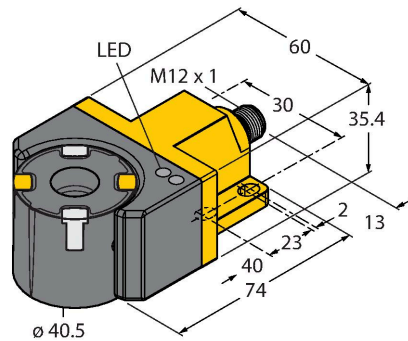


# RI360P4-DSU35-ELIU5X2-H1151

## Inductive Angle Sensor – With Analog Output Premium Line



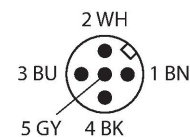
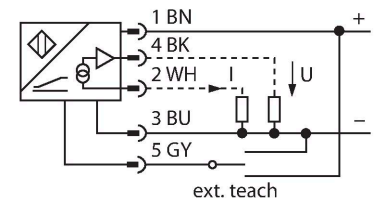
### Features

- Rectangular, DSU35 design
- Plastic, PP-GF30-VO
- Detection of angular range from 0° to 360°
- Positioning element P4-Ri-DSU35 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

<b>Type</b>	RI360P4-DSU35-ELIU5X2-H1151
Ident. no.	100002205
<b>Measuring principle</b>	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 <sub>ss</sub>
Isolation test voltage	≤ 0.5 kV
Short-circuit protection	yes
Wire breakage/Reverse polarity protection	yes / yes (voltage supply)
Output function	5-pin, Analog output
Output type	absolute singleturn
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
<b>Design</b>	DSU35
Dimensions	71 x 60 x 35.4 mm
Flange type	Flange without mounting element

### Wiring diagram

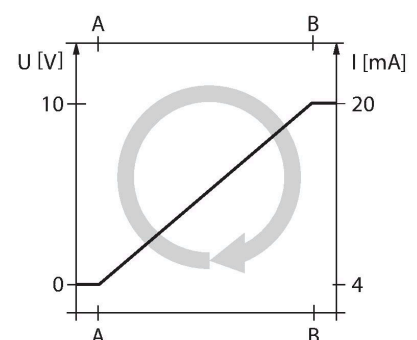


### Functional principle

#### 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.

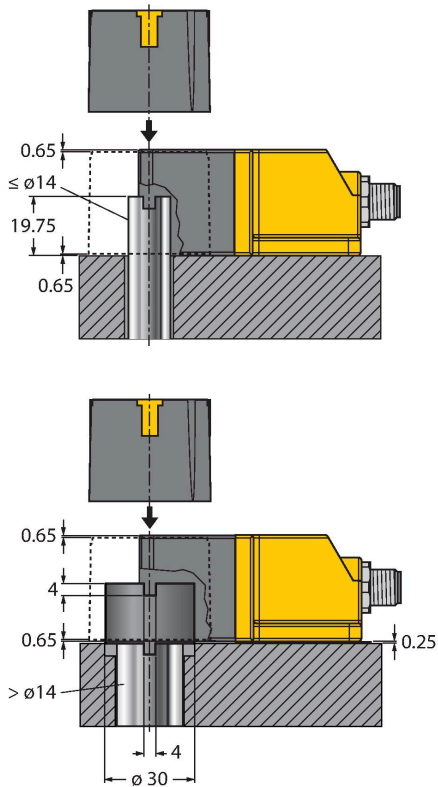


Technical data

Shaft Type	Blind hole shaft
Shaft diameter D (mm)	6 15.875
Housing material	Plastic, PP-GF30
Housing material, positioning element	plastic, PA66 + PA6I/6T-GF40
Electrical connection	Connectors, 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 P4-Ri-DSU35, two set screws M5 × 12; two cylinder screws M5 × 12, two 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

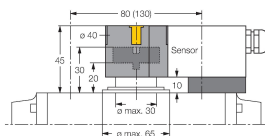
**Preset – Mode (teaching without positioning element)**

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**

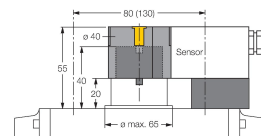
**6900229**



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**

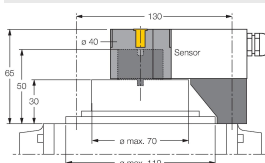
**6900230**



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**

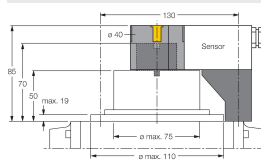
**6900231**



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**

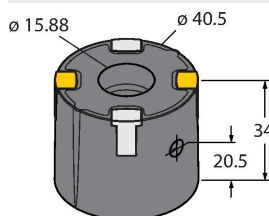
**6900403**



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**

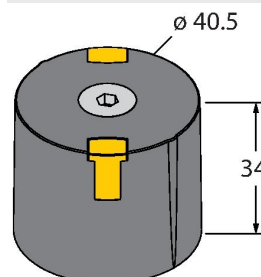
**10002204**



Positioning element for angle sensors RI-DSU35

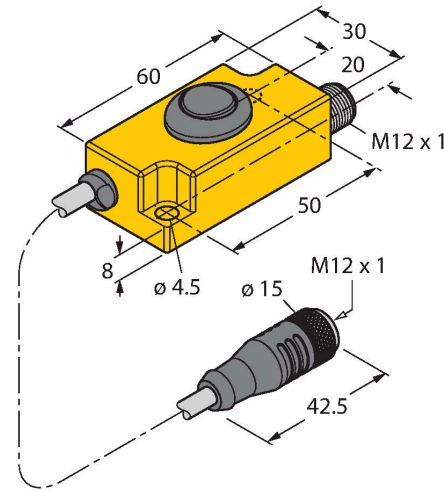
**P1-RI-DSU35**

**6901086**



Positioning element for angle sensors RI-DSU35

Accessories

Dimension drawing	Type	Ident. no.	
	TX1-Q20L60	6967114	Teach adapter for inductive encoders, linear position, angle, ultrasonic and capacitive sensors