Catalogue 2021

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.

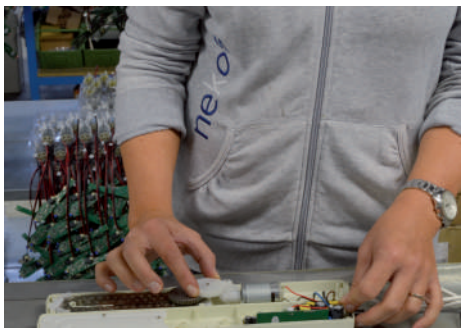
All the products conform to the required regulations and are subjected to objective quality testing by various certification bodies.

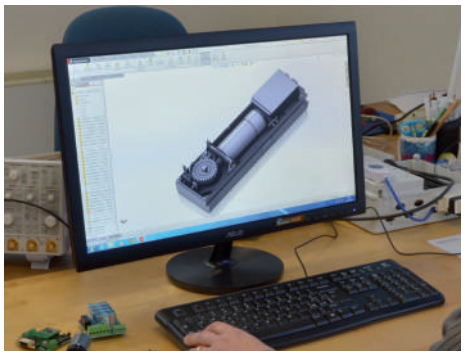
SYSTEMS FOR NATURAL VENTILATION OF ROOMS

SYSTEMS FOR SMOKE AND HEAT EXTRACTION

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




Choose your Actuator

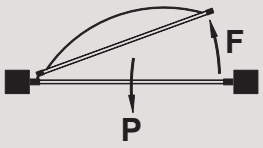
Window frames come in various types, sizes and weights. Some are installed where atmospheric agents such as wind and snow may play an important role in the determination of the forces required to move them.
This is why there are different families of automations that differ basically in their actuation 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

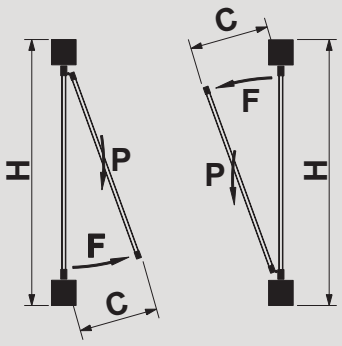
In order to determine the correct type of automation to be installed, it is essential to know the force required in order to move the frame.
A preliminary check can be made using the formulas provided below which, however, do not take into consideration the action of external agents on the frame such as friction, air currents, depressions, snow and wind.

F = Force required to open and close - kg
P = Window weight (only movable part) - kg
C = Window opening stroke (actuator stroke) - 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.

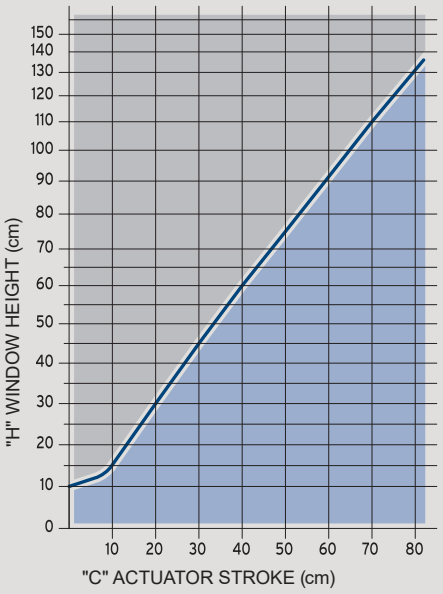
VASISTAS FRAME
hinges in the bottom side, inside opening, actuator mounted inside in the top.

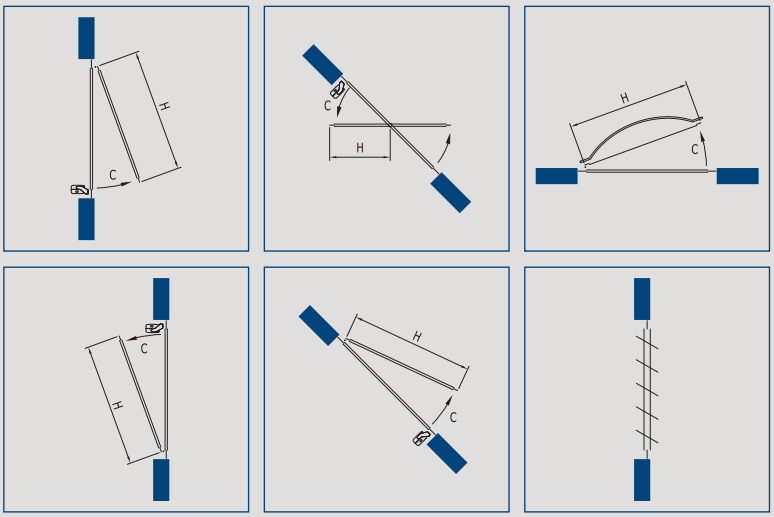
ROOF FRAME
hinges in a side, opposite outside opening, actuator mounted inside.

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

DETERMINING THE ACTUATOR STROKE

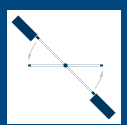
The actuator stroke can be determined by considering the type of application. For linear actuators (rack and rod actuators) the user must consider the rotation and overall volume that the actuator occupies in the front compartment of the window; it is recommended that a technical check be carried out 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/EU - Machinery Directive,
2) 2014/35/EU - Low Voltage Directive (LVD),
3) 2014/30/EU - Electromagnetic Compatibility Directive,
4) 2014/53/EU - Radio Equipment Directive,
5) 2011/65/EU - 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 forgates, 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 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 Wärme 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 the respective complete Smoke and Heat Evacuation systems.

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 meticulous 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

Natural Ventilation

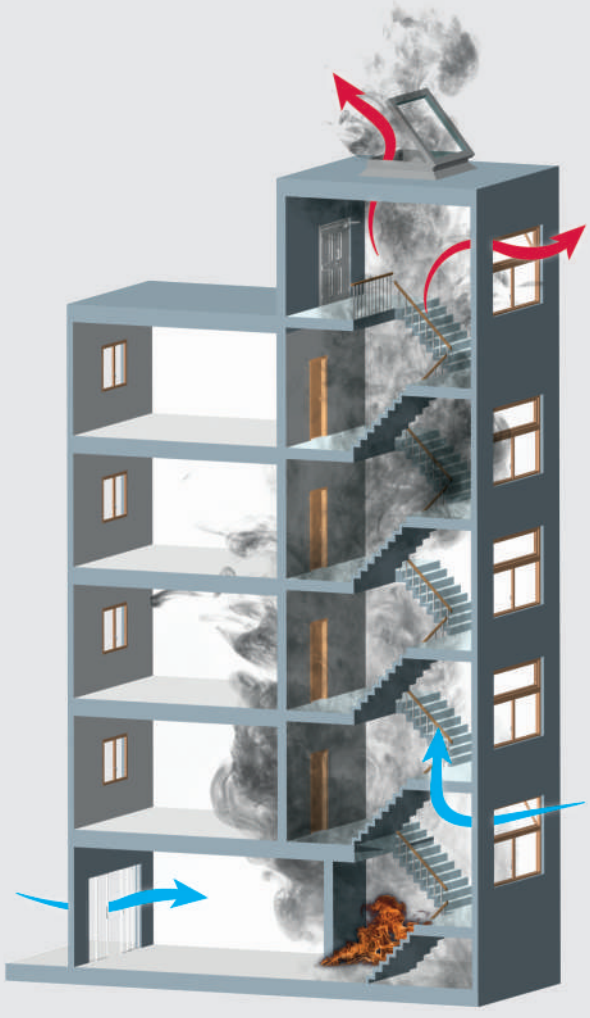
LET'S TALK ABOUT NATURAL VENTILATION (NRWG)

Most of us spend our daily lives indoors: it is essential that the air quality is healthy, clean and fresh so that we can carry out our daily activities while safeguarding 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.

To our actuators, which are machines that physically open and close windows, we have added 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 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, further examined more specifically in the chapter about 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.

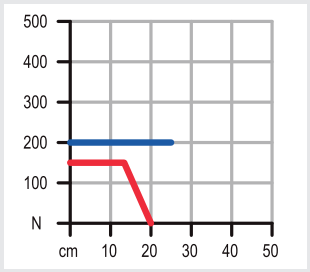
Nekos produces electrical actuators and systems for opening windows and ventilation outlets in the event of fire.
The use of an integrated SMOKE AND HEAT EXTRACTION system (RWA) linked to the actuators is aimed at protecting people, ensuring their maximum survival, and facilitating the extraction of 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

KIMO202 | Chain actuator 200N

A flush-mounted electric chain actuator for top hung outward opening windows, bottom hung inward opening windows and for pivoting frame windows. KIMO 202 is Nekos's answer to demands for concealed installations inside window frames with ever smaller profiles.

- KIMO 202 Actuator has very small dimensions (21×28,5x354 mm), is supplied in 3 colour variants (white, black and grey) and has a sturdy structure made of high strength composite material. These features allow it to be extremely versatile and be used both in concealed and visible applications.
- Extremely Silent (40 dB(A)), equipped with a patented 3-link chain and provided with three opening strokes, which are immediately and easily selectable through dip-switch.
- The actuator is already integrated with implemented synchronization (Syncro³ - Patent) which enables him to operate both alone and in systems up to eight actuators without any control unit.
- Combined with the K-LOCK and the perimeter fittings, it provides a burglar-proof window lock. KIMO 202 can be also connected to AUX, which is a complementing accessory for natural ventilation systems using motors operating at 24V DC.
- Actuator special version, UL/CSA certified.



PATENTED
EP1723303 - EP2574823
EP2770385

SYNCRO³

APPLICATIONS

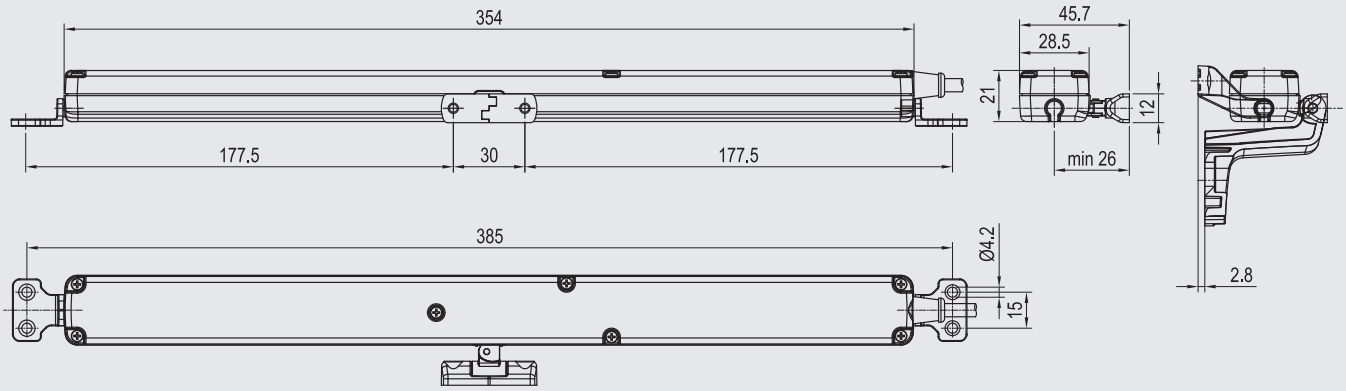
VASISTAS FRAME
OUTWARD FRAME
PIVOTING FRAME
ROOF FRAME

TO BE USED WITH:

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

TECHNICAL CHARACTERISTICS (Functional and mechanical features)

- Electric actuator with a three-link articulated chain (Nekos Patent), enclosed in a housing made of high-strength composite material with glass fibre, suitable for opening and closing awning and hopper windows.
- Operates at low voltage (24V DC).
- Nekos patented chain.
- Traction power 200 N, thrust 150 N (100 mm).
- Three selectable opening strokes by dip-switch: 100, 170 and 250 mm.
- Progressive starting ramp.
- Power control over the entire stroke.
- Stroke-end at closing with power absorption and with protection against overload.
- Relax function, with relaxation of mechanical parts after each stop by power absorption.
- Supplied complete with pivoting support brackets for concealed installation and sash connection bracket. Flush-mounted window brackets allow the motor to be inspected, even if the window is closed or during a power outage.
- Complies with EU directives (EMC Directive, Low Voltage Directive) and UL/CSA certified.



MODEL	**KIMO202 - 24V**
Thrust force	120 N (250mm), 150 N (170mm)
Traction force	200 N
Strokes	100 / 170 / 250 mm
Syncro³ synchronization	YES (max 8)
Power supply voltage	24V DC
Rated absorbed current	0,45 A
Power absorbed at nominal load	10,8 W
Load speed	4 mm/s
Duration of load stroke	63 s
Electrical insulation	Class III
Type of service	5 cycles
Working temperature	-20°C - +70°C

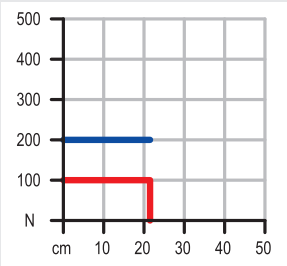
Protection index for electrical devices	IP42
Soft Stop	NO
Relax function	YES
Adjustment of connection to window frame	At absorption of power
Connection in parallel	YES (max. 20)
Length of power cable	2 m
Stroke-end at opening	Electronic by dip-switch
Stroke-end at closing	At absorption of power
Protection against overload	At absorption of power
Static holding force	1000 N
Dimensions	21x28,5x354 mm
Weight	0,45 Kg

CODE	MODEL
6050551	Actuator KIMO 202 24V black
6050552	Actuator KIMO 202 24V white
6050553	Actuator KIMO 202 24V grey

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 BK-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.



PATENTED
EP2574823

APPLICATIONS

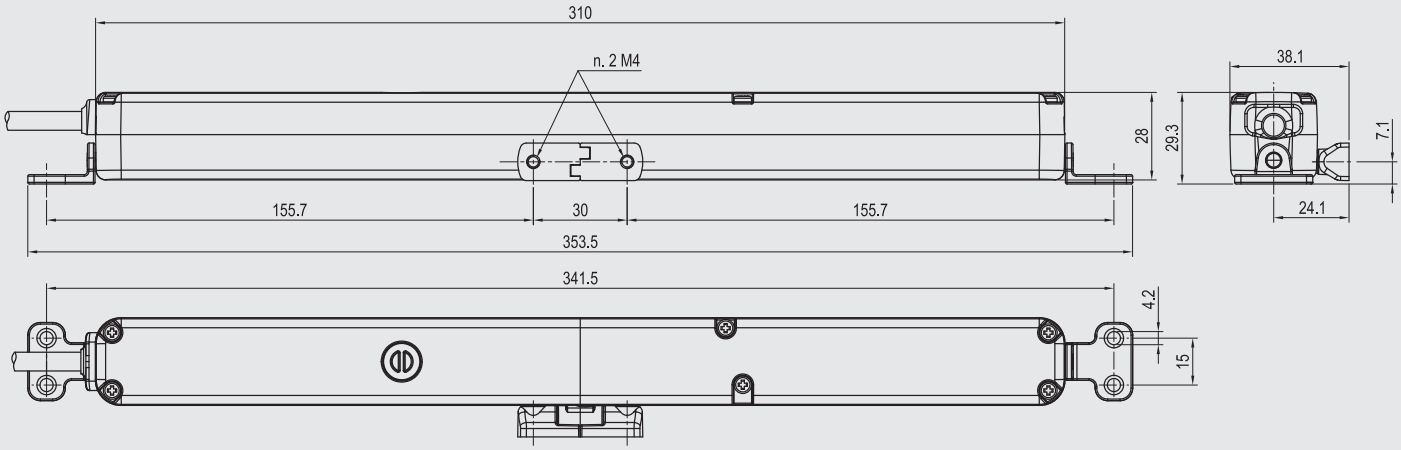
VASISTAS FRAME
OUTWARD FRAME
PIVOTING FRAME
ROOF FRAME

TO BE USED WITH:

BK-LOCK
SERIE KL and KL-R
MODIX 2/4/6
MY-SUN1 and MY-SUN
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 Safety ELV (SELV) 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 PVC white cable.



MODEL	KIMO - 24V
Thrust force	200 N
Traction force	100 N
Strokes	70 / 125 /170 / 210 mm
Syncro³ synchronization	NO
Power supply voltage	24V DC
Rated absorbed current	0,36 A
Power absorbed at nominal load	8,6 W
Load speed	5,5 mm/s
Duration of load stroke	38 s
Electrical insulation	Class III
Type of service	5 cycles
Working temperature	-5°C - +65°C

Protection index for electrical devices	IP32
Soft Stop	NO
Relax function	YES
Adjustment of connection to window frame	At absorption of power
Connection in parallel	YES (max. 20)
Length of power cable	2 m
Stroke-end at opening	Electronic by dip-switch
Stroke-end at closing	At absorption of power
Protection against overload	At absorption of power
Dimensions	29x29x310 mm
Weight	0,78 Kg

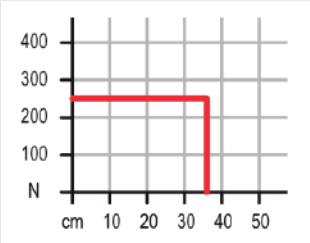
CODE	MODEL
6050072	Actuator KIMO 24V – max. stroke 210 mm

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 adopts the same patents as the chain actuators produced with Nekos technology, both for the quick coupling actuator support and for the window fixings.



PATENTED

EP1723303 - EP1723304B1

APPLICATIONS

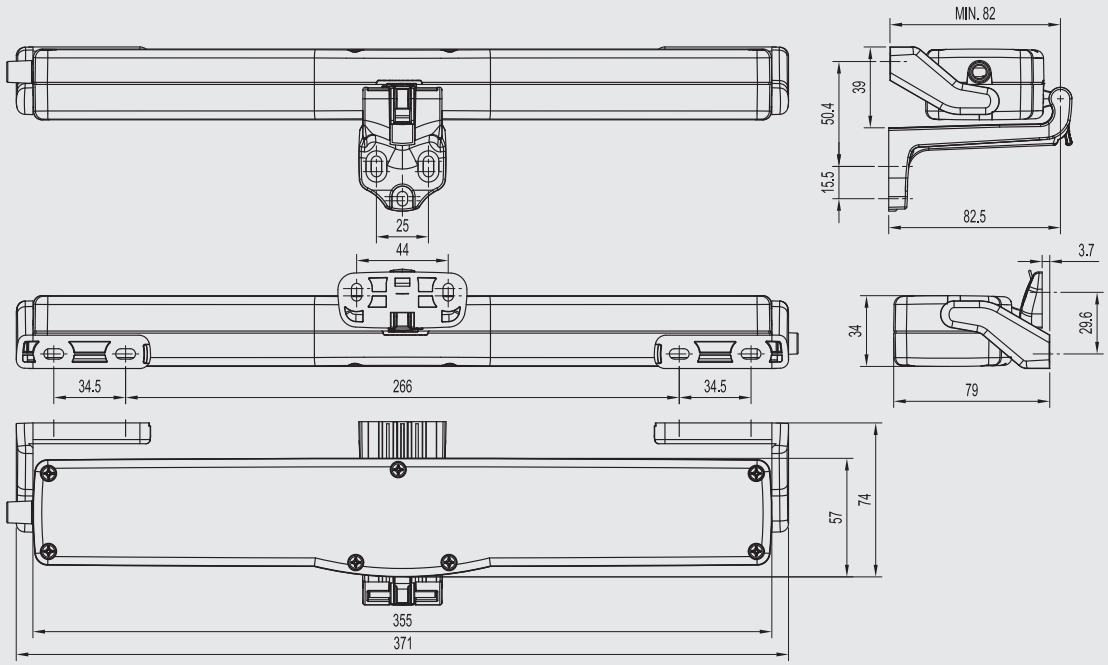
VASISTAS FRAME
OUTWARD FRAME
PIVOTING FRAME
DOMES
SKYLIGHTS
ROOF FRAME

TO BE USED WITH:

KATO 253 24V:
KOUPLE 24V
SERIE KL and 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 250 N. Powered by 110-230V~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	230 V	24 V
Thrust and traction force	250 N	
Strokes	240 / 360 mm	
Syncro³ synchronization	NO	
Power supply voltage	110-230V ~ 50/60 Hz	24V DC
Rated absorbed current	0,42 A - 0,21 A	0,78 A
Power absorbed at nominal load	23-20 W	19 W
Load speed	11,6 mm/s	10,3 mm/s
Duration of load stroke	31 s	35 s
Electrical insulation	Class II	Class III
Type of service	2 cycles	5 cycles
Working temperature	-5°C - +65°C	

Protection index for electrical devices	IP40	
Soft Stop	NO	
Relax function	YES	
Adjustment of connection to window frame	At absorption of power	
Connection in parallel	YES (max. 30)	
Length of power cable	1 m	
Stroke-end at opening	At absorption of power	
Stroke-end at closing	At absorption of power	
Protection against overload	At absorption of power	
Dimensions	356x56x33,5 mm	
Weight	0,83 Kg	0,80 Kg

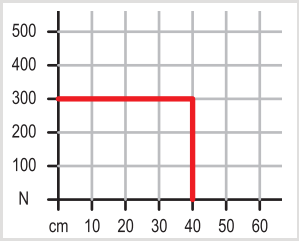
KATO 253 230V:
KOUPLE 230V
SERIE KH and KH-R
RR2-M

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 strong composite material (glass fibre-reinforced polyamide).



PATENTED

EP1723303 - EP1723304B1

MODEL	KATO230	KATO24
Thrust and traction force	300 N	
Strokes	110/200/300/400 mm	
Syncro³ synchronization	NO	
Power supply voltage	230V ~ 50 Hz	24V DC
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	
Duration of no load stroke (400 mm)	27 s	
Electrical insulation	Class II	Class III
Type of service	2 cycles	5 cycles
Working temperature	-5°C - +65°C	
Protection index for electrical devices	IP30	

Soft Stop	NO	
Relax function	YES	
Adjustment of connection to window frame	Automatic definition of position	
Connection in parallel	YES (max. 20)	
Length of power cable	2 m	
Stroke-end at opening	Electronic by dip-switch	
Stroke-end at closing	At absorption of power	
Protection against overload	At absorption of power	
Dimensions	386,5x59x37 mm	
Weight	0,98 Kg	0,97 Kg

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	SYNCRO³ 230	SYNCRO³ 24
Thrust and traction force	300 N	
Strokes	100/200/400 mm	
Syncro³ synchronization	YES (max 8)	
Power supply voltage	110-230V ~ 50Hz	24V DC
Rated absorbed current	0,34-0,21 A	0,95 A
Power absorbed at nominal load	26-27 W	23 W
Load speed	8,9 mm/s	
Duration of load stroke	44 s	
Electrical insulation	Class II	Class III
Type of service	2 cycles	5 cycles
Working temperature	-5°C - +65°C	
Protection index for electrical devices	IP30	

Soft Stop	YES
Relax function	YES
Adjustment of connection to window frame	Automatic definition of position
Connection in parallel	YES (max. 10)
Length of power cable	2,5 m
Stroke-end at opening	Electronic by dip-switch
Stroke-end at closing	At absorption of power
Protection against overload	At absorption of power
Dimensions	386,5x59x37 mm
Weight	1,15 Kg

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 radio-controlled 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 be connected to a bidirectional up-down switch.
- Use together with the NRS1 rain detector allows automatic closing of the window by wire signal in the event of rain, without need for additional control units.

PATENTED

EP1723303 - EP1723304B1

MODEL	KATO ADV RADIO
Thrust and traction force	300 N
Strokes	110/200/300/400 mm
Syncro³ synchronization	NO
Power supply voltage	110-230V ~ 50/60Hz
Rated absorbed current	0,31-0,24 A
Power absorbed at nominal load	23-27 W
No load speed	15,7 mm/s
Duration of no load stroke	25 s
Electrical insulation	Class II
Type of service	2 cycles
Working temperature	-5°C - +65°C
Protection index for electrical devices	IP30

Soft Stop	NO
Relax function	YES
Adjustment of connection to window frame	Automatic definition of position
Connection in parallel	YES
Length of power cable	2 m
Stroke-end at opening	Electronic by dip-switch
Stroke-end at closing	At absorption of power
Protection against overload	At absorption of power
Dimensions	386,5x59x37 mm
Weight	1 Kg

APPLICATIONS

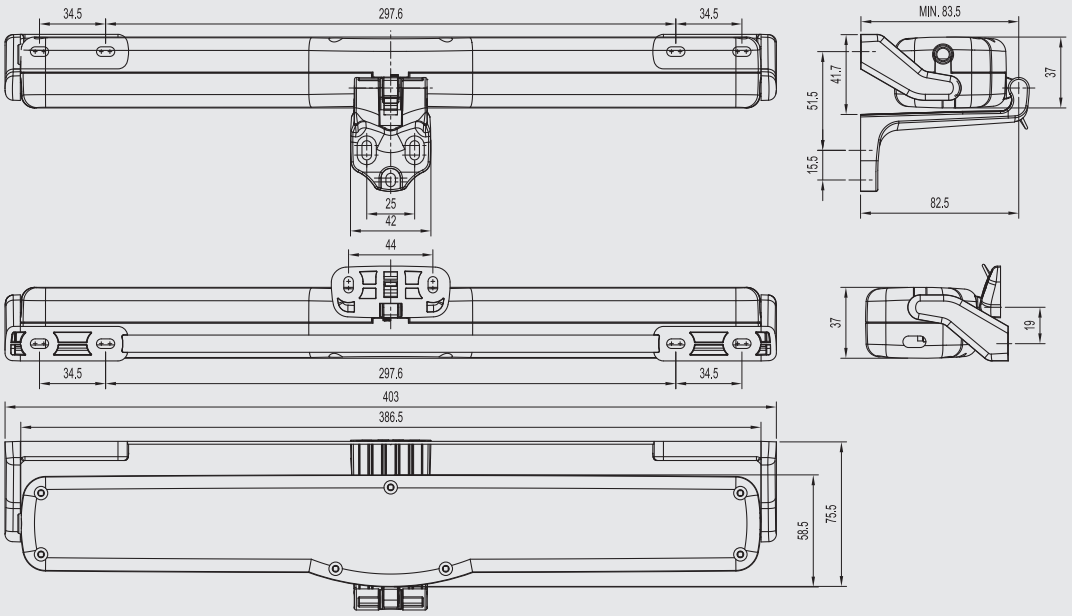
VASISTAS FRAME
OUTWARD FRAME
PIVOTING FRAME
DOMES
SKYLIGHTS
ROOF FRAME

CODE	MODEL
6030580	KATO ADV Radio black
6030581	KATO ADV Radio white
6030582	KATO ADV Radio grey
7505021	NRS1 Heated Rain sensor
7505025	PIK Remote control

IMPORTANT: remote control and rain sensor are provided separately.

KATO SERIES 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 300 N. Powered by 110-230V~ 50Hz or, alternatively, 24V DC Safety ELV (SELV) 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
SERIE KL and KL-R
MODIX 2/4/6
MY-SUN1 and MY-SUN3

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

KATO ADV RADIO 230V:
PIK
NRS1

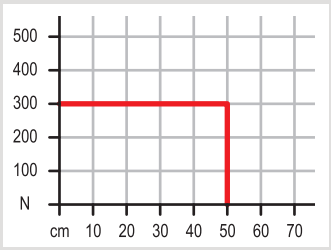
KATO305 | Metal Chain actuator 300N

The RWA version of KATO 305 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.

- KATO 305 actuators ensure safety, quality, efficiency, reliability and simplicity of construction, in an attractive design for incorporation into state-of-the-art windows.
- 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.
- 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:

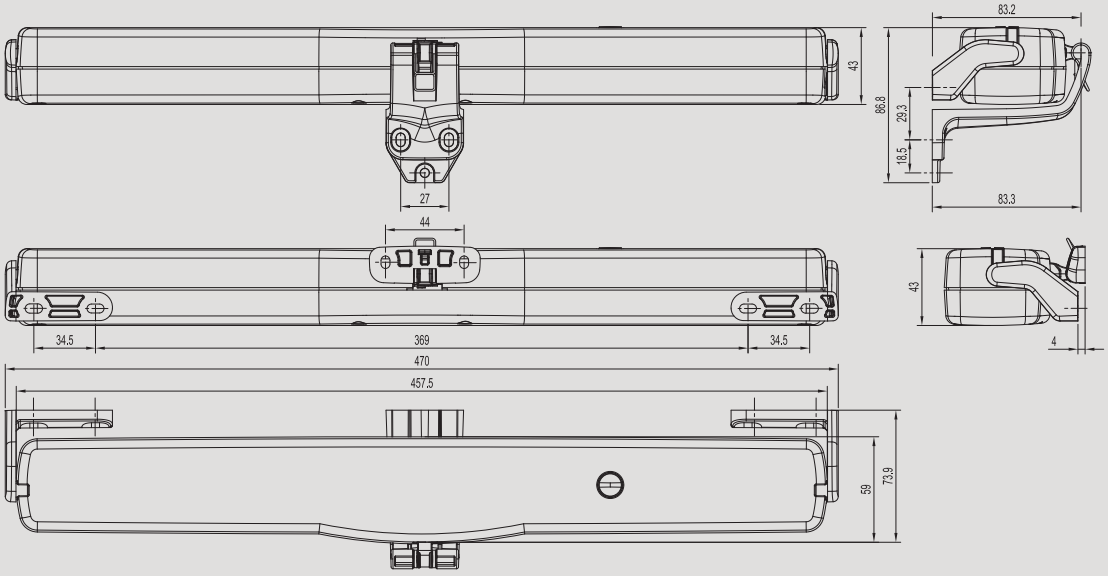
KATO305|RWA 24V:
BK-LOCK
SERIE KL and KL-R
FV3 - FV6 CONTROL UNITS
MODIX 2/4/6

KATO305|RWA
24V

KATO305
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 110-230V~ 50/60Hz voltage or, for RWA systems, at 24V DC Safety ELV (SELV)-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
Thrust and traction force	300 N	
Strokes	200, 300, 500 mm	
Syncro³ synchronization	NO	
Power supply voltage	110-230V ~ 50/60 Hz	24V DC
Rated absorbed current	0,32-0,21 A	0,95 A
Power absorbed at nominal load	25-28 W	23 W
No load speed	9,2 mm/s	
Duration of no load stroke (500 mm)	54 s	
Electrical insulation	Class II	Class III
Type of service	2 cycles	5 cycles
Working temperature	-5°C - +65°C	
Protection index for electrical devices	IP32	

Soft Stop	YES
Relax function	YES
Adjustment of connection to window frame	Automatic definition of position
Connection in parallel	YES (max. 10)
Length of power cable	2 m
Stroke-end at opening	Electronic by dip-switch
Stroke-end at closing	At absorption of power
Protection against overload opening/ closing	At absorption of power
Dimensions	456x60x43 mm
Weight	1,55 Kg

KATO305 230V:
SERIE KH and 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

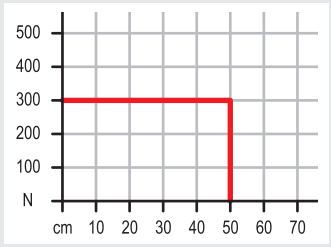
KATO305 Syncro^3 | Metal Chain actuator for Synchronisation

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:

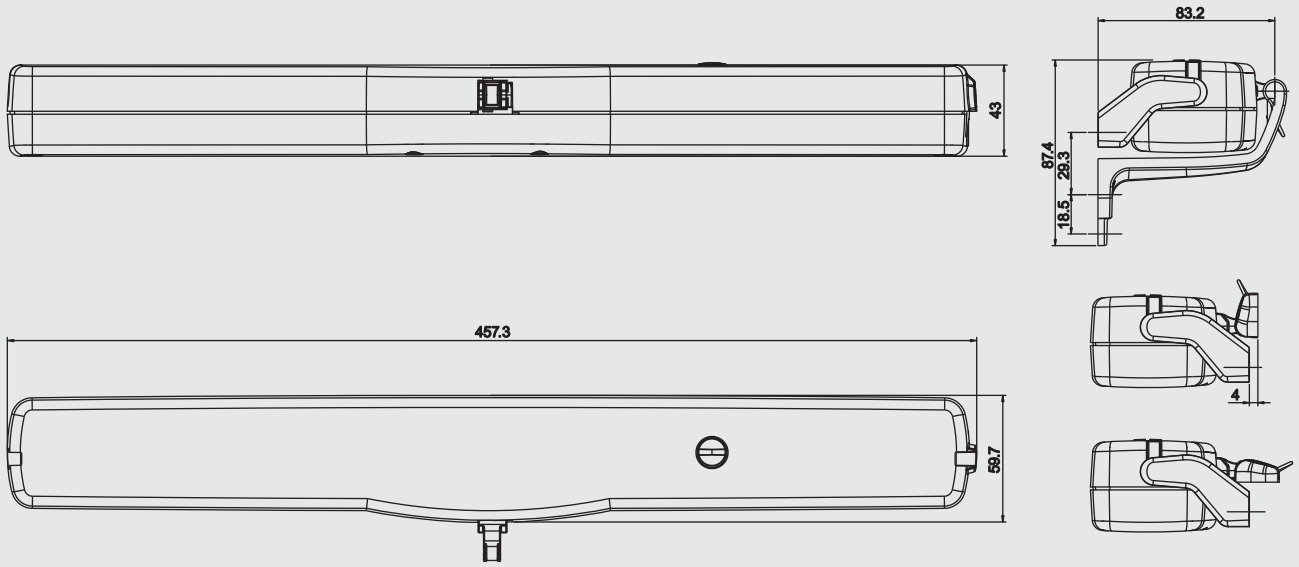
KATO305|RWA Syncro 24V:
BK-LOCK
SERIE KL and KL-R
FV3 - FV6 CONTROL UNITS
MODIX 2/4/6

KATO305|RWA Syncro 24V

KATO305 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 110-230V~ 50/60Hz voltage or 24V DC Safety ELV (SELV) 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
Thrust and traction force	300 N	
Strokes	200, 300, 500 mm	
Syncro³ synchronization	YES (max 8)	
Power supply voltage	110-230V ~ 50/60 Hz	24V DC
Rated absorbed current	0,32-0,21 A	0,95 A
Power absorbed at nominal load	25-28 W	23 W
No load speed	9,2 mm/s	
Duration of no load stroke (500 mm)	54 s	
Electrical insulation	Class II	Class III
Type of service	2 cycles	5 cycles
Working temperature	-5°C - +65°C	
Protection index for electrical devices	IP32	

Soft Stop	YES
Relax function	YES
Adjustment of connection to window frame	Automatic definition of position
Connection in parallel	YES (max 10)
Length of power cable	2,5 m
Stroke-end at opening	Electronic by dip-switch
Stroke-end at closing	At absorption of power
Protection against overload opening/closing	At absorption of power
Dimensions	456x60x43 mm
Weight	1,55 Kg

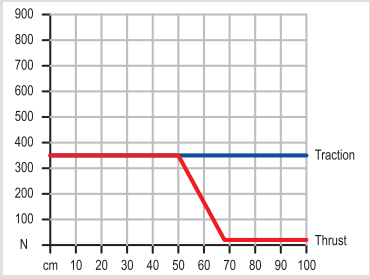
KATO305 Syncro 230V:
SERIE KH and KH-R
RR2-M

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

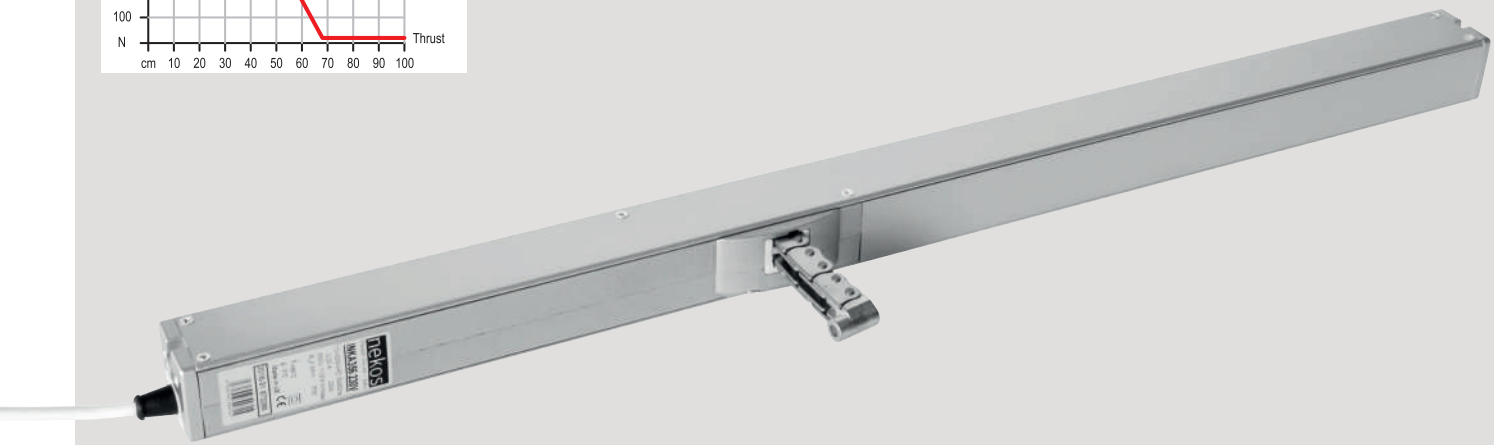
INKA 356 is a new product that extends the offer in terms of power (350 N) and stroke range (from 100 to 1000 mm), while also adapting to all types of windows (awning windows, hopper windows, dome rooflights and dormers) and providing the possibility of flush mounting.

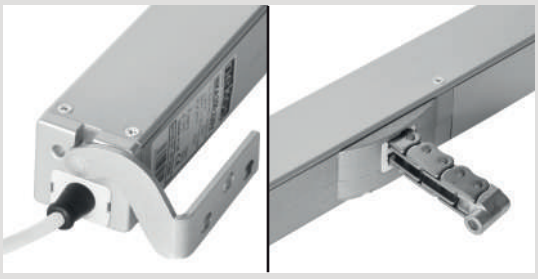
- The machine, enclosed in an aluminium housing, features an elegant design and compact dimensions (34.6x37 mm), allowing surface mounting with minimal visual impact, flush mounting and installation on curtain walls.
- Natural Smoke and Heat Extraction (N-SHE/RWA): INKA 356 is made entirely of metal 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.
- 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 (optional function).
- 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.



PATENTED

EP1723303 - EP1723304B1
EP13156370





APPLICATIONS

VASISTAS FRAME
OUTWARD FRAME
PIVOTING FRAME
DOMES
SKYLIGHTS
ROOF FRAME

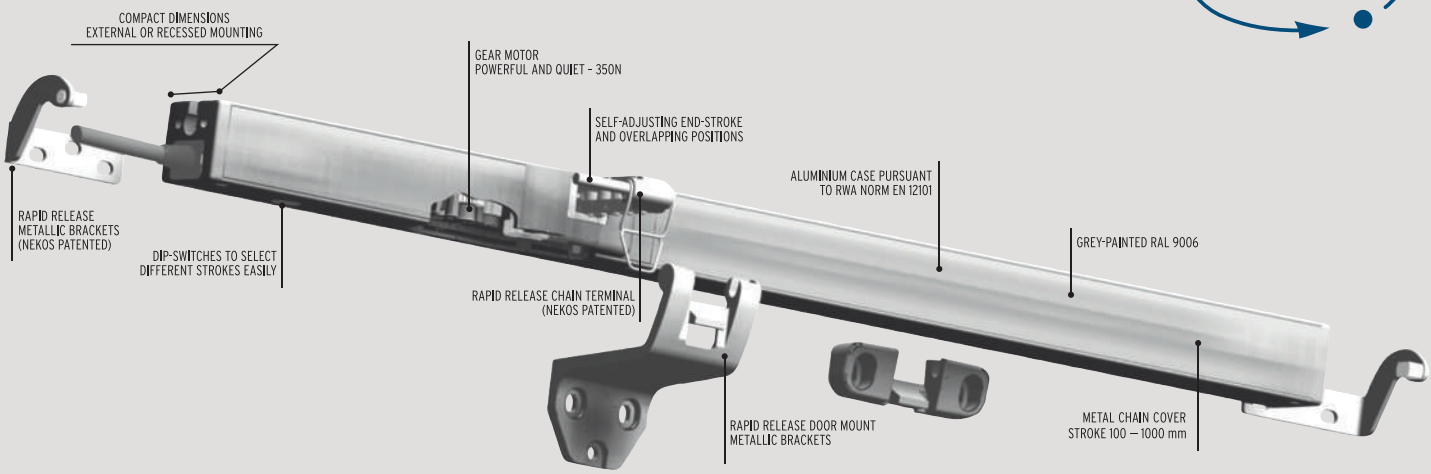
CODE	MODEL
6031050	Actuator INKA 356 230VAC - stroke 300
6031051	Actuator INKA 356 230VAC - stroke 600
6031052	Actuator INKA 356 230VAC - stroke 800
6031053	Actuator INKA 356 230VAC - stroke 1000
6051050	Actuator INKA 356 24VDC - stroke 300
6051051	Actuator INKA 356 24VDC - stroke 600
6051052	Actuator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

INKA356 Syncro³ | Metal Chain actuator 350N for Synchronisation

INKA 356 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.

PATENTED
EP1723303 - EP1723304B1
EP13156370

SYNCRO³



APPLICATIONS

VASISTAS FRAME
OUTWARD FRAME
PIVOTING FRAME
DOMES
SKYLIGHTS
ROOF FRAME

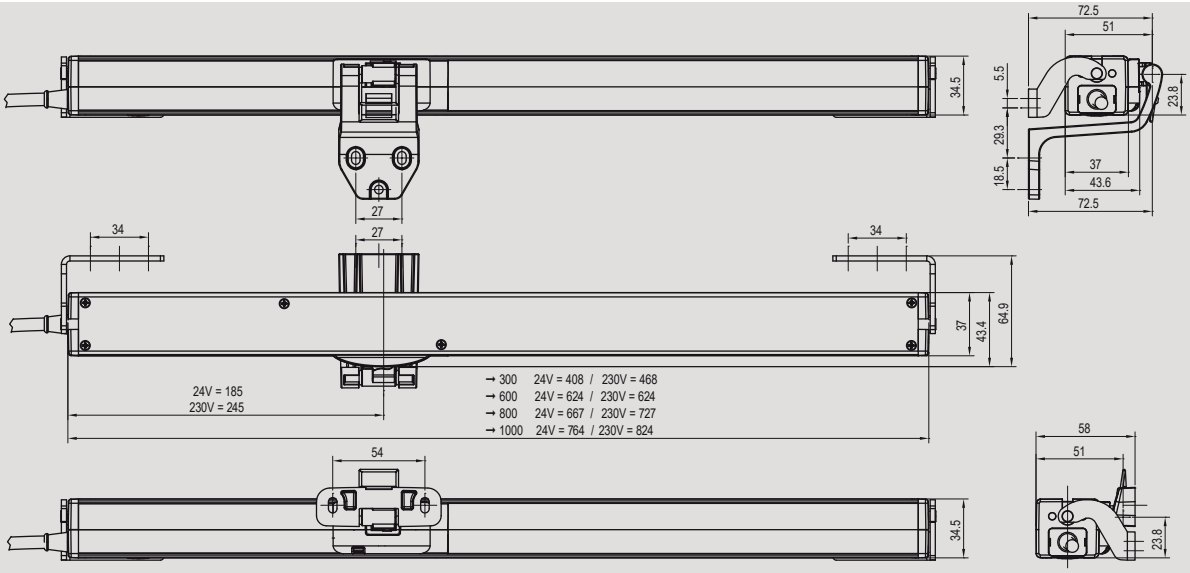
CODE	MODEL
6031550	Actuator INKA 356 230VAC Syncro³ - stroke 300
6031551	Actuator INKA 356 230VAC Syncro³ - stroke 600
6031552	Actuator INKA 356 230VAC Syncro³ - stroke 800
6031553	Actuator INKA 356 230VAC Syncro³ - stroke 1000
6051550	Actuator INKA 356 24VDC Syncro³ - stroke 300
6051551	Actuator INKA 356 24VDC Syncro³ - stroke 600
6051552	Actuator INKA 356 24VDC Syncro³ - stroke 800
6051553	Actuator INKA 356 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.
- All mounting brackets must be requested separately.



MODEL	230V	RWA 24V
Thrust force	350 N	
Traction force	350 N (see force chart)	
Strokes (selectable alternative strokes)	300 (100, 200) 600 (400, 500) 800 (600, 700) 1000 (800, 900) mm	
Syncro³ synchronization	YES (max 8)	
Power supply voltage	110-230V ~ 50/60 Hz	24V DC
Rated absorbed current	0,33-0,22 A (230V)	0,95 A
Power absorbed at nominal load	27-29 W	23 W
No load/load speed	11 / 9,6 mm/s	
Duration of max load stroke (Open)	300/600/800/1000 = 28 / 54 / 72 / 90 s	
Duration of max load stroke (Close)	300/600/800/1000 = 36 / 67 / 88 / 109 s	
Electrical insulation	Class II	Class III

Type of service	2 cycles; SYNCRO³ 5 cycles
Working temperature	-10°C - +70°C
Protection index for electrical devices	IP32
Soft Stop / Start	YES
Relax function	YES
Adjustment of connection to window frame	Automatic definition of position
Length of power cable	2 m, SYNCRO³ 2,5 m 2 m
Stroke-end at opening	Electronic by dip-switch setting
Stroke-end at closing	At absorption of power
Protection against overload	At absorption of power
Dimensions 230V (mm)	34,6x37 L= 468/624/727/824
Dimensions RWA 24V (mm)	34,6x37 L= 408/564/667/764
Holding nominal force	1800 N
Weight (Kg)	0,9/1,4/1,8/2,2 0,8/1,3/1,7/2,1

TO BE USED WITH:

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

INKA356 230V:
SERIE KH and KH-R
RR2-M

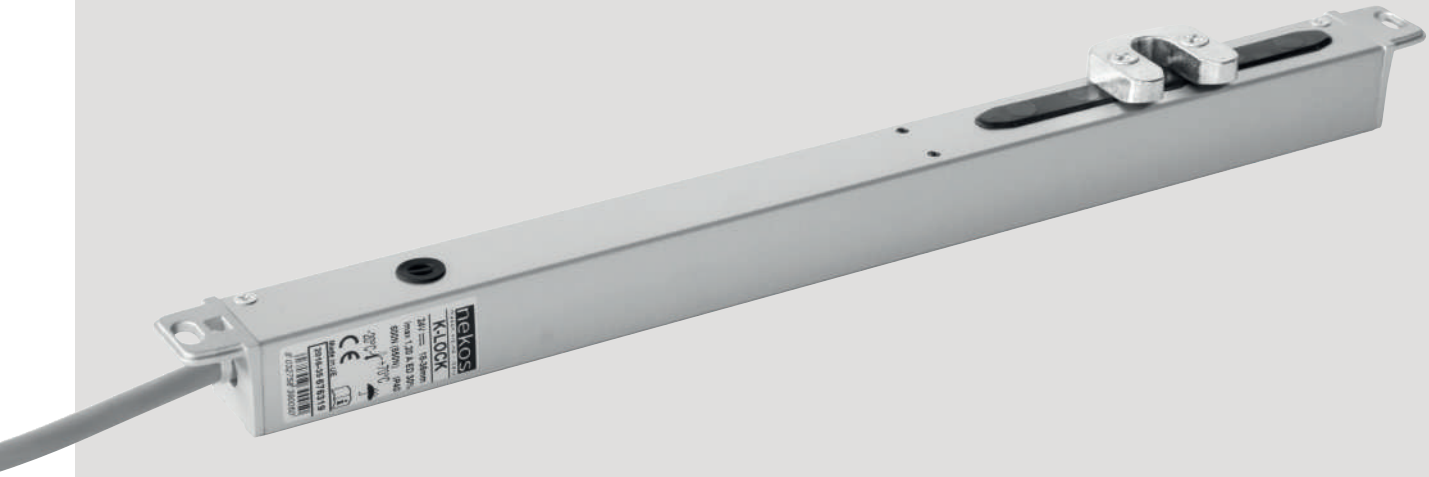
ELECTROMECHANICAL LOCKS

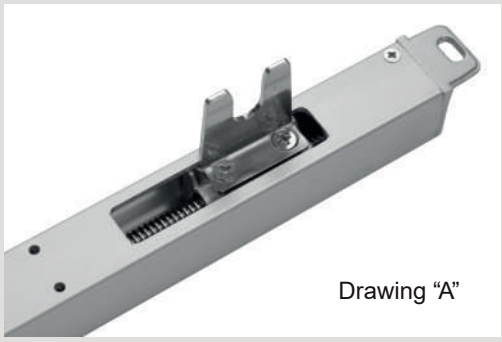
AND ACTUATORS WITH CONCEALED MOVING

K-LOCK | Electromechanical Lock 600N

K-LOCK is the result of Nekos development concerning the automatic locking of windows, curtain walls and doors.
An electric lock with integrated electronic control, able to identify at any time the status of the whole window/actuator/locking system and to perform the correct opening/closing sequence.

- 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.
- Manufactured in aluminium with compact dimensions (25x25 mm). Easy and quick to install, both at sight and flush mounted. Electronic adjustment of the stroke by means of dip-switches.
- Combined with the perimeter hardware of the window (with or without actuators), it is an excellent burglar-proof window lock and, thanks to perfect closure of the sash, it also guarantees high thermal insulation values.
- The accessory with the 90° fork is available upon request (see drawing “A”) - cod. 9800122.
- The BK-LOCK version is used only in combination with 24V KATO (except KATO 253) and KIMO actuators.





Drawing “A”

APPLICATIONS

WINDOWS AND DOORS
WITH PERIMETER FITTINGS

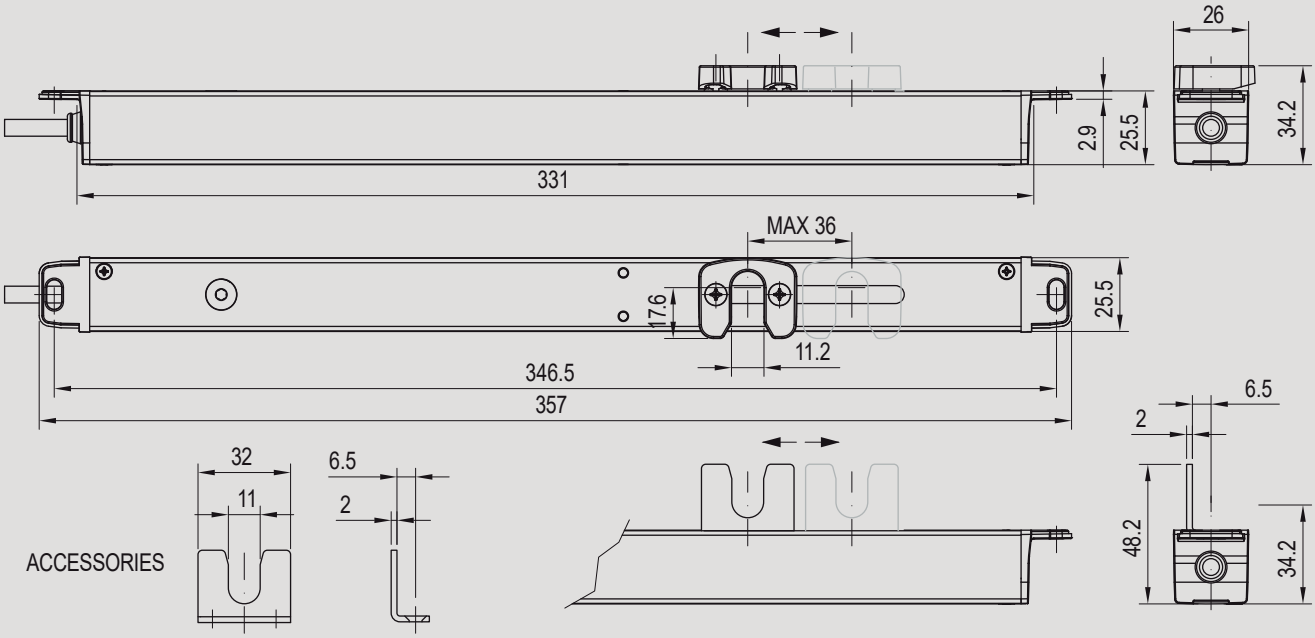
TO BE USED WITH:

K-LOCK:
INKA356 24V
INKA356 24V Syncro^3
SKYRO650
SKYRO850
ROCK
FLIK
KIMO202

BK-LOCK:
KIMO
KATO 24V
KATO Syncro^3 24V
KATO305 RWA
KATO305 RWA Syncro^3 24V

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.
- Power control over the entire stroke with safety stop in the event of overload.
- Electronic opening and closing stroke-end; stroke selectable with 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 PVC cable and metal fixing heads.



MODEL	K-LOCK / BK-LOCK
Thrust and traction force	600 N - 850 N starting force
Strokes	18 mm / 36 mm
Power supply voltage	24V DC
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
Duration of no load stroke	4 s (18 mm) - 7,2 s (36 mm)
Electrical insulation	Class III
Type of service	5 cycles

Structure material	Extruded aluminium alloy
Working temperature	-20°C - +70°C
Protection index for electrical devices	IP40
Stroke-end at opening and closing	Electronic by dip-switch
Stroke selection	Selectable by dip-switches
Operation with chain actuator	Selectable by dip-switches
Stroke-end at closing	Electronic, fix
Power supply cable	3x0,5 mm² - in PVC - 2 m
Protection against overload at opening and closure	At absorption of power
Dimensions	25,5x25,5x357 mm
Weight	0,560 Kg

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

K-DARK | Actuator for Louvre Windows and Jalousies - 500N

K-DARK is an actuator derived from K-LOCK, designed for opening and closing louvre windows, shutters, sunshades and jalousies. The product's great versatility allows it to be installed whether surface- or flush-mounted on any window of the above mentioned types.

- The power (500 N when running and 850 N when starting) ensures highly reliable operation even in harsh conditions.
- Equipped with sophisticated electronics with microprocessor, it's characterised by low current consumption (0.85 A) and silent functioning.
- Upon request, it is possible to modify the strokes (fixed strokes 50 and 72 mm), the force, the opening/closing speed. Moreover a stroke-end signal can also be provided.
- It can be installed alone or combined with other K-DARK actuators using Syncro^3 technology (Nekos patent).
- Manufactured in aluminium with compact dimensions (25x25 mm). Easy and quick to install, both at sight and flush mounted. Electronic adjustment of the strokes by means of dip-switches.
- If necessary, several locks can be synchronised in order to obtain a perfect alignment.

APPLICATIONS

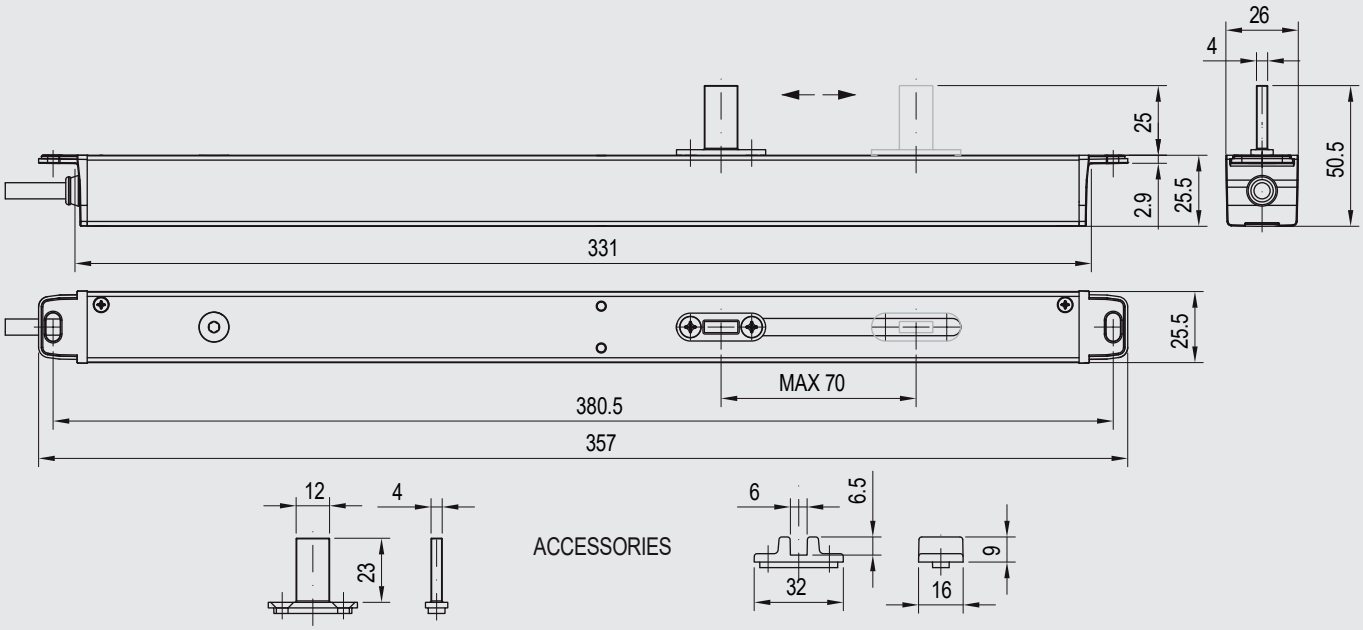
WINDOWS AND DOORS WITH
PERIMETER FITTINGS
LOUVRE FRAME
JALOUSIES

TO BE USED WITH:

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

TECHNICAL CHARACTERISTICS (Functional and mechanical features)

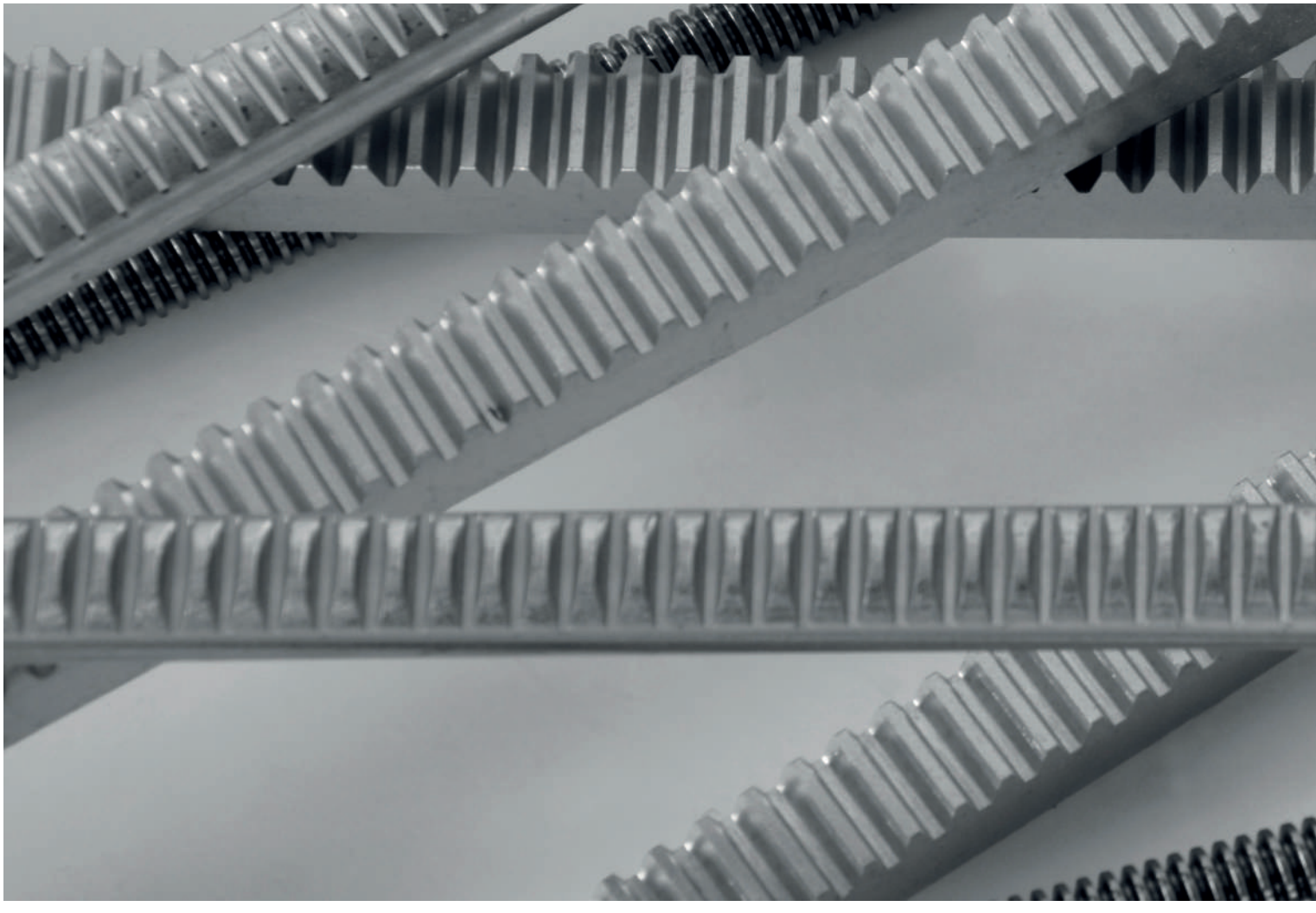
- Linear actuator for opening louvred windows, solar shading blades and jalousies.
- 24V DC power supply, 600 N power (850 on starting) and power control during the entire stroke, with safety stop in the event of overload.
- Electronic stroke-end for opening and closing. Strokes selectable with dip-switches.
- 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 PVC cable and metal fixing heads.



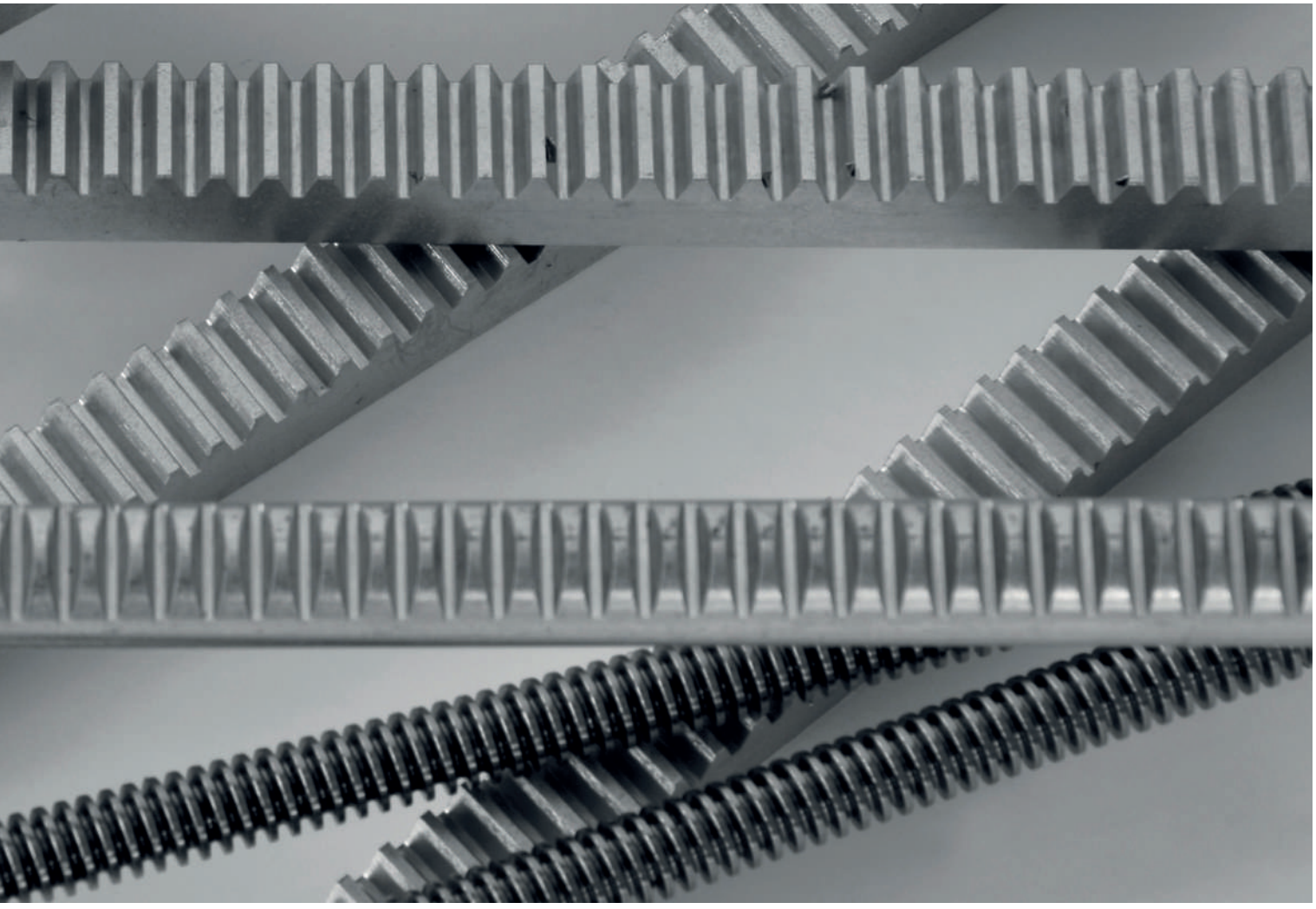
MODEL	K-DARK
Thrust and traction force	500 N - 850 N starting force
Strokes	18 mm / 36 mm
Power supply voltage	24V DC
Current absorbed at nominal load	0,85 A during the stroke 1,2 A at intervention of the current interlock
Power absorbed at nominal load	20 W
No-load speed	5 mm/s
Duration of no load stroke	4 s (18 mm) - 7,2 s (36 mm)
Electrical insulation	Class III
Insertion ratio	30 %

Type of service	5 cycles
Structure material	Extruded aluminium alloy
Working temperature	-10°C - +70°C
Protection index for electrical devices	IP40
Stroke-end at opening and closing	Electronic by dip-switch
Power supply cable	3x0,5 mm² - 2,00 m
Protection against overload at opening and closure	Current cut-off due to power absorption
Dimensions	25,5x25,5x357 mm
Weight	0,560 Kg

CODE	MODEL
6275017	K-DARK 24V 600N strokes 18-36 mm Narrow loophole
6275019	K-DARK 24V 600N strokes 18-36 mm Wide loophole



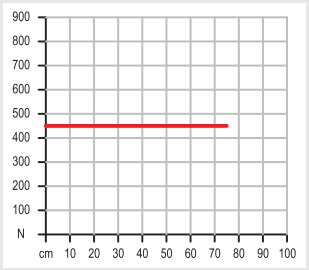
LINEAR ACTUATORS

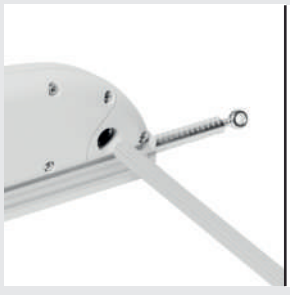


SKY450 | Gear Rack Actuator 450N

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

- The load-bearing structure is made from high-strength composite material (glass fibre-reinforced polyamide), with around 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.





APPLICATIONS

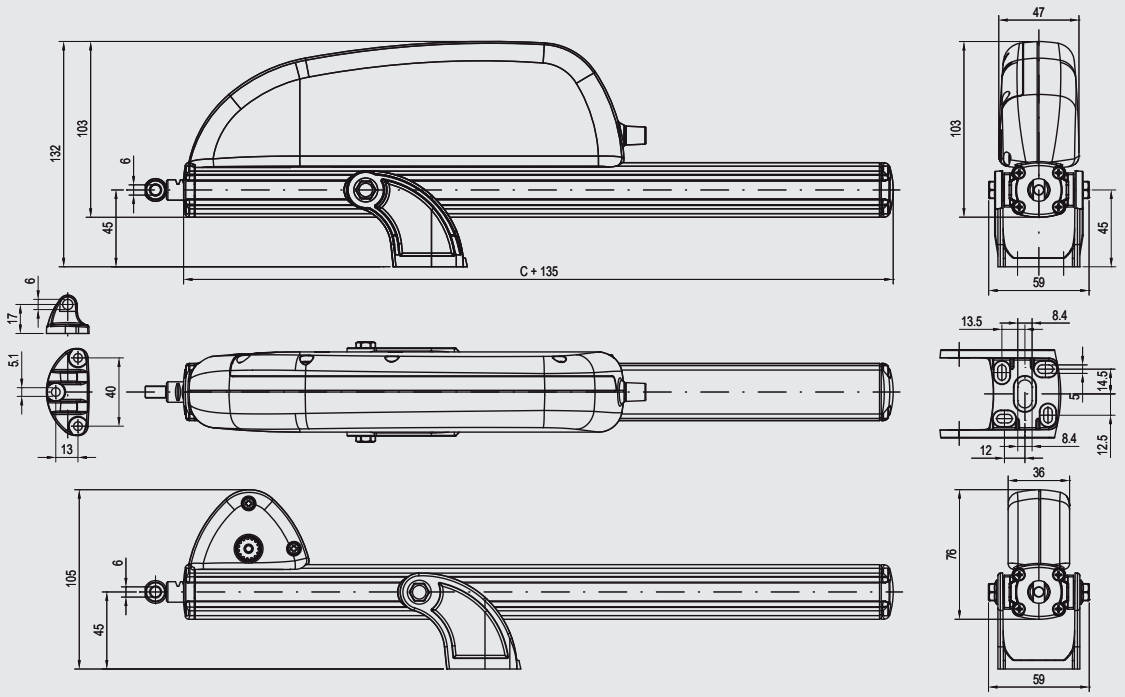
DOME
SKYLIGHT
OUTWARD FRAME
SOLAR SHADING BLADES

TO BE USED WITH:

Actuator Rod
Connection Bar
KOUPLE 230V
SERIE KH and 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 450 N.
- One or two push points.
- Operates at 110-230V 50/60Hz.
- Supplied with a 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.



MODEL	SKY450
Thrust and traction force	450 N
Strokes	180, 230, 350, 550, 750, 1000 mm
Power supply voltage	110-230V ~ 50/60 Hz
Current absorption at nominal load	0,28-0,19 A
Travel speed without load	21,6 W - 24W
No load speed	6,7/4,4 mm/s
Duration of no load stroke	In accordance with the stroke length
Electrical insulation	Class II
Type of service	2 cycles
Working temperature	-5°C - +65°C
Protection index for electrical devices	IP44

Soft Stop	NO
Relax function	YES
Adjustment of connection to window frame	At absorption of power
Connection in parallel	YES (max 20)
Length of power cable	1 m
Stroke-end at opening	At absorption of power
Stroke-end at closing	At absorption of power
Protection against overload	At absorption of power
Dimensions	103x47x (Stroke + 135) mm
Weight	Varies according to construction

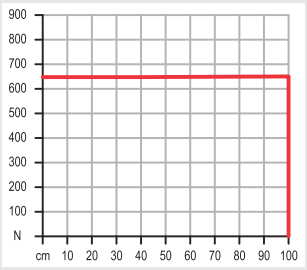
CODE	MODEL
6221001	SKY450 230V Stroke 180 mm
6221002	SKY450 230V Stroke 230 mm
6221003	SKY450 230V Stroke 350 mm
6221004	SKY450 230V Stroke 550 mm
6221005	SKY450 230V Stroke 750 mm
6221006	SKY450 230V Stroke 1000 mm

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

SKYRO650 | Gear Rack Actuator 650 N

SKYRO 650 is the new rack actuator with Syncro³ technology (Nekos patent).
It has a wide range of applications, thanks to its 650 N traction and thrust force, which is microprocessor-controlled and managed.
The new SKYRO actuator series is the result of Nekos' experience in providing robust, durable, easy-to-install and cost - effective products.

- The application is versatile and modular. It is possible to install several motors in Syncro³ version on the same window or to employ idle thrust points, connected by a connection bar.
- The most frequent applications are automation of domes, large skylights, Shed windows, rooflights, sunshade blades and battery-awning windows.
- Stroke variance between 180 and 1000 mm. IP65 protection degree.
- The actuator is fixed by means of a clamp system along the entire length of the shaft and with a swinging support that allows the actuator to follow the opening radius of the window frame.



PATENTED
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SYNCRO³

APPLICATIONS

SHED WINDOWS
DOMES and SKYLIGHTS
SOLAR SHADING BLADES
LOUVRE FRAME
JALOUSIES

TO BE USED WITH:

SKYRO650 230V and SKYRO650 230V Syncro³:
SERIE KH and KH-R
RR2-M

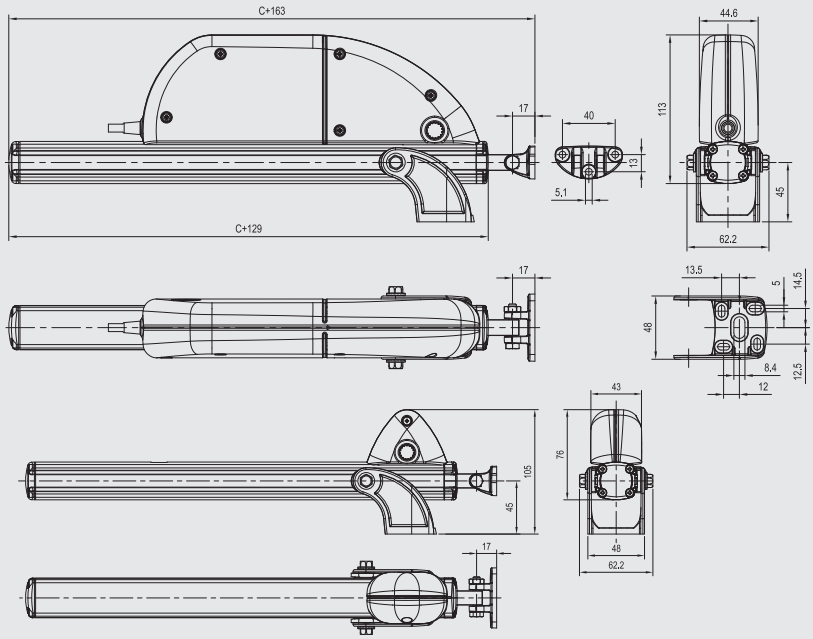
SKYRO650 24V Solo and Syncro³:
SERIE KL and KL-R
MODIX 2/4/6
MY-SUN1 and MY-SUN3
K-LOCK
AUX

SKYRO650 Syncro³

Gear Rack Actuator 650N - Syncro³

TECHNICAL CHARACTERISTICS (Functional and mechanical features)

- Linear gear rack actuator suitable for opening domes, awning windows, hopper windows, and rooflights.
- Thrust and traction force of 650 N. Application of several thrust points on the same window with Syncro³ actuators and idle thrust points.
- Operates at 110-230V~ 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.
- Power absorption limit switch while opening and closing and acting as electronic overload protection.
- Can be synchronized with other actuators and parallel connected.
- Complies with EU directives (EMC directives, Low Voltage Directive).
- Standard colours: silver anodized for the metal parts in extruded aluminium, grey (RAL7047) for the gearmotor. White power cable.



MODEL	230V	24V
Thrust and traction force	650 N	
Strokes	(180,230) - 350,550,750,1000 mm	
Power supply voltage	110-230V ~ (AC)	24V DC
Current absorption at nominal load	0,37 A / 0,18 A	1,0 A
Power absorption at nominal load	28 W / 24 W	24 W
Average speed	7 mm/s	
Breaking current	-	1,20 A
End stroke stop	At absorption of power	
Stroke travel duration at max. load	In accordance with the stroke length	
Duration of the ramp *(start and stop)*	1 s	
Electrical insulation	Class II	Class III (SELV)
Type of service	2 cycles	5 cycles
Working temperature	-20°C - +70°C	

	230V	24V
Protection index for electrical devices	IP65	
Soft Stop	YES	
Relax function	YES	
Syncro³ synchronization	YES (max. 4)	YES (max. 8)
Connection in parallel	YES (max. 20)	
Length of power cable	2 m	
Stroke-end at opening	At absorption of power	
Stroke-end at closing	At absorption of power	
Protection against overload	At absorption of power	
Noise	55 dB(A)	
Dimensions	44,6x113x (Stroke + 163) mm	
Weight (without brackets)	230V→1,40/1,45/1,65/2,34/2,69/3,11 Kg 24V→1,70/1,75/1,95/2,29/2,64/3,07 Kg	

CODE	MODEL 24V - **SOLO and SYNCRO**
6230501	SKYRO650 Syncro³ 24V – Stroke 180 mm
6230502	SKYRO650 Syncro³ 24V – Stroke 230 mm
6230503	SKYRO650 Syncro³ 24V – Stroke 350 mm
6230504	SKYRO650 Syncro³ 24V – Stroke 550 mm
6230505	SKYRO650 Syncro³ 24V – Stroke 750 mm
6230506	SKYRO650 Syncro³ 24V – Stroke 1000 mm

CODE	MODEL 230V - **SOLO**
6220101	SKYRO650 110-230V~ Stroke 180 mm
6220102	SKYRO650 110-230V~ Stroke 230 mm
6220103	SKYRO650 110-230V~ Stroke 350 mm
6220104	SKYRO650 110-230V~ Stroke 550 mm
6220105	SKYRO650 110-230V~ Stroke 750 mm
6220106	SKYRO650 110-230V~ Stroke 1000 mm

CODE	MODEL 230V - **SYNCRO**
6220501	SKYRO650 110-230V~ Stroke 180 mm
6220502	SKYRO650 110-230V~ Stroke 230 mm
6220503	SKYRO650 110-230V~ Stroke 350 mm
6220504	SKYRO650 110-230V~ Stroke 550 mm
6220505	SKYRO650 110-230V~ Stroke 750 mm
6220506	SKYRO650 110-230V~ Stroke 1000 mm

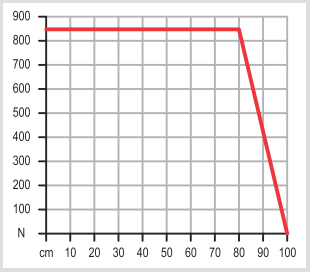
6290061	Actuator bar SKYRO650 Stroke 180 mm
6290062	Actuator bar SKYRO650 Stroke 230 mm
6290063	Actuator bar SKYRO650 Stroke 350 mm
6290064	Actuator bar SKYRO650 Stroke 550 mm
6290065	Actuator bar SKYRO650 Stroke 750 mm
6290066	Actuator bar SKYRO650 Stroke 1000 mm

SKYRO850 | Gear Rack Actuator 850N

SKYRO 850 is the brand new linear gear rack actuator suitable for ventilation and aeration of industrial environments, also intended for smoke and heat evacuation systems (EFC / RWA) in compliance with the European standard EN12101.
The research department of Nekos has conferred this model the best construction technique and has equipped it with the latest generation electronics using a microprocessor to manage all operating functions, including synchronization (Nekos Syncro³ patent): an absolute innovation in the field of rack gear actuators.
The new series of SKYRO actuators are the result of Nekos' experience in this field, which aims to provide products that are robust, durable, easy to assemble and with excellent value for money.
SKYRO 850: a concentrate of high-level performance that integrates perfectly into any architectural context.

- The application is versatile and modular, without using any particular and expensive accessories. It's possible to have several motorized synchronised thrust points and other idle thrust points connected with connection bar. Synchronized electro locks, (K-LOCK) are also usable.
- In case of more actuators connected in Syncro³ modus, the connection bar is not necessary.

- Automations of large skylights, Shed windows, domes, rooflights, battery- awning windows are the most frequent applications.
- Strokes among 350 and 1000 mm offer wide ranges of application.
- The actuator is fixed by means of a clamp system along the entire length of the shaft and with oscillating support that allows the actuator to follow the opening radius of the frame.



PATENTED
EP2770385

SYNCRO³

APPLICATIONS

SHED WINDOWS
DOMES and SKYLIGHTS
SOLAR SHADING BLADES
LOUVRE FRAME
JALOUSIES

TO BE USED WITH:

SKYRO850 24V Syncro³ and SKYRO850 24V Syncro³ RWA:
SERIE KL and KL-R
MODIX 2/4/6
MY-SUN1 and MY-SUN3
K-LOCK
AUX

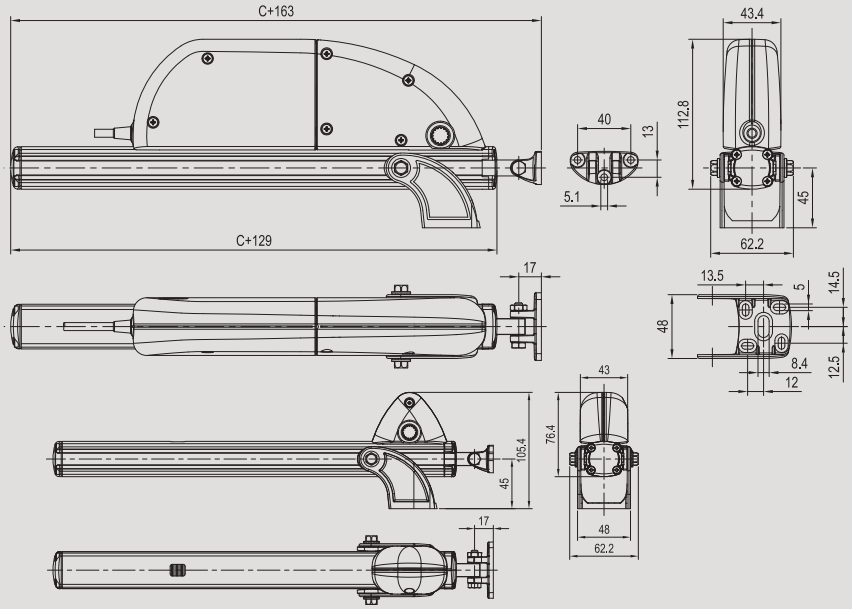
SKYRO850 230V and SKYRO850 230V Syncro³:
SERIE KH and KH-R
RR2-M

SKYRO850 Syncro³

Gear Rack Actuator 850N - Syncro³ - RWA

TECHNICAL CHARACTERISTICS (Functional and mechanical features)

- Linear gear rack actuator suitable for opening skylights, domes Shed windows, hopper windows and dome rooflights.
- Thrust and traction force of 850 N. Application of several thrust points on the same window with Syncro³ actuators and idle thrust points.
- Operates at 110-230V~ (AC) 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.
- Power absorption limit switch while opening and closing and acting as electronic overload protection.
- Can be synchronized (Nekos Syncro³ patent) and parallel connected with other actuators or with electro locks.
- Complies with EU directives (EMC directives, Low Voltage Directive). EFV/RWA certified according to the EN 12101 European standard.
- Standard colours: silver anodized for the metal parts in extruded aluminium, grey (RAL7047) for the gearmotor. White power cable.



MODEL	230V	24V	24V RWA
Thrust and traction force	850 N		
Strokes	350, 550, 750, 1000 mm		
Power supply voltage	110-230V~(AC)	24V DC	
Current absorption at nominal load	0,37 A / 0,18 A	1,0 A	2,0 A
Power absorption at nominal load	28 W / 24 W	24 W	48 W
Average speed	5 mm/s	7 mm/s	↑ 10 mm/s ↓ 7 mm/s
End stroke stop	At absorption of power		
Breaking current	-	1,20 A	2,5 A
Stroke travel at max. load	In accordance with the stroke length		Stroke 550 < 60s
Duration of the ramp *(start and stop)*	1 s		
Electrical insulation	Class II	Class III	
Type of service	2 cycles	5 cycles	

	230V	24V	24V RWA
Working temperature	-20°C - +70°C		
Protection index for electrical devices	IP65		
Soft Stop	YES		
Relax function	YES		
Syncro³ synchronization (*Nekos Patent*)	YES (max 4)	YES (max 8)	
Connection in parallel	YES (max. 20)		
Length of power cable	2 m		
Stroke-end at opening	At absorption of power		
Stroke-end at closing	At absorption of power		
Protection against overload	At absorption of power		
Static holding force	3000 N		
Dimensions	44,6x113x (Stroke + 163) mm		
Weight (without brackets)	230V → 2,00 / 2,34 / 2,69 / 3,11 Kg 24V → 1,95 / 2,29 / 2,64 / 3,07 Kg		

CODE	MODEL 24V - **SYNCRO**
6232503	SKYRO850 Syncro³ 24V – Stroke 350 mm
6232504	SKYRO850 Syncro³ 24V – Stroke 550 mm
6232505	SKYRO850 Syncro³ 24V – Stroke 750 mm
6232506	SKYRO850 Syncro³ 24V – Stroke 1000 mm

	MODEL 24V - **SYNCRO RWA**
6232513	SKYRO850 Syncro³ RWA 24V - Stroke 350 mm
6232514	SKYRO850 Syncro³ RWA 24V - Stroke 550 mm

CODE	MODEL 230V - **SOLO**
6222003	SKYRO850 110-230V~ Stroke 350 mm
6222004	SKYRO850 110-230V~ Stroke 550 mm
6222005	SKYRO850 110-230V~ Stroke 750 mm
6222006	SKYRO850 110-230V~ Stroke 1000 mm

CODE	MODEL 230V - **SYNCRO**
6222503	SKYRO850 110-230V~ Stroke 350 mm
6222504	SKYRO850 110-230V~ Stroke 550 mm
6222505	SKYRO850 110-230V~ Stroke 750 mm
6222506	SKYRO850 110-230V~ Stroke 1000 mm

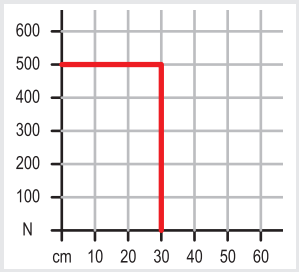
6290063	Actuator bar SKYRO850 Stroke 350 mm
6290064	Actuator bar SKYRO850 Stroke 550 mm

6290065	Actuator bar SKYRO850 Stroke 750 mm
6290066	Actuator bar SKYRO850 Stroke 1000 mm

ROCK | Linear Actuator with Rigid Rod - 500N

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

- It has compact dimension and is easy to install: ROCK is able to perform the opening of louvre windows, solar shading blades and dome.
- Made in two versions with 110-230V~(AC) 50/60Hz or 24V DC power supply, both versions are also provided with synchronization system (Nekos Syncro³ patent) for a variety of applications, thanks also to its force of thrust (500 N) and high IP66 protection rating, for use in dusty and damp environments.
- Fixed electronic, non-programmable return end-stroke: the outward end-stroke is programmable with magnetic device and according to the application needing. This end-stroke technology is easy to program and allows numerous applications where non-standard strokes with millimetric end-strokes are requie.
- Start with acceleration ramp to facilitate the adjustment of solar shading blades or jealousies controlled by light sensor (lux-meter).



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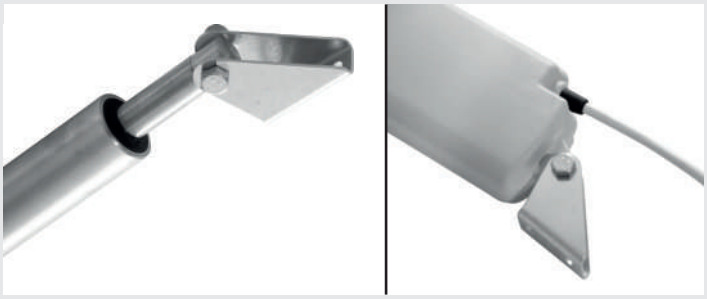
SYNCRO³



APPLICATIONS

SOLAR SHADING BLADES
LOUVRE FRAME
JALOUSIES
DOMES

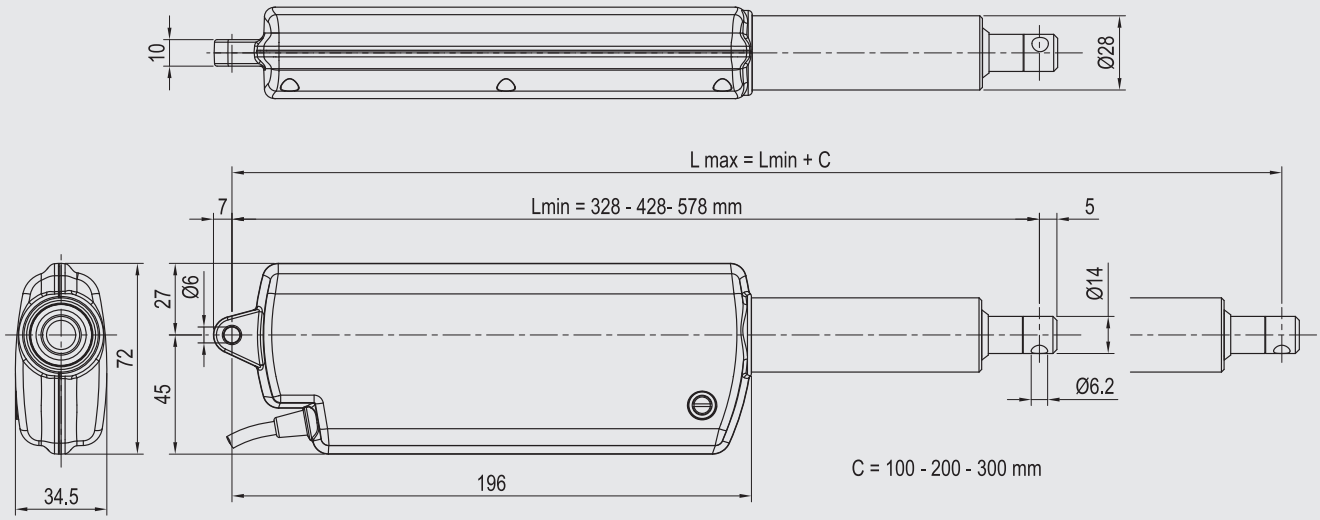
TO BE USED WITH:

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

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

TECHNICAL CHARACTERISTICS (Functional and mechanical features)

- Linear actuator with stiff rod and traction/thrust force of 500 N, enclosed in a suitable container of high-resistance composite material (Pa6+35%GF) with fibreglass, suitable for operating solar shading blades, louvre windows, outward opening windows and dome rooflights.
- Power supply voltage: 110-230V~ (AC) 50/60Hz or 24V DC power supply also for synchronized versions; prepared to be interfaced with K-LOCK electromechanical lock (only 24V) and parallel connectable.
- Available in three different versions with maximum stroke of 100, 200 and 300 mm. Magnetic opening end-stroke adjustable along the entire length of the stroke. End-stroke stop while closing with power absorption also acting as overload protection.
- Supplied complete with brackets and accessories for mounting the actuator and connecting the rod.
- Complies with the EU Directives (EMC Directives, Low Voltage Directives).
- Standard colours: Grey (approx. RAL7047) with anodized aluminium metal parts and white cable.



MODEL	**230V**	**24V**
Thrust and traction force	500 N	
Strokes	100 / 200 / 300 mm	
Power supply voltage	110-230V ~ 50/60 Hz	24V DC
Current absorption at nominal load	0,21 / 0,14 A	0,63 A
Power absorption at nominal load	17 W	15 W
Average speed	4 mm/s	
End stroke stop	Electronic with magnetic selector	
Breaking current	-	0,80 A
Stroke travel at max. load	25 / 50 / 75 s	
Duration of the ramp *(start and stop)*	1 s	
Electrical insulation	Class II	Class III
Type of service	2 cycles	5 cycles
Working temperature	-20°C - + 70°C	

Protection index for electrical devices	IP66
Soft Stop	NO
Relax function	YES
Syncro³ synchronization (*Nekos Patent*)	- YES (max 8)
Connection in parallel	YES (max. 30)
Length of power cable	2 m
Stroke-end at opening	At absorption of power
Stroke-end at closing	At absorption of power
Protection against overload	At absorption of power
Static holding force	2500 N
Dimensions	72x34,5x344 / 444 / 594 mm
Weight	~ 0,890 Kg ~ 0,870 Kg

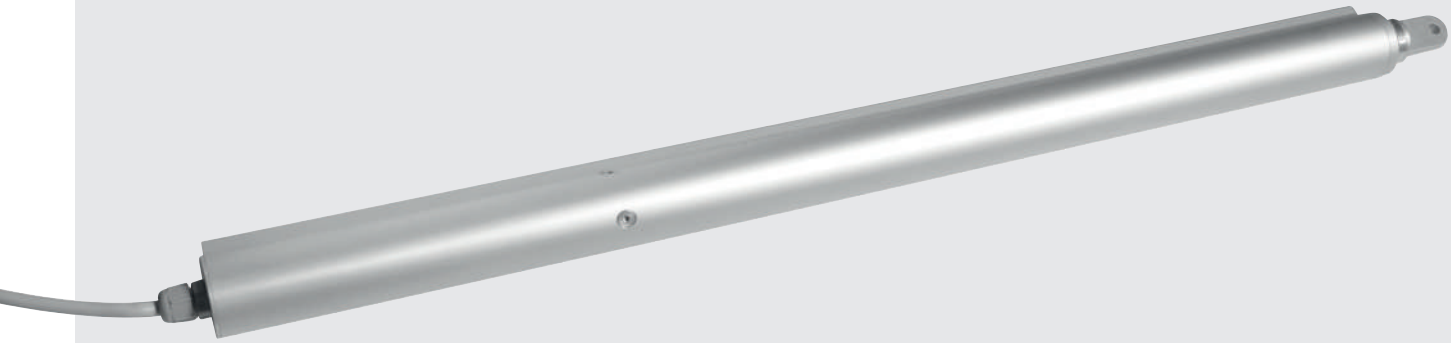
CODE	MODEL
6275100	ROCK1 SY - 24V Syncro³ - 500N - Stroke 100 mm
6275101	ROCK2 SY - 24V Syncro³ - 500N - Stroke 200 mm
6275102	ROCK3 SY - 24V Syncro³ - 500N - Stroke 300 mm

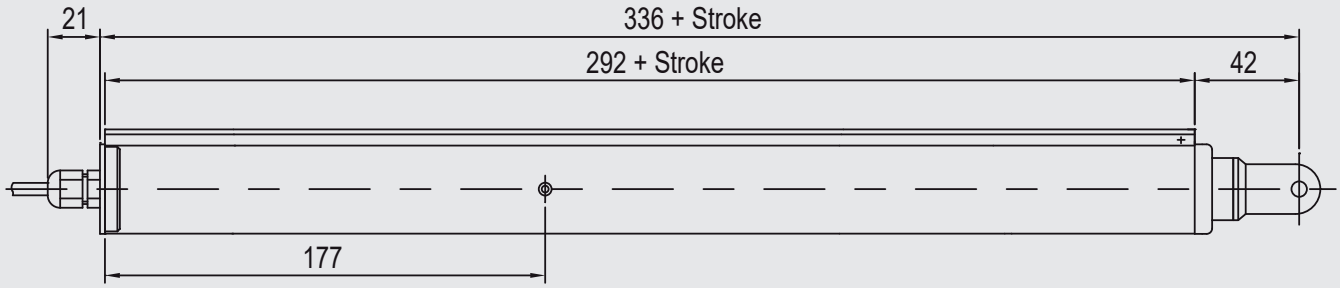
CODE	MODEL
6270001	ROCK1 - 110-230V - 500N - Stroke 100 mm
6270002	ROCK2 - 110-230V - 500N - Stroke 200 mm
6270003	ROCK3 - 110-230V - 500N - Stroke 300 mm
6271001	ROCK1 Syncro³ - 110-230V - 500N - Stroke 100 mm
6271002	ROCK2 Syncro³ - 110-230V - 500N - Stroke 200 mm
6271003	ROCK3 Syncro³ - 110-230V - 500N - Stroke 300 mm

EA-L | Linear Actuator with Rigid Rod 24V 500N, 750N and 1000N

This actuator with a rigid rod offers multiple application options. Within the range of standard actuators, it is distinguished by exclusive characteristics that enhance its sales and make its application as simple as possible.

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





MODEL	500	750	1000
Thrust and traction force	500 N	750 N	1000 N
Strokes		500, 750 mm	
Power supply voltage		24V (DC)	
Current absorbed at nominal load		< 1,40 A	
No-load / load speed		4,5/8,5 mm/s	

Electrical insulation	Class III
Working temperature	-5°C - +75°C
Protection index for electrical devices	IP54
Connection in tandem	YES (max 4)

APPLICATIONS

DOME
SKYLIGHT
OUTWARD FRAME
SOLAR SHADING BLADES

TO BE USED WITH:

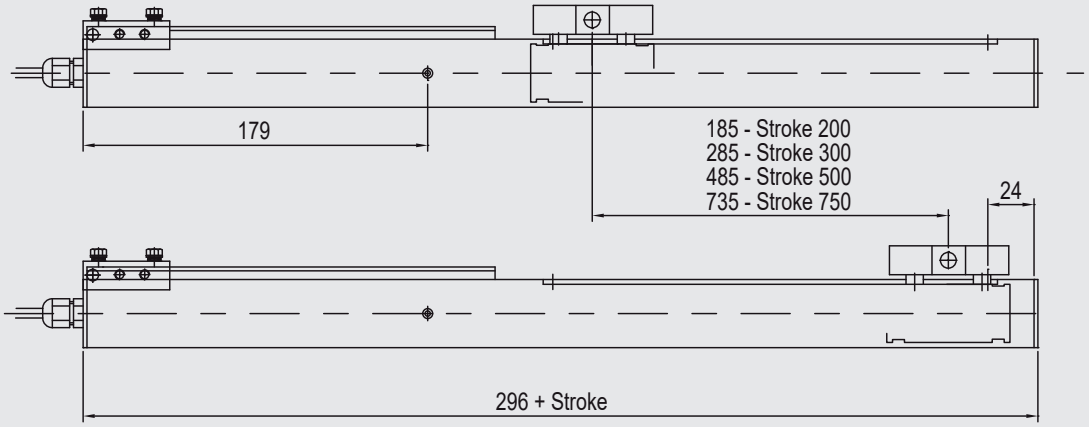
SERIE KL and KL-R
FV CONTROL UNIT
MODIX 2/4/6

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 - 500N

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
Thrust and traction force	500 N
Strokes	185 - 285 - 485 - 735 mm
Power supply voltage	24V (DC)
Current absorbed at nominal load	< 1 A
No-load speed	8,4 mm/s
Electrical insulation	Class III

Working temperature	-5°C - +75°C
Protection index for electrical devices	IP20
Connection in tandem	YES (max 4)
Dimensions	see instruction manual
Weight	about 3 kg

APPLICATIONS

DOME
SKYLIGHT
OUTWARD FRAME
SOLAR SHADING BLADES

TO BE USED WITH:

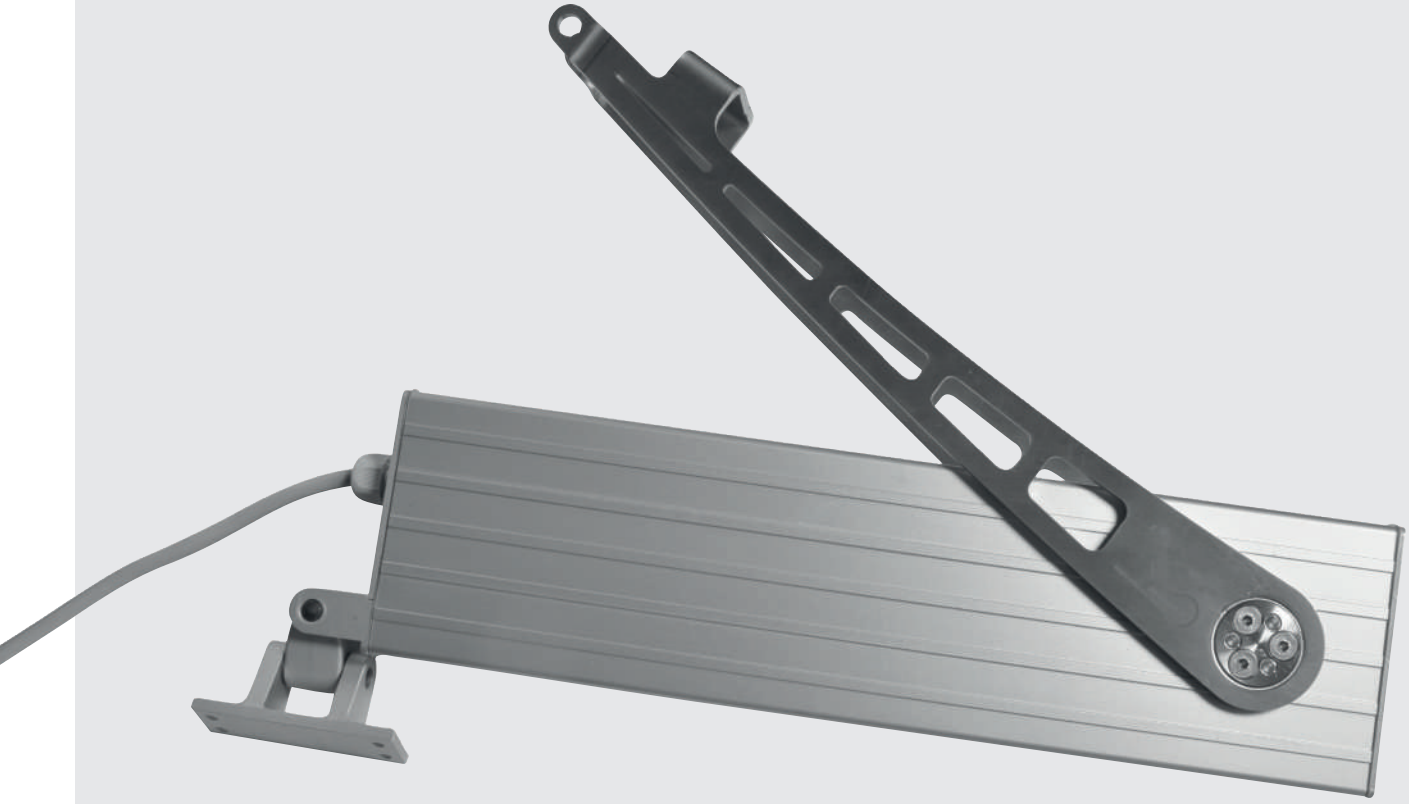
SERIE KL and KL-R
FV CONTROL UNIT
MODIX 2/4/6

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

EA-KL^2 is an extraordinary and innovative development for applications on windows. 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), tandem version available.
- Wide range of brackets that allows flexible installations in the centre and on the side of the frame.
- Low power consumption and high output.
- Support brackets must be ordered separately.



APPLICATIONS

DOME
SKYLIGHT
OUTWARD FRAME

TO BE USED WITH:

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

EA-KL²-DF | Rotary Arm Actuator

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 500 N. The benefits include:

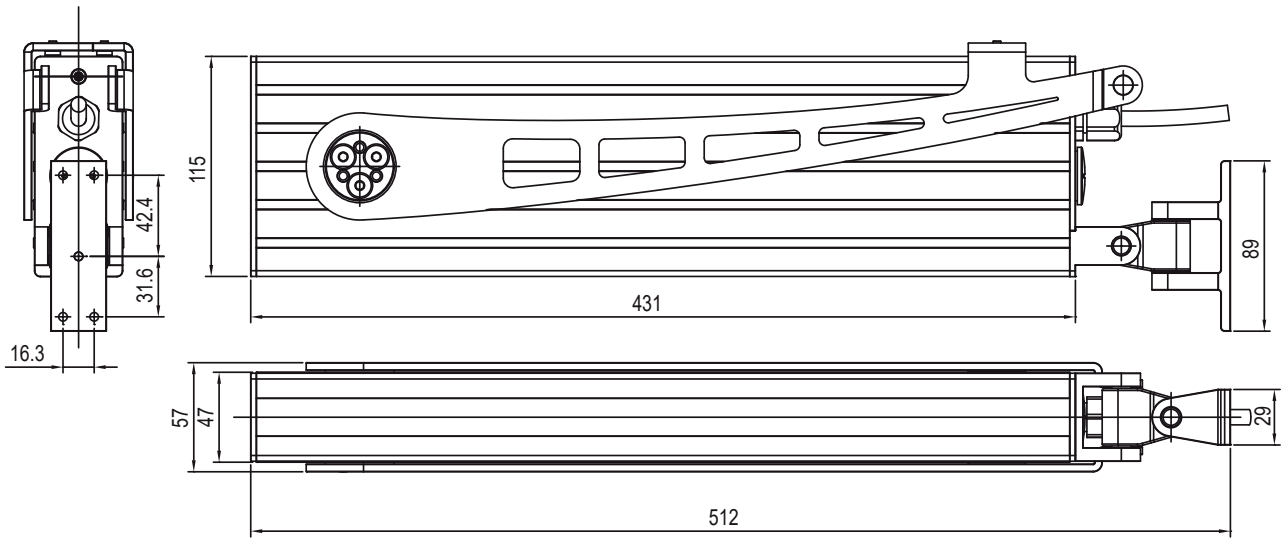
- Highly resistant to load variations (e.g. wind speed).
- The possibility of very wide opening angles.
- Product certified for smoke and heat extraction systems (RWA) in accordance with standard EN 12101-2.
- High performance mechanism (>20,000 cycles) tandem version available.
- Compact installation space.
- Various customisations thanks to the dedicated software.
- Low power consumption and high output.

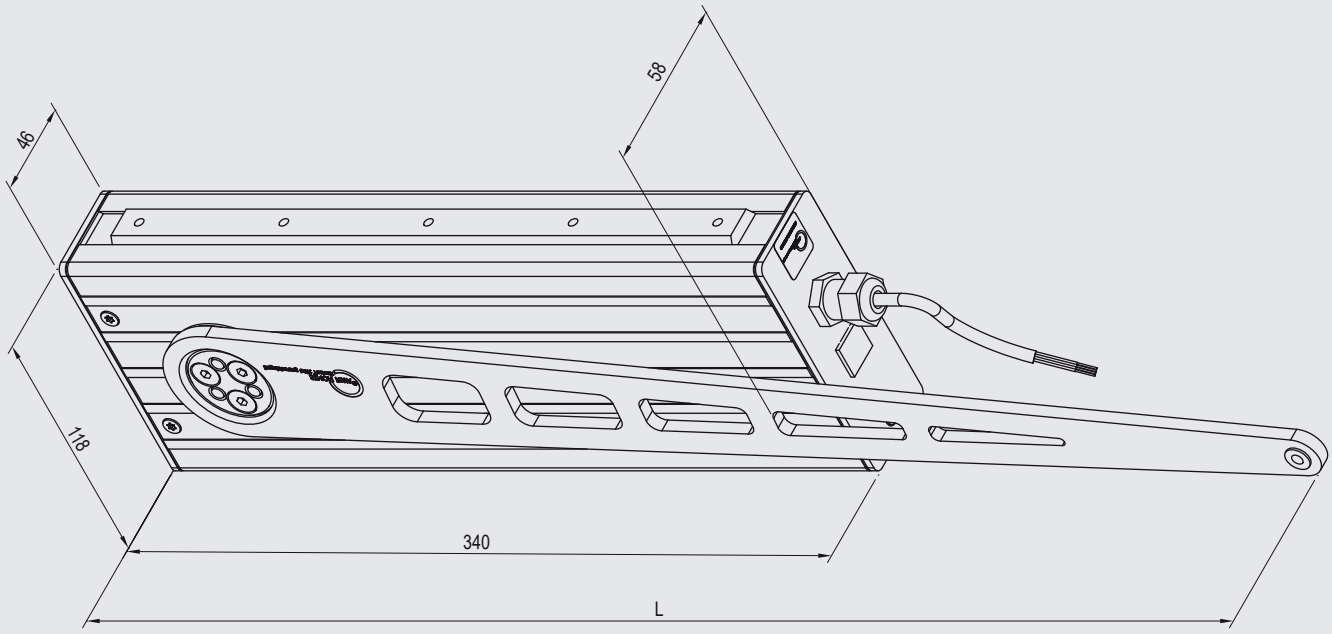
APPLICATIONS

DOORS
WINDOWS
DOME
SKYLIGHT
OUTWARD FRAME

TO BE USED WITH:

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





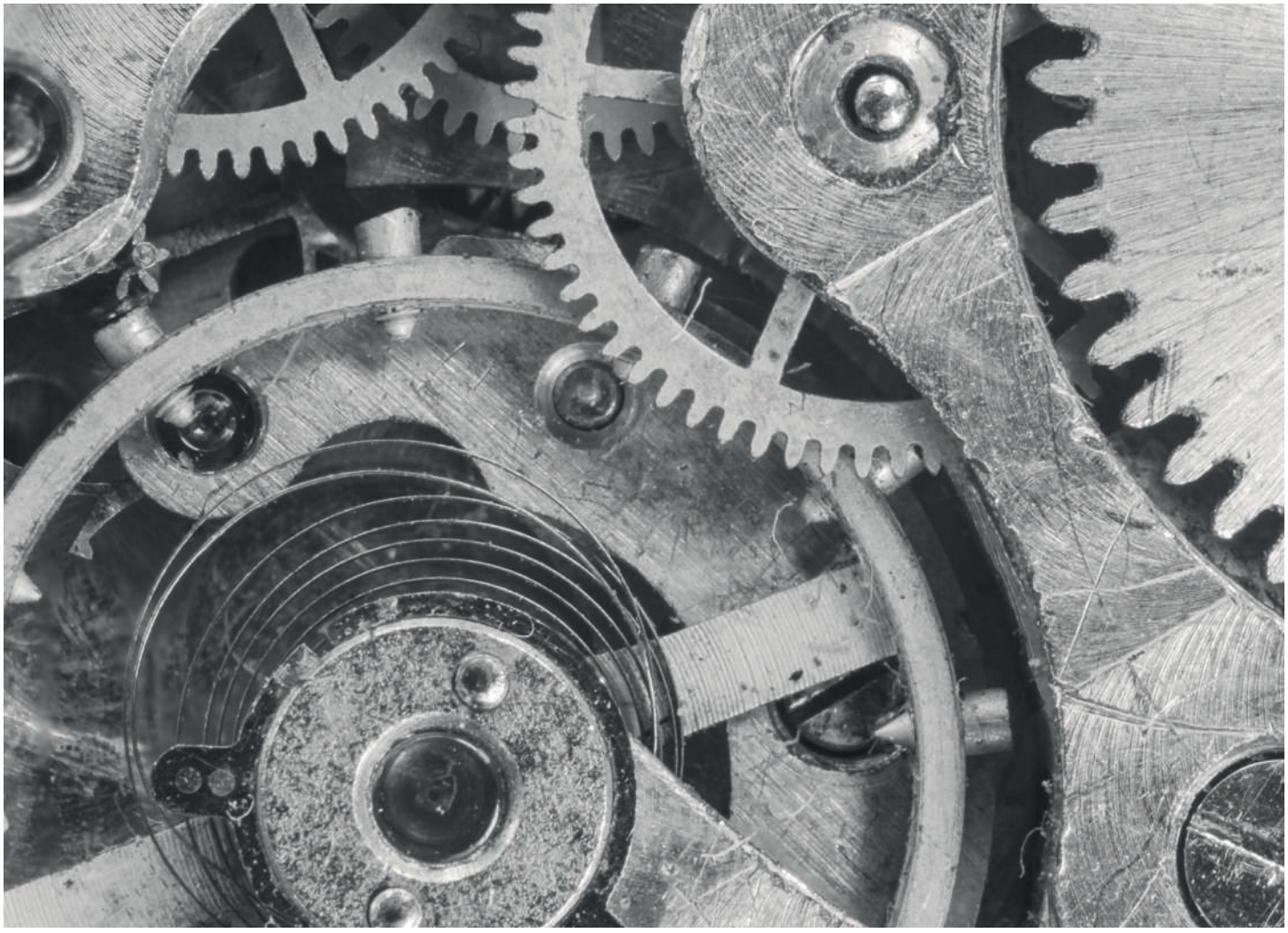
MODEL EA-KL²	500 N	800 N	1000 N
Thrust and traction force	500 N	800 N	1000 N
Stroke	530, 710 mm		
Power supply voltage	24V (DC)		
Power absorption	2 A	2,6 A	3 A
No load speed	14 mm/s		
Electrical insulation	Class III		
Working temperature	0°C - +75°C		
Protection index for electrical devices	IP54		
Length of power cable	2 m		
Dimensions	500 (408) x 58 x 130 (210) mm		
Weight	5,5 Kg		

MODEL	EA-KL²-DF
Thrust and traction force	500 N
Opening angle	140°
Power supply voltage	24V (DC)
Power absorption	1,5 A
Opening speed	2,8°/s
Working temperature	0°C - +75°C
Protection index for electrical devices	IP54
Length of power cable	2 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



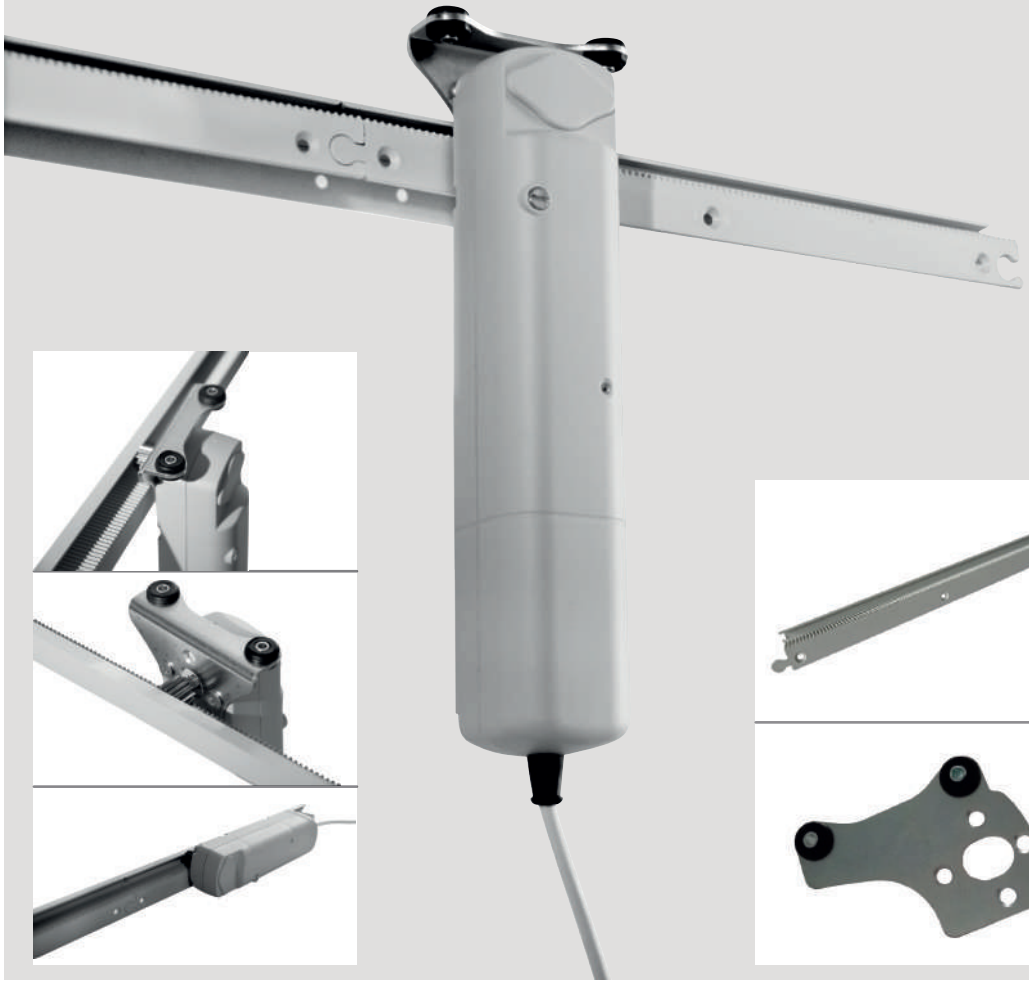
FLIK | Automation for sliding Doors, Windows Verandas and Railings

FLIK is an electric automation for sliding doors (also telescopic), windows, shutters, and railings that are not intended for intensive use or as escape routes. The product is ideal for installation on secondary access, it's easy to install and to operate and can also be controlled via radio.

- No external control unit. Visible or concealed installation, small dimensions and pleasant design: the gearmotor shall be installed in the upper part of the window frame, both in case of sliding sash with upper rail and with hidden carriages on the floor; no more belts, drive pulleys, adjustments, maintenance are needed.
- The new FLIK system by Nekos for sliding doors and windows uses a small rack, that is simple and quick to assemble and without any need for calibration. Just the limit switches shall be set in the gear motor and the game is done.
- The system provides the possibility to operate several sashes in the same door/window, to move them in a synchronized way respecting the closing times, to coordinate sashes with different width (function to be required while ordering) but also to interface with burglar-proof electro locks. FLIK is very silent, only 45 dB(A).
- FLIK can be synchronised when mounted on opposite or telescopic sashes (Nekos Syncro³ patent).

PATENTED
EP2770385

SYNCRO³



APPLICATIONS

SLIDING DOORS AND WINDOWS
SLIDING SHUTTERS AND VERANDAS
RAILINGS
MOVABLE PARTITION WALLS

TO BE USED WITH:

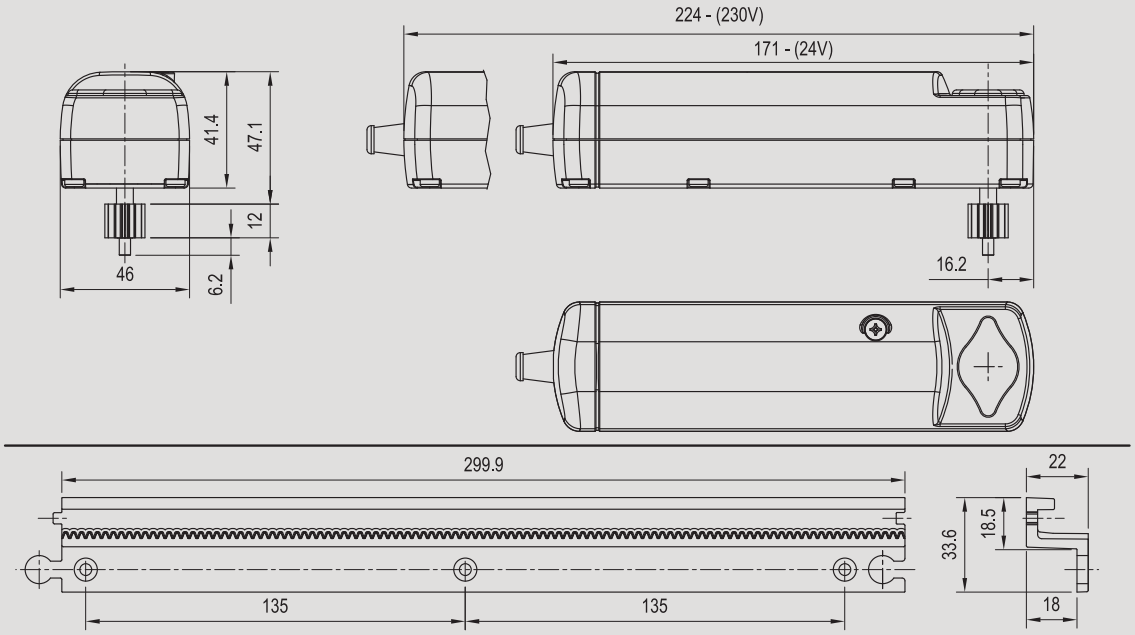
FLIK 24V:
SERIE KL and KL-R
MODIX 2/4/6
MY-SUN1 and MY-SUN3
K-LOCK

FLIK 230V:
SERIE KH and KH-R
RR2-M

TECHNICAL CHARACTERISTICS (Functional and mechanical features)

- Electric automation for domestic use combined with rack for the movement of sliding doors, windows, shutters and railings. Body structure in high resistance composite material (Pa6+35%GF).
- Maximum weight of the sash to be moved on standard carriages: 4000 N.
- Projected to work with at low voltage of 24V DC or at 110-230V~(AC), 50/60Hz.
- Operating the shutters without opening the window; just a simple click of the button or of the remote control needed.
- Programmable electronic limit switch with external magnetic system. Low travel speed.
- Equipped with overload safety protection, start and finish ramp, Soft Stop function.
- Synchronized device (Nekos Syncro³ patent) of two or more FLIK or K-LOCK electric lock, movement of several sashes on the same window.
- Motion irreversibility: to assure an increased burglar-proof resistance it can be combined with the K-LOCK electro lock.
- Supplied complete with tilting support brackets. 3-wire 24V and 230V cable.

Tested according to life test under the EN 12400 standard.
Complies with the relevant EU Directives (EMC Directives, Low Voltage Directives).



MODEL	230V	24V
Travel force	100 N	120 N
Stroke	max 4 m	
Power supply voltage	110-230V~50/60 Hz	24 V DC
Current absorbed at nominal load	0,32 / 0,22 A	0,95 A
Power absorbed at nominal load	27 / 29 W	23 W
Electrical insulation	Class II	Class III
Average speed	45 mm/s	
Max sash weight	4.000 N	
Max. sash width	4 m	
Anti-crush stop force	100 N	
Duration of the ramp *(start and stop)*	200 mm	
Type of service	2 cycles	5 cycles

Working temperature	-20°C - +70°C	
Protection index for electrical devices	IP42	
Stroke-end stop	Electronic with magnetic selector	
RADIO control: PIK model	YES - Remote control at 433,32 MHz	
Connection in parallel	YES	
Combined with: K-LOCK and AUX accessory unit	NO	YES
Synchronization (Syncro³ patent)	NO	YES (max 8)
Length of power cable	2 m	
No. of test cycles - Standard EN12400 (2004)	20.000	
Unlocking device	YES – Accessory on request	
Dimension	220x46x41 mm	175x46x41 mm
Weight	0,313 Kg	0,295 Kg

CODE	MODEL
6450001	FLIK Moto reducer 24V (DC) Syncro³
6450002	FLIK Moto reducer 24V (DC) - RADIO
6410001	FLIK Moto reducer 110-230V~
6410002	FLIK Moto reducer 110-230V~ - RADIO
4010126	Rack FLIK 300 mm
9800129	End shaft modification with FLIK release device *(to request when ordering)*

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

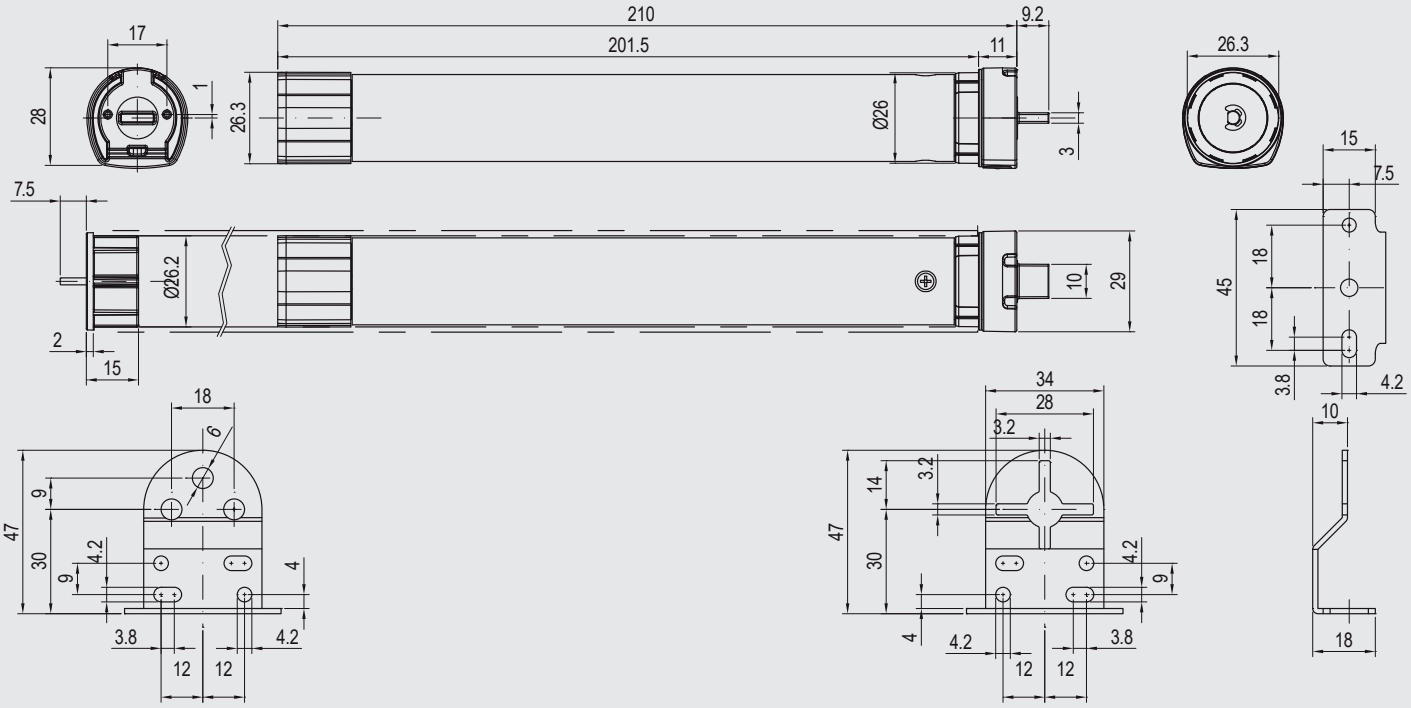
VENETIAN BLINDS
ROLLER BLINDS
PANEL BLINDS

TO BE USED WITH:

ALì
SERIE KL and KL-R
MODIX 2/4/6
MY-SUN1 and MY-SUN3

TECHNICAL CHARACTERISTICS (Functional and mechanical features)

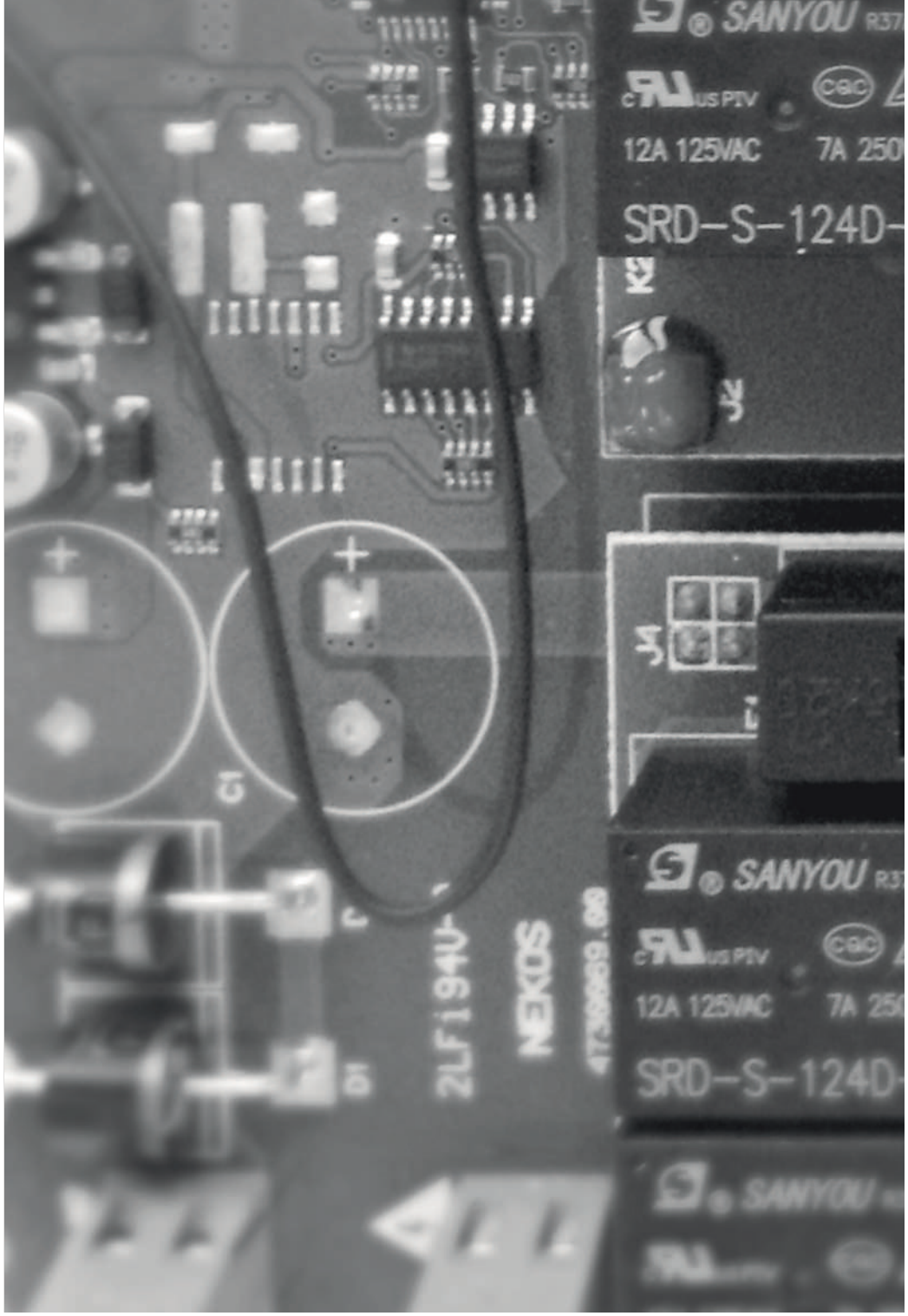
• Ø24 tubular gear motor for opening and closing roller and panel blinds on a Ø28 tube, manufactured in accordance with the specifications given in the technical data table, operates at 24V DC Safety ELV (SELV).
• Complete with universal mounting brackets and an adaptor for a Ø28 tube (interior Ø26.5).
• 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
Traction force	0,70 Nm
Theoretical capacity load on tube Ø28	5,5 Kg
Limit switches maximum programming height	20 m
Voltage supply	24V DC
Current absorption at nominal load	0,340 A
Speed at nominal charge (at nominal load)	24 rpm
Speed during descent	32 rpm
Electrical insulation	Class III

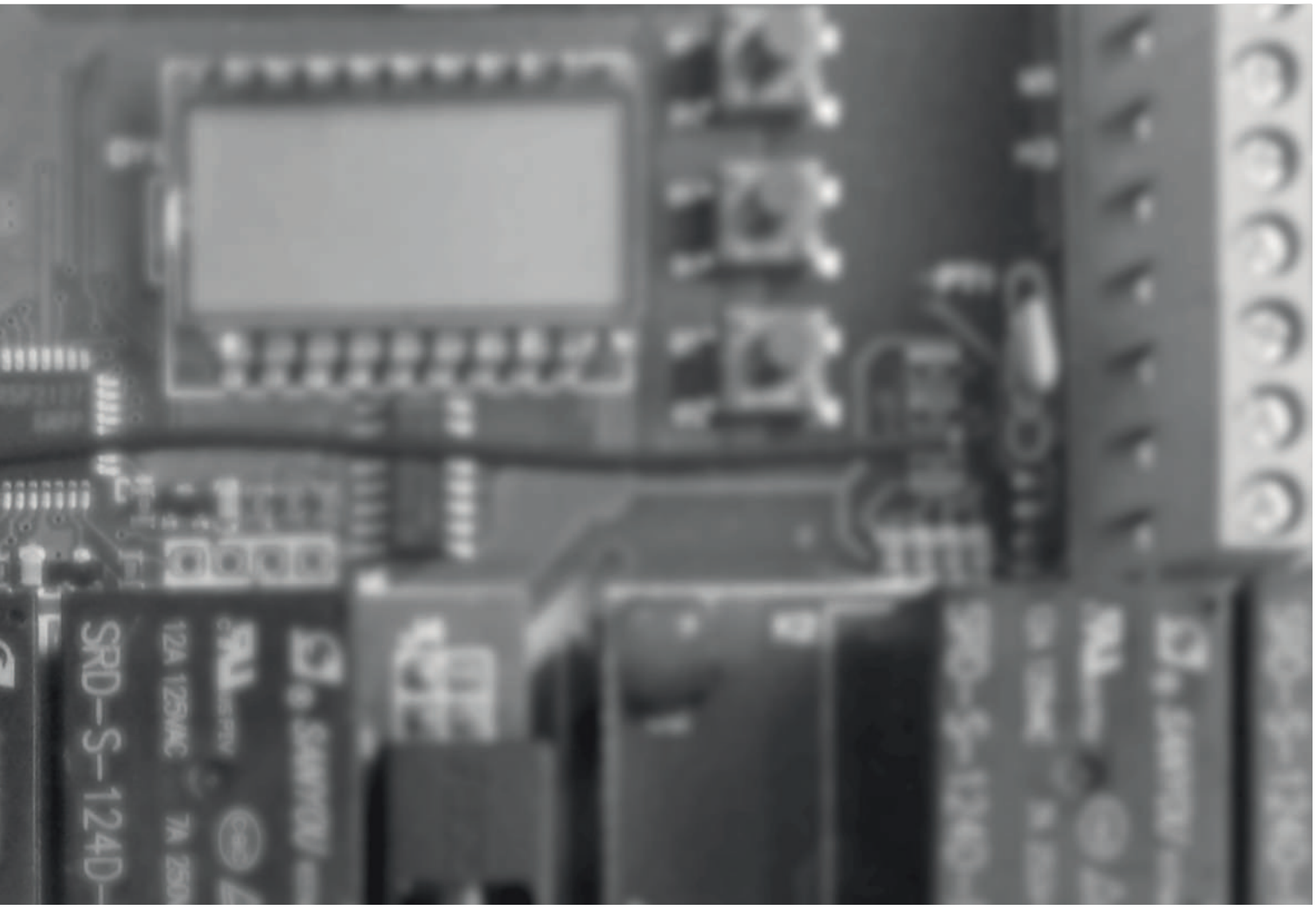
Type of service	5 cycles
Working temperature	-5°C - +65°C
Protection index for electrical devices	IP44
End stroke	by Encoder
Connection in parallel of two or more motors	YES (max. 20)
Dimensions	Ø24,5 x 210 mm
Number of pieces per package	6 pieces
Weight (including accessories)	0,282 Kg

CODE	MODEL
6140010	Tubular Gear Motor MR28-B 24V


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

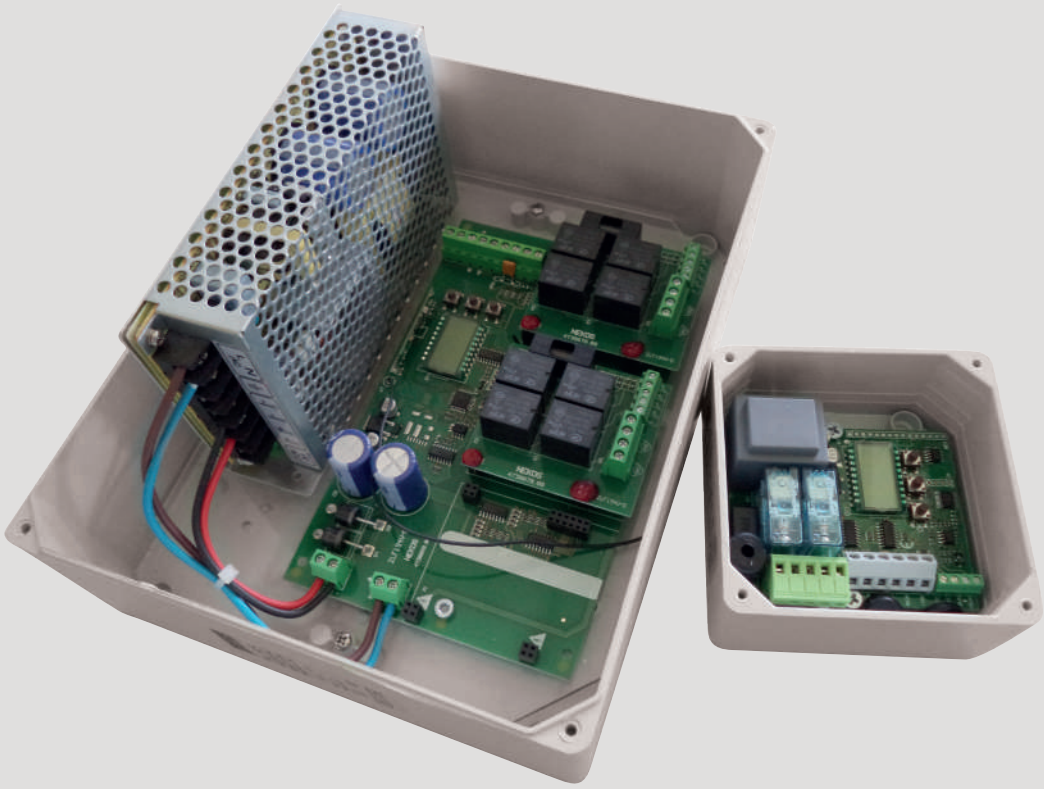
CENTRAL UNITS

Natural Ventilation, Atmospheric Control,
Solar Technology, Retractable Stair



SERIE K | Control and Ventilation Units

After years of experience specifically in the window sector, Nekos has launched on the market the SERIE K 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 low voltage (110-230V AC 50/60 Hz) and Safety ELV (SELV) (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.



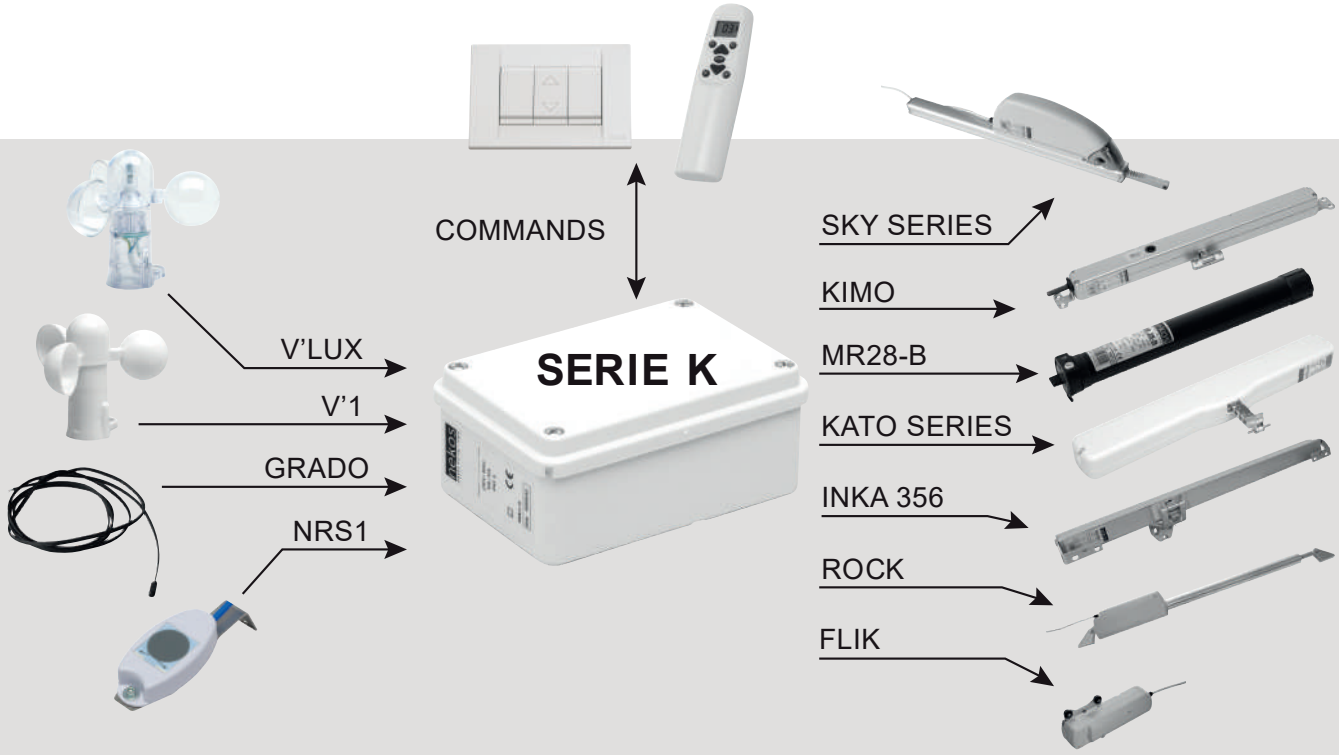
APPLICATIONS

ACTUATOR COMMAND
ELECTRICAL MOTOR

TO BE USED WITH:

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

PIK
NRS1
V’1



MODEL	KH1 KH1R	KH2 - KH4 - KH6 KH2R - KH4R - KH6R	KL2 KL2R	KL4 KL4R	KL6 KL6R
Feeding tension to central	230V ~ 50/60 Hz	110-230V ~ 50/60 Hz			
Output tension	230V ~ 50/60 Hz	110-230V ~ 50/60 Hz	24V DC		
Maximum switchable output current	see instruction manual downloadable from www.nekos.it				
Maximum power absorbed by the station	2W	15W	75W	100W	150W
Max number of actuators connectible per output	see instruction manual				
Type of service	S_1 - Continuous				
Electrical insulation	Class II	Class I			
Setup for connection to external devices	General open/close command - Daily timer (NOT for KH1) Rain sensor - Wind sensor				
Working temperature	-5°C - +65°C				
Protection index for electrical devices	IP65				
Dimensions	100x100x60 mm	240x190x120 mm			

CODE	MODEL
6720001	KH1 Unit for 1 230V output
6720002	KH1R Unit for 1 230V outputs + Remote control
6720003	KH2 Unit for 2 230V outputs
6720004	KH2R Unit for 2 230V outputs + Remote control
6720005	KH4 Unit for 4 230V outputs
6720006	KH4R Unit for 4 230V outputs + Remote control
6720007	KH6 Unit for 6 230V outputs
6720008	KH6R Unit for 6 230V outputs + Remote control

CODE	MODEL
6720009	KL2 Unit for 2 24V outputs
6720010	KL2R Unit for 2 24V outputs + Remote control
6720011	KL4 Unit for 4 24V outputs
6720012	KL4R Unit for 4 24V outputs + Remote control
6720013	KL6 Unit for 6 24V outputs
6720014	KL6R Unit for 6 24V outputs + Remote control

MODIX | Autonomous Power Unit for 24V Motors

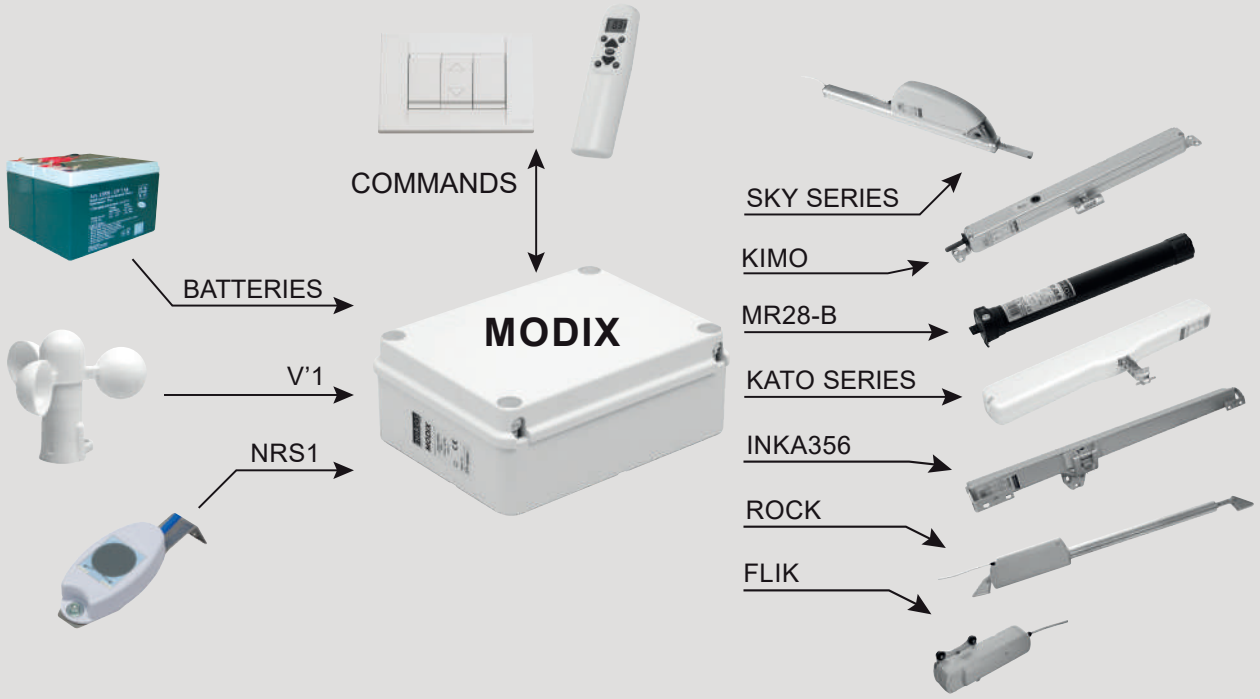
MODIX control unit is a unit that provides the SERIE KL with a battery pack, to supply 24V motors autonomously, even in the absence of mains voltage. When power is not required, a charging device keeps the batteries always charged and ready for use. All the control and command functions are the same as on the SERIE KL 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 1,2Ah is required, the battery pack capacity should be increased. 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 SERIE KL control unit circuit board. The “R” version, provided of radio receiver, allows the remote command of motorisations by PIK 30-channels remote control.
The device has CE marking and conforms to relevant EU industry directives.

APPLICATIONS

24V ACTUATORS AND
MOTORS FEEDING COMMAND

TO BE USED WITH:

FLIK
PIK
NRS1
V’1
24V MOTORS



MODEL	MODIX
Feeding tension to central	110-230V ~ 50/60 Hz
Output tension	24V DC
Maximum absorbed current	see SERIE KL control units
Max output current	see SERIE KL control units
Setup for connection to external devices	see SERIE KL control units

Type of service	S_1 Continuous
Electrical insulation	Class I
Working temperature	-5°C - +65°C
Protection index for electrical devices	IP65
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

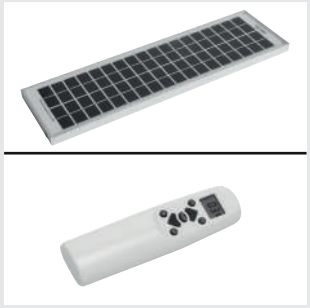
Solar Power Supply Unit for 1 Motor

MY-SUN1 is a photovoltaic power supply kit for 1 electrical motor that requires a 24V DC power supply.
The control unit is housed in a plastic protective container just 80 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 (DC) 1200mAh NiMH
Output tension	24V (DC)
Max output current	1A
Working time	180 s
Photovoltaic panel	18V - 5W
Max no of consecutive monoeuvres	300
Radio receiver working frequency	433,92 MHz

No. of remote controls that can be memorized	16
Working temperature	-10°C - +70°C
Electrical insulation	Class III
Protection index for electrical devices	IP40
Dimensions	280x60x36 mm
Weight (battery included)	0,40 Kg

APPLICATIONS

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

TO BE USED WITH:

KIMO and KIMO202
KATO 24V
INKA356
ROCK
FLIK
MR28-B
SKYRO650 and SKYRO850
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 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), guarantees the automatically closing of the window in the case of sudden rain.

MODEL	MY-SUN3
Battery	2x12V (DC) 1200mAh NiMH
Output tension	24V (DC) Nominal
Max output current	1,5 A
Working time	180 s
Photovoltaic panel	18V - 5W
Max no of consecutive monoeuvres	100
Radio receiver working frequency	433,92 MHz

No of remote controls that can be memorized	16
Working temperature	-5°C - +50°C
Electrical insulation	Class III
Protection index for electrical devices	IP43
Dimensions	154x144x76 mm
Weight (battery included)	1,60 Kg

APPLICATIONS

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

TO BE USED WITH:

KIMO and KIMO202
KATO 24V, INKA356
ROCK
SKYRO650 and SKYRO850
FLIK, MR28-B
NRS1/B
LOW CONSUMPTION TUBULAR GEARMOTOR

CODE	MODEL
6720024	MY-SUN3 Unit kit for 3 motors

FV-3 and FV-6 | RWA Control Units

These compact control units were developed in accordance with European standard EN 12101 part 9 and 10.
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. 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.
- 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.

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

APPLICATIONS

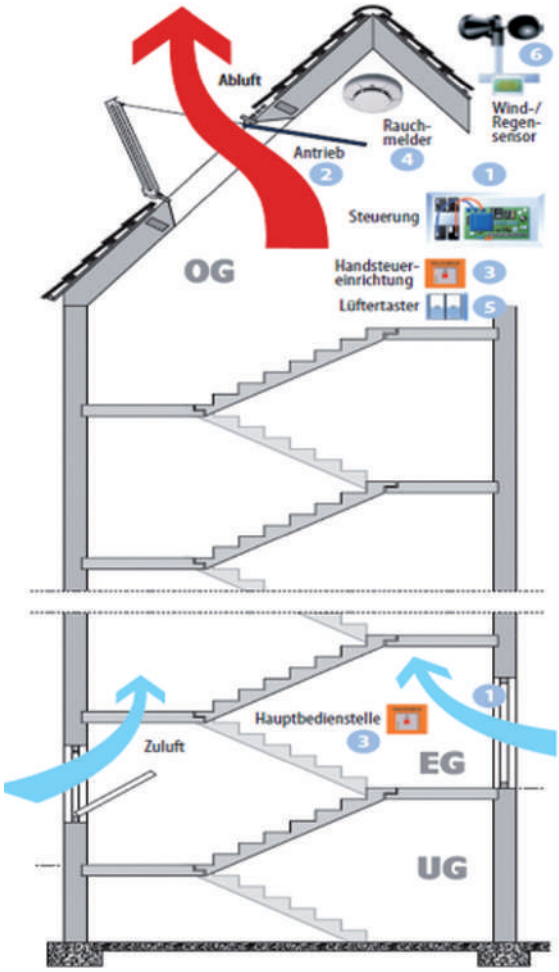
SMOKE AND HEAT
EXTRACTION SYSTEMS (RWA)

TO BE USED WITH:

KATO305
INKA356
EA-L and EA-L/S
EA-KL^2 and EA-KL^2-DF
RWA Accessories

Smoke and Heat Extraction

The smoke and heat extraction system belongs to the area of building safety. 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 the use 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 ~ 50/60Hz	
Output tension	24V DC	
Maximum current load	3,0 A- 6,0 A	
Emergency supply	Lead-acid battery 2,3 Ah	
Housing	Plastic container (RAL7035)	
Emergency power supply	In compliance with EN 12101-10	
Protection class	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	
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

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.
- 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 DC
Max output current to motor	3,00 A
Type of service	5 cycles
Electrical insulation	Class II

Command technique	PIK-SR remote control / Push button
Working temperature	-5°C - +55 °C
Length of power cable	2 m
Protection index for electrical devices	IP30
Dimensions	105x70 h=80 mm
Weight (in order of installation)	1,02 Kg

APPLICATIONS

RETRACTABLE STAIR ACTUATORS (MAX 3A)

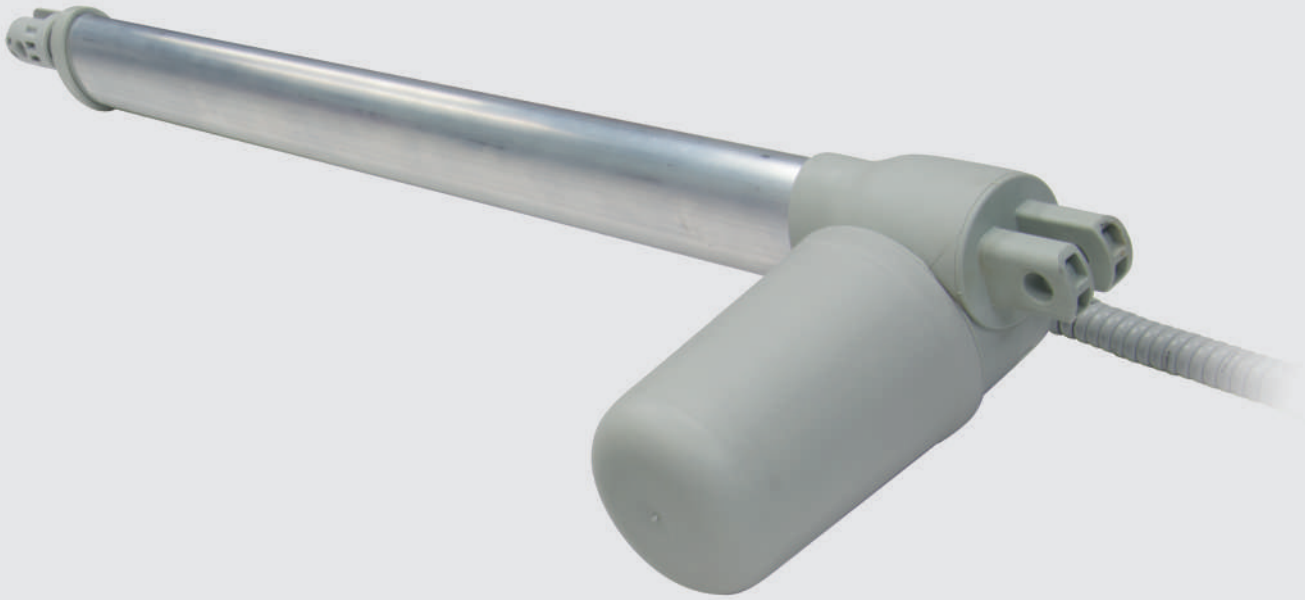
TO BE USED WITH:

PIK-SR
SAO-650

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 |

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.



MODEL	SAO-650
Thrust and traction force	650 N
Set up stroke	370 mm
Power supply voltage	24V DC
Opening speed	23 mm/s
Irreversibility of the motion	YES

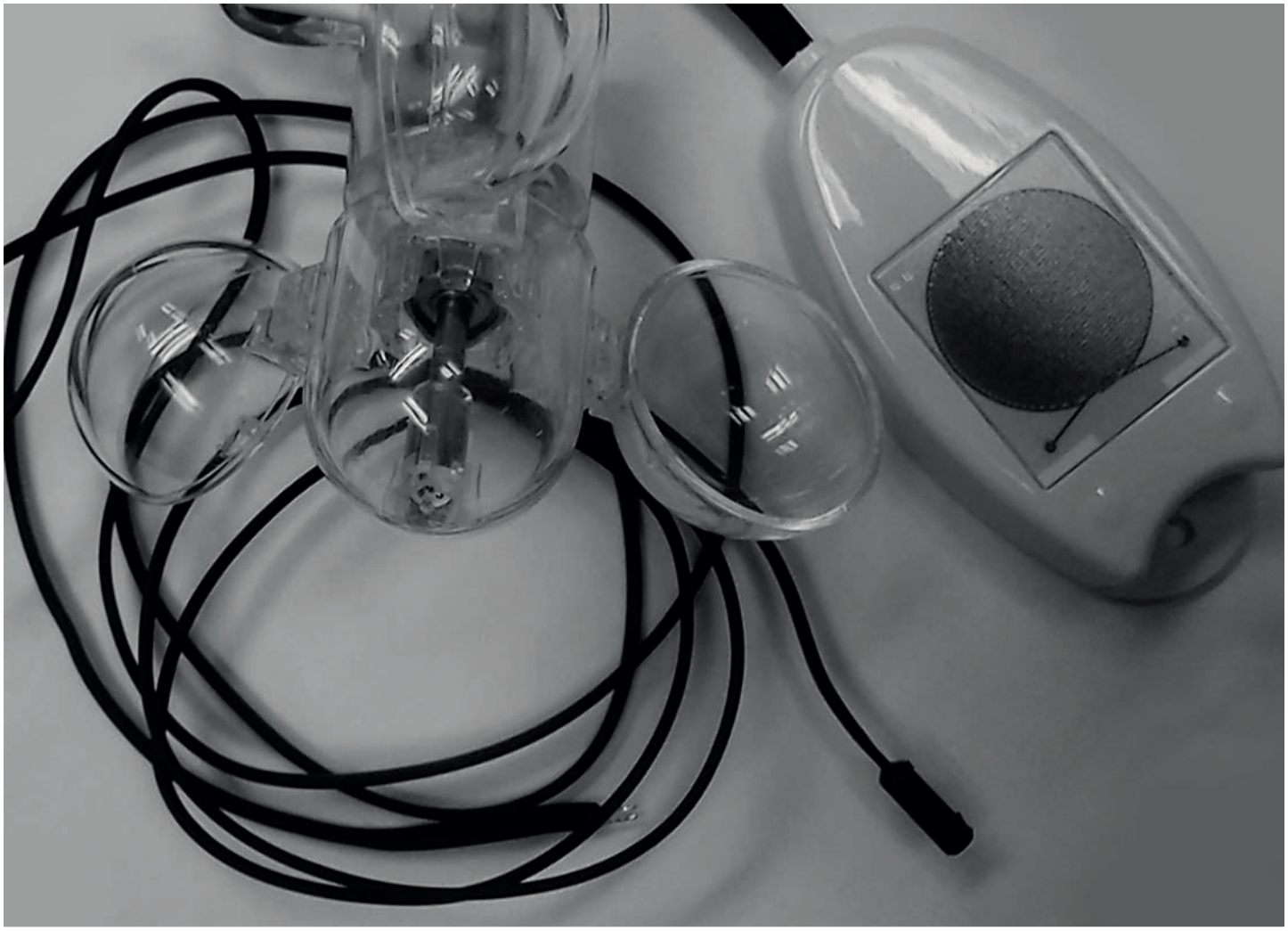
Type of service	S_3 10% of 10 min
Working temperature	-10°C - +60°C
Protection index for electrical devices	IP44
Length of power cable	1 m
Release device	Mechanic

CODE	MODEL
6720025	ASR-3 Retractable Stairs Central
6260015	SAO-650 650N 24V Linear Actuator - stroke 370 mm

ACTUATOR LIST AND THEIR COMBINATIONS WITH ACCESSORIES

ACTUATOR	FOR USE WITH - NAME	CODE	DESCRIPTION
KIMO202	K-LOCK	6275006	Electromechanical lock 24V
	AUX	6720030/32/34	Accessory for 24V electric actuators
	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
KIMO	BK-LOCK	6275008	Electromechanical lock 24V
	KOUPLE 24V	7505032	Powered tandem control unit for 2 24V KIMO
	KL n	67200nn	Control units 24V
	KL n - R	67200nn	Radio control units + 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
KATO253 24V	KOUPLE 24 V	7505040	Powered tandem control unit 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
KATO253 230V	KOUPLE 230V	7505024	Tandem control unit for 2 230V motors
	KH n	67200nn	Control units 230V
	KH n - R	67200nn	Radio control units 230V + PIK remote control
	RR2-M	7505028	Flush-mounted radio receiver (to radio-control)
KATO 24V	BK-LOCK	6275008	Electromechanical lock 24V
KATO SYNCRO³ 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
KATO 230V	KH n	67200nn	Control units 230V
KATO SYNCRO³ 230V	KH n - R	67200nn	Radio control units 230V + PIK remote control
	RR2-M	7505028	Flush-mounted radio receiver (to radio-control)
KATO ADV RADIO	PIK	7505025	Remote control
	NRS1	7505021	Rain sensor (wired)
KATO305 RWA 24V	BK-LOCK	6275008	Electromechanical lock 24V
KATO305 SYNCRO³ 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
	FV	75055nn	RWA control units
KATO305 230V	KH n	67200nn	Control units 230V
KATO305 SYNCRO³ 230V	KH n - R	67200nn	Radio control units 230V + PIK remote control
	RR2-M	7505028	Flush-mounted radio receiver (to radio-control)
INKA356 RWA 24V	KL n	67200nn	Control units 24V
INKA356 SYNCRO³ 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
INKA356 230V	KH n	67200nn	Control units 230V
INKA356 SYNCRO³ 230V	KH n - R	67200nn	Radio control units 230V + PIK remote control
	RR2-M	7505028	Flush-mounted radio receiver (to radio-control)
K-LOCK	INKA 24V	60510nn	Chain actuator 24V
	INKA 24 SYNCRO	60505nn	Chain actuator 24V SYNCRO
	INKA 24 RWA	60510nn	Chain actuator 24V RWA VERSION
BK-LOCK	KIMO	6050072	Chain actuator 200N metal housing
	KATO 24V	6050001/2/3	Chain actuator 300N polymer housing
	KATO 305 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 230V motors
	KH n	67200nn	Control units 230V
	KH n - R	67200nn	Radio control units 230V + PIK remote control
	RR2-M	7505028	Flush-mounted radio receiver (to radio-control)
SKYRO650 SYNCRO³ 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
	K-LOCK	6275006	Electromechanical lock 24 V
	AUX	6720030/32/34	Accessory for 24V electric actuators
SKYRO650 230V	KH n	67200nn	Control units 230V
SKYRO650 SYNCRO³ 230V	KH n - R	67200nn	Radio control units 230V + PIK remote control
	RR2-M	7505028	Flush-mounted radio receiver (to radio-control)
SKYRO850 SYNCRO³ 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
	FV	75055nn	RWA control units
	MY-SUN	6720024	Solar power supply unit with PIK remote control
	K-LOCK	6275006	Electromechanical lock 24 V
	AUX	6720030/32/34	Accessory for 24V electric actuators
SKYRO850 230V	KH n	67200nn	Control units 230V
SKYRO850 SYNCRO³ 230V	KH n - R	67200nn	Radio control units 230V + PIK remote control
	RR2-M	7505028	Flush-mounted radio receiver (to radio-control)
ROCK 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
	K-LOCK	6275006	Electromechanical lock 24 V
ROCK 230V	KH n	67200nn	Control units 230V
	KH n - R	67200nn	Radio control units 230V + PIK remote control
	RR2-M	7505028	Flush-mounted radio receiver (to radio-control)
EA-L/S	KL n	67200nn	Control units 24V
EA-L	KL n - R	67200nn	Radio control units 230V + PIK remote control
EA-KL² 24V	FV	75055nn	RWA control units

ACCESSORIES



AUX

Accessory for 24V electrical actuators

AUX is a 110-230V~ (AC) or 24V (DC) accessory unit, for natural ventilation systems employing 24V (DC) electrical actuators to open and close windows.
The product is available in 6 versions:

MODEL AUX	230-1	230-2	230-1R	230-2R	24-8	24-8R
Power supply voltage	110-240V~	110-240V~	110-240V~	110-240V~	24V	24V
Max output voltage	24V 1A	24V 2A	24V 1A	24V 2A	24V 8A	24V 8A
Remote control			●	●		●
Window status output	●	●	●	●	●	●
Open-Close input					●	●
Chain status signal					●	●

MODEL	AUX 230 - 1/1R	AUX 230 - 2/2R	AUX 24V - 8/8R
Power supply voltage	110-240V~ 50/60 Hz		SELV 24V DC (20,8-28,8)
Stand-by power absorption	<1W		
Output voltage	24V DC		
Rated output current	1 A	2 A	8 A
Max. input current	0,7 - 0,5 A	1,4 - 1 A	8 A
Active power at maximum load	30 W	60 W	192 W
Type of service	S_1 (Continuous)		
Working temperature	-20°C - +70°C		
Output voltage activation time	240 s		
Electrical insulation	Class II		Class III
Working frequency / Receiver category (only Radio version)	433,92 Mhz/ 2		
Protection index for electrical devices	IP20		
Dimension (L x P x H)	200x30x30 mm		100x30x30 mm
Weight	0,2 Kg	0,3 Kg	0,1 Kg
Voltage free flow rate of the output contact window status	2 A / 30V DC		
Max. output current chain status	//	//	10mA (Open collector)
Input type Open/Close control	//	//	Normally open

APPLICATIONS

TO SUPPLY ACTUATORS
FOR NATURAL VENTILATION
SYSTEMS

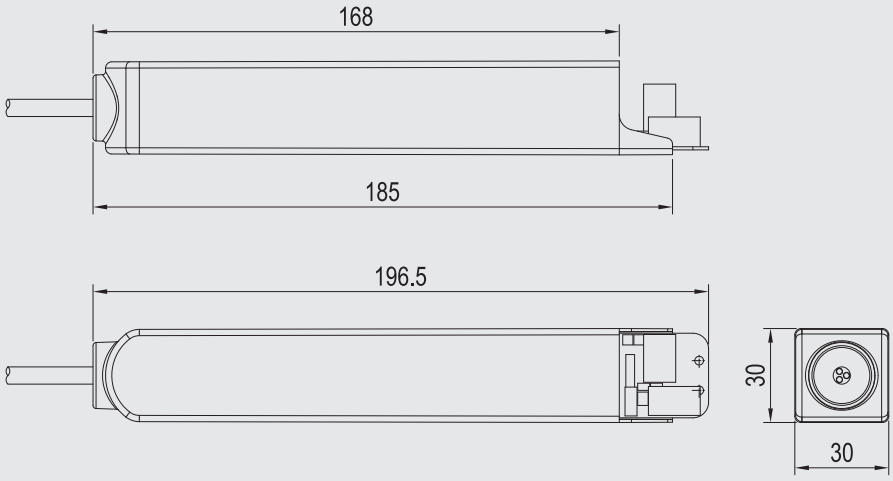
TO BE USED WITH:

24V SUPPLIED ACTUATORS
24V ELECTRICAL MOTORS
PIK remote control

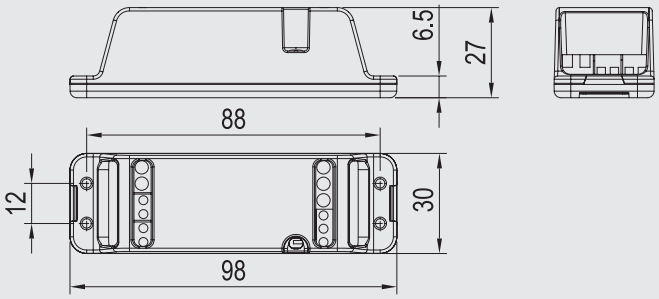
TECHNICAL CHARACTERISTICS (Functional and mechanical features)

- Thanks to its small dimension and ease of use, it's suitable to be flush mounted in window frames or in junction boxes. The dimension is: 30x30 mm, length 100 (200) mm.
- AUX is a low power consumption device that can replace the more complex SERIE K units in case all functions are not required. If connected to actuators with Syncro³ technology, it also provides information about the status of the window such as: totally open/ closed window, or opening percentage.
- It's activated through a switch or a remote control. The AUX../R accessories are supported by the Nekos remote control model PIK with a radio frequency of 433,92 Mhz.
- Stand-By power absorption lower as 1W.
- The electronic board of the 230V version inserted in a container made of plastic material is completely resin-coated and insulated, only 24V contacts to the actuator are left accessible.
- The product complies with EU directives (EMC, Low Voltage Directive).

Input 110-240V~ (AC)



Input 24V DC



CODE	MODEL
6720030	AUX230V-1 Accessory input 230V output 24V – Output 1 A
6720031	AUX230V-1R Accessory input 230V output 24V – Output 1 A + PIK
6720032	AUX230V-2 Accessory input 230V output 24V – Output 2 A
6720033	AUX230V-2R Accessory input 230V output 24V – Output 2 A + PIK
6720034	AUX24V-8 Accessory input 24V output 24V – Output 8 A
6720034	AUX24V-8R Accessory input 24V output 24V – Output 8 A + PIK

RR2-M

Two channel flush-mounted Radio Receiver

A compact two-channel receiver module that is used for the remote control of 110-230V 50/60Hz fixtures (actuators, roller shutters, curtains and blinds, radio 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. 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	110-230V ~ 50/60Hz
Power absorbed (Standby - reception only)	0,3 W
Power absorbed (1 relay active)	0,8 W
Power absorbed (2 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 index for electrical devices	IP20
Working temperature	-20°C - +55°C
Dimensions	H = 36, W = 42, L = 21 mm

TO BE USED WITH:

ALL 230V MOTORS
KATO253
KATO (NOT SYNCRO)
KATO305
INKA356
ROCK
SKY450
SKYRO650
SKYRO850

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.

- 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 ~ 50/60Hz	24V DC
Max output current	2,50 A + 2,5 A	
Electric protection	2 T 2,5 A fuses	1 T 5 A fuses
Type of service	2 cycles	5 cycles
Electrical insulation	Class II	Class III
Working temperature	-5°C - + 65°C	
Protection index for electrical devices	IP55	
Dimensions	100x100 h=60 mm	
Weight (in order of installation)	0,190 Kg	0,175 Kg

TO BE USED WITH:

KATO253
SKY450

CODE	MODEL
7505024	KOUPLE 230V - 2 230V motors
7505040	KOUPLE 24P - Powered 24V (KATO and SKY)

ALI'SW | Power Supply Unit

ALI'SW is a power supply device for Safety ELV (SELV) motors designed for installation 3-module flush-mounted back boxes. A switching power supply with a 110-230V 50/60Hz input, it supplies an 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 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	110-230V ~ 50/60 Hz
Nominal output voltage	24V DC
Current absorbed when loaded	0,170 A ~
Maximum output current	0,6 A
No. of motors applicable	No. 1 chain actuator KIMO No. 1 Tubular Gear Motor MR28
Electrical insulation	Class II

Type of service	S_1 Continuous
Working temperature	-5°C - +65°C
Protection index for electrical devices	IP20
Power cable	NOT provided
Protection at overload	Electronic
Dimensions	87,5x55,5x27,5 mm
Weight *(power supply unit only)*	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 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 (On-Off Kejing)
Power supply voltage	2 1,5V batteries - type AAA
Working 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	>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:

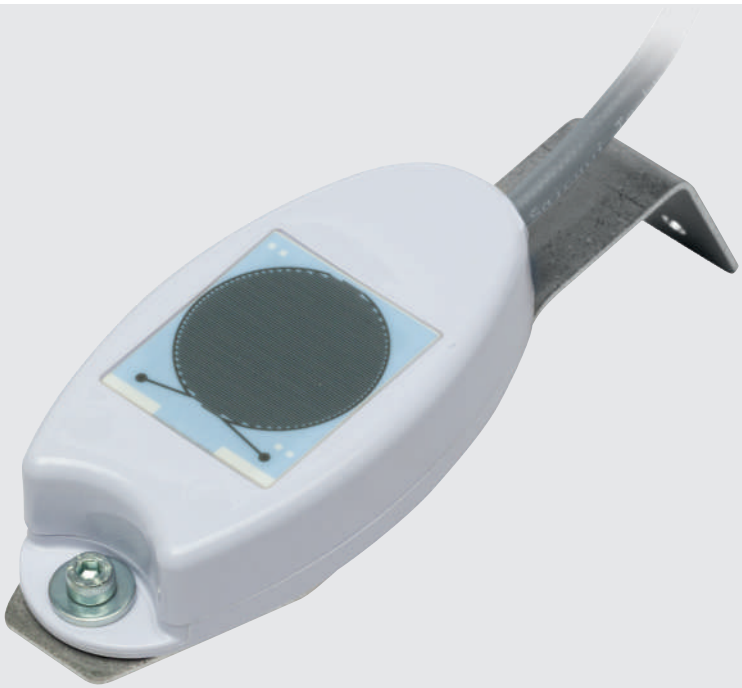
KATO ADV RADIO
Serie KL-R
Serie KH-R
RR2M
AUX
MODIX
FLIK

CODE	MODEL
7505025	PIK 433MHz Remote control

NRS1 | 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 wire to the SERIE K 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
Power supply voltage	12V - 24V DC
Maximum absorbed current	20 mA (120 mA with active heater)
Type of sensor	Capacitive
Heater intervention	< +5°C
Type of contact	SPDT
Rating contact	0,5 A / 125V~ - 1 A / 24V DC

Working temperature	-20°C - +65°C
Length of power cable	5 m
Type of power cable and no. wires	PVC protected from UV - 5 wires
Protection index for electrical devices	IP65
Dimensions	45x93 h=19 mm
Weight	52 g (cable excluded)

TO BE USED WITH:

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

CODE	MODEL
7505021	NRS1 Heated Rain Sensor

V’1,V’LUX

Wind Detector and Wind and Light Sensor

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 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 SERIE K 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 V’1 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°C - +90°C
Light relief angle	120° (-60° - +60°)
Protection index for electrical devices	IP34
Dimensions	Ø 125x93 mm
Weight	70 g

TO BE USED WITH:

V’1
Serie KL and Serie KL-R
Serie KH and Serie KH-R

V’LUX
Serie KH1 and Serie KH1-R

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

GRAD° | Temperature Detector

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. GRAD° sensor can be used in greenhouses, winter gardens, etc.

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

Bulb material	Thermoplastic rubber
Model with tapered tip	NO
Protection index for electrical devices	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.
- Power Supply from control unit.
- 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.
- Power Supply from control unit.
- LED display on the control unit, Emergency (red), Normal (green) and Error (yellow).
- Dimensions 125x125x36 mm.
- IP42 protection rating.
- Orange plastic body.

TO BE USED WITH: FV-3, FV-6

CODE	MODEL
7505018	HE082 Primary Emergency Button
7505020	HE081 Secondary Emergency Button

RM3000 | 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 mm.
- IP43 protection rating.
- Compliant with standard EN 54-7.

TH-4860 | 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 mm.
- IP43 protection rating.
- Compliant with standard EN 54-5.

TO BE USED WITH: FV-3, FV-6

CODE	MODEL
7505019	RM3000 Smoke sensor
7505023	TH-4860 Heat sensor

BRACKETS

Cod. 4010002

Standard support brackets
Series colour: black - white - grey

APPLICATIONS

KATO (provided)

Cod. 4010003

Vertical mounting brackets
Series colour: black - white - grey

APPLICATIONS

KATO (provided, excluded KATO253)

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

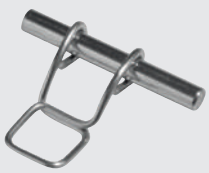
KATO

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, front junction
Series colour: black - white - grey

APPLICATIONS

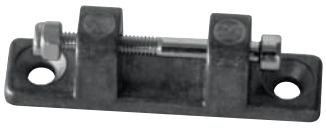
KATO305

Cod. 4010040

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

APPLICATIONS

KATO305



Cod. 4010019

Outward bracket in metal h. 14 mm
Series colour: black - white - grey

SPECIAL APPLICATIONS

KATO Series
KIMO
SKY Series

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 and KIMO202 (provided)

Cod. 4010125

Support brackets for external mounting
Series colour grey RAL9006

APPLICATIONS

KIMO

KIMO202

Cod. 4010146

Support brackets
Series colour: black - white - grey

APPLICATIONS

KIMO202 (provided)

Cod. 4010147

Support brackets flush-mounted
Series colour: black - white - grey

APPLICATIONS

KIMO202 (provided)

Cod. 4010148

Vasistas bracket
Series colour: black - white - grey

APPLICATIONS

KIMO202

INKA

Cod. 4010144

Outward bracket in metal h. 14 mm
Series colour grey RAL9006

SPECIAL APPLICATIONS

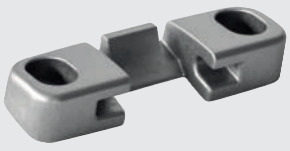
INKA356

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)

Cod. 4010151

Junction bracket

APPLICATIONS

ROCK (provided)

ROCK |

Cod. 4010013

Small parts packaging for SKY

APPLICATIONS

SKY (provided)

– SKY |

Cod. 4010051

Bracket for fixing to the frame

APPLICATIONS

SKY450 (provided)

SKY450 |

Cod. 4010052

Actuator support bracket

APPLICATIONS

SKY450 (provided)

SKYRO

Cod. 4010014

Bracket for fixing to the frame

APPLICATIONS

SKYRO (provided)

Cod. 4010015

Actuator support bracket

APPLICATIONS

SKYRO (provided)

EA Series

Cod. 4010093

Bracket for fixing to the frame

APPLICATIONS

EA Series

Cod. 4010094

Support bracket

APPLICATIONS

EA Series

FLIK

Cod. 4010126

Rack FLIK 300mm

APPLICATIONS

FLIK

Cod. 4010127

Flat bracket for FLIK installation

APPLICATIONS

FLIK

Cod. 4010128

90° bracket for FLIK installation

APPLICATIONS

FLIK

Notes

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