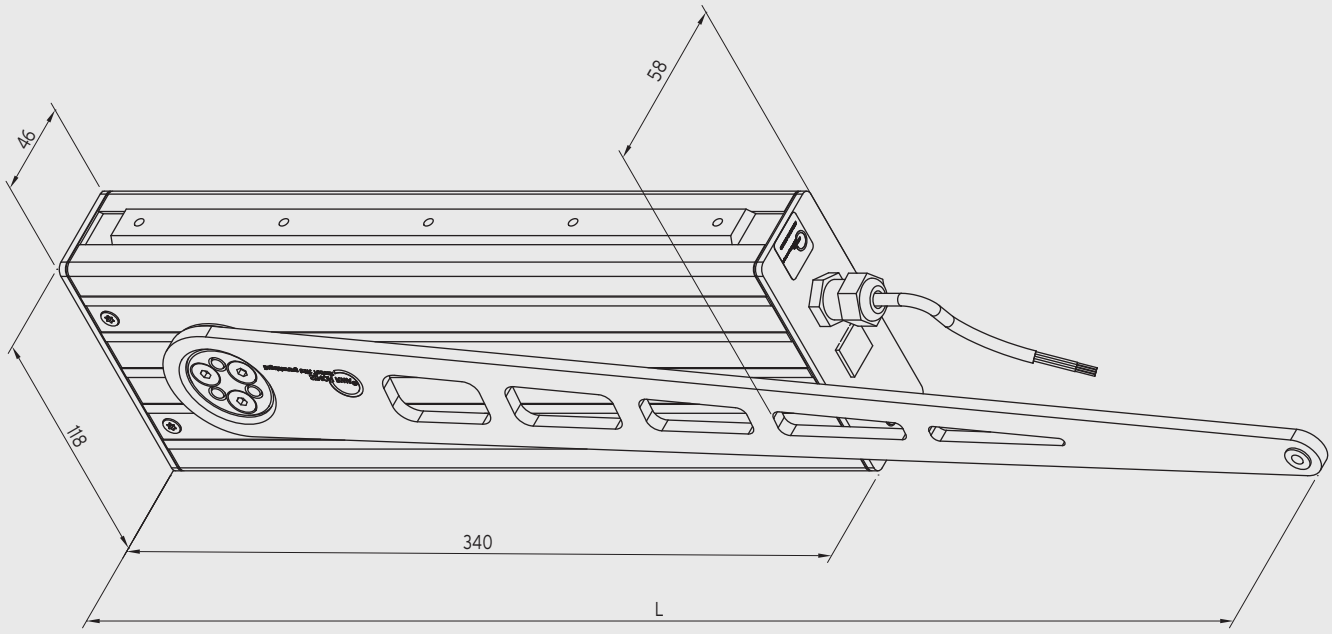
The EA-KL²-DF rotary arm actuator completes the family of arm actuators, with the addition of some special features for doors and windows. Thanks to the special mounting brackets, which can be adjusted during installation, the rotary arm allows openings of up to 140° without interference. Each actuator has a power of 500N. The benefits include:

- Opening of the arm up to 140°.
- Highly resistant to load variations (e.g. wind speed).
- The possibility of very wide opening angles and high resistance to variable loads (i.e. due to wind).
- Product certified for smoke and heat extraction systems (RWA) in accordance with standard EN 12101-2.
- High performance mechanism (>20,000 cycles) and availability of tandem and synchronised versions.
- Compact installation space.
- Various customisations thanks to the dedicated software.
- Application programming interface.
- Low power consumption and high output.

APPLICATIONS
DOOR
WINDOW
DOME
OUTWARD SKYLIGHT

TO BE USED WITH:
Series KL and Series KL-R
FV CONTROL UNIT
MODIX 2/4/6





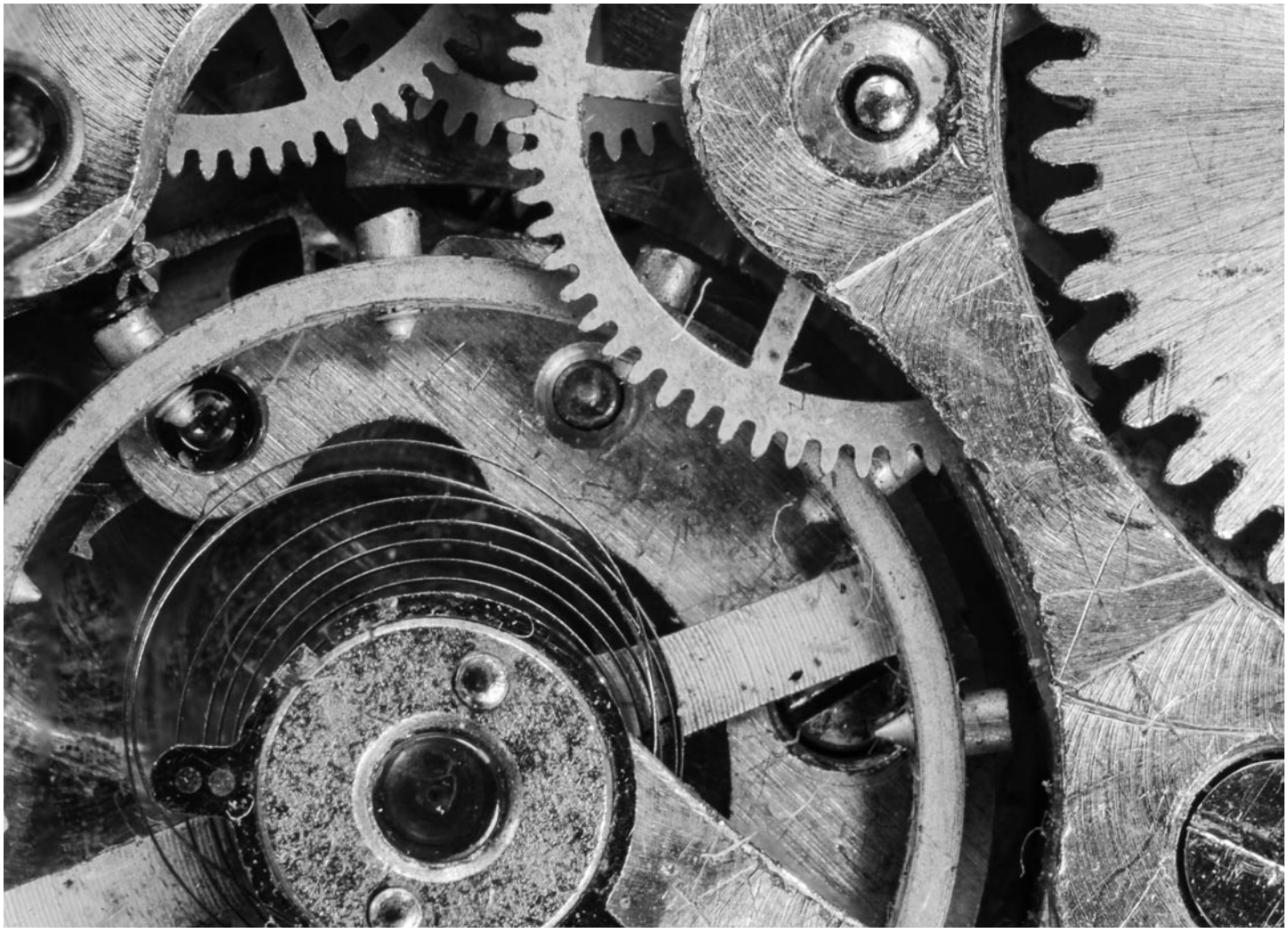
MODEL EA-KL²	500N	800N	1000N
Force exerted by thrust and traction	500 N	800 N	1000 N
Strokes	530, 710 mm		
Power supply voltage	24V (DC) (- 10% / + 25%), Ripple < 0,5V		
Travel speed without load	14 mm/s		
Double electrical insulation	L.T.		
Type of service	30%		
Working temperature	-5 °C ÷ +75 °C		
Protection degree	IP54		
Power supply cable length	2 m		
Dimensions	500 (408) x 58 x 130 (210) mm		
Weight	5,5 kg		

MODEL	EA-KL²-DF
Push and pull force	500 N
Opening angle	140°
Power supply voltage	24V (DC)
Power absorption	1,10/1,60 A
Opening speed	90° in 45 s
Type of service	30%
Operating temperature	-5 °C ÷ +75 °C
Degree of protection for electrical devices	IP54/IP65
Power supply cable length	1 m

CODE	MODEL
6310001	EA-KL² 500N stroke 530 mm
6310002	EA-KL² 500N stroke 710 mm
6310003	EA-KL² 800N stroke 530 mm
6310004	EA-KL² 800N stroke 710 mm
6310005	EA-KL² 1000N stroke 530 mm
6310006	EA-KL² 1000N stroke 710 mm

CODE	MODEL
6310007	EA-KL²-DF
6310008	EA-KL²-DF Short arm

GEARMOTORS



MR28-B | Tubular Gear Motor

Tubular motor for roller and panel blinds. An evolution in the concept of style, practicality, compactness and technology.
The summary of an innovative technology in your hand, an invisible and practical control solution on your blinds.
A new electronic technology for controlling the position and run (up to 20 metres of winding).

- Stroke-end determination is fast, simple and immediate; all you need is a screwdriver. MR28-B has a visible front panel for checking the LED indicator and to facilitate programming of the stroke end and it is only 205 mm in length (approx. 1/3 less than similar commercially available products).
- In addition, installation is easy thanks to the universal brackets that can be placed in any position.
- It is strong, solid and built to last over time; the motor has been subjected to exhausting duration tests with a positive outcome.
- Finally, it can be connected to light sensors for automatic control of the living environment.

APPLICATIONS

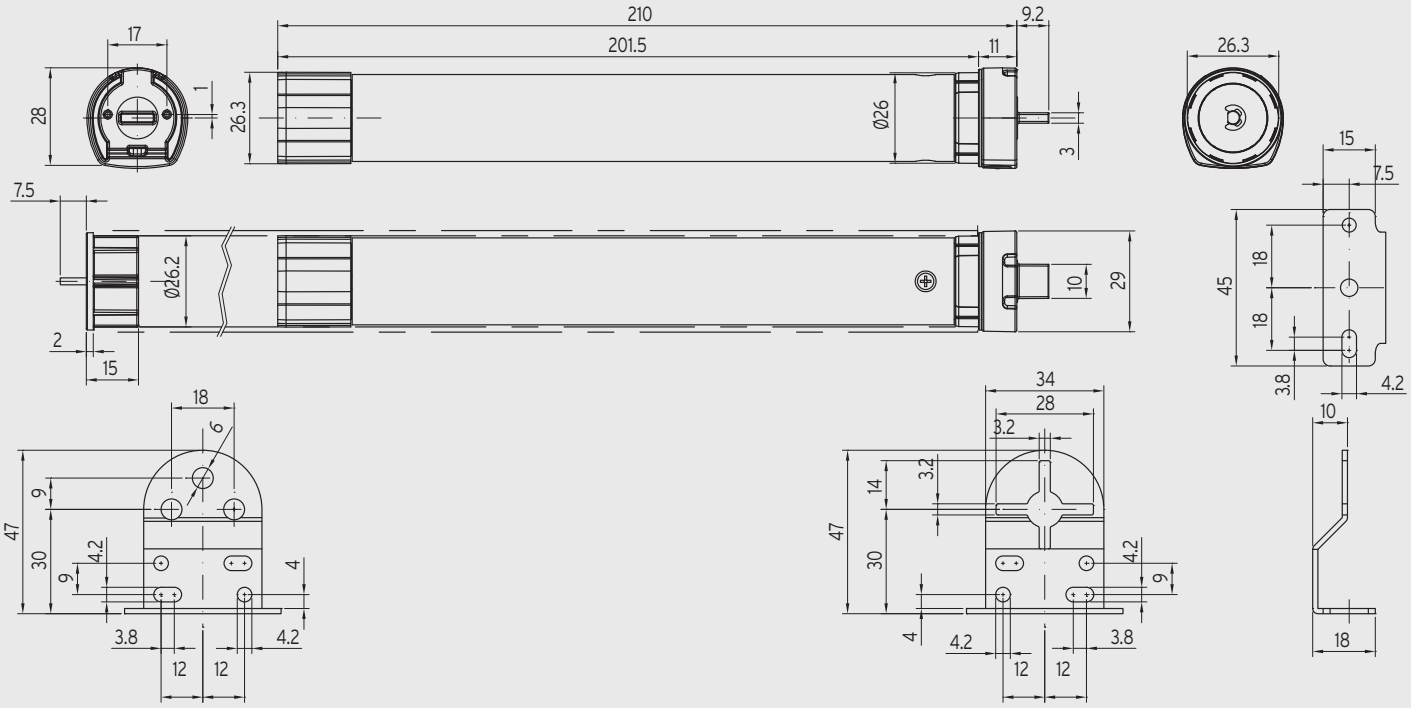
VENETIAN BLINDS
ROLLER BLINDS
PANEL BLINDS

TO BE USED WITH:

ALÌ
Series KL and Series KL-R
MODIX 2/4/6
MY-SUN1 and MY-SUN3

TECHNICAL CHARACTERISTICS (Functional and mechanical features)

- Ø24 tubular gear motor for opening and closing roller and panel blinds on a Ø28 tube, manufactured in accordance with the specifications given in the technical data table, operates at 24V DC low voltage.
- Complete with universal mounting brackets and an adaptor for a Ø28 tube (interior Ø26.5).
- Theoretical capacity of 5.5 kg at Ø28.
- Stroke-end control with electronic system that can be programmed at any time.
- Complies with EU directives (EMC Directive, Low Voltage Directive).
- Black anodised finish on visible parts.



MODEL	MR28-B
Voltage supply	24V
Traction force	0,70 Nm
Theoretical capacity load on tube Ø28	5,5 Kg
Limit switches maximum programming height	20 m
Power input	0,340 A
Power absorbance on charge	8,8 W
Feeding cable	2x0,50 mm2 - 3m
No turns in up phase (at nominal charge)	24 rpm
No turns in down phase	32 rpm

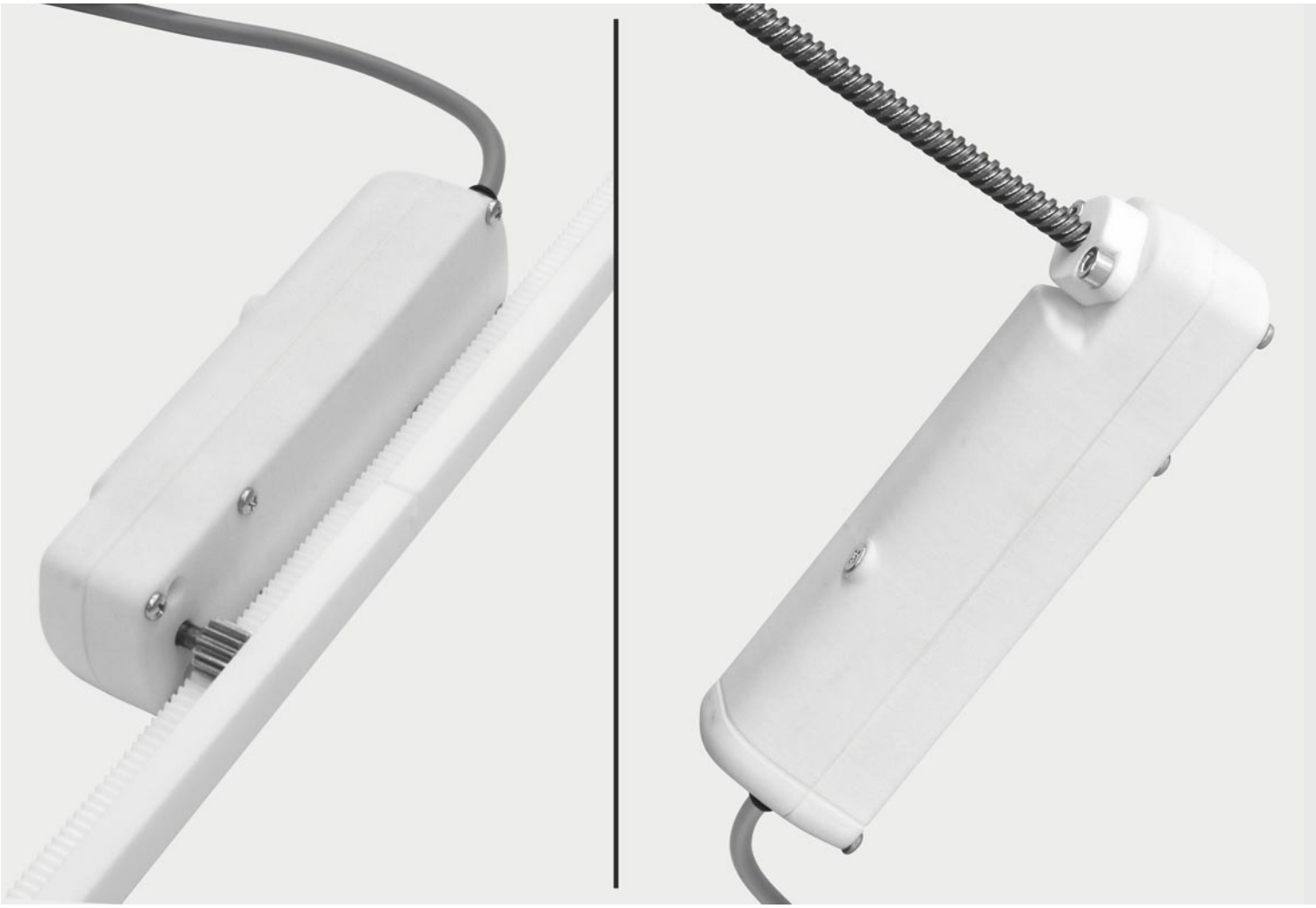
Double electrical insulation	Low tension
Service	S_2 of 2 min
Working temperature	- 5 + 65 ºC
Electrical device protection rating	IP44
End stroke	Programmable electronic revolution indicator
Connection of two or more devices in parallel	Yes
Dimensions	Ø24,5 x 210 mm
Number of pieces per package	6 pieces
Device weight	0,282 Kg

CODE	MODEL
6140010	Tubular GearMotor MR28-B 24V

FLIK - FLOK | Gear motor for Sliding Windows, Doors and Grilles

FLIK and FLOK are two gear motors designed for opening and closing sliding doors, shutters and grilles. FLIK is mounted internally, on the upper edge of the door. No more belts or drive pulleys, the new Nekos system for sliding doors and windows works with a small gear rack. It is simple and quick to install, with no adjustment, just fix the stroke ends in the gear motor and the job is done. FLOK, instead, is completely flush mounted in the sliding doors and grilles and the drive is transmitted by an irreversible screw/nut system, safely housed inside the structure.
The gear motor is positioned upright inside the sash casing and is only accessible from the inside; also for FLOK, the stroke ends are adjusted in the gear motor.

- Opening and closing of shutters without opening the window; it just takes a click of the button or the PIK remote control.
- No external control unit, surface mounted or flush mounted with compact dimensions and an attractive design.
- Synchronisable in the case of two motors on matching doors (Nekos Syncro^3 patent).
- Irreversible motion.
- When combined with the K-LOCK electromechanical lock, it provides anti-burglar protection.



APPLICATIONS

SLIDING FRAMES
DOORS
SHUTTERS
GRILLES

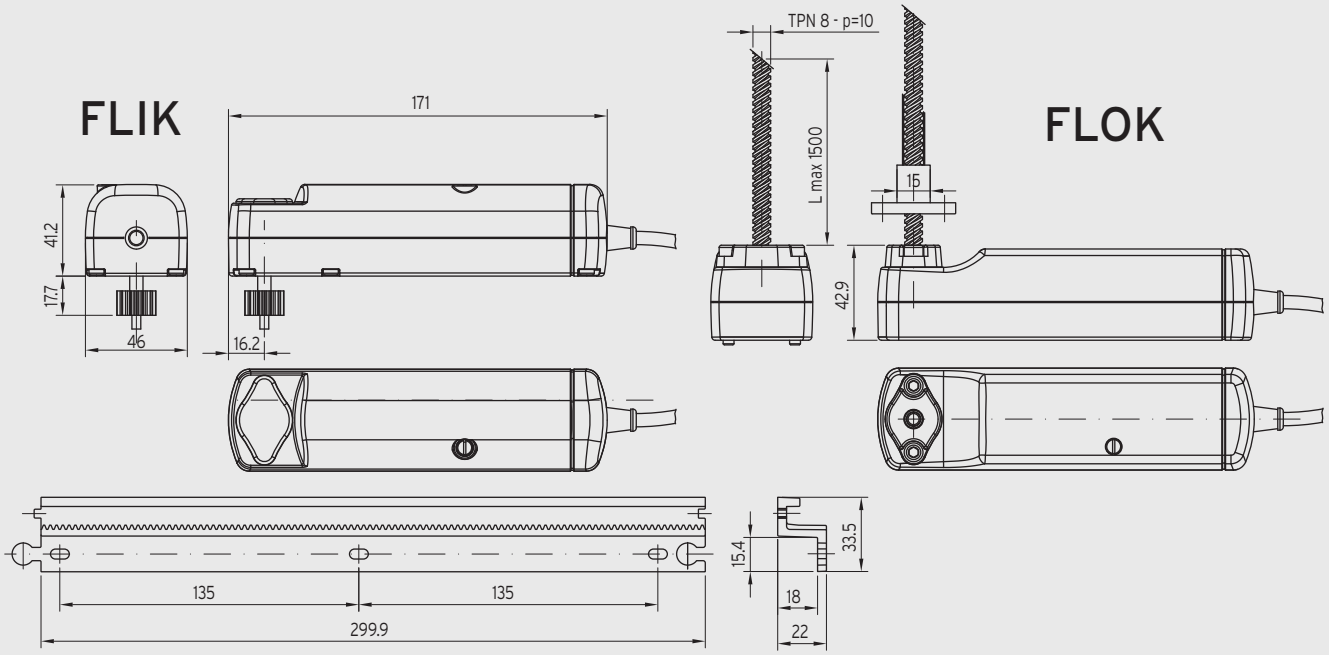
TO BE USED WITH:

FLIK - FLOK 24V:
Series KL and Series KL-R
MODIX 2/4/6
MY-SUN1 and MY-SUN3
K-LOCK

FLIK - FLOK 230V:
Series KH and Series KH-R
RR2-M

TECHNICAL CHARACTERISTICS (Functional and mechanical features)

- Low or medium voltage electric gear motor combined with a rack or screws for opening and closing sliding shutters, doors and grilles. Maximum weight to be moved on carriages 4000 N.
- Designed to operate at 110/230V AC 50/60 Hz or at 24VDC low voltage.
- Supplied complete with pivoting fixing brackets.
- Electronic stroke-end programmable after installation with an external magnetic system. Overload safety protection. Soft Stop Function.
- Can be connected in parallel and synchronised with other devices and K-LOCKs. Complies with EU directives (EMC Directive, Low Voltage Directive).
- Standard colours: White (RAL9010). 24VDC version with a grey silicone cable.
- Body structure made from high-strength composite material (Pa6+35%GF).

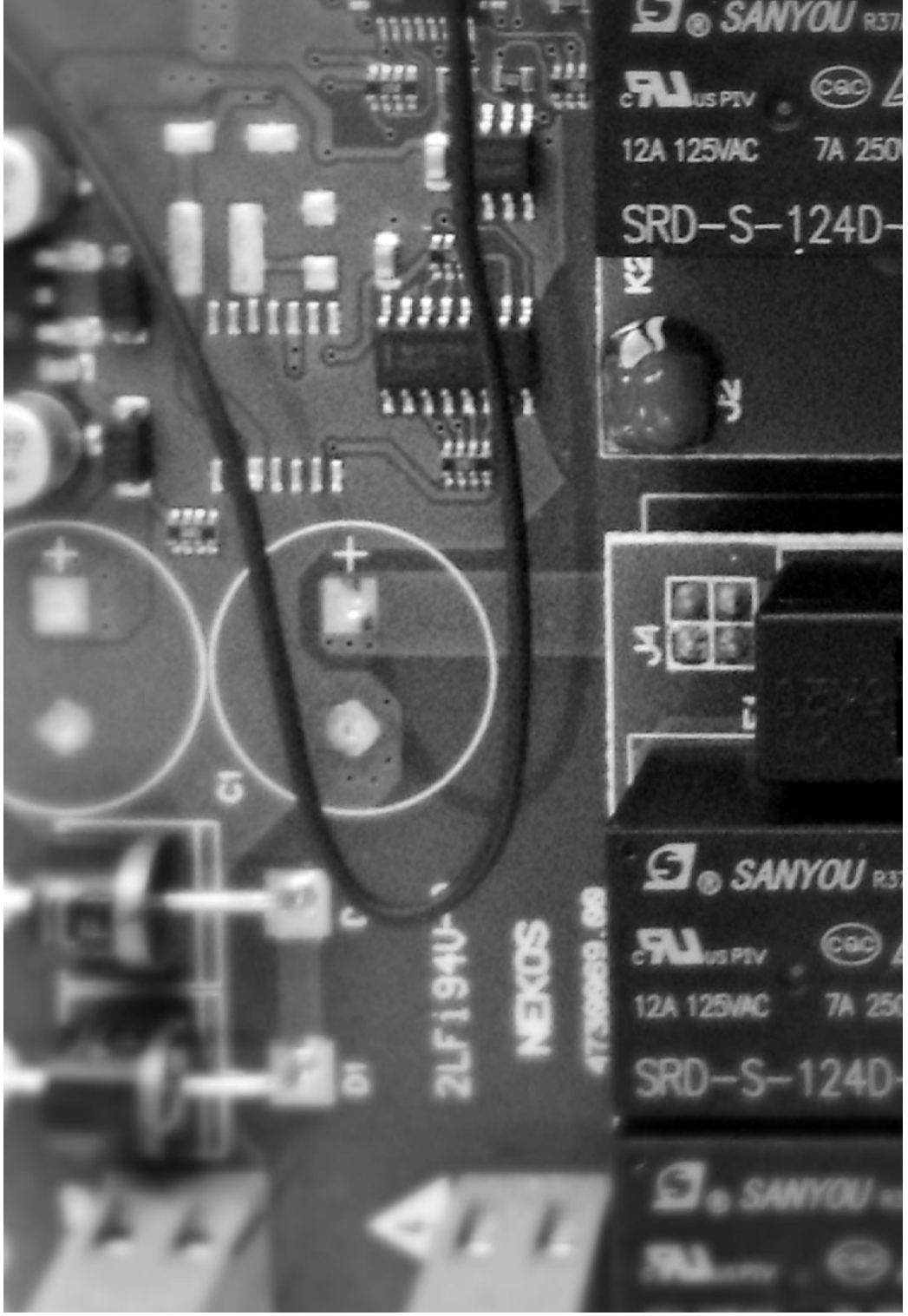


MODEL	230V	24V
Power supply voltage	100-240V 50/60Hz	24V
Absorbed current at nominal load	0,23 A	0,80 A
Power absorbance on charge	29 W	20 W
Max weight to be moved	4000 N	4000 N
Max wing opening (Flik/Flok)	2500 mm	1500 mm
Force at maximum force (Flik/Flok)	190 N	280 N
FLIK: Average speed	45 mm/s	
FLOK: Average speed	12 mm/s	
Double electrical insulation	Yes	L.T.
Type of service	S_2 of 3 min	
Noise	45 dB-A	

Working temperature	-20°C ÷ +65°C	
Progressive starting and soft-stop	100 mm	
Synchronized function (Syncro[3])	Yes	
Connection in parallel	Yes	
Power supply cable length	2 m	
End stroke	Programmable electronic	
Protection at overload	At absorption of power	
Protection degree	IP55	
Dimensions (mm)	175x46x41	220x46x41
Weight	0,295 Kg	0,313 Kg

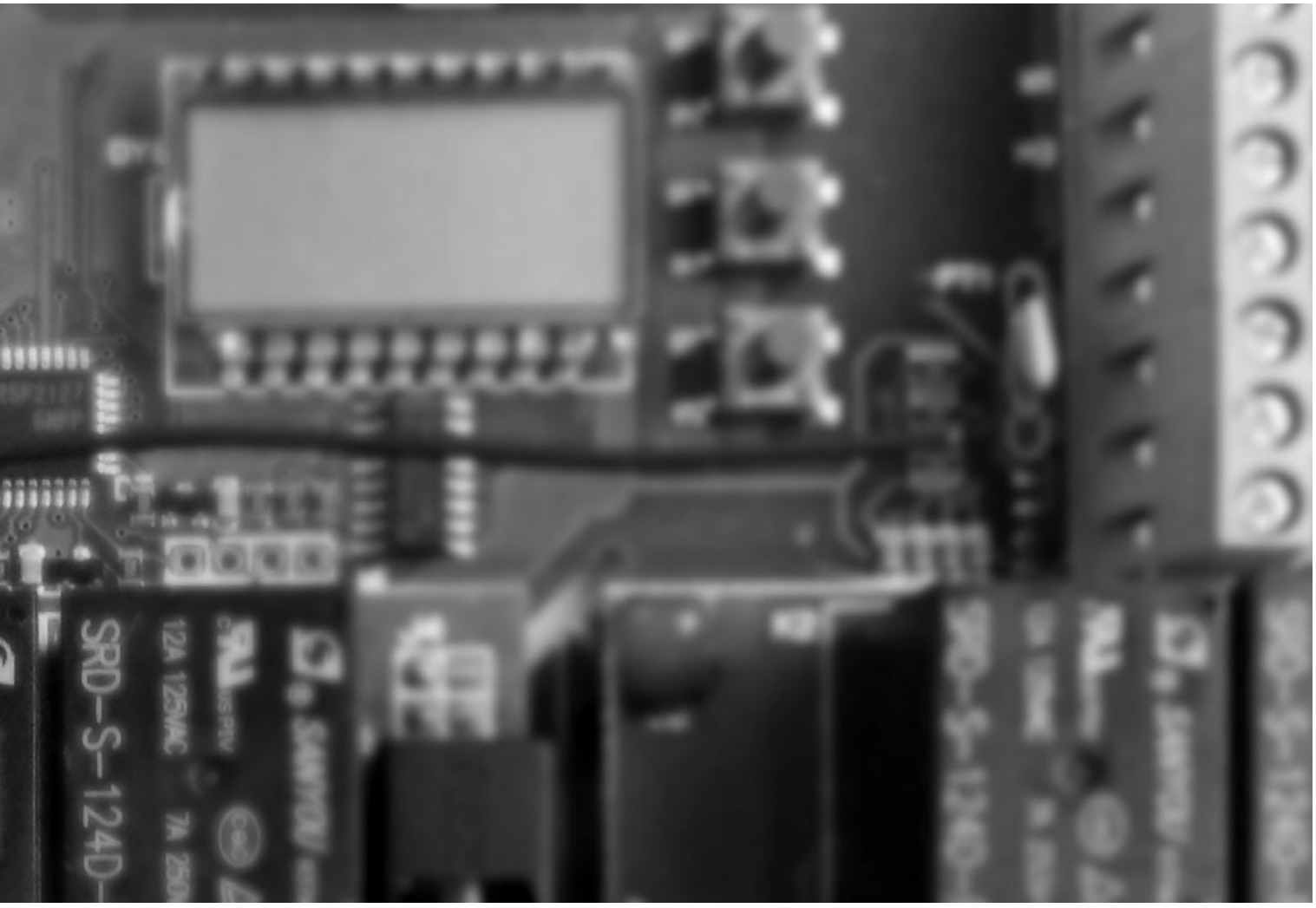
CODE	MODEL
6410001	FLIK gearmotor 230V
6410002	FLIK-R gearmotor 230V Radio
6410003	FLOK gearmotor 230V
6410004	FLOK-R gearmotor 230V Radio
6450001	FLIK gearmotor 24V
6450002	FLIK-R gearmotor 24V Radio
6450003	FLOK gearmotor 24V
6450004	FLOK-R gearmotor 24V Radio

CODE	MODEL
4010126	Rack 300 mm for FLIK
4010127	Thrust screw with spiral nut and tube for Flok - wing 1500 mm
4010128	Thrust screw with spiral nut and tube for Flok - wing 2000 mm


SANYOU
12A 125VAC
SRD-S-124D-
SANYOU
12A 125VAC
SRD-S-124D-
SANYOU
NEXOS

CENTRAL UNITS

Natural Ventilation, Atmospheric Control,
Solar Technology, Retractable Stair



K SERIES

Control and Ventilation Units

After years of experience specifically in the window sector, Nekos has now launched on the market the new K Series control units, which use the principle of control system expansion to ensure the best performance of the window automation device. The control units are used to power and control medium voltage (100-240VAC 50/60 Hz) and low-voltage (24V DC) electric motors, either individually or simultaneously. A programming menu – viewable on the display – allows customised settings to be made. The "R" version, equipped with a radio receiver, allows remote control of the motors through the PIK 30-channel radio remote control. The control units automatically monitor the weather conditions with the aid of rain, wind and light sensors and a daily timer. For a more complete understanding of the functions, see the instruction manual available on the website www.nekos.it.
All the control units are housed in an impact-resistant plastic cabinet with an IP65 protection rating and comply with the EMC and LV Directives.

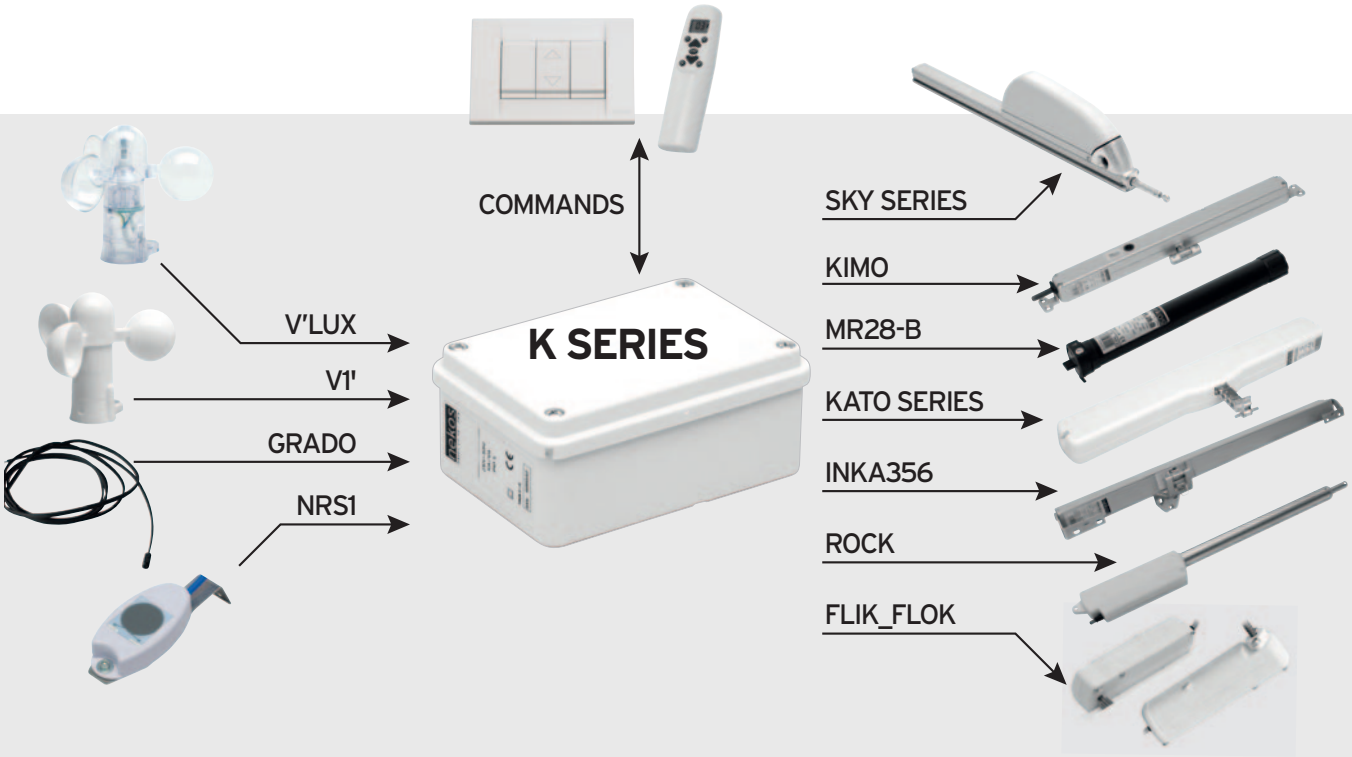
APPLICATIONS

ACTUATOR COMMAND
ELECTRICAL MOTOR

TO BE USED WITH:

KH 230V: 230V
KL 24V: 24V Actuators and Motors

PIK
NRS1
V1
GRADO (only for KH1 - KH1R)



MODEL	KH1 - KH1R	KH (all)
Power supply voltage of the station	100-240 V~ 50/60 Hz	
Output voltage	100-240 V~ 50/60 Hz	
Maximum switchable output current	< 8A	
Maximum power absorbed by the station	2 W	5 W
Max number of actuators connectible per output	see table avialable on the website www.nekos.it in the series K control units section	
Service type	S_1 - Continuous	
Electrical insulation class	II	
Setup for connection to external devices	General open/close command - Daily timer (NOT for KH1) - Rain sensor - Wind sensor	
Operating temperature	-5 ÷ +65 °C	
Degree of protection of the electrical devices	IP65	
Dimensions	100x100x60 mm	240x190x120 mm

CODE	MODEL
6720001	KH1 Unit for 1 230V motor
6720002	KH1R Unit for 1 230V motor + Remote control
6720003	KH2 Unit for 2 230V motors
6720004	KH2R Unit for 2 230V motors + Remote control
6720005	KH4 Unit for 4 230V motors
6720006	KH4R Unit for 4 230V motors + Remote control
6720007	KH6 Unit for 6 230V motors
6720008	KH6R Unit for 6 230V motors + Remote control
6720009	KL2 Unit for 2 24V motors
6720010	KL2R Unit for 2 24V motors + Remote control
6720011	KL4 Unit for 4 24V motors
6720012	KL4R Unit for 4 24V motors + Remote control
6720013	KL6 Unit for 6 24V motors
6720014	KL6R Unit for 6 24V motors + Remote control

MODIX

Autonomous Power Unit for 24V Motors

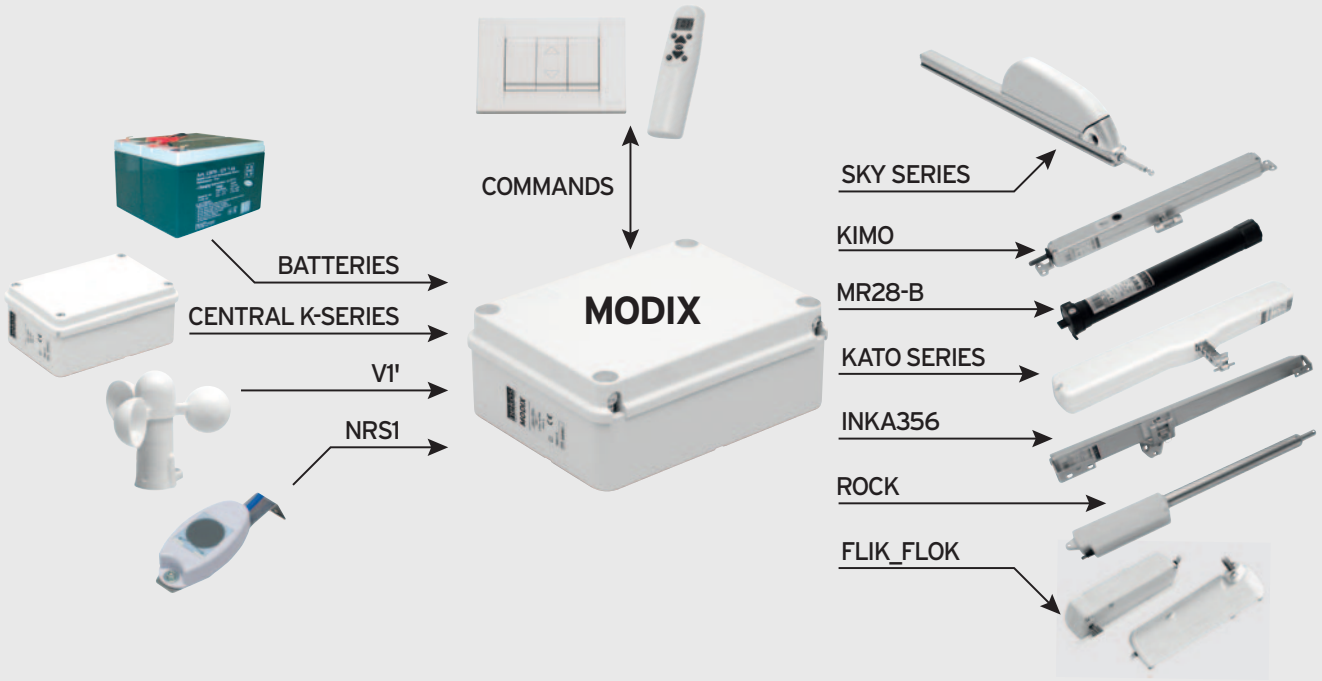
The Modix control unit is a unit that provides the KL Series with an uninterrupted power supply, to supply 24V motors autonomously, even in the absence of mains voltage. When power is not required, a charging device keeps the batteries always charged and ready for use.
All the control and command functions are the same as on the KL Series control units, with the same circuit board integrated into the MODIX, therefore it interfaces with all the same devices that connect to the KL units (sensors, controls, 24V motors). In the event that power greater than 6Ah is required, the batteries will have to be placed outside of the container, close to the system. The Modix control unit is housed in an impact-resistant (grey) plastic cabinet with an IP43 protection rating containing the batteries, a backup charging device, the interface board and the required KL Series control unit circuit board. The device has CE marking and conforms to relevant EU industry directives.

APPLICATIONS

24V ACTUATORS AND
MOTORS FEEDING COMMAND

TO BE USED WITH:

PIK
NRS1
V1
24V MOTORS



MODEL	MODIX
Feeding tension to central	100-240V~ 50/60 Hz
Output tension	24V
Maximum absorbed current	0,320 A
Max output current	see series KL control units
Setup for connection to external devices	see K units

Type of service	S_1 – Continuous
Electrical insulation class	I
Working temperature	-5 ÷ +65 °C
Protection degree	IP43
Dimensions	240x190x120 mm

CODE	MODEL
6720021	Central Unit MODIX2
6720022	Central Unit MODIX4
6720023	Central Unit MODIX6
6720027	Central Unit MODIX2R
6720028	Central Unit MODIX4R
6720029	Central Unit MODIX6R

MY-SUN1

Solar Power Supply Unit for 1 Motor

MY-SUN1 is a solar photovoltaic power supply kit for 1 electrical motor applied to automations for windows, as well as to other electrical motors that require a 24V DC power supply.
The control unit is housed in a plastic protective container just 35 mm thick.
The motor movement commands are sent with the PIK radio remote control provided with the kit.
Where it is difficult and expensive to provide electrical energy and controls, this can now be done with the MY-SUN1 system.

- Greater savings and respect for the environment, thanks to free, clean solar energy.
- An intelligent and eco-friendly choice that pays for itself in a short time.
- Very low consumption and no blackouts.
- On request, a portable auxiliary power supply can be connected to the main electrical supply for rapid battery charging, for use in the event that the power in the batteries or from the photovoltaic panel is consumed.

The kit contains:

- The photovoltaic panel, which converts sunlight into electrical energy.
- The control and back-up battery charging unit.
- A nickel-metal hydrate battery pack stores the electrical power produced by the photovoltaic cell for use when needed throughout the day and also at night.
- The PIK 30-channel, 433.92 MHz radio remote control for remote control of the connected motor.
- The NRS1/B low power consumption rain sensor (optional supply) is a safety guarantee for automatically closing the window in case of sudden rain.

MODEL	MY-SUN1
Battery	12V 1200mAh NiMH
Output tension	24V
Max output current	1A
Working time	180s
Photovoltaic panel	18V 5W
Max no of consecutive monoeuvres	300
Max no of days of autonomy	15

Radio receiver working frequency	433.92 Mhz
No of remote controls that can be memorized	16
Working temperatureq	-10 ÷ +70 °C
Electrical insulation	Very low safety voltage
Protection degree	IP40
Dimensions	150x80x46 mm
Weight	0,40 Kg

APPLICATIONS

ALL 24V MOTORS LOW CONSUMPTION
(see technical data table)

TO BE USED WITH:

KIMO
INKA356
MR28-B
KATO 24V
NRS1/B

CODE	MODEL
6720026	MY-SUN1 Unit kit for 1 motor

MY-SUN3

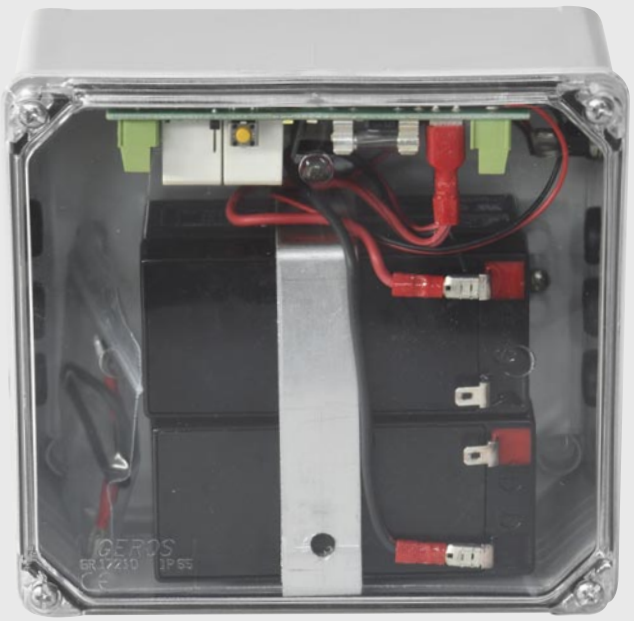
Solar Power Supply Unit for 3 Motors

MY-SUN3 is a solar photovoltaic power supply kit for window automation, ideal where it is difficult to provide electrical power. The system has been designed in particular to supply roof windows, in which 3 motors are often installed: the motor for the window, for the blinds and for the external roller shutter.
Now all these motors can be remotely controlled with a single control unit and without any wall-mounted controls. The kit can be installed anywhere, with no need for wall-mounted ducting or electrical systems.

- Greater savings and respect for the environment thanks to free, clean solar energy.
- An intelligent and eco-friendly choice that pays for itself in a short time.
- Very low consumption and no blackouts. The long duration of the reserve power, together with the low consumption of the installed motors, ensures its operation also during lengthy cloudy periods.
- On request, a portable auxiliary power supply can be connected to the main electrical supply for rapid battery charging, for use in the event that the power in the batteries or from the photovoltaic panel is consumed.

The kit contains:

- The photovoltaic panel, which converts sunlight into electrical energy.
- The control and back-up battery charging unit.
- The batteries, which store the electrical energy produced in order to supply it throughout the day and also at night.
- The PIK 30-channel radio remote control for remote control of the numerous motors connected to the My-Sun units.
- The NRS1/B low power consumption rain sensor,optional, but a safety guarantee to automatically close the window in the case of sudden rain.



MODEL	MY-SUN3
Battery	2x12V 1200mAh NiMH
Output tension	24V nominal
Max output current	1.5 A
Working time	180 s
Photovoltaic panel	18V 5W
Max no of consecutive monoeuvres	100
Max no of days of autonomy	15 (assuming 1 manoeuvre/day)

Radio receiver working frequency	433.92 Mhz
No of remote controls that can be memorized	16
Working temperature	-10 ÷ +70 °C
Electrical insulation	Very low safety voltage
Protection degree	IP40
Dimensions	154x144x76 mm
Weight	1,60 Kg

APPLICATIONS

ALL 24V MOTORS LOW CONSUMPTION
(see technical data table)

TO BE USED WITH:

KIMO
IKKA356
MR28-B
KATO 24V
NRS1/B
LOW CONSUMPTION
TUBULAR GEARMOTOR

CODE	MODEL
6720024	MY-SUN3 Unit kit for 3 motors

FV-3 e FV-6 | RWA Control Units

These compact control units were developed in accordance with European standard EN 12101 part 9 and 10.
The smoke extraction systems are equipped with control units of this type, which include: an electrical power supply, an emergency power supply and all the electronics required to function with 24V DC actuators; the units control the connected actuators both in the event of fire and for daily ventilation.
Openings for the extraction of smoke in the upper part of the building and a sufficient number of fresh air intakes in the lower areas, combined with the use of these control units, allow smoke, gas and heat to be extracted naturally, enabling people still present in the building to abandon it through a low-smoke zone. In the meantime, fire fighters can deal with the fire and the rescue services can evacuate the people safely.

- The heart of system is the compact FV-3 (output 3 A) and/or FV-6 (output 6 A) control panel: it was developed in accordance with standard EN 12101 Part 9 and 10.
- The panel includes a primary and secondary power supply, as well as all the control technology for the functioning of 24V DC actuators installed on the windows of the building. The control unit activates the actuators for daily ventilation and in the event of fire.
- The control units include special ventilation functions (limited ventilation, deadman switch, automatic ventilation) that can be programmed individually by the user.
- Daily ventilation comprises a system check. When the electric actuators are activated manually, through the emergency button, or automatically, by the smoke or heat detector, they open the designated windows in the façade or roof of the building.
- In the event of a power failure, the emergency power supply with lead/acid batteries keeps the smoke and heat extraction system in operation for at least 72 hours.
- The control units also provide the possibility of remote diagnostics via GPRS for maintenance and the resolution of problems; this function must be requested separately.

For further details and technical information, please refer to our technical service.

APPLICATIONS

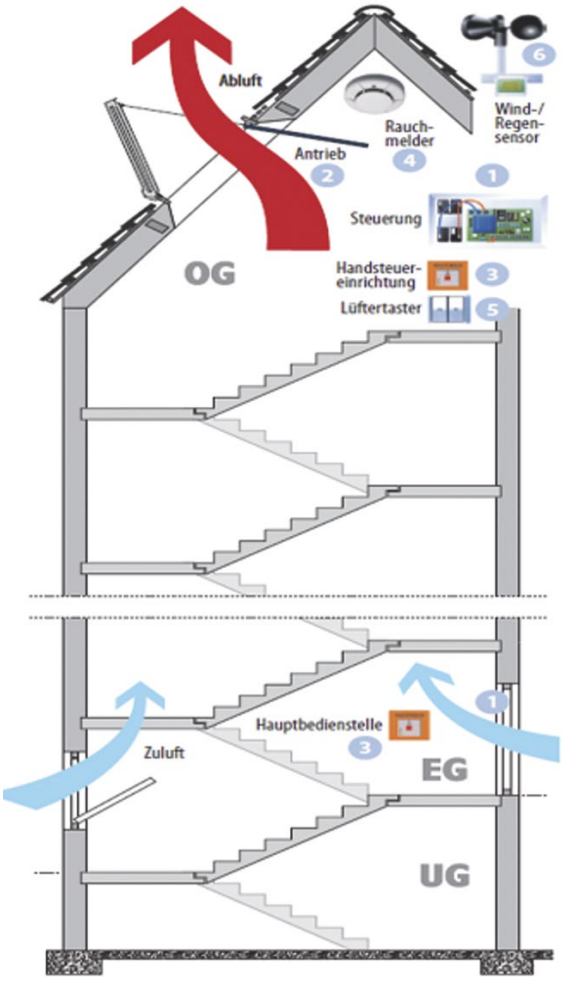
SMOKE AND HEAT EXTRACTION SYSTEMS (RWA)

TO BE USED WITH:

KAT0305
INKA356
EA-L and EA-L/S
EA-KL² and EA-KL²-DF
RWA Accessories

Smoke and Heat Extraction.

The smoke and heat extraction system belongs to the area of fire control in buildings. Many lives can be saved in the event of an emergency through the installation of the FV-3 and FV-6 Series control units, hence this has become required by law in many European countries. The authorities issue a permit that determines the way in which these conditions are adopted. Before installation of the smoke and heat extraction system, it must be demonstrated that the system meets the official requirements.



MODEL	FV-3	FV-6
Power supply voltage	230V AC / 50 Hz	
Output tension	24V DC Stabilized	
Maximum current load	3,0A - 6,0 A - 10,0 A	
Emergency supply	Lead-acid battery 2,3 Ah and 7,2 Ah	
Housing	Plastic container (RAL7035)	
Emergency power supply	In compliance with EN 12101-10	
Protection class	According to the mouting. Case IP66	
Degree of protection in case of lack of energy supply	up to 72 hours	
LED signals	Ready, Defect, Alarm	
Operating temperature	-5°C ÷ +40°C	
Monitoring cable	Actuators, emergency switch, smoke sensors and fire alarm system contact	
Connections (emergency switches)	7 main and max 1 local unit, ventilation switches, heat sensor, smoke sensor, wind and rain sensors, fire alarm signal	
Signaling contact	2 neutral contact programmable with dip-switches, maximum 30 VDC, 2 A	
Continuous power	50W	100W
Input fuses	1,25 A - Slow	
Actuator output	3,15 A - Slow	
Case dimensions	254x180x111 mm	361x254x111 mm
Weight	4,4 Kg	6,4 Kg

CODE	MODEL
7505507	FV3 RWA Central Unit 3A output
7505508	FV6 RWA Central Unit 6A output

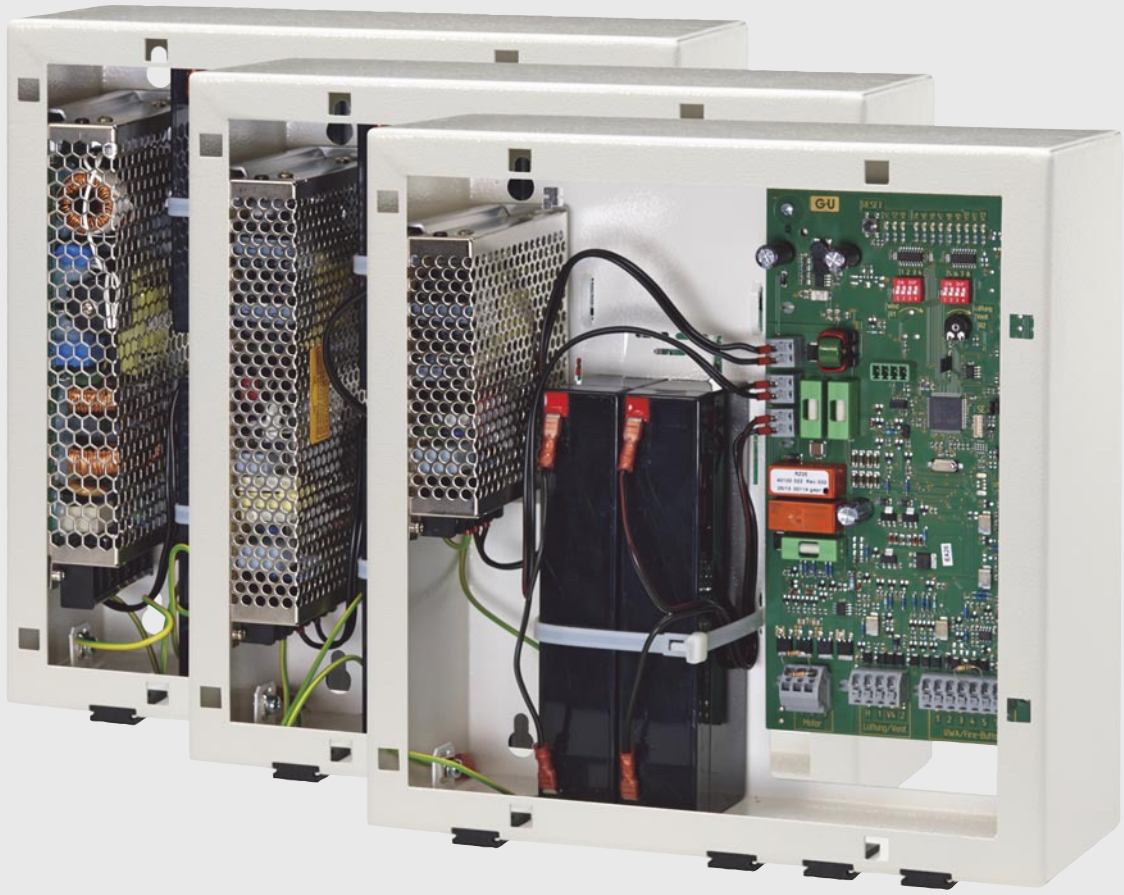
FV-25, FV-50, FV-75 | Compact RWA Control Units

Suitable for stairwells or small buildings

The FV-25/50/75 compact control units are ideal as a basis for all standard applications and for installation in simple and small-scale construction projects. The control units occupy a limited space and allow operations for smoke extraction and daily aeration to be coordinated, controlled and activated in small building projects and staircases.

In detail:

- Strong, crushproof steel housing box;
- Output voltage adjusted electronically;
- Connection of up to 5 control units, with constant monitoring of the line;
- Up to 5 locally separate ventilation units, centralised operation of the ventilation control buttons for connected control units;
- Convenient and clearly visible indication of the current status, of errors and of faults through the LED display;
- Relay inputs and outputs for alarms and malfunction;



APPLICATIONS

SMOKE AND HEAT
EXTRACTION SYSTEMS (RWA)

TO BE USED WITH:

KAT0305
INKA356
EA-L and EA-L/S
EA-KL² and EA-KL²-DF
RWA Accessories

- Adjustment and application functions:
  - Deadman switch in open / close direction.
  - Automatic ventilation, with selection of the time setting.
  - Limitation of the duration for the reduction of ventilation, adjustable.
  - Acoustic alarm mute option.
  - Automatic closing of the windows in the event of a power failure.
  - Selection of the direction of travel of the drives in the case of an alarm.
- In the FV-50 and FV-75 control units, wind and rain sensors can be connected without an additional module, with integrated wind evaluation and measurement; the wind speed can be set;
- The backup batteries placed in the control unit ensure more than 72 hours of life in the event of a power outage.

MODEL	FV-25	FV-50	FV-75
Working tension	100÷240V~ (AC) – 50/60Hz (±10%)		
Output nomial tension	24V⎓ (DC)		
Output current	3,2 A	6,5 A	8,4 A
Emergency supply – 2 12V Gel batteries	2,3 Ah	3,2 Ah	3,2 Ah
Emergency power supply	In compliance with EN12101-10		
Degree of protection in case of lack of energy supply	up to 72 hours		
Housing	Steel container RAL9010		
Protection class	IP20 - IP54 (with optional accessories)		
Working temperature	-5°C ÷ +40°C		
Entry connections (sensors)	6 (ventilation switch, heat, smoke, wind, rain and fire alarm)		
Max no of RWA and ventilation groups	1 RWA + 1 ventilation		
Max no of RWA (HSE) keys	10		
Max no of smoke / heat sensors	10		
Certified directives	EN60950-1, EN61010-1, EN50130-4		
Dimensions – A x H x P - (mm)	296 x 296 x 112		
Weight (kg)	~ 6,90		

CODE	MODEL
7505509	FV-25 Compact RWA Central Unit
7505510	FV-50 Compact RWA Central Unit
7505511	FV-75 Compact RWA Central Unit

ASR-3

Control Units for Retractable Stairs

ASR-3 is an electronic control unit for retractable stairs. Compact, easy to install and simple to use, it powers and controls the electric actuator to lower and raise the stairs. This intelligent automation can be used in all types of retractable stairs.

- The compact dimensions allow installation directly in the stair panel.
- Flashing LED signal: flashes in the vicinity of the stairs while they are in movement. Pre-prepared for the connection of an external buzzer or beacon to the control unit.
- Automatic stroke-ends without any adjustment in lowering, when the stairs reach the floor, and in raising, once the panel is fully closed.
- Supplied complete with a 2-metre power cable.
- Lift test conducted for up to 25,000 complete cycles, in accordance with standards.
- Equipped with PIK-SR model 30-channel 433.92 MHz radio remote control, specially prepared for this control unit.
- Possibility of also connecting an external button control.

MODEL	ASR-3
Power supply voltage	230V~ 50/60 Hz
Current absorption at nominal load	0,20 A
Power absorbed	40 W
Output tension to motor	24V
Max outpur current to motor	3,00 A
230V~ transformer protection	Thermic, internal
Type of service	S_2 - 80% - 10 min

Electrical insulation	Double insulation
Command technique	PIK-SR remote control / Push button
Working temperature	-5 ÷ +55 °C
Power supply cable length	2 m
Degree of protection of the electrical devices	IP55
Dimensions	105x70 h=80 mm
Weight	1,02 Kg

APPLICATIONS

RETRACTABLE STAIR ACTUATORS (MAX 3A)

TO BE USED WITH:

PIK-SR
SA0-650
MM2-3000

The ASR-3 control unit for retractable stairs is used in combination with two different perpendicular axis rod actuators specially prepared for lowering and raising the retractable staircase.
Both feature a system that ensures irreversible movement, with steel screws and a bronze rack.

SAO-650 |

The SAO-650 model is an entirely metal actuator, robust, silent and built with operational features for this specific use. The actuator incorporates as standard a mechanical release for emergency situations, to enabling manual opening of the staircase in compliance with current safety regulations.

MM2-3000 |

The MM2-3000 model is similar to the previous actuator, with a structure made from plastic material and metal mechanical moving parts. This model has greater power (3000 N), silent operation, a low travel speed and is not equipped with the release system in case of emergency.

The main specifications of the actuators are given in the tables below.

MODEL	SAO-650
Thrust and traction force	650N
Set up stroke	370 mm
Power supply voltage	24V DC
Opening speed	23 mm/s
Irreversibility of the motion	Yes
Type of service	S_3 10% of 10 min
Working temperature	-10°C ÷ +60°C
Protection degree	IP44
Power supply cable length	1 m
Release device	Mechanic

MODEL	MM2-3000
Thrust and traction force	3000 N
Set up stroke	425 mm
Power supply voltage	24V DC
Opening speed	6,2 mm/s
Irreversibility of the motion	Yes
Type of service	S_3 10% of 18 min
Working temperature	-10°C ÷ +40°C
Protection degree	IP66
Power supply cable length	1,5 m
Release device	NO

CODE	MODEL
6720025	ASR-3 Retractable Stairs Central
6260015	SAO-650 Linear Actuator 650N 24V stoke 370 mm
6260016	MM2-3000 Linear Actuator 3000N 24V stoke 425 mm

ACTUATOR LIST AND THEIR COMBINATIONS WITH ACCESSORIES

ACTUATOR	FOR USE WITH		
	NAME	CODE	DESCRIPTION
KIMO	BK-LOCK	6275008	Electromechanical lock 24 V
	KOUPLE 24V	7505032	Tandem control unit for 2 Kimo 24V
	KL n	67200nn	Control units 24V
	KL n - R	67200nn	Radio control units 24V + PIK remote control
	MODIX 2/4/6	6720021/22/23	Command power unit with batteries 24V
	MY-SUN	6720024	Solar power supply unit with PIK remote control
	ALI'SW	6810005	Power supply unit 24V with command push button
KATO 253 24V	KOUPLE 24 V	7505040	Powered tandem control unit 24 V
	KL n	67200nn	Control units 24V
	KL n - R	67200nn	Radio control units 24V + PIK remote control
	MODIX 2/4/6	6720021/22/23	Command power unit with batteries 24V
	MY-SUN	6720024	Solar power supply unit with PIK remote control
KATO 253 230V	KOUPLE 230V	7505024	Tandem control unit for 2 230 V motors
	KH n	67200nn	Control units 230 V
	KH n -R	67200nn	Radio control units 230 V + PIK remote control
	RR2-M	7505028	Flush-mounted radio receiver (to radio-control)
KATO 24V	BK-LOCK	6275008	Electromechanical lock 24 V
KATO SYNCRO^{3}24	KL n	67200nn	Control units 24V
	KL n - R	67200nn	Radio control units 24V + PIK remote control
	MODIX 2/4/6	6720021/22/23	Command power unit with batteries 24V
	MY-SUN	6720024	Solar power supply unit with PIK remote control
KATO 230V	KH n	67200nn	Control units 230 V
KATO SYNCRO^{3}230	KH n -R	67200nn	Radio control units 230 V + PIK remote control
	RR2-M	7505028	Flush-mounted radio receiver (to radio-control)
KATO RADIO	PIK	7505025	Remote control
	NRS1	7505021	Rain sensor (wired)
	NRS1/R	7505034	Rain sensor (by Radio)
KATO305 RWA 24V	BK-LOCK	6275008	Electromechanical lock 24 V
KATO305 SYNCRO^{3}24	KL n	67200nn	Control units 24V
	KL n - R	67200nn	Radio control units 24V + PIK remote control
	MODIX 2/4/6	6720021/22/23	Command power unit with batteries 24V
	MY-SUN	6720024	Solar power supply unit with PIK remote control
	FV	75055nn	RWA control units
KATO 305 230V	KH n	67200nn	Control units 230 V
KATO 305 SYNCRO^{3}230	KH n -R	67200nn	Radio control units 230 V + PIK remote control
	RR2-M	7505028	Flush-mounted radio receiver (to radio-control)
INKA 356 24V	K-LOCK	6275006	Electromechanical lock 24 V
INKA 356 RWA 24V	KL n	67200nn	Control units 24V
INKA 356 SYNCRO^{3}24	KL n - R	67200nn	Radio control units 24V + PIK remote control
	MODIX 2/4/6	6720021/22/23	Command power unit with batteries 24V
	MY-SUN	6720024	Solar power supply unit with PIK remote control
	FV	75055nn	RWA control units
INKA 356 230V	K-LOCK	6275006	Electromechanical lock 24 V
INKA 356 SYNCRO^{3}230	KH n	67200nn	Control units 230 V
	KH n -R	67200nn	Radio control units 230 V + PIK remote control
	RR2-M	7505028	Flush-mounted radio receiver (to radio-control)
K-LOCK	INKA 24V	60510nn	Chain actuator 24 V
	INKA 24 SYNCRO	60505nn	Chain actuator 24 V SYNCRO
	INKA 24 RWA	60510nn	Chain actuator 24 V RWA VERSION
	INKA 230 SPEC		Chain actuator 230V - special with 24V feeding for K-Lock
BK-LOCK	KIMO	6050072	Chain actuator 200N metal housing
	KATO 24V	6050001/2/3	Chain actuator 300N polymer housing
	KATO305 RWA	6051001/2/3	Chain actuator 300N aluminium housing
SKY450 230V	Actuator rod	629100n	Rack only for additional push point
	Bar	40100nn	Connection bar 1000/1500/2000/2500 mm
	KOUPLE 230V	7505024	Tandem control unit for 2 230 V motors
	KH n	67200nn	Control units 230 V
	KH n -R	67200nn	Radio control units 230 V + PIK remote control
	RR2-M	7505028	Flush-mounted radio receiver (to radio-control)
SKY650 24V	KOUPLE 24V	7505040	Powered tandem control unit 24 V
	KL n	67200nn	Control units 24V
	KL n - R	67200nn	Radio control units 24V + PIK remote control
	MODIX 2/4/6	6720021/22/23	Command power unit with batteries 24V
	MY-SUN	6720024	Solar power supply unit with PIK remote control
SKY650 230V	KOUPLE 230V	7505024	Tandem control unit for 2 230 V motors
	KH n	67200nn	Control units 230 V
	KH n -R	67200nn	Radio control units 230 V + PIK remote control
	RR2-M	7505028	Flush-mounted radio receiver (to radio-control)
SKY650 (all models)	Actuator rod	629000n	Rack only for additional push point
	Bar	40100nn	Connection bar 1000/1500/2000/2500 mm
NKL 230V	KOUPLE 230V	7505024	Tandem control unit for 2 230 V motors
	KH n	67200nn	Control units 230 V
	KH n -R	67200nn	Radio control units 230 V + PIK remote control
	RR2-M	7505028	Flush-mounted radio receiver (to radio-control)
ROCK 600			
EA- L/S	KL n	67200nn	Control units 24V
	KL n - R	67200nn	Radio control units 24V + PIK remote control
	FV	75055nn	RWA control units
EA- L	KL n	67200nn	Control units 24V
	KL n - R	67200nn	Radio control units 24V + PIK remote control
	FV	75055nn	RWA control units
EA-KL2 24V	KL n	67200nn	Control units 24V
	KL n - R	67200nn	Radio control units 24V + PIK remote control
	FV	75055nn	RWA control units

ACCESSORIES

RR2-M | Two channel flush-mounted Radio Receiver

A compact two-channel receiver module that is used for the remote control of 230V fixtures (actuators, roller shutters, curtains and blinds, wireless control for switching on lights and intelligent management). An extremely compact two-channel receiver with two relays powered directly by the mains power supply. It is equipped with a OOK/ASK superheterodyne receiver for high performance and reliability, and controlled by microprocessor, with functions including decoding, self-learning of radio commands and a digital anti-disturbance filter for further improvement of radio performance. The module allows programming without needing to physically access the circuit board. A SAW filter improves selectivity and suppresses out-of-band interference. It is also equipped with a reliable and efficient low consumption power supply (standby ≤0.3W) with a wide range of operating voltages and is protected from overvoltages at the mains input. The device complies with European standard I-ETS 300 220 and ETS 300 683. The remote control must be ordered separately.

MODEL	RR2-M
Power supply voltage (VAC - 50/60Hz)	100 ÷ 250V~
Power absorbed (Standby - reception only)	0,3 W
Power absorbed (1 relay active)	0,8 W
Power absorbed (1 relays active)	1,4 W
Operating frequency	433,92 MHz
Range in free space	150 m
Range in internal environment	20 m
No of transmitters that can be memorized	30

Switch-on time	2 s
Control actuation time	0,5 s
No of local ingresses	2
Maximum current with closed contact	5 A
Protection degree	IP 20
Operating temperature	-20 ÷ +55 °C
Dimensions	H = 36, W = 42, L = 21 mm

TO BE USED WITH:

ALL 230V MOTORS
KATO253
KATO (NOT SYNCRO)
KATO305
INKA356
SKY450
SKY650
NKL450

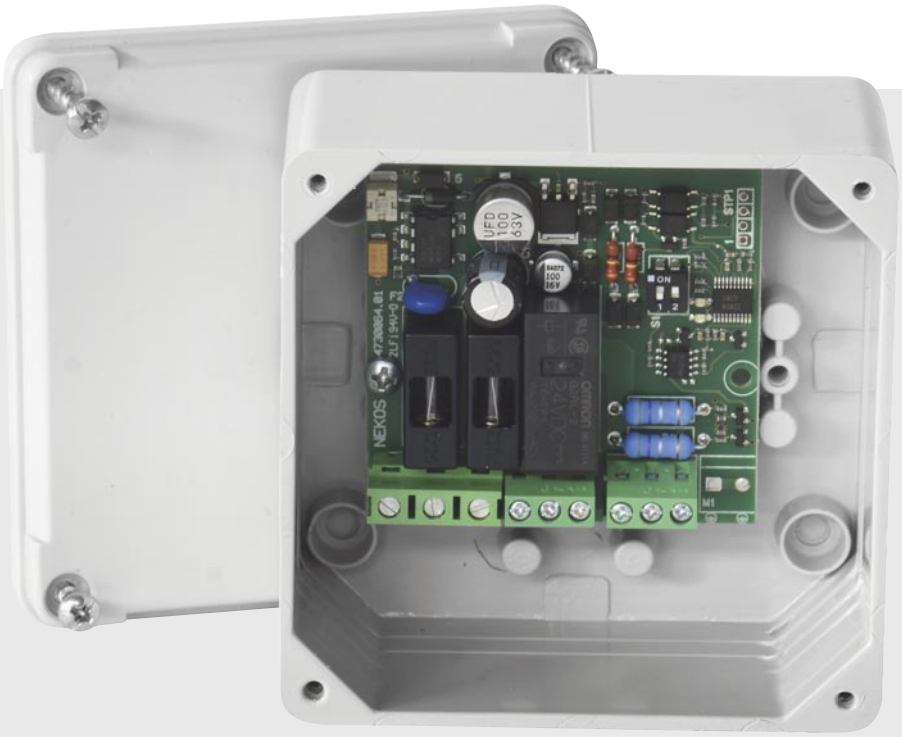
CODE	MODEL
7505028	RR2-M 2 Channels Radio Receiver

KOUPLE

Tandem Control Unit for Actuators

KOUPLE is a control unit that controls the parallel (tandem) operation of two actuators. In automations on large windows, it is often necessary to install two actuators to ensure a good closure of the sash or to have dual power without using synchronised actuators.

- The KOUPLE system is not a synchronisation device; the control unit merely checks whether one of the two machines stops. In this case, it also shuts down the operation of the other actuator to avoid causing damage to the window or to the machines themselves.
- The actuator controls should be connected to the KOUPLE control unit, which has two outputs to the actuators.
- The circuit board is housed in a box made from plastic material, which should be located near the actuators it controls.



MODEL	KOUPLE 230V	KOUPLE 24V
Power supply voltage	110/230V~ 50/60 Hz	24V (DC) (-5%)
Max output current	2,50A + 2,5A	
Electric protection	2 T 2,50A fuses	1 T 50A fuse
Type of service	Continuous	
Double electrical insulation	Yes	Low voltage
Working temperature	-5°C ÷ +65°C	
Protection degree	IP55	
Dimensions	100x100 h=60 mm	
Weight	0,190 Kg	0,175 Kg

TO BE USED WITH: KAT0253, SKY450

CODE	MODEL
7505024	KOUPLE 230V - 2 230V motors
7505032	KOUPLE 24V - 2 24V motors (Kimo)
7505040	KOUPLE 24P - Powered 24V (Kato e Sky)

ALI'SW | Power Supply Unit

ALI'SW is a power supply device for low-voltage motors designed for installation in Italian-type 3-module flush-mounted back boxes. A switching power supply with a 100-240V 50/60Hz input, it supplies a stabilised output voltage of 24V DC, with a maximum current of 0.5 A.
The control for operating the motor uses innovative touch-switch technology, which activates the command at the simple touch of the "deadman" button or step/step in automatic mode. The touch-switch board can be applied on any commercial socket cover plate to provide an elegant electric control that integrates with the design of the home environment.
The rapid connector wiring between the touch-switch and power supply unit is 20 cm long for insertion in the same flush box; on request, an 80 cm cable is available for using the solution with two separate boxes.
With the addition of a control unit and light sensor, the brightness in the room can be adjusted independently and automatically as the external lighting changes.

MODEL	ALI'SW
Power supply voltage	100/240V~ 50/60 Hz
Output tension	26V (DC)
Current absorbed at nominal load	0,170 A ~
Max load applicable	0,500 A ⎓
Number of motors applicable	No. 1 KIMO Chain actuator No. 1 MR28 tubular motor
Double electrical insulation	Yes

Type of service	S_1 – Continuous
Operating temperature	-5 °C +65 °C
Protection degree	IP30
Feeding cable	NOT foreseen
Protection at overload	Electronic
Dimensions	87,5x55,5x27,5 mm
Weight	0,085 kg

TO BE USED WITH: MR28-B
KIMO

CODE	MODEL
6810005	ALI'SW 24V with push button (Vimar white)
6810006	ALI'SW 24V for manual command

PIK | Electronic Remote Control

PIK is the new Nekos transmitter for remote control via radio. It features a modern, functional, comfortable and ergonomic design.

It has 30 direct transmission channels (increased to 90 control functions with the F1 and F2 function buttons) at a radio frequency of 433.92 MHz (rolling code) with over 18 trillion possible code combinations.

MODEL	PIK
Type	Multi-channel radio remote control with microprocessor
Number of transmission channels	30
Transmission frequency	433,92 MHz
Modulation	OOK
Power supply voltage	2 1,5V batteries - type AAA
Functioning tension	1,8V ÷ 3,3V
Estimated lifetime of the batteries	> 2 years (assuming an average use of 1 minute per day)
Display	LCD (liquid crystal display)
Visualisation	2 digits (selected channel) -Battery charge status indicator - Transmission state - Specific function letters
Display dimensions	18,5x13,5 mm
Encoding	HCS301
Indipendent codes	"rolling code" >18 x 10^18 "rolling code" combination
Absorption in standby	< 1µA
Absorption in transmission	< 20 Ma
Keypad	Operational control (UP arrow, DOWN arrow, STOP) - 2 function buttons (F1, F2) - 1 memory button (M) - 1 channel button (CH)
Transmission distance	< 50 m (with charged batteries and free field)
Dimensions	145x38,5x22,5 mm
Weight	76 g

TO BE USED WITH:

KATO ADV RADIO
Series KL-R
Series KH-R

CODE	MODEL
7505025	PIK 433MHz Remote control

NRS1_NRS1/R | Heated Rain Sensor

The rain sensor is a device that is placed outdoors where it can interact with the actuators in the event of continuous rain. The sensor can be connected:

- directly by wire to the Kato ADV Radio – NRS1
- directly by radio to the Kato ADV Radio – NRS1R
- directly by wire to the K Series control units and to all equipment that can process the signal or where a dry (potential-free) contact signal is necessary.

The sensor is not sensitive to dewdrops or humidity, dries quickly after rainfall and does not allow the formation of ice. The power supply cable is 5 m long and built to withstand the harsh outdoor environment, with a highly weather-resistant PVC sheath that is also fire-retardant and resistant to UV radiation.

MODEL	NRS1 / NRS1/R
Power supply voltage	12V ÷ 24V (DC)
Maximum absorbed current	20 mA (120 mA with active heater)
Type of sensor	Capacitive
Heater intervention	< +4 °C
Type of contact	SPDT
Rating contact	0,5A/125V AC - 1A/24V DC
Radio transmission frequency	433,92 MHz

Working temperature	-20 ÷ +65 °C
Power supply cable length	5 m
Type of power cable and no wires	PVC LIFY11Y protected from UV - 5 wires
Protection degree	IP65
Dimensions	45x93 h=19 mm
Weight	52 g (cable excluded)

TO BE USED WITH:

NRS1
Series KL and Series KL-R
Series KH and Series KH-R
KATO ADV RADIO

NRS1/R
KATO ADV RADIO

CODE	MODEL
7505021	NRS1 Heated Rain Sensor
7505034	NRS1/R Heated Rain Sensor with Radio transmission
7505035	NRS1/B Low Tension Heated Rain Sensor for MY-SUN

V'1_V'LUX

Wind Detector and Wind and Light Sensor

The V'1 wind detector is a device, which, when connected to the control units, commands the automatic closure of windows when the wind speed surpasses a predetermined value. It is composed of a weather-resistant plastic body and a system of rotating hemispheres that capture the wind velocity.

V'Lux is a new detector that incorporates both a light sensor and a wind speed sensor in a single device.
The light function detects light intensity and sends the data to the control unit, which processes it and then opens or closes the window blinds in accordance with the control unit programme. The K Series ventilation/aeration control units are designed to process the signal of the light sensor and the signal from the wind detector in a similar way to the V1 model.

MODEL	V'1 _ V'LUX
Electrical feeding	In low tension from the central unit
Wind sensor levels	8 progressive from 5 to 40 km/h (to be set from the unit)
Light sensor levels	0 ÷ 50 klx (to be set from the unit)
Working temperature	-20 ÷ +90° C
Light relief angle	120° (-60° ÷ +60°)
Protection degree	IP34
Dimensions	Ø 125 x 93 mm
Weight	70 g

TO BE USED WITH:

V'1
Series KL and Series KL-R
Series KH and Series KH-R

V'LUX
Series KH-R

CODE	MODEL
7505002	V'1 Wind Sensor
7505004	V'LUX Wind and Light Sensor

GRAD° | Temperature Detector

The GRAD° temperature detector is a sensor that measures the temperature in the surrounding environment and sends the data to the control unit, which processes it and controls the opening/closing of windows, curtains and blinds or roller shutters. The Ø6 mm sensor is located at the end of a cable 1.5 metres in length and can be installed in any position.
Its sole control unit is the KH1 (and KH1R) model. The GRAD° sensor can be used in greenhouses, winter gardens, etc.

MODEL	GRAD°
Operating temperature	- 50°C ÷ + 120°C
Sensor	NTC 10K
Precision	+/- 1% - Beta 3435
Reply time	K (constant) = 10 sec (with 2 m/s water flow)

Bulb material	Thermoplastic rubber
Model with tapered tip	NO
Protection degree	IP67
Cable material	Thermoplastic rubber strap black colour

TO BE USED WITH: KH1, KH1/R

CODE	MODEL
7505008	GRAD° Temperature Sensor

ACCESSORIES FOR SMOKE AND HEAT EXTRACTION

HE082 | Primary Emergency Button

A primary manual button for activating fire alarms to the RWA control unit.
- Suitable for the FV-3 and FV-6 control units.
- Power Supply 24V DC.
- LED display on the control unit, Emergency (red), Normal (green) and Error (yellow).
- Dimensions 125x125x36 mm
- IP42 protection rating.
- Orange plastic body.

HE081 | Secondary Emergency Button

A secondary manual button for activating fire alarms to the RWA control unit without an LED control unit status indicator.
- Suitable for the FV-3 and FV-6 control units.
- Power Supply 24V DC
- LED display on the control unit, Emergency (red), Normal (green) and Error (yellow).
- Dimensions 125x125x36 mm.
- IP42 protection rating.
- Orange plastic body.

HSE-P, HSE-M | PVC or Aluminium Emergency Button

A manual button for activating fire alarms to the RWA control unit.
- Suitable for the FV-25 / 50 / 75, FV-M24 and FV-M48 control units.
- Operating Voltage: 24V DC.
- LED display on the control unit, Emergency (red), Normal (green) and Error (yellow).
- Dimensions 125x125x36 mm
- IP42 protection rating.
- Orange PVC (HSE-P) or Aluminium (HSE-M) body.

TO BE USED WITH: FV-3, FV-6
FV-25, FV-50, FV-75

CODE	MODEL
7505018	HE082 Primary Emergency Button
7505020	HE081 Secondary Emergency Button
7505044	HSE-P PVC Emergency Button
7505045	HSE-M Aluminium Emergency Button

RMD3 | Smoke Detector

A smoke detector for sending the alarm signal to the RWA alarm control unit.
- Control of interference to avoid false alarms.
- Alarm with red LED.
- Operating Voltage: 9 ÷ 33V DC.
- Safety alarm: 100 µA ÷ 20 mA.
- Dimensions Ø100x44
- IP40 protection rating.
- Compliant with standard EN 54-7.

WMD3 | Heat Detector

A heat detector for sending the fire alarm signal to the RWA alarm control unit.
- Control of interference to avoid false alarms.
- LED signals: Alarm (red), Error (yellow).
- Operating Voltage: 9 ÷ 33V DC.
- Safety alarm: 100 µA ÷ 20 mA.
- Dimensions Ø100x40
- IP44 protection rating.
- Compliant with standard EN 54-5.

TO BE USED WITH: FV-3, FV-6, FV-25, FV-50, FV-75

CODE	MODEL
7505046	RMD3 Smoke Detector
7505047	WMD3 Heat Detector

BRACKETS

Cod. 4010002

Standard support brackets
Series colour: black - white - grey

APPLICATIONS

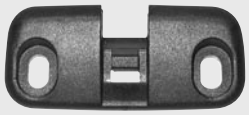
KATO (provided)

Cod. 4010003

Vertical monting brackets
Series colour: black - white - grey

APPLICATIONS

KATO (provided)



Cod. 4010005

Bracket for outward application
Series colour: black - white - grey

APPLICATIONS

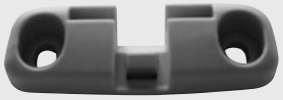
KATO (provided)

Cod. 4010006

Bracket for vasistas application
Series colour: black - white - grey

APPLICATIONS

KATO (provided)



Cod. 4010025

Bracket for outward application, horizontal junction
Series colour: black - white - grey

APPLICATIONS

KATO

Cod. 4010026

Dormer window brackets
Series colour: black - white - grey

APPLICATIONS

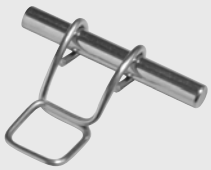
KATO

Cod. 4010027

Bracket for outward opening with security clutch
Series colour: black - white - grey

APPLICATIONS

KATO



Cod. 4010053

Chain rapid release hook
Stainless steel Material

APPLICATIONS

All Actuators of KATO Series (provided)

KATO305

Cod. 4010044

Standard support brackets
Series colour: black - white - grey

APPLICATIONS

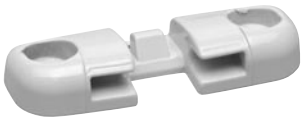
KATO305 (provided)

Cod. 4010038

Bracket for vasistas application
Series colour: black - white - grey

APPLICATIONS

KATO305

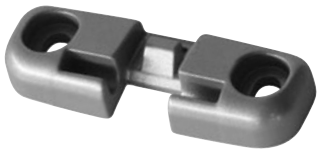


Cod. 4010039

Bracket for outward application
Series colour: black - white - grey

APPLICATIONS

KATO305



Cod. 4010040

Bracket for outward application, horizontal junction
Series colour: black - white - grey

APPLICATIONS

KATO305

KIMO

Cod. 4010084

Support brackets flush-mounted
Series colour grey RAL9006

APPLICATIONS

KIMO (provided)

Cod. 4010085

Half-brackets for chain junction
Series colour grey RAL9006

APPLICATIONS

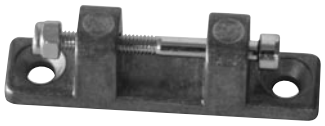
KIMO (provided)

Cod. 4010086

Support brackets for external mounting
Series colour grey RAL9006

APPLICATIONS

KIMO



Cod. 4010019

Outward bracket in metal h. 14 mm
Zinc plated

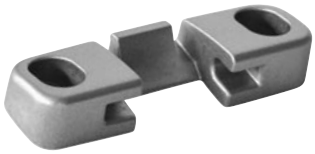
SPECIAL APPLICATIONS
KATO Series
KIMO
INKA356 Series
SKY Series

Cod. 4010115

Bracket for vasistas application
Series colour grey RAL9006

APPLICATIONS

INKA356

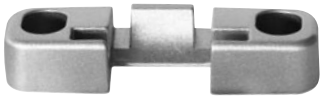


Cod. 4010116

Bracket for outward application
Series colour grey RAL9006

APPLICATIONS

INKA356

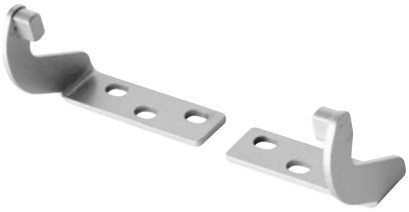


Cod. 4010117

Bracket for outward application, horizontal junction
Series colour grey RAL9006

APPLICATIONS

INKA356



Cod. 4010118

Standard support brackets
Series colour grey RAL9006

APPLICATIONS

INKA356

Cod. 4010130

Support brackets flush-mounted
Series colour grey RAL9006

APPLICATIONS

INKA356

Cod. 4010129

Wing bracket flush-mounted
Series colour grey RAL9006

APPLICATIONS

INKA356

Cod. 4010119

Chain rapid release hook
Stainless steel Material

APPLICATIONS

INKA356 (provided)

SKY

Cod. 4010013

Small part packaging for SKY

APPLICATIONS

SKY (provided)

SKY450

Cod. 4010051

Bracket for fixing to the frame

APPLICATIONS

SKY450 (provided)

Cod. 4010052

Support bracket

APPLICATIONS

SKY450 (provided)

SKY650

Cod. 4010014

Bracket for fixing to the frame

APPLICATIONS

SKY650 (provided)

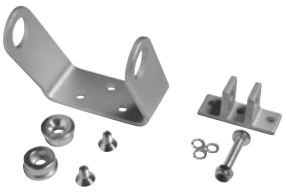
Cod. 4010015

Support bracket

APPLICATIONS

SKY650 (provided)

NKL450



Cod. 4010091

Actuator accessories kit

APPLICATIONS

NKL450 (provided)

Cod. 4010092

Solar shading blades attack

APPLICATIONS

NKL450

Cod. 4010093

Bracket for fixing to the frame

APPLICATIONS

SERIES EA

Cod. 4010094

Support bracket

APPLICATIONS

SERIES EA

Notes

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