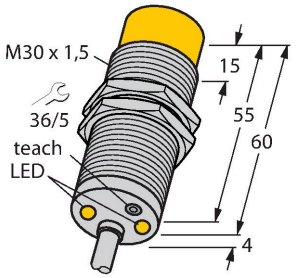
DTNI20U-M30-AP4X2
Inductive Sensor – Rotation speed monitor



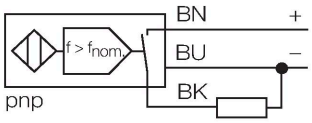
Technical data

Type	DTNI20U-M30-AP4X2
Ident. no.	1582232
Rotational speed range, adjustable	0.05…50 Hz
	adjustable via button
Hysteresis (rotational-speed range)	3…15 %
Rated switching distance	20 mm
Mounting conditions	Non-flush
Secured operating distance	≤ (0.81 × Sn) mm
Repeat accuracy	≤ 2 % of full scale
Temperature drift	≤ ± 10 %
	≤ ± 15 %, ≤ -25 °C v ≥ +70 °C
Hysteresis	3…15 %
Ambient temperature	-30…+85 °C
Operating voltage	10…65 VDC
Residual ripple	≤ 10 % U_{ss}
DC rated operational current	≤ 200 mA
No-load current	≤ 20 mA
Residual current	≤ 0.1 mA
Isolation test voltage	≤ 0.5 kV
Short-circuit protection	yes / Cyclic
Voltage drop at I_e	≤ 1.8 V
Wire breakage/Reverse polarity protection	yes / Complete
Output function	3-wire, NO contact, PNP
Insulation class	⧈

Features

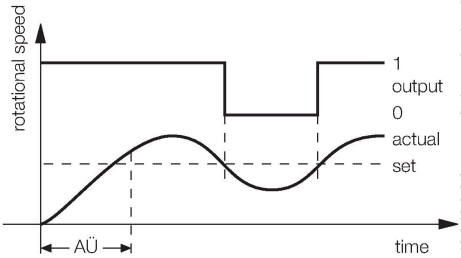
- M30 × 1.5 threaded tube
- Chrome-plated brass
- Large monitoring range of 3 to 3000 1/min
- Adjustable via pushbutton [T]
- Fixed start-up time delay 5 s
- Resistant to magnetic fields
- DC 3-wire, 10…65 VDC
- NO contact, PNP output
- Cable connection

Wiring diagram



Functional principle

The rotational speed is detected by periodic damping of the integrated inductive sensor. This can be accomplished via metal targets or teeth on the monitored shaft. The pulse sequence generated is compared to an adjustable reference value in a comparator circuit If the rotational speed is below the reference value, the output is switched off (0). If the reference value is exceeded, the output is switched on (1). The start-up time delay (AÜ) is triggered by applying voltage to the device and closes the output for 5 s (start-up time of the drive).



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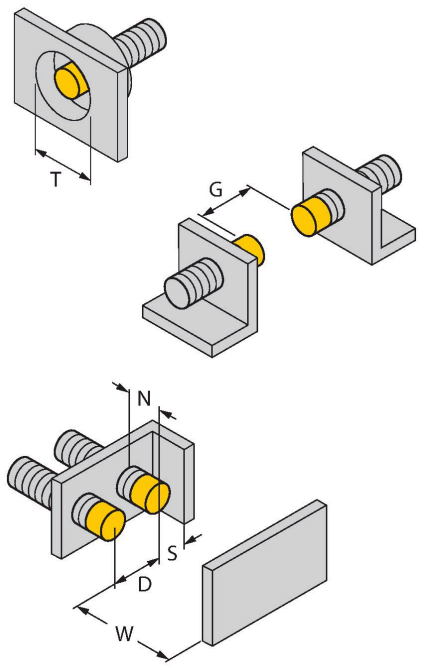
Technical data

Design	Threaded barrel, M30 × 1.5
Dimensions	64 mm
Housing material	Metal, CuZn, Chrome-plated
Active area material	Plastic, PBT
End cap	Plastic, EPTR
Max. tightening torque housing nut	75 Nm
Electrical connection	Cable
Cable quality	Ø 5.2 mm, LifYY, PVC, 2 m
Core cross-section	3 x 0.34 mm^2
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
Power-on indication	LED, Green
Switching state	LED, Green/Yellow/Red/Blue

Mounting instructions

Mounting instructions/Description



Distance D	3 x B
Distance W	3 x Sn
Distance T	3 x B
Distance S	1.5 x B
Distance G	6 x Sn
Distance N	2 x Sn
Diameter active area B	Ø 30 mm

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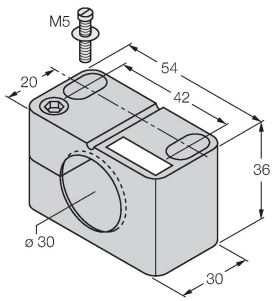
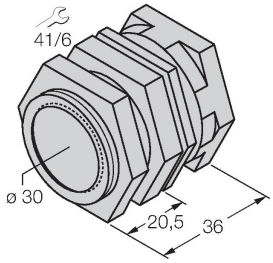
Accessories

BST-30B	6947216



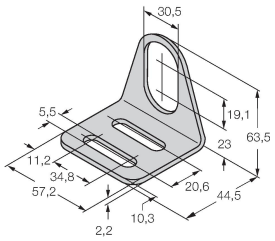
Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6

QM-30	6945103



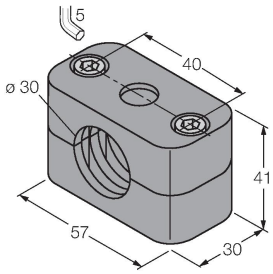
Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M36 × 1.5. Note: The switching distance of the proximity switches may change when using quick-mount brackets.

MW-30	6945005



Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)

BSS-30	6901319



Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene

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