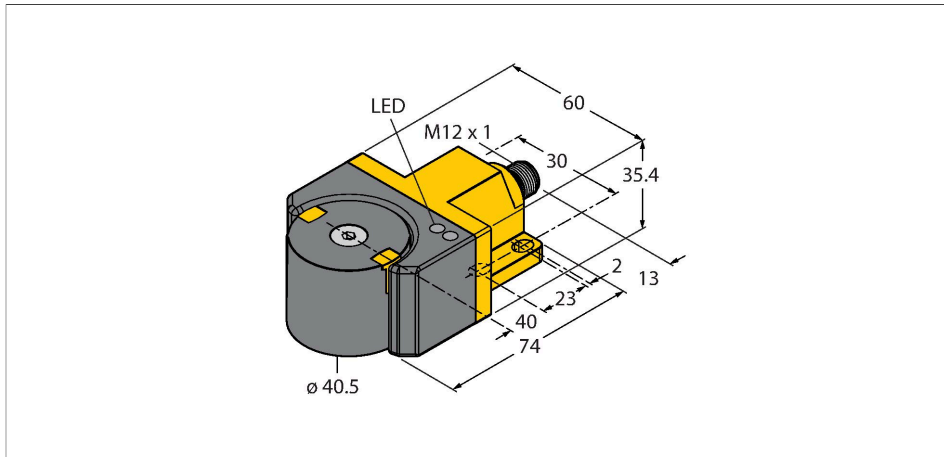


RI360P1-DSU35-ELIU5X2-H1151

Inductive Angle Sensor – With Analog Output

Premium Line



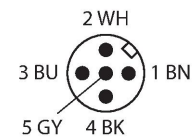
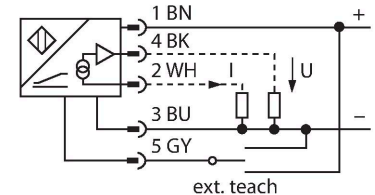
Features

- Rectangular, housing DSU35
- Plastic, PP-GF30-VO
- Detecting angular positions of 0° to 360°
- P1-Ri-DSU35 positioning element included in delivery
- Measuring range displayed via LED
- Programmable measuring range
- Immune to electromagnetic interference
- Resolution, 12-bit
- 15...30 VDC
- 0...10 V and 4...20 mA
- Male M12 x 1, 5-pin

Technical data

Type	RI360P1-DSU35-ELIU5X2-H1151
ID	1590866
Measuring principle	Inductive
General data	
Resolution	0.09°
Measuring range	0...360°
Nominal distance	1 mm
Mounting conditions	Non-flush
Repeat accuracy	≤ 0.025 % of full scale
Linearity deviation	≤ 1 % f.s.
Temperature drift	≤ ± 0.02 %/K
Output type	Absolute singleturn
Electrical data	
Operating voltage U_B	15...30 VDC
Ripple U_{rs}	≤ 10 % U_{Bmax}
Isolation test voltage	0.5 kV
Short-circuit protection	yes
Wire break/reverse polarity protection	yes/yes (voltage supply)
Output function	5-pin, Analog output
Voltage output	0...10 V
Current output	4...20 mA
Load resistance voltage output	≥ 4.7 kΩ
Load resistance current output	≤ 0.4 kΩ

Wiring diagram

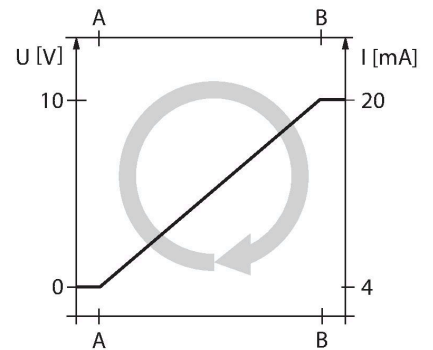


Functional principle

Inductive measuring principle provides more safety. Based on the functional principle of RLC coupling, the sensor operates absolutely wear-free and is immune to magnetized metal splinters and other interference fields. Owing to the differential analysis, the output signal remains almost unchanged, even if the position of the positioning element deviates from the ideal axis of rotation.

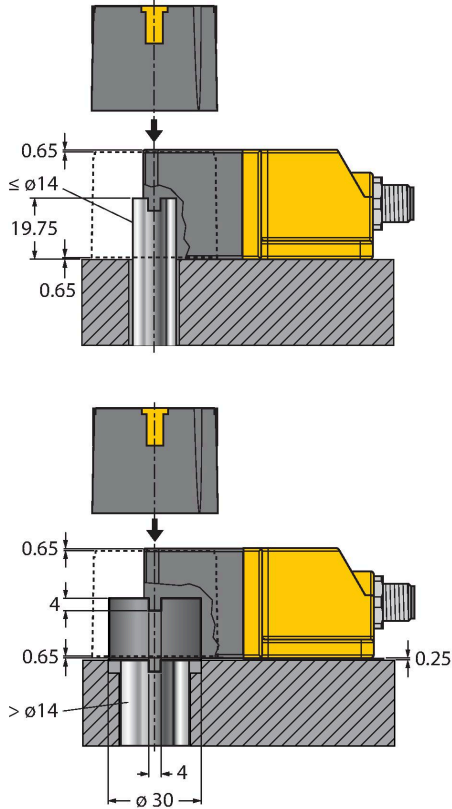
Technical data

Sample rate	500 Hz
Current consumption	< 50 mA
Mechanical data	
Design	Dual sensor for valve monitoring, DSU35
Dimensions	74 x 60 x 35.4 mm
Flange type	Flange without mounting element
Housing material	Plastic, PP-GF30
Housing material, positioning element	plastic, PA66 + PA6I/6T-GF40
Electrical connection	Connector, M12 × 1
Environmental conditions	
Ambient temperature	-25...+75 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP68 IP69K
MTTF	138 years acc. to SN 29500 (Ed. 99) 40 °C
Power-on indication	LED, Green
Measuring range display	multifunction LED, green
Included in delivery	Positioning element P1-Ri-DSU35, countersunk screw M6 × 25, 2 cylinder screws M5 × 12, 2 lock washers A5



Mounting instructions

Mounting instructions/Description



Ri-DSU35 for mounting on rotary actuators
 The Ri-DSU35 angle sensor and the well-established Ni4-DSU35 inductive dual sensor are identical in construction. The user also profits from the enormous mounting flexibility of the device. The sensor can be mounted on all standard rotary actuators with a shaft diameter of max. 14 mm thanks to an extensive range of available accessories. For larger shaft diameters use the BTS-DSU35-Z02 accessories.

LED function

Operating voltage

Green: Power on

Measuring range

Green: Positioning element is in the measuring range

Green flashing: Positioning element is in the measuring range, signal low (e.g. distance too large)

LED OFF: Positioning element is outside the detection range

Individual (teaching with positioning element)

Bridge pin between teach input Pin 5 (GY)	Gnd Pin 3 (BU)	Ub Pin 1 (BN)	LED
2 s	start value	end value	status LED flashes then turns steady after 2 s
10 s	CCW rotation, then return to last preset value	CW rotation, then return to last preset value	after 10 s status LED flashes fast for 2 s
15 s	-	default setting (360°, CW)	after 15 s power and status LED alternate

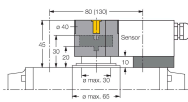
Preset – Mode (teaching without positioning element)

Bridge pin between teach input Pin 5 (GY)	Gnd Pin 3 (BU)	Ub Pin 1 (BN)	LED
2 s	activate preset mode	activate preset mode	status LED steady, flashes after 2 s
10 s	CCW rotation, then return to last preset value	CW rotation, then return to last preset value	after 10 s status LED flashes fast for 2 s
15 s	-	default setting (360°, CW)	after 15 s power and status LED alternate
Angular range	Gnd Pin 3 (BU)	Ub Pin 1 (BN)	Status LED
30°	press once	-	1 x flashing
45°	press twice	-	2 x flashing
60°	press three times	-	3 x flashing
90°	-	press once	1 x flashing
180°	-	press twice	2 x flashing
270°	-	press three times	3 x flashing
360°	-	press four times	4 x flashing

Accessories

BTS-DSU35-Z01

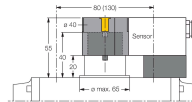
6900229



Mounting kit for dual sensors for larger rotary actuators; Ø spacer plate and snap ring: max. 65 mm; hole pattern on receptacle surface: 30 x 80 mm (30 x 130 mm); connection shaft (shaft extension) height: 20 mm/Ø: max. 30 mm

BTS-DSU35-Z02

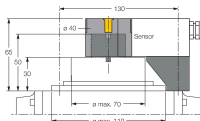
6900230



Mounting kit for dual sensors for larger rotary actuators; Ø spacer plate and snap ring: max. 65 mm; hole pattern on receptacle surface: 30 x 80 mm (30 x 130 mm); connection shaft (shaft extension) height: 20 mm (30 mm)/Ø: max. 40 mm

BTS-DSU35-Z03

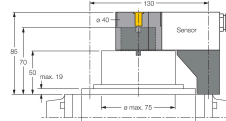
6900231



Mounting kit for dual sensors for larger rotary actuators; Ø spacer plate and snap ring: max. 110 mm; hole pattern on receptacle surface: 30 x 130 mm; connection shaft (shaft extension) height: 30 mm/Ø: max. 70 mm

BTS-DSU35-Z07

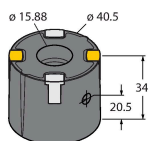
6900403



Mounting kit for dual sensors for larger rotary actuators; Ø spacer plate and snap ring: max. 110 mm; hole pattern on receptacle surface: 30 x 130 mm; connection shaft (shaft extension) height: 50 mm/Ø: max. 75 mm

P4-RI-DSU35

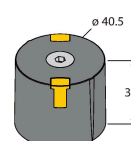
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• Mounting on shaft extension 5/8" using set screw

P1-RI-DSU35

6901086



Positioning element for angle sensors RI-DSU35• Mounted via M6 x 25 countersunk screw