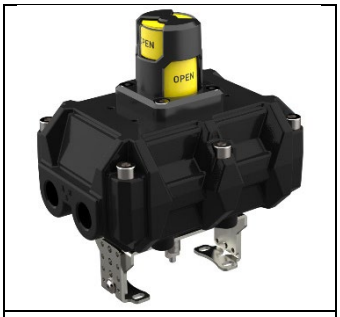
Product group:	Limit switch box nxt-d	**Product type:**	DXA...-D	nxt-d	**EN**
Certifications:	CE Ex IECEx				



DXA...-D

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Thank you for choosing a EUROTEC product. You have chosen a quality product. To ensure functionality and your own safety, please read these operating instructions carefully before beginning with the installation. Nevertheless, should you have any further questions, please contact:

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1. Device description

Limit switch boxes are designed to provide feedback and control for the position of industrial valves operated by pneumatic actuators. The shaft of the limit switch box is directly connected to the actuator shaft, rotating in sync with the actuator's movement. Actuating cams attached to the shaft trigger the installed sensors, enabling electronic signal transmission.
Depending on the model, nxt-d limit switch boxes can be equipped with 1 to 4 mechanical switches, 1 to 4 magnetic reed switches, 1 to 4 inductive proximity switches (V3 design), 1 to 3 slot-type sensors, 1 to 2 cylindrical sensors, 1 dual sensor, 1 potentiometer, or 1 angle sensor. Additionally a AS-i PCB maybe installed.

2. Intended use

The nxt-d limit switch box is designed for use in hazardous areas classified as Zones 1 and 2 for gases, mists, or vapors, as well as Zones 21 and 22 for combustible dust. The device is certified for operation within the following ambient temperature ranges:
T6/T85°C: -55°C... +75°C
T5/T135°C: -55°C... +80°C

The permissible ambient temperature depends on both the type of sealing compound used and the specific switch type installed. Please refer to the appropriate data sheet and the product label to determine the exact ambient temperature range for your device.

Rated voltage: max. 250V / Rated current: max. 10A

If you install intrinsically safe inductive sensors that have their own certification inside the enclosure, use the electrical connection specifications provided by the sensor manufacturer.

3. Marking

The marking on the housing is detailed in the table below and will differ based on the type of switch installed. The number for the designated quality management (QM) office and the device's serial number are located beneath the CE marking. The serial number includes the year of manufacture and the specific order number.

Approval	Certificate	Marking
ATEX/IECEx	EPS 25 ATEX 1 305 X IECEx EPS 25.0068 X	II 2G Ex db IIC T5...T6 Gb II 2G Ex db ia IIIC T5...T6 Gb II 2D Ex tb IIIC T85°C...T100°C Db

Do not use the housing as a step or ladder. Doing so may cause damage to the housing and negatively impact its performance. If the housing becomes damaged, it can allow water, dust, or flammable substances to enter. This may result in a short circuit. Additionally, the accumulation of these materials inside the housing can cause the device to overheat, potentially leading to an explosion.

4. Safe activation

To ensure proper installation and operation, only qualified specialists are authorized to set up, connect, and commission these devices. Specialists must possess expertise in equipment protection methods, including flameproof enclosures (Ex d) and dust ignition protection by enclosure (Ex t), as well as be familiar with all relevant regulations and standards for operating equipment in explosive environments. The limit switch boxes are designed and manufactured in accordance with the following harmonized/designated standards:

EN IEC 60079-0:2018 (IEC 60079-0, Ed. 7.0)
EN 60079-1:2014/AC:2018-09 (IEC 60079-1/ISH1:2020, Ed. 7.0)
EN 60079-31:2014 (IEC 60079-31, Ed. 3.0)
EN 60079-11:2012 (IEC 60079-11, Ed. 6.0)

It is imperative to observe the following safety instructions prior to initial operation:

Failure to observe the safety instructions in these operating instructions and using or handling the device improperly, releases us from any liability.
Furthermore, the warranty for the devices and accessory components will expire.

- Verify on the device label that the installed unit is suitable for your intended application.
- Comply with all national regulations, relevant provisions, and applicable installation standards.
- Implement measures to prevent accidental activation or unauthorized interference with the device.
- Remove existing sealing plugs only immediately before inserting the wires to prevent contamination inside the housing.
- Ensure that connecting cables are properly secured and provide adequate strain relief.
- Check the permitted conductor cross-sections and tightening torques in the cable connection documentation before installation.
- Protect devices and cables from mechanical damage at all times.
- Prevent static charging of cables during installation and operation.
- Integrate all metal housing components into the equipotential bonding system using proper installation methods.
- Operate this device only when it is fully assembled.
- Never disconnect connector cables while they are energized.

5. Assembly on actuators

You can quickly and easily mount the switch box onto the actuator using mounting brackets in accordance with VDI/VDE 3845.

1. Set the actuator to its end position so that the groove of the actuator shaft is aligned parallel to the actuator housing.
2. Position the switch box with the correct mounting bracket onto the actuator.
3. Secure the mounting bracket to the actuator using the four supplied lock screws. Tighten all screws firmly.
4. Loosen the grub screw located on the side of the cover, then remove the cover to open the housing.
5. Select an appropriate Ex d cable gland as specified in the device documentation. Before installation, apply a suitable lubricant to the cable gland thread to facilitate easy installation and future removal. Install the cable gland by screwing it into one of the available cable entries. The device supports either 2 or 4 M20x1.5 or 2 or 4 NPT1/2 cable entries. Ensure the cable gland is securely tightened and properly sealed to maintain the required explosion protection.
6. Seal all unused threaded entries with appropriate Ex d sealing plugs.
7. Feed the system cable through the cable gland into the housing. Connect each wire to the terminal block, following the data sheet and operating instructions for the Ex d cable gland. Refer to the terminal diagram on the data sheet or the housing cover, and connect the housing to the equipotential bonding system.
8. Close the housing by reinstalling the cover. After the cover is secured, firmly tighten the grub screw on the side of the housing.

6. Assembly on manual valves

The boxes can also be mounted on manually operated valves using the F05 connection on the bottom of the housing and our "MSH" mounting kit. It is essential that your manual valve is equipped with a top flange according to ISO 5211 and a threaded hole in the shaft. For detailed installation instructions, please refer to the "MSH" operating manual.

7. Electrical connection

The permitted cable diameter for the Ex d cable gland is specified in the relevant data sheet. For wiring instructions, refer to the terminal diagram located inside the housing or consult the corresponding data sheet for the limit switch box.

Standard terminals:

Terminal block	Producer	Wire diameter	Tightening torque	Stripping length	Color
AK100...	PTR	single-wire: 0,2 - 4,0 mm² fine-wire: 0,2 - 2,5 mm² with ferrule: 0,2 – 2,5 mm²	max. 0,45 – 0,50 Nm	7 mm	black

If you have installed a different terminal inside the enclosure, please refer to the relevant terminal's data sheet for the connection specifications.

Cable glands:
Use only Ex d cable glands that meet or exceed the enclosure's specifications, including IP protection rating, ambient temperature range, explosion protection class, thread type, and size. Ensure the cable gland material is compatible with the housing material. Before installation, lubricate cable glands to allow for smooth screwing in and removal. Cable glands must provide at least IP66 and IP67 protection. Acceptable thread types are M20x1.5 or NPT 1/2". The allowable ambient temperature for the device can be found on the product label. All unused openings must be sealed using certified blanking plugs.

8. Disassembly

Please make sure to follow all safety instructions outlined in Chapter 4 during disassembly.

1. Disconnect the device from all power sources to ensure it is de-energized.
2. Open the housing cover by loosening the six M8x35 cover screws.
3. Disconnect the system cables from the terminal strip inside the limit switch box.
4. Loosen the four screws securing the box bracket to the actuator, then remove the limit switch box from the actuator.

9. Adjusting the swivel range

The actuators are preset at the factory for an operating range of 0–90°. If your application requires a different operating range, please follow these steps:

1. Rectangular V3 Switches and Slot Initiators

1. Move the actuator to the desired end position 1. Press the actuator down on the outer ring and rotate it to the position where the switch is activated. Release the actuator so that it locks back into the detent. (See Fig. 1)
2. Move the actuator to the desired end position 2 and repeat the steps above.
3. Finally, verify your preset by switching the rotary actuator back and forth several times.

Fig. 1: Adjusting the Actuator

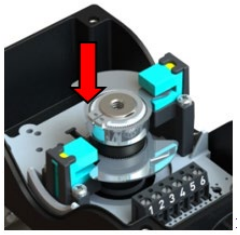

Fig. 2: Slot Actuator

2. Cylindrical Sensors:

1. Loosen the M6 nut and remove the upper actuator flag. (See Fig. 3)
2. Loosen the threaded rod, move the actuator to the desired end position 1, and adjust the lower actuator flag. Then retighten the threaded rod. (See Fig. 4)
3. Move the actuator to the desired end position 2, adjust the upper actuator flag, and secure it again with the nut. (See Fig. 5)
4. Finally, check your presetting by switching the rotary actuator back and forth several times.

Fig. 3: Loosen nut

Fig. 4: Secure actuator 1

Fig. 5: Secure actuator 2

When switching, there is a risk of body parts being pinched between the sensor and the actuator. Always maintain a safe distance from the hazard zone while switching.
Caution: Incorrect presetting can cause the actuator flags to damage the sensor. Make sure that there is no contact with the sensor during switching.

10. Connecting solenoid coils

Depending on the model, the d-box limit switch boxes allow you to connect up to two solenoid coils. These connections can be made using one of the following protection types: Ex m, Ex dm, or Ex d.

11. Outdoor use

If you intend to use the limit switch boxes outdoors, make sure the box is equipped with an Ex d pressure equalization element. This element must comply with the specifications in the type examination certificate for the nxt-d model (IP protection rating, ambient temperature, explosion protection class, thread type and size, volume, and pressure). The pressure equalization element prevents condensation from forming inside the housing due to external temperature fluctuations. We offer pressure equalization elements in nickel-plated brass and A4 stainless steel.

12. Maintenance

Limit switch boxes intended for use in ATEX zones must never be opened while in operation or when an explosive atmosphere is present. Opening the enclosure under these conditions may trigger an explosion. Therefore, maintenance work may only be performed outside the hazardous area.

13. Malfunctions

If a malfunction occurs, check the wiring, wire connections, and cam position. Also inspect the enclosure for any accumulated condensation and ensure that both the actuator and the rotary drive are operating properly. Correct any faults found. If the issue persists after these steps, disconnect the enclosure from the power supply and contact authorized and trained personnel from the manufacturer.

14. Item number

Refer to the order code for the d-box when selecting or specifying your limit switch box. Ensure that you use the correct order code to match your required model, housing material, sensor type, and protection specifications. For further details on available configurations and accessories, consult the manufacturer's documentation and product catalog.

15. EU-Declaration of Conformity

EU-Declaration of Conformity
according to the Directive 2014/34/EU

We herewith confirm that the following-named equipment for the use in hazardous areas does fulfill the requirements of the Directive 2014/34/EU in the delivered version:

DXA...-D...	d-box limit switch box. Housing aluminum
DXA...-IA-D...	d-box limit switch box. Housing aluminum with intrinsically safe sensors

The equipment has been developed and designed in consideration of the following harmonized/designated standards:

EN IEC 60079-0:2018 IEC 60079-0, Ed. 7.0	Explosive atmospheres - Part 0: Equipment - General requirements
EN 60079-1:2014/AC:2018-0 IEC 60079-1/ISH:2020, Ed. 7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures „d"
EN 60079-31:2014 IEC 60079-31, Ed. 3.0	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
EN 60079-11:2012 IEC 60079-11, Ed. 7.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

Marking: **II 2G Ex db IIC T5...T6 Gb**
II 2G Ex db ia IIC T5...T6 Gb
II 2D Ex tb IIIC T85°C...T100°C Db

EU-Type Examination Certificate: **EPS 25 ATEX 1 305 X**
Bureau Veritas Consumer Products Services Germany GmbH
Businesspark A96, DE-86842 Türkheim
Ident.-No.: 2004 / 8507

EU-Certificate Quality Assurance: **EPS 25 ATEX Q 116**
Bureau Veritas Consumer Products Services Germany GmbH
Businesspark A96, DE-86842 Türkheim
Ident.-No.: 2004 / 8507

22.01.2026
Date

General Manager: Melissa Berge