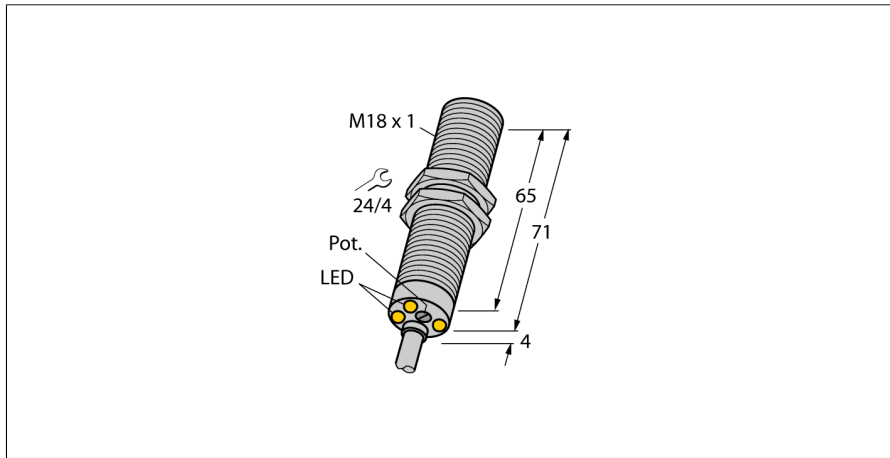


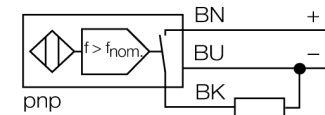
**Inductive sensor
rotational speed monitor
DBI5U-M18E-AP4X3**

Industrial
Automation



- Threaded barrel, M18 x 1
- Chrome-plated brass
- Large monitoring range of 3 to 3000 1/min
- Adjustable via potentiometer
- Fixed start-up delay 5 s
- Magnetic field immune
- 3-wire DC, 10...65 VDC
- NO contact, PNP output
- Cable connection

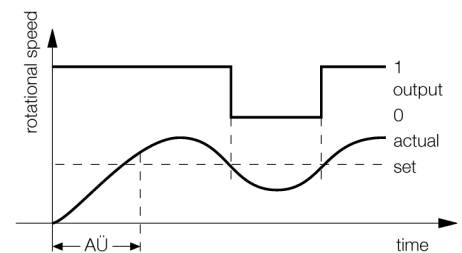
Wiring diagram



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

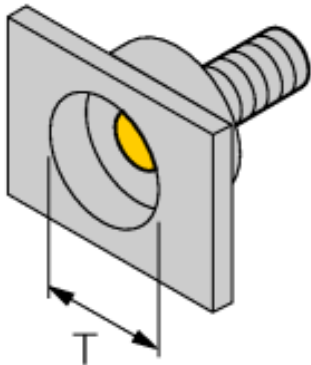


| | |
|---|---|
| Type code | DBI5U-M18E-AP4X3 |
| Ident no. | 1582236 |
| Rotational speed range, adjustable | 0.05...50Hz adjustable via potentiometer |
| Hysteresis (rotational-speed range) | 3...15% |
| Rated operating distance S_n | 5 mm |
| Mounting condition | flush |
| Assured sensing range | $\leq (0,81 \times S_n)$ mm |
| Repeatability | $\leq 2\%$ of full scale |
| Temperature drift | 10 % |
| Hysteresis | $\leq \pm 15\%$, $\leq -25\text{ °C}$ v $\geq +70\text{ °C}$ |
| Ambient temperature | -30...+85 °C |
| Operating voltage | 10...65VDC |
| Residual ripple | $\leq 10\%$ U_s |
| 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_0 | ≤ 1.8 V |
| Wire breakage / Reverse polarity protection | yes/ complete |
| Output function | 3-wire, NO contact, PNP |
| Protection class | □ |
| Design | threaded barrel, M18 x 1 |
| Dimensions | 75 mm |
| Housing material | metal, CuZn, chrome-plated |
| Material active area | Plastic, PBT |
| End cap | Plastic, EPTR |
| Max. tightening torque housing nut | 25 Nm |
| Connection | cable |
| Cable quality | 5.2 mm, LiYY, PVC, 2 m |
| Cable 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 / blue |

**Inductive sensor
rotational speed monitor
DBI5U-M18E-AP4X3**

| | |
|------------|---------|
| 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 \varnothing 18 mm



Accessories

| Type code | Ident no. | Description | Dimension drawing |
|-----------|-----------|--|-------------------|
| QM-18 | 6945102 | Quick-mount bracket with dead-stop; material: Chrome-plated brass Male thread M24 x 1.5. Note: The switching distance of proximity switches can be reduced by the use of quick-mount brackets. | |
| BST-18B | 6947214 | Fixing clamp for threaded barrel devices, with dead-stop; material: PA6 | |
| MW-18 | 6945004 | Mounting bracket for threaded barrel devices; material: Stainless steel A2 1.4301 (AISI 304) | |
| BSS-18 | 6901320 | Mounting bracket for smooth and threaded barrel devices; material: Polypropylene | |