



CATALOGUE

ELECTRIC CHAIN ACTUATORS
AND WINDOW AUTOMATION



nekos

FENESTRATION SOLUTIONS AUSTRALIA IS THE LEADING SUPPLIER OF SOLUTIONS AND SYSTEMS TO WINDOW AND DOOR MANUFACTURERS THROUGHOUT AUSTRALIA.

FSA have searched the world over to source the very best products available for the Australasian market.

Our offerings form the basis of our business philosophy; to provide the best solutions for window and door manufacturers and their customers. We continually work hard to grow and improve to best serve our customer's needs.

With over 100 years combined experience working in the fenestration industry, FSA provides solutions for a core group of technically based systems and products for Australian Window & Door Manufacturers.

Our experience and research reflects a detailed understanding of the local and international markets, technical expertise and a dedication to exceptional customer service and support. This is exemplified in our extensive portfolio demonstrating our commitment to quality and innovation.

We supply and service timber, aluminium and uPVC window and door manufacturers throughout Australia with full time internal and external sales staff. We also have a technical support team that provide both on-site and phone support to all customers.

With the ability to supply goods throughout Australia within a 48 hour period, FSA provides a thorough and well - rounded service to its customers.

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Vision:

We are dedicated to being the leading “Solutions” supplier to the Australian Fenestration Industry using our vast market experience & superior technical knowledge to offer a complete solutions package.



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NEKOS is a reality emerging from the creation of ideas for the automation of window products, transforming the philosophy of thought into simple avant-garde creations for your window.

The natural results of research and development combine with direct experience in the field to ensure that each item is created from the concept of one common technology for the full automation of window systems.

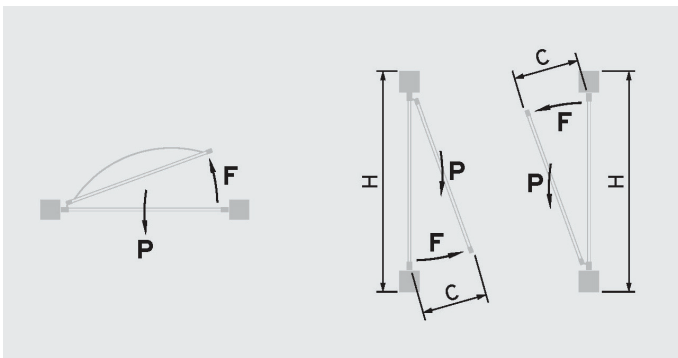
Production is a promise of quality that accompanies each phase, from the selection of materials to manufacturing processes and accurate checks. Sensitive to change and particularly to the demands of the market, NEKOS leads the sector of the home products industry with innovation, technology, design, quality and reliability.

The **CE** mark on their products, packaging and user manuals provided you with the confidence that you have a quality product.



OPERATING FORCES

Before mounting an actuator to the frame verify that it has the proper characteristics required to the task it has to do. To ensure you have the model with the appropriate push/pull force, verification can be done using the following simple formulas.



F = Force required to open and close - kg
P = Window weight (only movable part) - kg
C = Window opening truck run (actuator truck run) - cm
H = Window height - cm
1 N (Newton) = 0,102 kg
1 kg = 9,81 N

FORMULA

SKYLIGHT $F = 0.54 \times P$

OUTWARDS $F = (0.54 \times P) \times (C:H)$

TYPES OF OPENINGS

OUTWARD OPENING (AWNING)
hinged on the top, outside opening,
actuator mounted inside on the sill.



INWARD OPENING (TILT)
hinged on the bottom, inside opening,
actuator mounted inside on top of frame.



SKYLIGHT (PITCHED ROOF)
hinged on the top, outside opening,
actuator mounted inside.



SKYLIGHTS (HORIZONTAL)
hinged on a side, outside opening,
actuator mounted inside.



OUTWARD OPENING (CASEMENT)
hinged top and bottom, outside opening,
actuator mounted inside on jamb.



KATO

PATENTED
EP1723303 - EP1723304B1

300N Chain Actuator



TECHNICAL SPECIFICATIONS

MODEL	KATO 230V	KATO 24V
Pressure and traction force	300N	
Stroke (can be selected any time)	110, 200, 300, 400mm	
Voltage	230VAC 50Hz	24VDC
Current consumption at nominal charge	0.115 A	0.950 A
Charge absorbed at nominal load	~25W	~23W
No load speed	12.5mm/s	
No load duration (400mm)	32s	
Double electric insulation	Yes	Low tension
Type of service	S2 of 3min	
Working temperature	-5 + 65°C	
Protection index	IP30	
Adjustment of socket at casing	Position self regulating	
Connection of devices in parallel	Yes	
Limit switch stop at opening	Electronic dip switch	
Limit switch stop at closure	At absorption of power	
Dimensions	386.5 x 59 x 37	
Weight	0.970kg	0.940kg
Power supply cable length	2.0m	

The data indicated in these figures is not binding and is subject to variation without notification.

KATO 230VAC	
Part No.	Colour
N-KATO 230GY	Grey
N-KATO 230BK	Black
N-KATO 230WH	White
KATO 24V	
N-KATO 24GY*	Grey
N-KATO 24BK*	Black
N-KATO 24WH*	White

*NON-STOCKED (SPECIAL ORDER) ITEMS.

Key Features

- Compact & symmetrical
- Stainless steel chain and pins optional
- Available in 230V AC and 24V DC* versions
- Simple installation
- Adjustable chain stroke (110, 200, 300 & 400mm) set
- Pivoting mounting bracket and sash pin
- 300N linear force

Design & Functionality

- Microprocessor controlled, used as a stand alone or connected to BMS
- Installation in parallel possible - multiple actuators operate simultaneously
- Electronic adjustable chain stroke via DP switches
- Torque release after closing
- Numerous mounting options

Quality & Reliability

- Designed & manufactured in Italy
- Compliance to relevant standards & requirements

Safety & Features

- Built-in overload protection to prevent injuries & safeguard electronic components
- Quick-release Sash Bracket can be used in emergencies for egress
- IP30 rating
- Double installation

KATO Syncro³

PATENTED

EP13156370

Actuator for coordinated synchronization



KATO SYNCRO 230VAC	
Part No.	Colour
N-KSYNC3 230GY	Grey
N-KSYNC3 230BK	Black
N-KSYNC3 230WH	White
KATO SYNCRO 24V	
N-KSYNC3 24GY*	Grey
N-KSYNC3 24BK*	Black
N-KSYNC3 24WH*	White

*NON-STOCKED (SPECIAL ORDER) ITEMS.

Key Features

- Perfectly co-ordinated synchronisation of two to eight actuators
- Full electronic real-time synchronisation.
- Compact and symmetrical
- Stainless Steel Chain and Pins optional
- Available in 230V AC and 24V DC* versions
- Simple installation
- Adjustable chain stroke (100, 200 and 400mm) set
- Pivoting mounting bracket and sash pin
- 300N linear force.



TECHNICAL SPECIFICATIONS

MODEL	Kato Syncro 230V	Kato Syncro 24V
Pressure and traction force	300 N	
Stroke (can be selected any time)	100, 200, 400mm	
Voltage	230VAC 50 Hz	24VDC
Current consumption at nominal charge	0.115 A	0.950 A
Charge absorbed at nominal load	~25W	
No load speed	8.5 mm/s	
No load duration (400 mm)	48s	
Double electrical insulation	Yes	Low Tension
Type of service	S2 of 3 min	
Working temperature	- 5 + 65 °C	
Protection index	IP30	
Adjustment of socket at casing	Position self regulating	
Connection of devices in parallel	Yes	
Limit switch stop at opening	Electronic Dip Switch	
Limit switch stop at closure	At absorption of power	
Dimensions mm	386.5 x 59 x 37mm	
Weight	1.180 Kg	1.150 Kg
Power supply cable length	2.5m	

The data indicated in these figures is not binding and is subject to variation without notification.

Design and Functionality

- Microprocessor controlled, used as a stand-alone or connected to BMS
- Installation in parallel possible - multiple actuators operate simultaneously
- Electronic Adjustable Chain Stroke via DIP switches
- Torque release after closing
- Numerous mounting options.

Quality and Reliability

- Designed and manufactured in Italy
- Compliance to relevant standards & requirements.

Safety and Features

- Built-in overload protection to prevent injuries and safeguard electronic components
- Quick-release Sash Bracket can be used in emergencies for egress
- IP30 Rating
- Double insulation.

KATO ADV Radio PATENTED

EP1723303 - EP1723304B1

Actuator with remote control



TECHNICAL SPECIFICATIONS

MODEL	Kato Radio 230V
Pressure and traction force	300 N
Stroke (can be selected any time)	100, 200, 300, 400mm
Voltage	230VAC 50 Hz
Current consumption at nominal charge	0.115 A
Charge absorbed at nominal load	~28W
No load speed	9.5 mm/s
No load duration (400 mm)	43s
Double electrical insulation	Yes
Type of service	S2 of 3 min
Working temperature	- 5 + 65 °C
Protection index	IP30
Adjustment of socket at casing	Position self regulating
Connection of devices in parallel	No
Limit switch stop at opening	Electronic
Limit switch stop at closure	At absorption of power
Dimensions mm	386.5 x 59 x 37
Weight	1.170 Kg
Power supply cable length	2.0m

The data indicated in these figures is not binding and is subject to variation without notification.

KATO RADIO 230VAC

Part No.	Colour
N-KRAD2 230GY	Grey
N-KRAD2 230BK	Black
N-KRAD2 230WH	White

Key Features

- In-built Radio receiver for wireless and switchless operation
- Programmable 434MHZ PIK Radio transmitter to control up to 30 actuators (sold separately)
- PIK radio transmitter with LCD display
- 50m range allows control of actuators anywhere in the house.
- Compact and symmetrical
- Stainless Steel Chain and Pins optional
- Available in 230V AC and 24V DC* versions
- Simple installation
- Adjustable chain stroke (100, 200, 300 & 400mm)
- Pivoting mounting bracket and sash pin
- 300N linear force.

Design and Functionality

- PIK Transmitter with over 1.819 rolling combinations
- Can be hard wired
- Can be activated by the NRS1R rain sensor
- Electronic Adjustable Chain Stroke via DIP switches
- Torque release after closing
- Numerous mounting options.

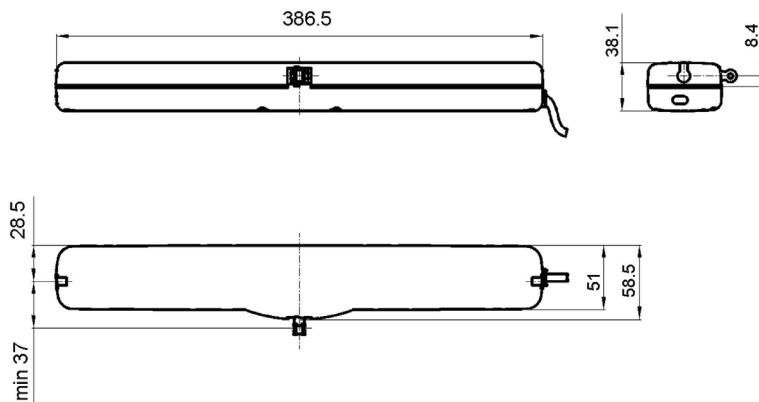
Quality and Reliability

- Designed and manufactured in Italy
- Compliance to relevant standards & requirements.

Safety and Features

- Built-in overload protection to prevent injuries and safeguard electronic components
- Quick-release Sash Bracket can be used in emergencies for egress
- IP30 Rating
- Double insulation.

APPLICATIONS



The KATO range of electric actuators adjustable chain / stroke is set by means of the dip switches located at the end of each actuator.

Awning Windows				
Stroke (mm)	100	200	300	400
Min Sash Height (mm)	150	250	350	450
Max Weight (kg)	83	69	54	42

Skylights				
Stroke (mm)	100	200	300	400
Max Weight (kg)	56	56	46	37

NOTE: as sash height increases so does maximum sash weight

Applications	Dimensions

* Minimum opening radius of the wing with 390 mm stroke (wing height < stated opening radii - change stroke adjustments)!

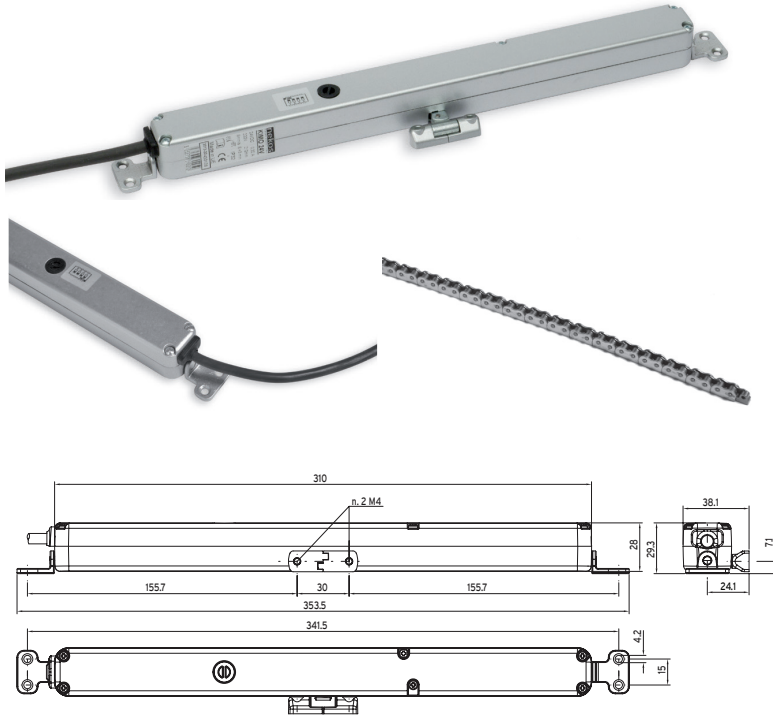
(1) = Connection cable

XIMO

PATENTED

EP2574823

Chain actuator 200N



TECHNICAL SPECIFICATIONS

MODEL	Kimo 24V
Pull Force	200 N
Push Force	200N
Strokes	70 / 125 / 170 / 210mm
Power supply voltage	24V=(DC)
Current absorbed at nominal load	0.32A
Power absorbed at nominal load	7.5W
No-load speed	6mm/s
Maximum no-load stroke time	27s
Double electrical insulation	Low Voltage
Service type	S2 of 3 min
Operating temperature	5 °C ÷ +65 °C
Degree of protection for electrical devices	IP32
Relax function	YES
Connection in parallel	YES
Power supply cable length	2.0m
Opening stroke-end	Dip-switch setting
Closing stroke-end	At absorption of power
Overload protection	At absorption of power
Dimensions	28 x 28 x 310 mm
Weight	0.72Kg

The data indicated in these figures is not binding and is subject to variation without notification.

Chain Actuator Kimo 24V

Part No.	Colour
N-KIMO	Silver

Key Features

- Compact and symmetrical (28 x 28 x 310mm)
- Ideal for concealed installations
- Heat dissipating full alloy body
- 200N Push and Pull force
- Adjustable chain stroke (70, 125, 170 & 210mm)
- Progressive starting ramp
- Pivoting mounting bracket and sash pin
- Syncro option for wide sashes with 2 motors (via Parallel Control Unit - KOUPLE)

Design and Functionality

- Electronic Adjustable Chain Stroke via DIP switches
- Patented flexible chain design unlike any other
- Microprocessor controlled, used as a stand-alone or connected to BMS
- Installation in parallel possible - multiple actuators operate simultaneously
- Quiet operation – ambient 42dB

Quality and Reliability

- Designed and manufactured in Italy
- Compliance to relevant standards & requirements

Safety and Features

- Built-in overload protection to prevent injuries and safeguard electronic components
- Low Voltage (24V DC standard)
- IP32 Rating.

ALI'SW

Power Supply Unit



ALI'SW POWER SUPPLY UNIT

Part #	Type
N-ALI	24V Transformer with Switch

TECHNICAL SPECIFICATIONS

MODEL	
Power supply voltage	100/240V ~ (A.C.) 50/60 Hz
Output voltage	24V = (DC)
Current absorbed at nominal load	0,170 A ~
Maximum load applicable	0,500 A =
Number of motors applicable	No.1 KIMO Chain actuator
Double electrical insulation	YES
Service type	Continuous
Operating temperature	-5 °C +65 °C
Degree of protection for electrical devices	IP30
Power supply cable	Not foreseen
Overload protection	Electronic
Dimensions	87.5 x 55.5 x 27.5mm
Weight	0,085 kg

The data provided in these illustrations is non-binding and subject to change, even without advance notice.

Key Features

- Specifically for controlling Kimo Electric Chain Actuator
- 230VAC input – 24VDC output transformer included
- “Touch Switch” Technology
- Slimline and modern styling of switch
- 20cm long cable from switch to transformer
- IP30 Rating

Quality & Reliability

- Designed and manufactured in Italy
- Compliance to relevant standards and requirements.

PIK

Remote control device



Remote Control Device PIK

Part No.	Colour
N-PIK	PIK 433 MHz remote control

Key Features

- Controls up to 30 KATO ADV Radio Actuators
- LCD Display with real time information
- 433.92 MHz with 1.819 rolling combinations
- IP65 Rating

Quality and Reliability

- Designed and manufactured in Italy
- Compliance to relevant standards and requirements

MODEL	PIK
Type	Multi-channel radio remote control with microprocessor
Number of transmission channels	30
Transmission frequency	433,92 MHz
Power supply tension	2 1,5V batteries – type AAA
Operating voltage	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 functions letters
Display dimensions	18,5x13,5 mm
Independent codes	>18 x 10 ¹⁸ “rolling code” combinations
Absorption in stand-by	< 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)
Regulatory references	Approved according to the R&TTE Directive 1999/5/EC – Directive 1999/5/EC of the European Parliament and Council of 9 March 1999
Dimensions	145 x 38.5 x 22.5 mm
Weight	76 g

The data indicated in these figures is non binding and is subject to variation without notification.

NRS1 - NRS1/R

Heated rain detector



Rain Detector NRI - NRS1/R	
Part No.	Colour
N-RS1	Heated rain sensor
N-RS1R	Heated rain sensor with radio transmission

Key Features

- Doesn't freeze
- Not sensitive to dew drops or humidity
- Supplied with 5m long power cable
- UV-stabilised housing and electrical harness ensures long life.

TECHNICAL SPECIFICATIONS

MODEL	NRS1
Power supply tension	12V ÷ 24V-(DC)
Maximum absorption power	20 mA – (120 mA with active heater)
Type of sensor	70 / 125 / 170 / 210mm
Heater intervention	Capacitive
Contact type	SPDT
Rating contact	0,5 A / 125VAC – 1 A / 24VDC
Radio transmission frequency	433,92 MHz
Working temperature	-20 ÷ +65 °C
Feeding cable length	5
Feeding cable type - wire number	PVC LiY2Y protected from UV - 5 wires
Protection index	PVC LiY2Y protected from UV - 5 wires
Dimensions	45 x 93 h=19 mm
Weight	52g (cable excluded)

The data indicated in these figures is not binding and is subject to variation without notification.

Design and Functionality

- Can be directly wired to KATO ADV RADIO (NRS1)
- Can wirelessly link to KATO ADV RADIO (NRS1/R)
- Connect to all other KATO actuators via K-Series Control Unit.

Quality and Reliability

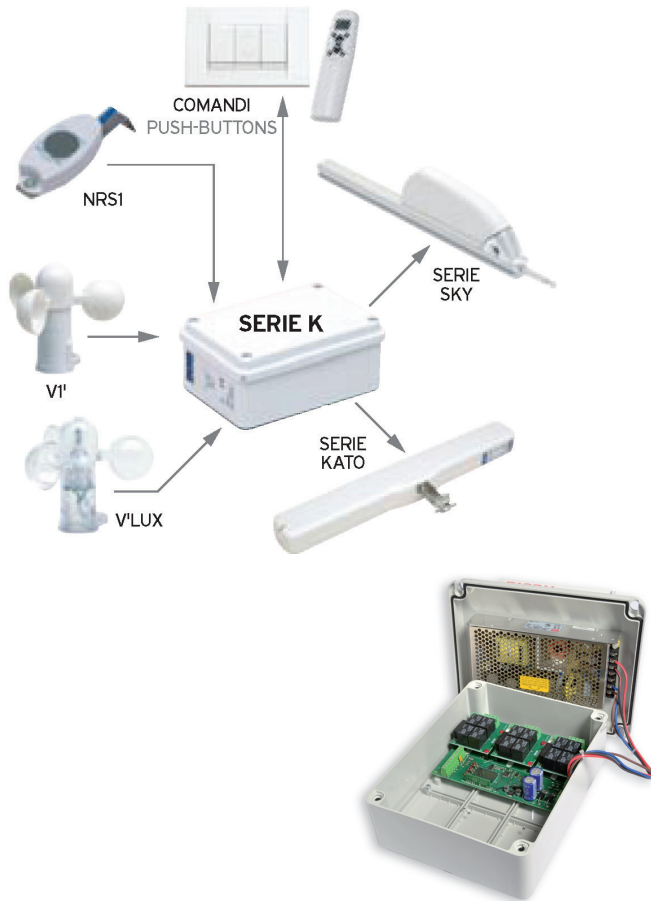
- Designed and manufactured in Italy
- Compliance to relevant standards and requirements.

NOTE:

The rain detector device should be placed out in the open where it can interact with the actuators in the event of continuous rain.

CENTRALINE SERIE K

Medium and low voltage power supply units



Rain Detector NRI - NRS1/R	
Part No.	Type
N-KH1*	STD Unit to Control 1 Actuators
N-KH2*	STD Unit to Control 2 Actuators
N-KH4*	STD Unit to Control 4 Actuators
N-KH6*	STD Unit to Control 6 Actuators
N-KH1R*	RADIO Unit to Control 1 Actuators
N-KH2R*	RADIO Unit to Control 2 Actuators
N-KH4R*	RADIO Unit to Control 4 Actuators
N-KH6R*	RADIO Unit to Control 6 Actuators
CENTRALINE SERIES K 24V	
Part No.	Type
N-KL2*	STD Unit to Control 2 Actuators
N-KL4*	STD Unit to Control 4 Actuators
N-KL6*	STD Unit to Control 6 Actuators
N-KL2R*	RADIO Unit to Control 2 Actuators
N-KL4R*	RADIO Unit to Control 4 Actuators
N-KL6R*	RADIO Unit to Control 6 Actuators

Key Features

- Control Actuators individually or simultaneously (up to 6)
- Up to 3 input modules (rain, light, wind sensors etc).
- Available for 230V AC and 24V DC actuators
- Fully customisable settings
- Electronic display for programming menu
- Radio "R" version programmable via PIK remote
- IP55 Rating

Quality and Reliability

- Designed and manufactured in Italy
- Compliance with 2004/108 EC (EMC Directive)
- Compliance with 2006/95 EC (Low Voltage Directive).

TECHNICAL SPECIFICATION

TECHNICAL SPECIFICATIONS

MODEL	KH1 KH1R	KH2 - KH4 - KH6 KH2R - KH4R - KH6R	KL2 - KL2R	KL4 - KL4R	KL6 - KL6R
Power supply voltage of the control unit	230 V~ (±10%) 50 Hz				
Output voltage	230 V~ (±10%) 50 Hz		24V = DC		
Maximum switchable current per output	<8A		1 A (2,5 A fuse each module)		
Maximum power absorbed by the control unit	2W	15W	75W	100W	150W
Max number of actuators connectible per output	Contact your FSA Representative for further information				
Service Type	S1 - Continuous				
Double electrical insulation	YES	NO	NO	NO	NO
Setup for connection to external devices	Rain sensor - Wind sensor				
	General open/close control - Daily timer (NO for KH1)				
Operating temperature	-5 ÷ +60 °C				
Degree of protection	IP43				
Overall dimensions	100x100x60 mm		240x190x120 mm		

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