Quick Guide

Chain Actuator EA-K-30/xxx-T(-DA)

SIMON
we create fire safety

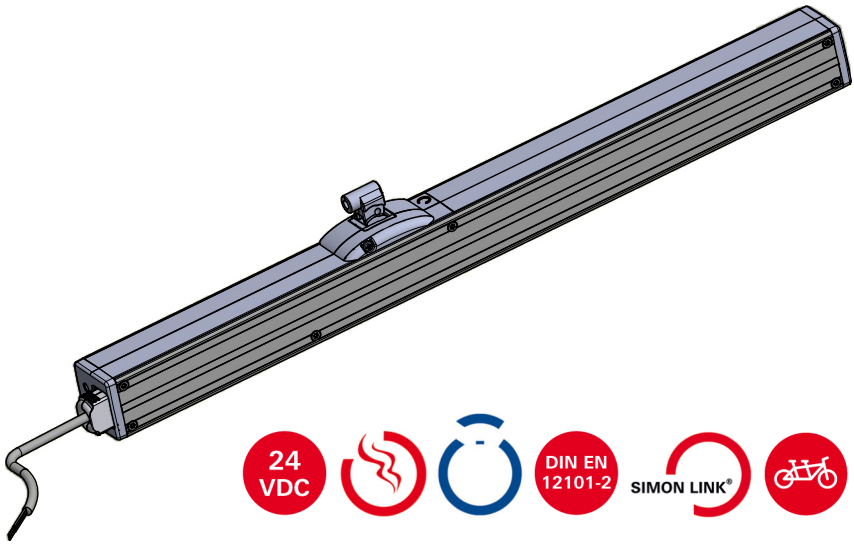
KA EA-K-30 (24V) EN 1.1

Valid for following article numbers:

EA-K-30/xxx-T(-DA)

- M2 5315 (DA) 400 mm stroke
- M2 5316 (DA) 600 mm stroke
- M2 5317 (DA) 800 mm stroke
- M2 5318 (DA) 1000 mm stroke
- M2 5319 (DA) 1200 mm stroke

For further information please visit our product website:
short.simon-protec.com/k30en



Only valid in combination with the attached sheet "safety instructions and warranty conditions"!

Table of contents

1. General

1.1 Foreword to this quick guide

This quick guide serves as a quick introduction for the installation by trained, experienced specialist personnel (e.g. mechatronics technician or electrician) and/or specialist personnel with knowledge involving the installation of electrical devices.

The complete operating manual can be found on our product website:

short.simon-protec.com/k30en

Please precisely observe the connection assignment, the minimum and maximum performance data (see “Technical data”) and the installation instructions.

1.2 Use for the intended purpose

Opening units (actuators) are used for power operated opening and closing of building coverings, which can be installed in walls and roofs and are used for ventilation of rooms and smoke removal.

2. Safety regulations

See attached sheet “safety instructions and warranty conditions”!

2.1 Risk analysis

INFORMATION

According to the application, carry out a risk analysis (e.g. of the assembled system).

Notes on risk analysis and assembly can be found in the leaflet in the guidance sheet KB.01 ‘Power operated Windows’:

www.eurowindoor.eu/news-and-proceeding/position-papers-and-publications/.

2.2 Restrictor stay

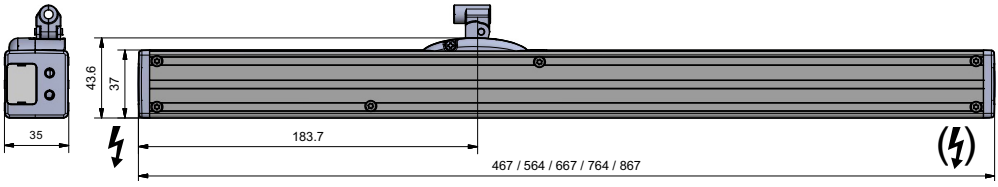
CAUTION

Depending on the size and weight of the bottom hung wings, restrictor stays must be installed with sufficient stroke.

3. Figures

Figure 1: EA-K-30/xxx-T(-DA) chain actuator

Connection side Optional connection (only actuators type DA!)



4. Mounting

DANGER

Assembly must be carried out by specialist personnel only (electrically skilled person). All relevant national safety regulations and directives apply to assembly, installation and start-up.

Incorrect assembly can result in electric shock. All safety regulations must be complied with. Follow the current assembly instructions. Faulty assembly can result in serious injuries.

4.1 Electrical connection

CAUTION

To avoid damages of actuators connection cable during movement of window, ensure cable loops with sufficient distance to all moving parts.

DANGER

Check the complete system before connecting to the power supply (24 VDC).

CAUTION

Do not earth the electrical connection.

The actuator may only be run with 24 VDC protective low voltage!

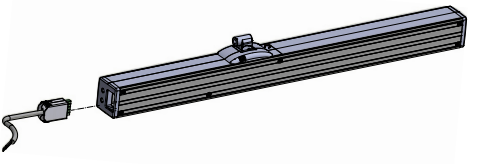
Insulate any unused wires.

INFORMATION

We recommend that a test run be carried out using a appropriate mobile power supply (including control unit, no battery alone). This allows simple and fast reaction to malfunctions.

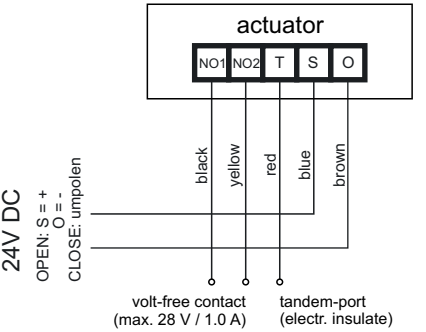
4.1.1. Power supply

The dimension of the power supply has to be suitable for this actuator.



4.1.2. Single connection – volt-free contact

➢ Connect cords according to wiring diagram.



CAUTION

When not in use, the red wire “T” must be insulated electrically. The red core may only be connected with the red wire of a parallel connected actuator

4.1.2.a. Feedback signal – volt-free contact

The normally open contact (NO1, NO2) is only switched when the actuator is cut off in the ‘CLOSED’ end position

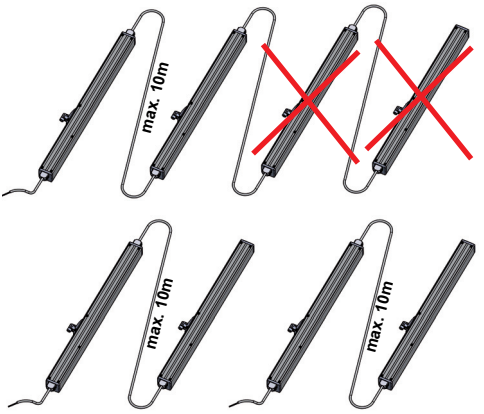
INFORMATION

Use of the volt free contact is only possible on the connection side of the actuator.

4.1.3. DUO-operation / parallel circuit

Only 2 actuators can be connected together in DUO-operation with a connected tandem (via connecting cable).

Figure 2



If one actuator stops in case of an overload cut-off the cut-off signal is transferred to the parallel connected actuator, which will stop after a scheduled stopping time.

4.1.3.a. Feedback signal – tandem-port

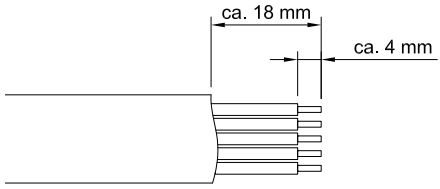
CAUTION

Line or function monitoring of parallel connected actuators does not take place.

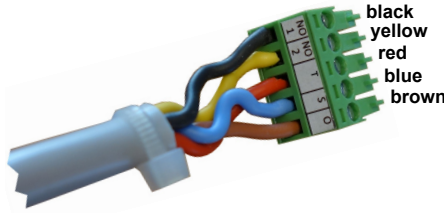
4.1.4. Supply / connection cable

In tandem/DUO-operation, it is possible to supply the second actuator directly by the first drive (DA version). For this purpose, the supply cable can be upgraded to a connecting cable.

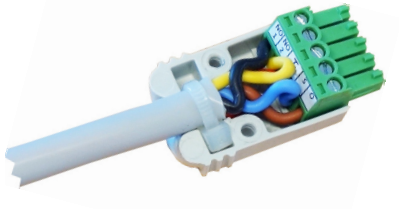
- Shorten the second supply cable to the desired length of the connecting cable (plus ca. 3 cm)
- Dismantle 18 mm and remove the insulation of the 5 wires about 4 mm.



- Connect the 5 wires with the plug and apply a cable tie (e.g. 100 x 2.5) for strain relief.



- Set the green plug and the cable tie in the lower shell of the connector housing and screw the upper shell together with the lower shell.



4.2 Mechanical connection

Depending on window and mounting type different sets of brackets are available. Choose the bracket set which is necessary for your application.

4.2.1. Mounting the brackets

- Specify the mounting position of the brackets firmly so that the actuator chain passes the (window/wing) frame in each opening position of the sash and that the mounting position of the chain is in the middle of the frame. Therefore window centre check marks are provided on the K-K-50-OK and K-K-OK-SK (see page 7). In parallel operation/DUO-operation the actuators should be positioned in such a way, that the chains are 1/4 distance from the edges (left/right) of the window sash.
- Mount the brackets for the respective window or subsurface with suitable screws (fastenings are not included in delivery content).
- Insert the actuator into the provided brackets and screw it with the self-locking screws.

Figure 3: Bracket K-K30-K

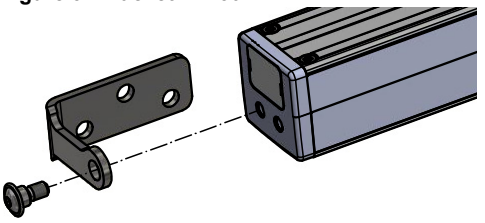


Figure 4: Bracket K-K30-A

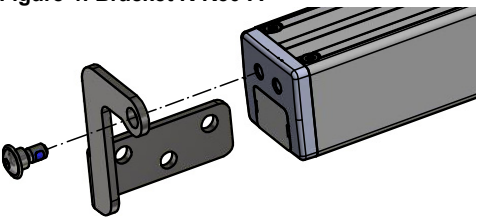
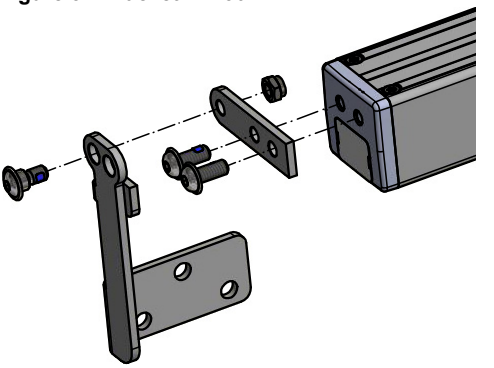


Figure 5: Bracket K-K30-FLEX



4.2.2. Top bracket K-K50-OK

CAUTION

The top bracket must always be oriented so that the SIMON logo of the console is on the same side of the chain as the SIMON logo of the chain outlet.

Figure 6

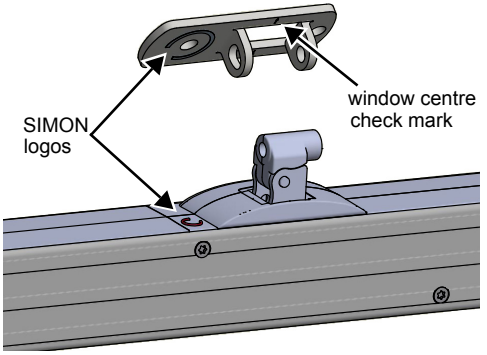


Figure 7

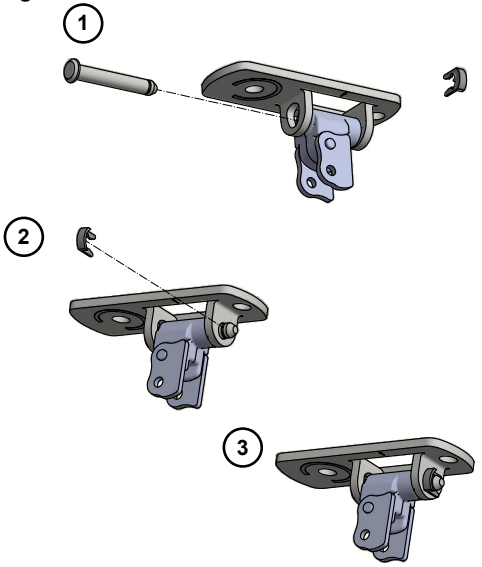
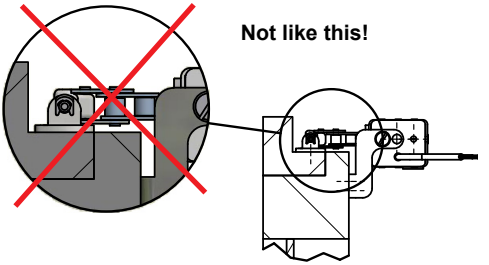
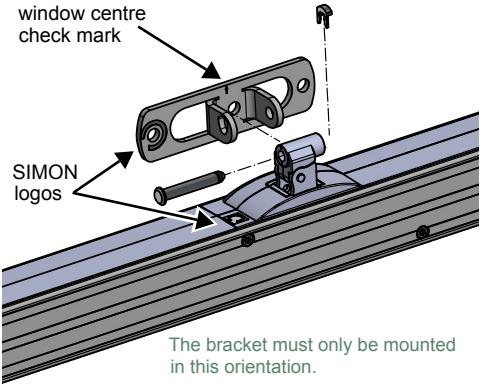


Figure 8: Incorrect positioning of the K-K50-OK



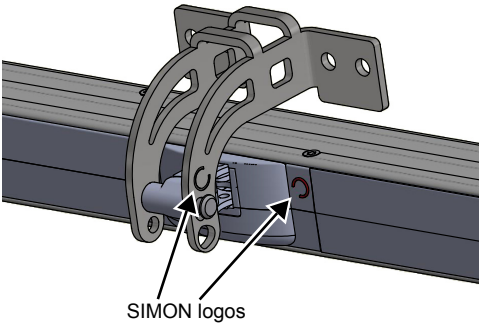
4.2.3. Alternative bracket for lateral mounting

Figure 9: K-K-OK-SK (optional)



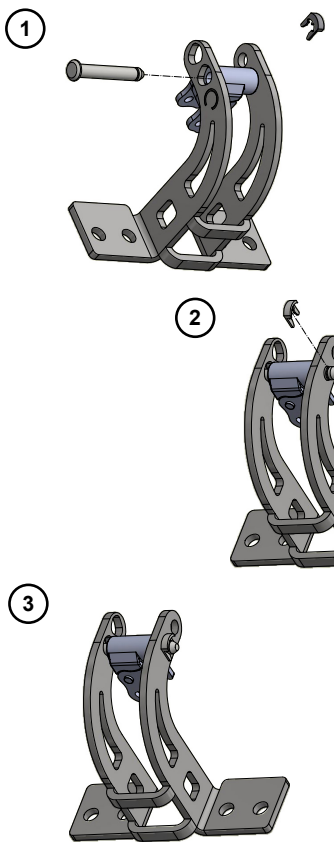
4.2.4. Inward opening top bracket K-K30-AKI

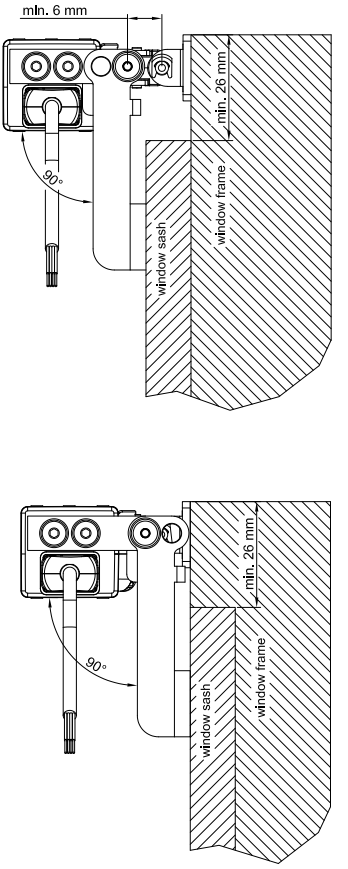
Figure 10



➢ Drive out the chain about 10 cm and connect the chain end with the K-K30-AKI.

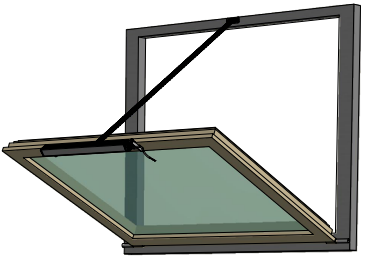
Figure 11



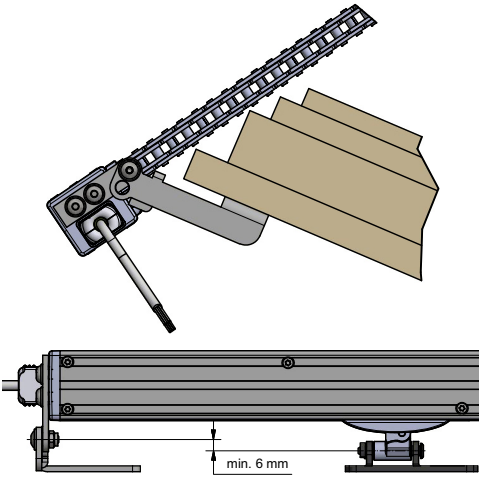


4.2.5. Inward opening bottom hung window, mounting at the window sash K-K30-FLEX

This bracket has been developed for small window sashes with large opening angles.



Minimum window height = stroke
Depending on size, type and place of mounting this value can vary.



4.2.6. Rotary wing

CAUTION

The chain actuator EA-K-30 may only be mounted upright to a **DIN right** window (hinges are positioned on the right side).

Figure 12: Mounted at the window frame

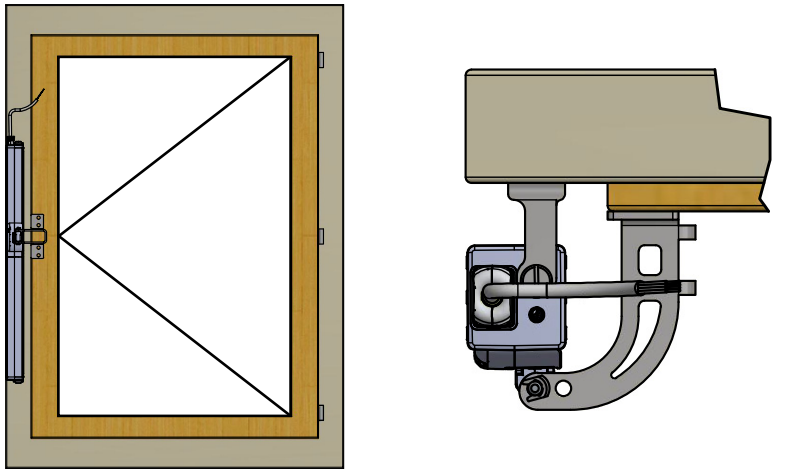


Figure 13: Mounted at the window sash

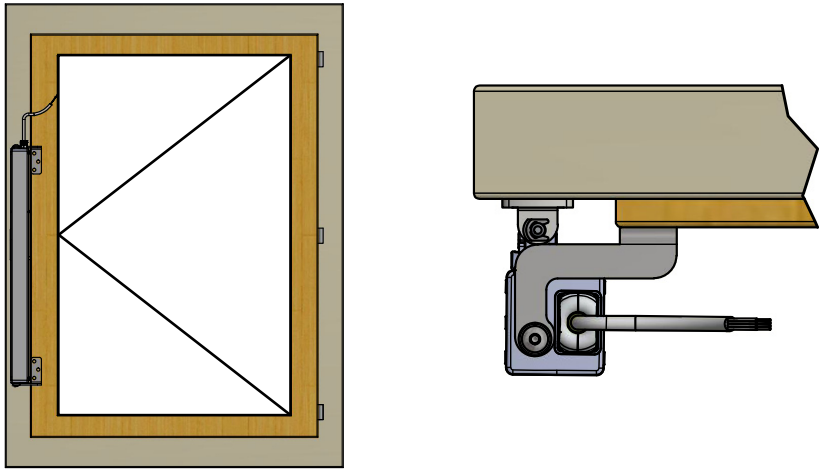
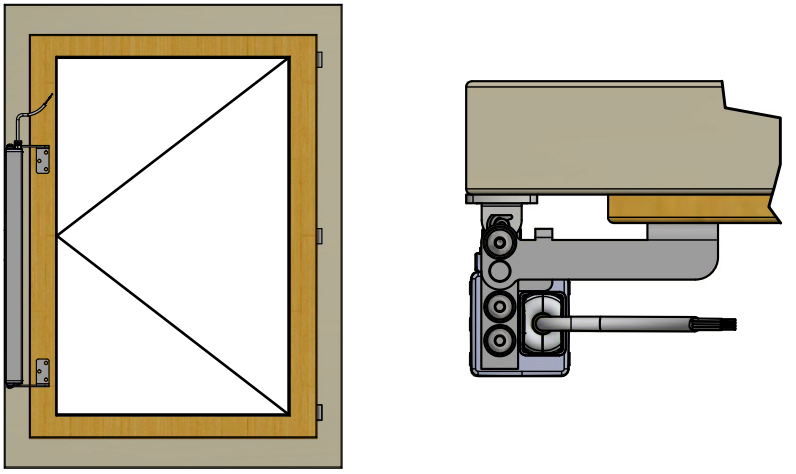
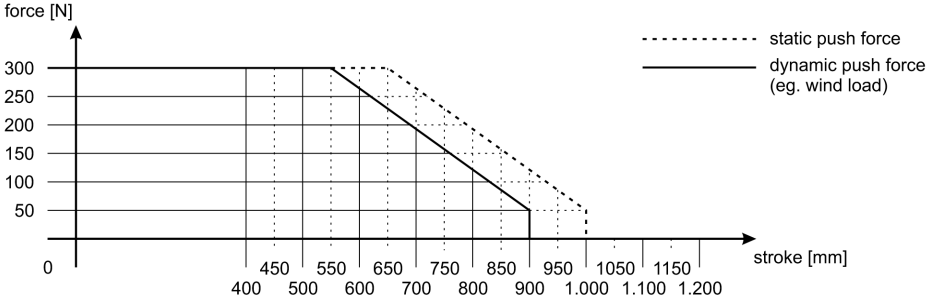


Figure 14: K-K30-FLEX – mounted at the window sash



4.2.7. Permitted push force to the chain

Figure 15



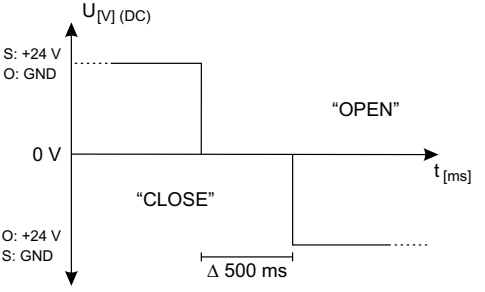
4.3 Zero-Voltage part by direction change

CAUTION

Voltage stability/quality: Allowed are only clear power downs (voltage drop from 24 V (DC) to 0 V in less than 10 ms).

Especially for transition from primary power supply (main operation) to secondary power supply (back-up power supply).

Figure 16



5. Technical data

Electrical characteristics	
Rated voltage	24 VDC
Permissible rated voltage range	24 VDC -15%; +15%
Ripple of rated voltage Vpp	max. 500 mV
Nominal stroke (Maximum current consumption with nominal load)	1.0 A
Maximum rated current in 'OPENING' and 'CLOSING' direction	1.1 A
Protection class	Class III (according to EN 61140)
Volt free contact (NO1, NO2)	
Rated voltage	max. 28 VDC
Relay contact load	1.0 A
Connection and operation	
Pause time during change of direction[1]	min. 500 ms
Switch-on duration	S_2 ED 30% (short-time duty 3 of 10 minutes)
Multiple triggering according to prEN 12101-9	allowed
Multiple triggering after stop	allowed
Installation and environmental conditions	
Rated operating temperature	20 °C
Permissible ambient temperature range	from -5 to 75 °C
Temperature stability (NSHEV)	300 °C
Ingress protection	IP 32
Usage range	Central European environmental conditions ≤ 2000 metres above sea level
Mechanical features	
Nominal compressive force[2]	300 N
Nominal tractive force	300 N
Nominal locking force[3]	≤ 1000 N
Dimensions (w x h[4] x d): – EA-K-30/400-T(-DA) – EA-K-30/600-T(-DA) – EA-K-30/800-T(-DA) – EA-K-30/1000-T(-DA) – EA-K-30/1200-T(-DA)	 467 x 37 x 35 mm 564 x 37 x 35 mm 667 x 37 x 35 mm 764 x 37 x 35 mm 867 x 37 x 35 mm
Weight[5] – EA-K-30/400-T(-DA) – EA-K-30/600-T(-DA) – EA-K-30/800-T(-DA) – EA-K-30/1000-T(-DA) – EA-K-30/1200-T(-DA)	 1.30 kg 1.52 kg 1.80 kg 2.02 kg 2.30 kg

1. It is important that we have a zero-voltage part of 500 ms (see Figure 16 on page 10).
2. Only under optimal conditions up to 600 mm stroke (see chapter 4.2.7. „Permitted push force to the chain“ on page 10).
3. Force can vary depending on type of actuator, bracket, mounting type, window material etc.
4. Plus the amount of the chain exit (7 mm).
5. Specifications without connecting cable and brackets.

6. Appendix

6.1 Manufacturer‘s declaration

CE We hereby declare the conformity of the product with the applicable guidelines. The declaration of conformity can be viewed in the company and will be delivered upon request. This declaration certifies conformity with the directives mentioned, but gives no guarantee of characteristics. This declaration becomes invalid following a change that has been made without our consent.

6.2 EC manufacturer‘s declaration (distributor)

The installer is responsible for the proper mounting or commissioning and the preparation of the declaration of conformity in accordance with the EU directives.

6.3 General Conditions of Business and Terms of Delivery

The currently valid conditions for products and services of the electrical and electronics industry (green delivery terms) apply for deliveries and services, including the supplementary clause “Extended retention of title”. These are published by ZVEI Frankfurt. If you are not familiar with these, we would be happy to send them to you.
The agreements are also available for download at

short.simon-protec.com/agben

Passau is the established legal venue.

6.4 Company addresses

6.4.1. System manufacturer

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