



EWELLIX

# EWELLIX Limit Switch

CAXD

User Manual

We pioneer motion

**SCHAEFFLER**



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# 1 About the manual

## 1.1 Information in this user manual

This manual provides important information on how to work with the device safely and efficiently.

The manual is part of the device, must always be kept in the device's direct proximity and should be available for personnel to read at any time. All personnel working with the device must read and understand this manual before starting any work. Strict compliance with all specified safety notes and instructions is a basic requirement for safety at work.

Moreover, the accident prevention guidelines and general safety regulations applicable at the place of use of the device must also be complied with.

## 1.2 Symbols

Safety precautions are identified by symbols and signal words as shown. The signal words indicate the severity of the hazard and the chance it could occur. Follow these safety precautions and act cautiously in order to avoid accidents, personal injury and damage to property.

The warning and hazard symbols are defined in accordance with ANSI Z535.6-2011.

### 1.1 Warning and hazard symbols

#### Signs and descriptions

 <b>DANGER</b>	In case of non-compliance, death or serious injury will occur.
 <b>WARNING</b>	In case of non-compliance, death or serious injury may occur.
 <b>CAUTION</b>	In case of non-compliance, minor or slight injury may occur.
 <b>NOTICE</b>	In case of non-compliance, damage or malfunctions in the product or the adjacent construction may occur.

## 1.3 Signs

The warning, prohibition, and mandatory signs are defined in accordance with DIN EN ISO 7010 or DIN 4844-2.

### 1.2 Warning, prohibition, and mandatory signs

#### Signs and descriptions

	General warning
	Electrical voltage warning
	Observe the manual
	Wear protective gloves
	Wear safety shoes
	Wear eye protection

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**Signs and descriptions**

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Wear ear protection



Wear head protection



General mandatory sign

## 1.4 Availability



A current version of this manual can be found at:

<https://www.schaeffler.de/std/222E>

Ensure that this manual is always complete and legible and is available to all persons engaged in transporting, fitting, dismantling, commissioning, operating, or maintaining the product.

Keep the manual in a safe place for immediate reference.

## 1.5 Legal notices

The information in this manual reflects the status at the time of publication.

Unauthorized modifications to or improper use of the product are not permitted. Schaeffler accepts no liability in these cases.

## 1.6 Images

The images in this manual may be schematic representations and may differ from the delivered device.

## 2 General safety regulations

This section provides an overview of all essential safety aspects for optimum personal protection as well as safe and trouble-free operation. Failure to observe this manual and the safety instructions contained herein may result in significant hazards and potentially lead to serious injury or death.

### 2.1 Intended use

Limit switch CAXD is designed for use in the following applications and under the following conditions:

- Limit switch CAXD is intended only for a DC power supply or battery. Never connect the limit switch to a AC power supply.
- light industrial and household applications, industrial environments, and process industry settings
- ambient temperature during operation:  $-20\text{ °C}$  to  $+50\text{ °C}$
- Limit switch CAXD is designed for use together with actuators featuring a protection tube with a diameter of 33 mm and a magnet.

### 2.2 Qualified personnel

Operator duties:

- Ensure that only qualified and authorized personnel carry out the activities described in these instructions.
- Ensure that personal protective equipment is used.

Qualified personnel meet the following criteria:

- Product knowledge, e.g. by receiving training on how to use the product
- are fully familiar with the contents of this manual and, in particular, with all of the safety instructions
- are familiar with the relevant country-specific regulations

### 2.3 Hazards

#### Danger to life from electric current

Touching live parts poses an immediate danger to life. Damage to insulation or individual components can also pose a danger to life. Therefore, observe the following:

- Work on the electrical system may only be performed by professional electricians.
- Before performing any work on the electrical system, disconnect the machine from the power supply.
- Before maintenance, cleaning, or repair work, disconnect the power supply and secure it against reconnection.

## 3 Scope of delivery

- Limit switch

## 4 Product description

EWELLIX limit switch CAXD is an electronically controlled limit switch based on reed technology. It is mounted on the protection tube to indicate the positions of the actuator. When combined with actuator control units, the limit switch enables the stroke to be set to any desired length.

- A dedicated CAXD limit switch is required for each end position.
- The use of limit switches reduces the effective stroke by 20 mm, and by 25 mm for CALA36. This applies to the retracted position only.
- The limit switch is robust and resistant to vibrations and mechanical shocks

### 3 Suitable linear actuators

Limit switch	Linear actuator		
	CAT33	CAT33H	CALA36A
CAXD	✓	-	✓

✓ suitable

- not suitable

## 5 Mounting

The limit switch is designed for simple attachment to defined actuators ▶8 | 3.

The limit switch is equipped with a screw for adjusting the holding force.

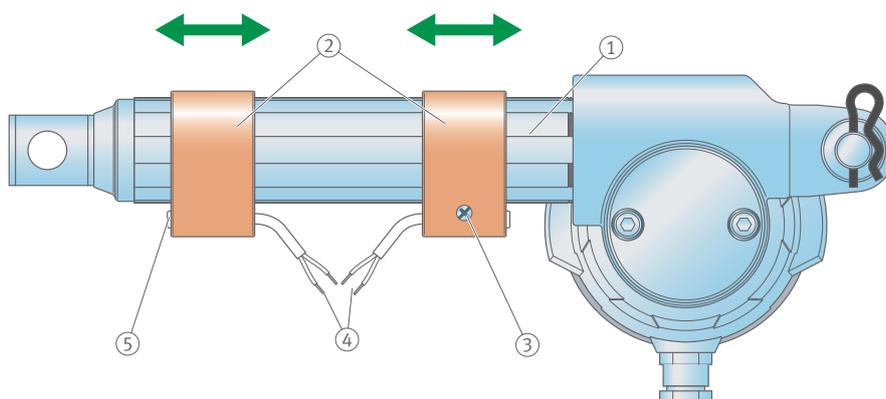
For easy installation, prepare the actuator with the limit switches before installing the actuator at its final location. Installing the limit switch in existing systems is only recommended if the actuator can first be removed.

Any bending of the plastic part is risky and may cause malfunctions or damage to the housing.

The limit switches must be properly adjusted to eliminate the risk of the actuator colliding with the mechanical end stops.

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1 Mounting the limit switches



001D1665

1	Protection tube of linear actuator	2	Limit switch
3	Screw	4	Cable
5	Operating switch		

1. Mount 2 limit switches on the protection tube of the actuator and slide them into the desired position.
2. Ensure that the operating switch is facing outward in each case.
3. Avoid tight bending radius for the limit switch cables.
4. Tighten the screw of each limit switch to 0.5 Nm.

## 6 Installation

Only qualified personnel may start up the system.

Never connect the limit switches to an AC power supply.

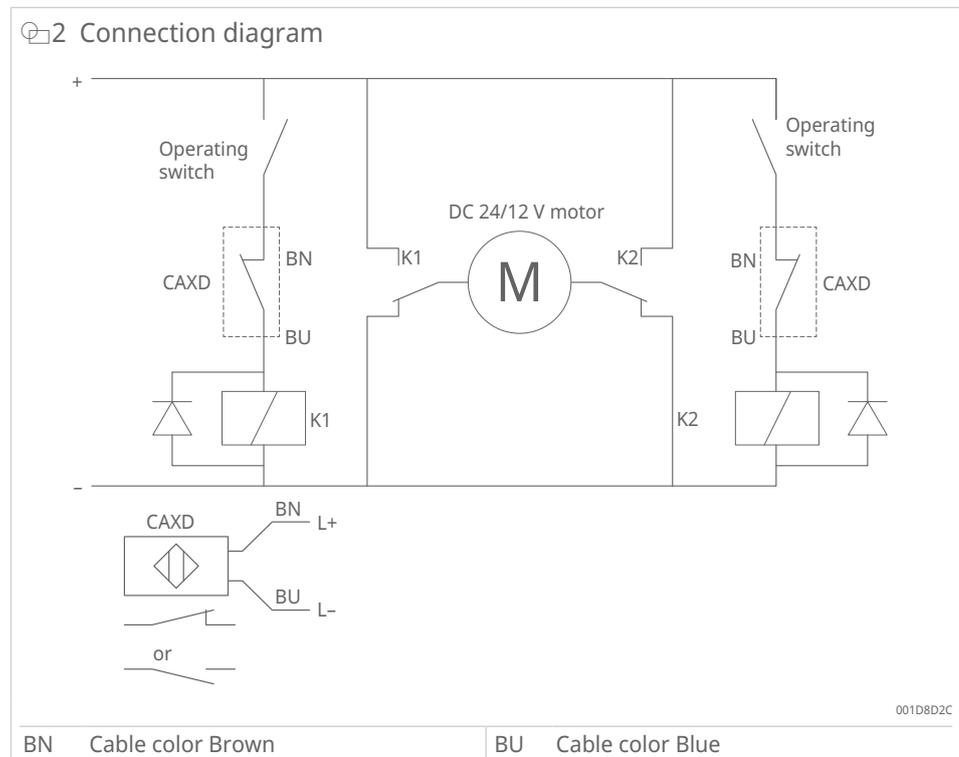


The sensor has no overload protection and no reverse polarity protection.

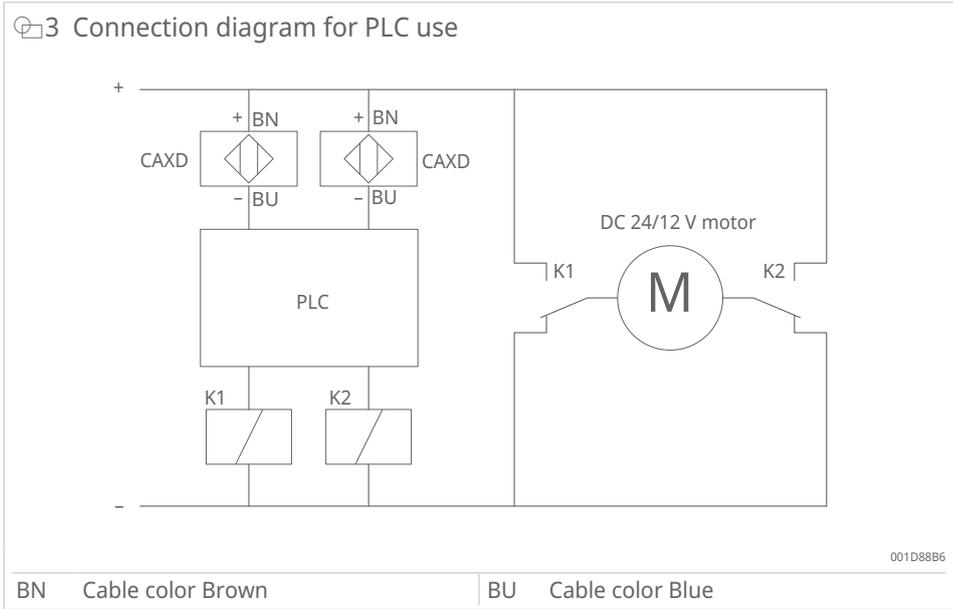
As an additional precautionary measure, a fuse rated  $\leq 0.1$  AF (fast-acting) can be connected in series with each limit switch. This protects the limit switches from damage caused by overcurrent.

1. Use suitable safety equipment.
2. Disconnect the power supply for the actuator before installation.
3. Make sure that the actuator is not under load or voltage.
4. The power supply must comply with the technical specifications ►15 | 10.
5. Connect the limit switch according to the connection diagram.

2 Connection diagram



3 Connection diagram for PLC use



## 7 Operation

- ✓ commissioning completed
- switch on the power supply

## 8 Maintenance

Maintenance work and repairs may only be carried out by qualified personnel.

1. Disconnect the power supply for the actuator before maintenance work and repairs.
2. Make sure that the actuator is not under load or voltage.
3. Use suitable safety equipment.

### DANGER



#### Risk of fatal injury from unauthorized reconnection of the power supply

Risk of fatal injury to persons in the hazard area due to moving parts or electric shock if the power supply is switched on without authorization during work on the system and causes the system to restart.

- Before starting work, switch off the system and secure it against reconnection.

#### 4 Maintenance plan

Activity	Monthly	Annually
Check the device for visible damage	✓	
Check cables for damage and replace them if necessary	✓	
Functional test	✓	
Check electrical connections		✓

## 9 Disposal

If no return or disposal agreement is in place, disassembled components must be recycled.

**CAUTION**



**Incorrect disposal**

Incorrect disposal may cause environmental damage.

- Electronic waste, electronic components, lubricants, and other additives are subject to hazardous waste regulations and may only be disposed of by authorized specialist companies.

Observe the local regulations for disposal.

For information on environmentally sound disposal, contact your local authorities or specialist companies.

1. Dispose of metal and plastic parts at an appropriate recycling facility.
2. Sort remaining components by material and dispose of them in accordance with locally applicable occupational safety and environmental protection regulations.

## 10 Technical data

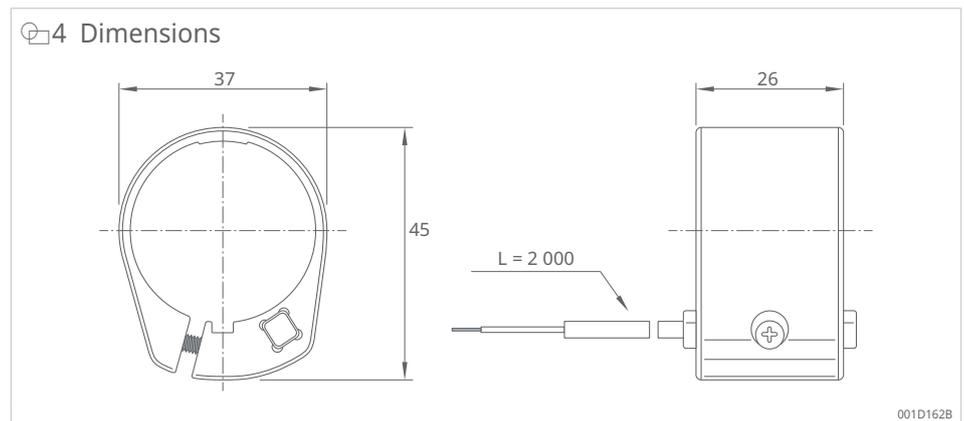
### 5 Technical data, CAXD

Characteristic	Unit	CAXD
Power supply	-	DC
Operating voltage	V	5 ... 30
Current max.	mA	100
Voltage drop	V	< 5
Electrical function	-	NC: normally closed NO: normally open
Response time	ms	0.3
Release time	ms	0.6
Operating temperature	°C	-20 ... +50
Sensor element protection type	-	IP67
Vibration/shock, sensor element	-	According to IEC 90947-5-2
Cable length L	mm	2000
Cable diameter D	mm	3
Cable material	-	PUR
Cable cross-section	mm <sup>2</sup>	2 × 0.14
Housing color	-	Black

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

### 4 Dimensions



001D162B

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