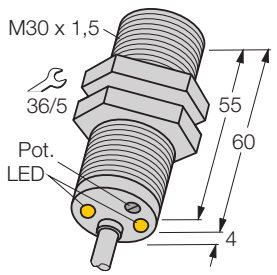
uprox®

Inductive sensor rotational speed monitor DBi10U-M30-AP4X2

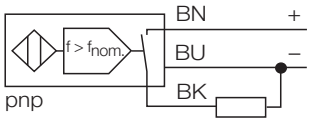
TURCK
Industrial Automation



- **threaded barrel, M30 x 1.5**
- **Chrome-plated brass**
- **large monitoring range of 3 to 3000 1/min**
- **adjustable via potentiometer**
- **fixed start-up time delay of 5 s**
- **magnetic field immune**
- **3-wire DC, 10…65 VDC**
- **normally open, pnp output**
- **cable connection**

Type	DBi10U-M30-AP4X2
Ident-No.	1582231
Rotational speed range, adjustable	0.05… 50 Hz adjustable via potentiometer
Hysteresis (rotational speed range)	3… 15 %
Rated operating distance Sn	10 mm
Mounting condition	flush
Assured sensing range	(0,81 x Sn) mm
Repeatability	2 %
Temperature drift	± 10 % ± 15 %, -25 °C v ≥ +70 °C
Hysteresis	3… 15 %
Ambient temperature	-30…+ 85 °C
Operating voltage	10… 65VDC
Residual ripple	10 % U_{ss}
DC rated operational current	200 mA
No-load current I_0	20 mA
Residual current	0.1 mA
Rated insulation voltage	0.5 kV
Short-circuit protection	yes / cyclic
Voltage drop at I_e	1.8V
Wire breakage / Reverse polarity protection	yes / complete
Output function	3-wire, normally open, pnp
Insulation class	
Housing	threaded barrel, M30 x 1.5
Dimensions	64 mm
Housing material	metal, CuZn, chrome-plated
Material active face	plastic, PBT
End cap	plastic, EPTR
Tightening torque of housing nut	75 Nm
Connection	cable
Cable quality	Ø 5.2, LifYY, PVC, 2 m
Cable cross section:	3 x 0.34mm^2
Vibration resistance	55 Hz (1 mm)
Shock resistance	30g (11 ms)
Degree of protection	IP67
Operating voltage display	LED green
Display switch state	LED green / yellow / blue

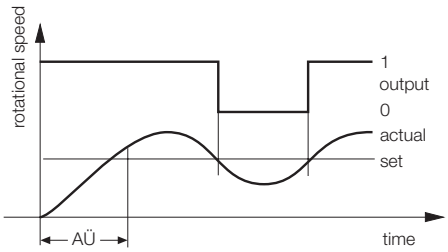
Wiring diagram



Functional principle

The rotational speed is detected by periodic damping of the integrated inductive sensor. This can be accomplished via metal targets or teeth of 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 open (0). If the reference value is exceeded, the output closes (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).

Diagram



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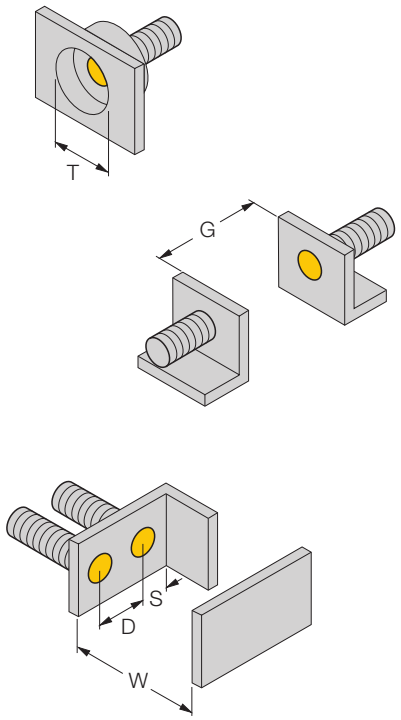
Mounting instructions	minimum distances
Distance D	2 x B
Distance W	3 x Sn
Distance T	3 x B
Distance S	1,5 x B
Distance G	6 x Sn

Diameter of the active area B	Ø 30 mm



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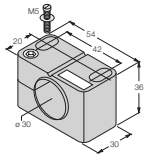
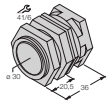
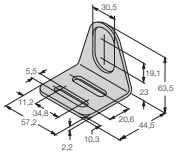
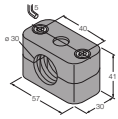
Accessories

Type code	Ident-No.	Short text	Dimension drawing
BST-30B	6947216	fixing clamp with dead-stop; material: PA6	
QM-30	6945103	quick-mount fixing clamp with dead-stop; material: chrome-plated brass male thread M36 x 1.5. Note: The switching distance of proximity switches can be reduced by the use of quick mounting brackets.	
MW-30	6945005	mounting bracket; material: stainless steel A2 1.4301 (AISI 304)	
BSS-30	6901319	fixing clamp; material: polypropylene	

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