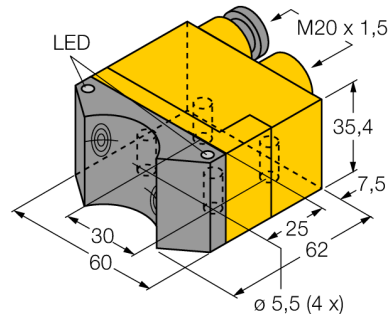


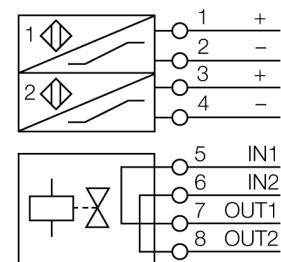
**Inductive  
dual sensor for rotary actuators  
NI4-DSU35TC-2RY1X2**



- ATEX category II 2 G, Ex zone 1
- ATEX category II 1 D, Ex zone 20
- Rectangular, housing DSU35
- Plastic, PP-GF30-VO
- Two outputs for monitoring the position of rotary actuators
- Mounting on all standard actuators
- For connection to a FOUNDATION™ fieldbus or PROFIBUS-PA valve station
- DC 2-wire, nom. 8.2 VDC
- 2 x outputs according to DIN EN 60947-5-6 (NAMUR)
- Output with square-wave signal
- NC contact
- Terminal chamber, M12 x 1

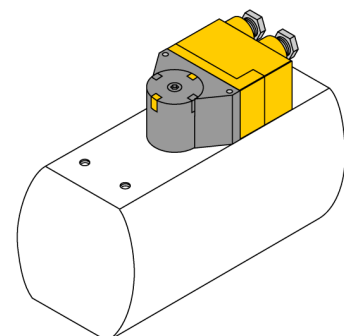
<b>Type code</b>	NI4-DSU35TC-2RY1X2
Ident no.	1051014
<b>Rated operating distance Sn</b>	4 mm
Mounting condition	non-flush
Correction factors	St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4
Repeatability	≤ 2 % of full scale
Temperaturdrift	10 %
Hysteresis	1...10 %
Ambient temperature	-25...+70 °C
<b>Output function</b>	4-wire, NAMUR
Valve control	Exi (max. 45 V)
Switching frequency	0.05 kHz
Readiness delay	≤ 1 ms
Voltage	Nom. 8.2 VDC
Non-actuated current consumption	≥ 2.1 mA
Actuated current consumption	≤ 1.2 mA
<b>Approval acc. to</b>	KEMA 04 ATEX 1152 X
Internal capacitance (C.) / inductance (L.)	180 nF / 350 µH
Device designation	Ex II 2 G Ex ia IIC T6 Gb/II 1 D Ex ia IIIC IP67 T95 °C (max. U <sub>i</sub> = 20 V, I <sub>i</sub> = 60 mA, P <sub>i</sub> = 200 mW) avoid static charging
Warning	
<b>Design</b>	dual sensor for valve monitoring, DSU35
Dimensions	62x 60x 35 mm
Housing material	Plastic, PP, yellow
Material active face	Plastic, PP, Black
Connection	Terminal chamber
Clamping ability	≤ 2.5 mm <sup>2</sup>
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
<b>Switching state</b>	●● yellow / red
Included in scope of supply	2 cable glands (blue), 1 blanking plug

**Wiring diagram**



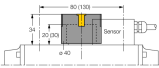
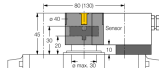
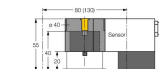
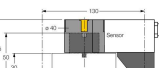
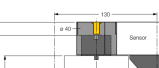
**Functional principle**

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.



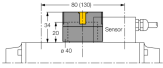
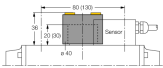
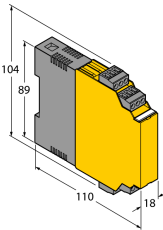
**Inductive  
dual sensor for rotary actuators  
NI4-DSU35TC-2RY1X2**

**Accessories**

Type code	Ident no.	Description	Dimension drawing
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 for rotary actuators  
NI4-DSU35TC-2RY1X2**

**Accessories**

Type code	Ident no.	Description	Dimension drawing
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	
IM1-22EX-R	7541231	Isolating switching amplifier, dual-channel; 2 relay outputs NO; input NAMUR signal; selectable ON/OFF mode for wire-break and short-circuit monitoring; adjustable signal flow (NO/ NC mode); removable terminal blocks; 18 mm width; universal voltage supply unit	

## **Inductive dual sensor for rotary actuators NI4-DSU35TC-2RY1X2**

### **Operating manual**

#### **Intended use**

This device fulfills the directive 94/9/EC and is suited for use in explosion hazardous areas according to EN60079-0:2009, -11:2012, -26:2007. 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 2 G and II 1 D (Group II, Category 2 G, electrical equipment for gaseous atmospheres and category 1 D, electrical equipment for dust atmospheres).

#### **Marking (see device or technical data sheet)**

Ex II 2 G and Ex ia IIC T6 Gb acc. to EN60079-0 and -26 and Ex II 1 D Ex ia IIIC IP67 T95 °C acc. to EN60079-0

#### **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.

This device is only suited for connection to approved Exi circuits compliant to EN60079-0 and -11. Please observe the maximum admissible electrical values.

After connection to other circuits the sensor may no longer be used in Exi installations. When interconnected to (associated) electrical equipment, it is required to perform the "Proof of intrinsic safety" (EN60079-14).

#### **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.

#### **Special conditions for safe operation**

The device must be protected against any kind of mechanical damage, avoid static charging.

#### **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.