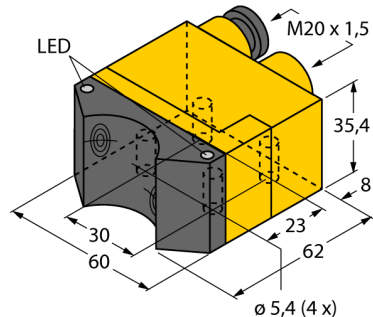


Inductive dual sensor For rotary actuators NI4-DSU35TC-2AP4X2/ 3GD

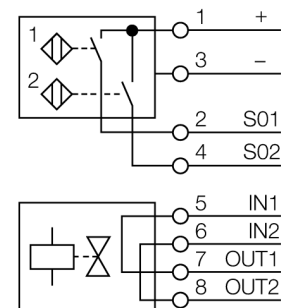
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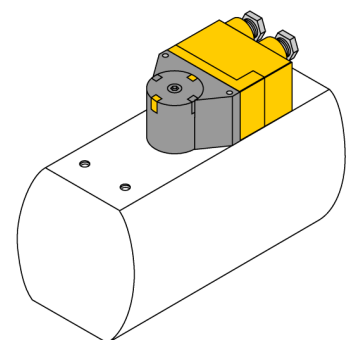
- ATEX category II 3 G, Ex zone 2
- ATEX category II 3 D, Ex zone 22
- Rectangular, housing DSU35
- Plastic, PP-GF30-VO
- Two outputs for monitoring the position of rotary actuators
- Mounting on all standard actuators
- 2 × NO contact, PNP output
- DC 4-wire, 10...65 VDC
- Terminal chamber

Wiring Diagram



Functional principle

Inductive sensors detect metal objects contactless and wear-free. Dual sensors are especially designed for position detection in rotary actuators. They combine the reliability of non-contact inductive sensors with the flexibility of a modular housing system.



Type designation	NI4-DSU35TC-2AP4X2/ 3GD
Ident no.	1569911
Rated switching distance Sn	4 mm
Mounting conditions	Non-flush
Correction factors	St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4
Repeat accuracy	≤ 2 % of full scale
Temperature drift	≤ ± 10 %
Hysteresis	3...15 %
Ambient temperature	-25...+70 °C
Operating voltage	10...65 VDC
Residual ripple	≤ 10 % U _{ss}
DC rated operational current	≤ 200 mA
No-load current I₀	≤ 15 mA
Residual current	≤ 0.1 mA
Isolation test voltage	≤ 0.5 kV
Short-circuit protection	yes/ Cyclic
Voltage drop at I₀	≤ 1.8 V
Wire breakage/Reverse polarity protection	yes/ Complete
Output function	4-wire, NO contact, PNP
Valve control	≤ 60 V / ≤ 20W
Switching frequency	0.05 kHz
Approval acc. to	ATEX test certificate TURCK Ex-03020H X
Design	Dual sensor for valve monitoring, DSU35
Dimensions	62 x 60 x 35.4 mm
Housing material	Plastic, PP-GF30, Yellow
Active area material	Plastic, PP-GF30, black
Electrical connection	Terminal chamber
Clamping ability	≤ 2.5 mm ²
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
MTTF	2283 years acc. to SN 29500 (Ed. 99) 40 °C
Switching state	LED yellow / red
Included in delivery	2 ATEX cable glands (black), 2 blanking plugs for cable glands, 1 M20x1 blanking plug

**Inductive dual sensor
For rotary actuators
NI4-DSU35TC-2AP4X2/ 3GD**

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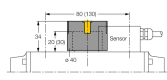
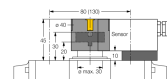
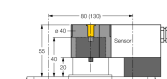
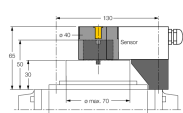
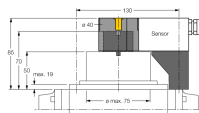
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**Inductive dual sensor
For rotary actuators
NI4-DSU35TC-2AP4X2/ 3GD**

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Accessories

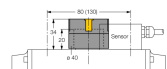
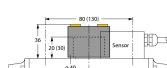
Type code	Ident no.	Description	
BTS-DSU35-EB1	6900225	Actuation kit (puck) for dual sensors; end position damped; hole pattern on flange surface 80 x 30 mm and 130 x 30 mm; connection shaft (shaft extension) height 20 mm / Ø max. 30 mm	
BTS-DSU35-Z01	6900229	Mounting kit dual sensors, for larger rotary actuators: Spacer plate and snap ring max. Ø 65 mm; hole pattern on flange surface 30 x 80 mm (30 x 130 mm); connection shaft (shaft extension) height 30 mm / Ø max. 30 mm	
BTS-DSU35-Z02	6900230	Mounting kit dual sensors, for larger rotary actuators: Ø disc and snap ring max. 65 mm; hole pattern on flange surface 30 x 80 mm (30 x 130 mm); connection shaft (shaft extension) height 20 (30) mm / Ø max. 40 mm	
BTS-DSU35-Z03	6900231	Mounting kit dual sensors, for larger rotary actuators: Ø disc and snap ring max. 110 mm; hole pattern on flange surface 30 x 130 mm; connection shaft (shaft extension) height 30 mm / Ø max. 70 mm	
BTS-DSU35-Z07	6900403	Mounting kit dual sensors, for larger rotary actuators: Ø disc and snap ring max. 110 mm; hole pattern on flange surface 30 x 130 mm; connection shaft (shaft extension) height 50 mm / Ø max. 75 mm	

**Inductive dual sensor
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Accessories

Type code	Ident no.	Description	
BTS-DSU35-EBE3	6901070	Actuation kit (puck) for dual sensors; end position damped; "open" and "closed" switchpoint adjustable; hole pattern on flange surface 80 x 30 mm and 130 x 30 mm; connection shaft (shaft extension) height 20 / Ø max. 30 mm	
BTS-DSU35-EU2	6900455	Actuation kit (puck) for dual sensors; end position undamped for clockwise and counter-clockwise drives; hole pattern on flange surface 80 x 30 mm and 130 x 30 mm; connection shaft (shaft stud) height 20 (30) mm / Ø max. 30 mm	

Inductive dual sensor For rotary actuators NI4-DSU35TC-2AP4X2/ 3GD

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Operating manual

Intended use

This device fulfills the directive 2014/34/EC and is suited for use in explosion hazardous areas acc. to EN60079-0:2012/A11:2013, EN60079-15:2010 and EN60079-31:2014.

In order to ensure correct operation to the intended purpose it is required to observe the national regulations and directives.

For use in explosion hazardous areas conform to classification

II 3 G and II 3 D (Group II, Category 3 G, electrical equipment for gaseous atmospheres and category 3 D, electrical equipment for dust atmospheres).

Marking (see device or technical data sheet)

Ⓔ II 3 G Ex nA IIC T5 Gc Ⓔ II 3 D Ex tc IIIC T100 °C Dc acc. to EN60079-0:2012/A11:2013, EN60079-15:2010 and EN60079-31:2014

Local admissible ambient temperature

-25...+70 °C

Installation / Commissioning

These devices may only be installed, connected and operated by trained and qualified staff. Qualified staff must have knowledge of protection classes, directives and regulations concerning electrical equipment designed for use in explosion hazardous areas.

Please verify that the classification and the marking on the device comply with the actual application conditions.

Installation and mounting instructions

Avoid static charging of cables and plastic devices. Please only clean the device with a damp cloth. Do not install the device in a dust flow and avoid build-up of dust deposits on the device.

If the devices and the cable could be subject to mechanical damage, they must be protected accordingly. They must also be shielded against strong electro-magnetic fields.

The pin configuration and the electrical specifications can be taken from the device marking or the technical data sheet.

In order to avoid contamination of the device, please remove possible blanking plugs of the cable glands or connectors only shortly before inserting the cable or opening the cable socket.

Um die Schutzart aufrecht zu erhalten, müssen Gehäuseabdeckungen während des Betriebs stets vollständig verschlossen bleiben.

Special conditions for safe operation

Devices with terminal chamber (cable glands) have a weaker strain relief. Sufficient strain relief must be ensured or the cable must be stationary-mounted.

The terminal chamber has to be closed correctly after working on the device. Dust congeries inside the housing is to be avoided.

Do not disconnect the plug-in connection or cable under voltage.

Cables and cable intakes that are not used must be sealed with the delivered blank plug.

The device must be protected against any kind of mechanical damage and degrading UV-radiation. When installed in a TURCK protective housing type SG-DSU35TC or SG-DSU35V this requirement is fulfilled.

Load voltage and operating voltage of this equipment must be supplied from power supplies with safe isolation (IEC 30 364/UL508), to ensure that the rated voltage of the equipment (24 VDC +10% = 26.4 VDC) is never exceeded by more than 40%.

service / maintenance

Repairs are not possible. The approval expires if the device is repaired or modified by a person other than the manufacturer. The most important data from the approval are listed.