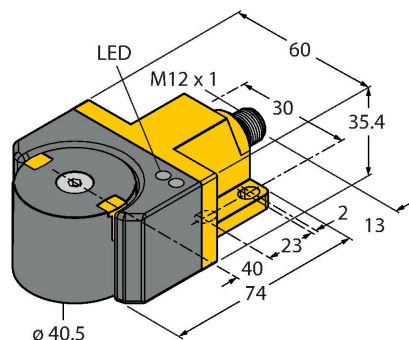


RI360P1-DSU35-ELIU5X2-H1151

Inductive Angle Sensor – With Analog Output

Premium Line



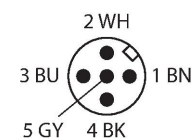
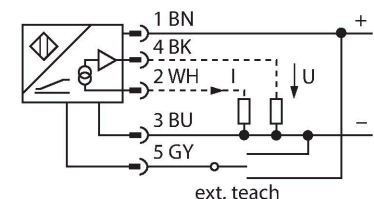
Features

- 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

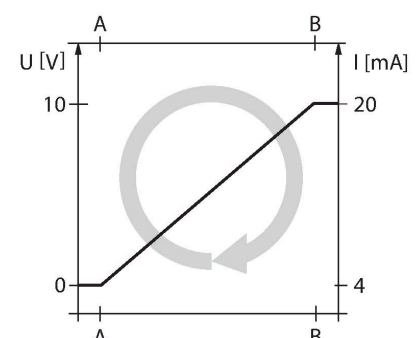
Type	RI360P1-DSU35-ELIU5X2-H1151
ID	1590866
Measuring principle	Inductive
General data	
Resolution	0.09°
Measuring range	0...360 °
Nominal distance	1 mm
Mounting conditions	Non-flush
Repeat accuracy	≤ 0.025 % of full scale
Linearity deviation	≤ 1 % f.s.
Temperature drift	≤ ± 0.02 %/K
Output type	Absolute singleturn
Electrical data	
Operating voltage U_B	15...30 VDC
Ripple U_{ss}	≤ 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
Sample rate	500 Hz
Current consumption	< 50 mA

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.

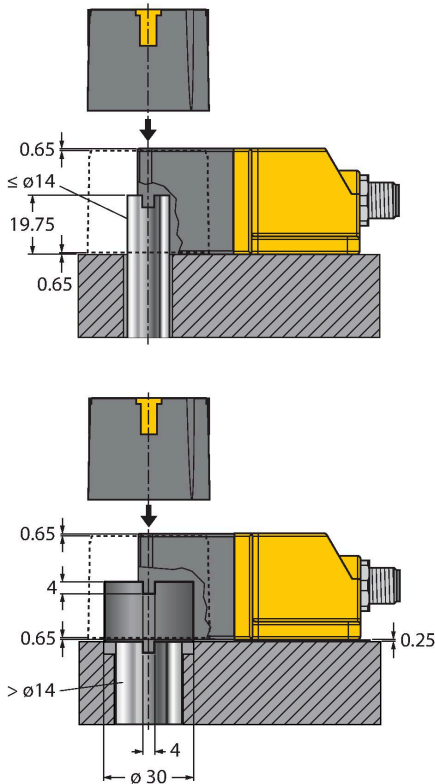


Technical data

Mechanical data	
Design	Dual sensor for rotary actuators, 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

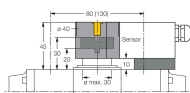
Preset – Mode (teaching without positioning element)

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

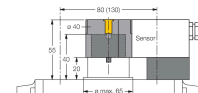
6900229



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

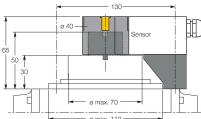
6900230



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

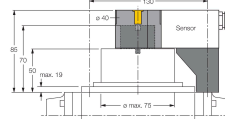
6900231



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

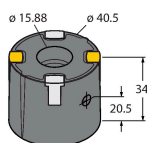


Mounting kit for dual sensors for larger rotary actuators; Ø spacer plate and snap ring: max. 110 mm; hole pattern on receptacle surface: 30 x 130 mm; connection shaft (shaft extension) height: 50 mm/Ø: max. 75 mm

P4-RI-DSU35

100002204

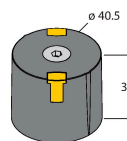
- Mounting on shaft extension 5/8" using set screw



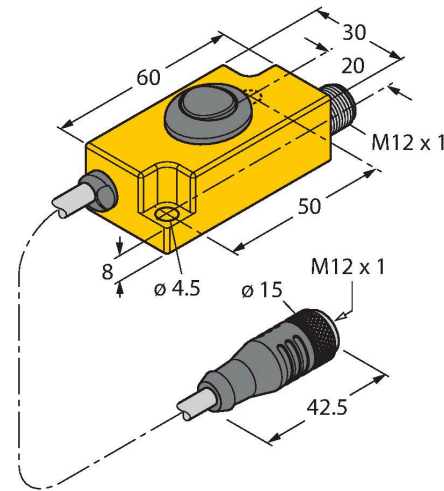
P1-RI-DSU35

6901086

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



Accessories

Dimension drawing	Type	ID	
	TX1-Q20L60	6967114	Teach adapter for inductive encoders, linear position, angle, ultrasonic and capacitive sensors