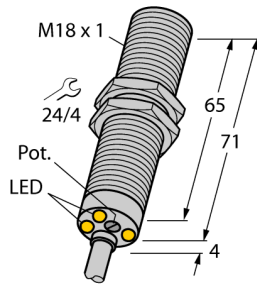


Inductive Sensor

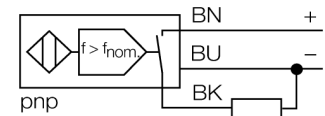
Rotation speed monitor

DBI5U-M18E-AP4X3-0.2-RS4T



- M18 × 1 threaded barrel
- Chrome-plated brass
- Large monitoring range of 3 to 3000 1/min
- Adjusted via potentiometer
- Fixed start-up time delay 5 s
- Resistant to magnetic fields
- DC 3-wire, 10...65 VDC
- NO contact, PNP output
- Cable connection

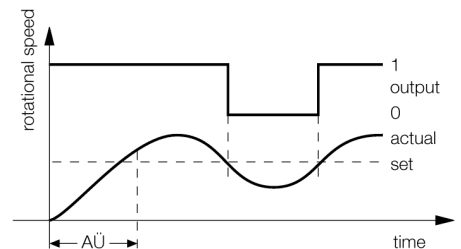
Wiring Diagram



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).

Diagram



Type	DBI5U-M18E-AP4X3-0.2-RS4T
ID	15822360
General data	
Rotational speed range, adjustable	0.05...50Hz adjustable via potentiometer
Hysteresis (rotational-speed range)	3...15%
Rated switching distance S_n	5 mm
Mounting conditions	Flush
Secured operating distance	$\leq (0.81 \times S_n)$ mm
Repeat accuracy	$\leq 2\%$ of full scale
Temperature drift	$\leq \pm 10\%$ $\leq \pm 15\%$, $\leq -25\text{ °C}$ v $\geq +70\text{ °C}$
Hysteresis	3...15%
Electrical data	
Operating voltage U_s	10...65 VDC
Ripple $U_{s,r}$	$\leq 10\%$ $U_{s,max}$
DC rated operating current I_s	≤ 200 mA
Residual current	≤ 0.1 mA
Isolation test voltage	0.5 kV
Short-circuit protection	yes/Cyclic
Voltage drop at I_s	≤ 1.8 V
Wire break/reverse polarity protection	yes/Complete
Output function	3-wire, NO contact, PNP
Mechanical data	
Design	Threaded barrel, M18 x 1
Dimensions	75 mm
Housing material	Metal, CuZn, Chrome-plated
Active area material	Plastic, PBT
End cap	Plastic, EPTR
Max. tightening torque of housing nut	25 Nm
Electrical connection	Cable
Cable quality	$\varnothing 5.2$ mm, LifYY, PVC, 0.2 m
Core cross-section	3 x 0.34 mm ²

Environmental conditions	
Ambient temperature	-30...+85 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
MTTF	874 years acc. to SN 29500 (Ed. 99) 40 °C
Power-on indication	
Switching state	LED, Green
	LED, Green/yellow/blue

Accessories

Type code	Ident-No.		Dimension drawing
QM-18	6945102	Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M24 × 1.5. Note: The switching distance of the proximity switches may change when using quick-mount brackets.	
BST-18B	6947214	Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6	
MW-18	6945004	Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)	
BSS-18	6901320	Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene	