EWELLIX

MAKERS IN MOTION

INSTALLATION, OPERATION AND MAINTENANCE MANUAL

CAXE Limit Switch

1.0 General information

⚠ WARNING

Carefully read these instructions before installing, assembling, using or maintaining the switch. Keep User's Manual near application in which switch is being used.

Important: This installation instruction is a part of the CAXE limit switch and should be kept together with all relevant documentation regarding the application in which it is being used.

The customer should not modify the CAXE limit switch in any way.

Any modification made by non-Ewellix licensed staff will void the warranty and could make the switch unsafe. Ewellix disclaims any and all liability, obligation, or responsibility for any modified product and for any claims, demands or causes of action for damage or for personal injuries resulting from modification and/or use of such product.

If the limit switch has been misused, or altered without prior written authorization, warranty will be void.

⚠ WARNING

- All electrical and mechanical installation/maintenance operations should be carried out by trained and experienced personnel.
- Disconnect the power supply before installation or maintenance.
- Appropriate safety equipment should be known by the service engineer.
- When this equipment is connected to a power supply, make sure that it conforms to the technical specifications in this manual.

1.1 Intended use

The CAXE limit switch system is designed to be used in the following conditions:

- Industrial environment, process industry and domestic applications etc.
- Ambient operating temperature of –20 to +70 °C
- The CAXE limit switch system is designed for actuators that can utilize the specific protection tube mentioned in this user manual.

⚠ DANGER

Indicates a dangerous situation, which will lead to death or serious personal injury, if the precautionary measures are ignored.

⚠ WARNING

Indicates a dangerous situation, which can lead to minor or moderate injury or property damage, if the precautionary measures are ignored.

⚠ CAUTION

Indicates a dangerous situation, which can lead to minor or moderate injury the precautionary measures are ignored.

NOTICE

Indicates information considered important, but not hazard-related (e.g. messages relating to property damage).

NOTE

Emphasizes useful hints and recommendations as well as information for efficient and trouble-free operation.

2.0 CAXE limit switch

The CAXE limit switch system is based on two complementary (NO/ NC) reed switches, mounted on a special protection tube to indicate actuator end positions. Limit switches combined with Ewellix actuator control units or any other PLC make it possible to set the stroke to any desired length.

- Robust in terms of tolerance to vibrations and mechanical shock.
- Front attachment G3 must be selected for use with CAXE.
- It is recommended that the limit switch be placed at least 10 mm from the end stop to avoid mechanical failure.

Table 1

Suitable control units

	Control units				
	CAR 22	CAR 32	CAR 40	CAT 32B	CARN 32
CAXE nn[1)]	●[1)]	●[1)]	●[1)]	●[1)]	●[1)]

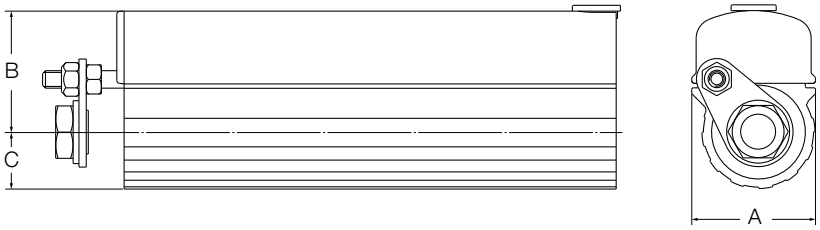
[1)] nn, see the ordering key

3.0 Technical data

	CAXE
Operating voltage	5 to 30 V DC
Max. current	100 mA DC
Protection class	III
Voltage drop	< 5 V
Electrical function	Normally Closed (NC) and Normally Open (NO)
Make/break time	0,3 ms / 0,6 ms
Operating temperature	–20 to +70 °C
Degree of protection	IP 67 (sensor element)
Vibration/shock	According to IEC 60947-5-1 (sensor element)
Cable dimensions (L x D)	2 000 x 3 mm (PUR)
Cable area	3 × 0,14 mm^2

Important! The sensor has no overload protection and no reverse polarity protection.

4.0 Dimensions



	A	B	C
CAXE 22	42,5	37	14
CAXE 32/32B	47,5	40	20
CAXE 40	46	46	23

5.0 Mechanical installation

⚠ CAUTION

Only trained and experienced personnel are allowed to install this equipment.

The CAXE limit switch system is prepared for easy attachment on intended actuators (**see table 1**). For easy installation, prepare the actuator with CAXE limit switches before installing it in its final location.

If the actuator is accessible in an existing installation, the CAXE should be easy to install.

5.1 Content

Each CAXE limit switch unit consists of:

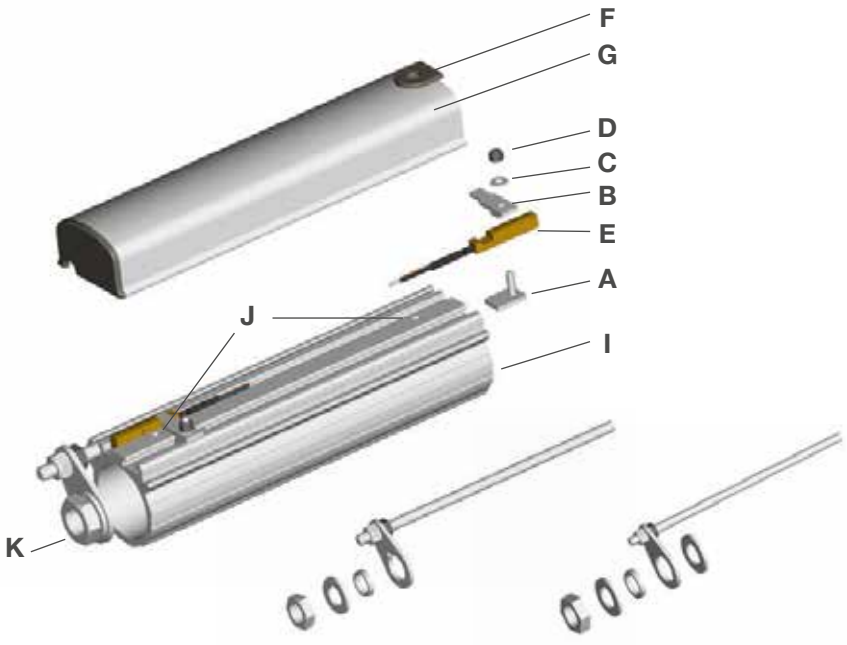
A. 2 pcs Switch attachment (a plate with a screw attached)
B. 2 pcs Locking plate (holding the sensor in place)
C. 2 pcs Washer (stainless steel A2, 6,7 × 3,3 × 0,6 mm)
D. 2 pcs Locking nut (M3, stainless steel A2)
E. 2 pcs Limit switch (sensor element) with cable.
F. Cable grommet
G. Protection shell
H. Plastic plug (end cover)
I. Profile with assembled limit switch rod
J. 2 pcs set of screws (assembled on profile)
K. Nut with Distance and Washer (2 for CAXE 40)

5.2 Installation instructions

NOTICE

The limit switches must be adjusted properly in order to eliminate the risk of running into mechanical end stops. It is recommended that installer allow at least 10 mm from the end stop to avoid mechanical failure due to motor roll-out and reaction time of the control system.

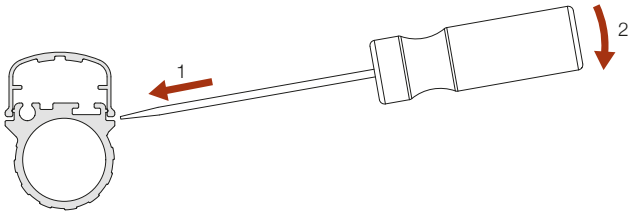
1. Assemble the profile (**I**) onto the actuator, tighten set screws (**J**) and the nut (**K**) on the actuator's front attachment.
2. Place the switch attachment (**A**) inside the T-slot and then the locking plate (**B**), washer (**C**) and locking nut (**D**) for each limit switch.
3. Place the limit switches (**E**) on the protection tube and adjust the positions.
4. Tighten the locking nut (**D**) to secure the limit switch on the protection tube with a maximum torque of 0,6 Nm.
5. Fix the cable grommet (**F**) in its slot on the protection shell (**G**).
6. Pull out the cables through the cable grommet (**F**). Avoid sharp bending radius of the cables (max 15 mm radius)!
7. Assemble the end cover (**H**).
8. Snap the protection shell (**G**) onto the protection tube (**I**).



CAXE 22,32 *CAXE 40*

5.3 Disassembly instructions

In order to open up the CAXE for any necessary service, follow the instructions below:



6.0 Electrical installation

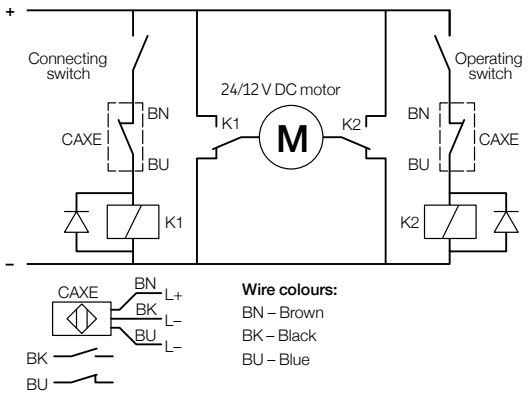
⚠ WARNING

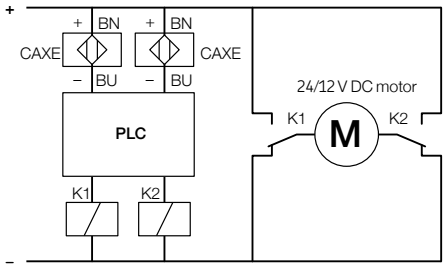
- All electrical and mechanical installation/maintenance operations should be carried out by trained and experienced personnel.
- Disconnect the power supply before installation or maintenance.
- Appropriate safety equipment should be known by the service engineer.
- Make sure that the connected power source fulfils the technical specifications in this manual..
- Never connect the limit switch to an AC supply!

Important: The CAXE limit switch has no overload or reverse polarity protection and must only be used with DC supply voltage.

As an extra precaution, a fast acting fuse with a value of ≤ 0,1 AF could be placed in series with each CAXE. This will protect the limit switches from being damaged by over current.

Connecting diagrams





Important! For DC-supply only

7.0 Powering the CAXE

After the CAXE has been wired according to the example shown in the previous section, the power supply can be turned on.

8.0 Maintenance

Following the maintenance plan shown below is recommended and will help provide safe and reliable operation. If the actuator is used in temperatures below freezing (0 °C), apply a thin layer of lubricant on the switch rod to avoid moisture/ice build-up.

CAXE maintenance plan

Interval	Maintenance work
Monthly	Check for visible damage. Check for damaged cables. Function check of operation.
Annual	Check the electrical connections. Check grease on switch rod (if applicable)

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