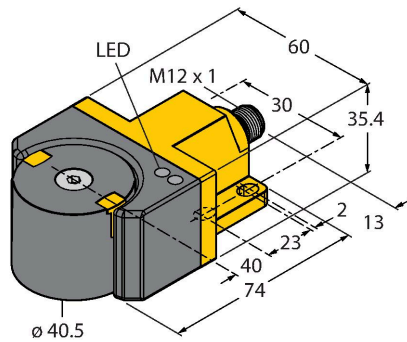


RI360P1-DSU35-ELIU5X2-H1151

Inductive Angle Sensor – With Analog Output

Premium Line



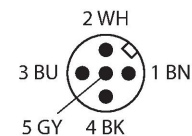
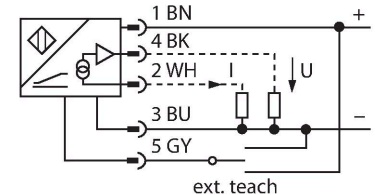
Features

- 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
Ident. no.	1590866
Measuring principle	Inductive
Resolution	0.09°
Measuring range	0...360 °
Nominal distance	1 mm
Repeat accuracy	≤ 0.025 % of full scale
Linearity deviation	≤ 1 %f.s.
Temperature drift	≤ ± 0.02 % / K
Ambient temperature	-25...+75 °C
Operating voltage	15...30 VDC
Residual ripple	≤ 10 % U _{ss}
Isolation test voltage	≤ 0.5 kV
Short-circuit protection	yes
Wire breakage/Reverse polarity protection	yes / yes (voltage supply)
Output type	Absolute singleturn
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

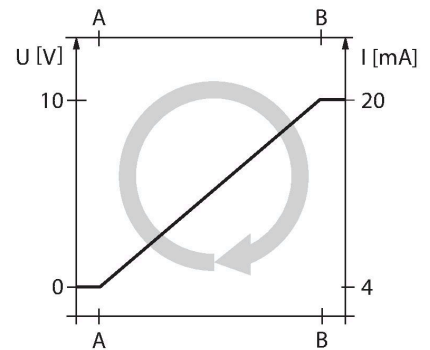


Functional principle

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.

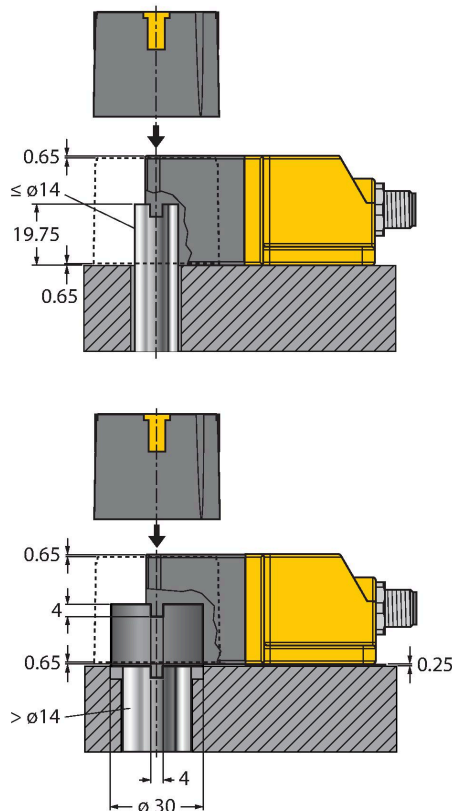
Technical data

Design	DSU35
Dimensions	71 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
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

Positioning element for angle sensors RI-DSU35

P1-RI-DSU35 6901086

Positioning element for angle sensors RI-DSU35