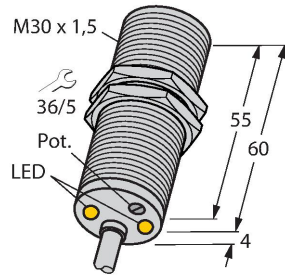


# DBI10U-M30-AP4X2

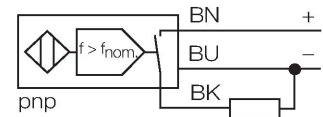
## Inductive Sensor – Rotation speed monitor



### Features

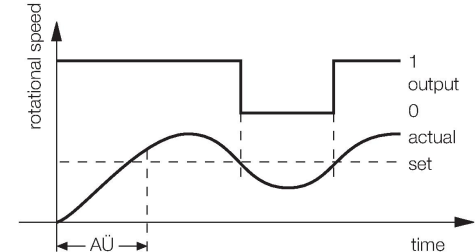
- M30 × 1.5 threaded tube
- Chrome-plated brass
- Large monitoring range of 3 to 3000 1/min
- Adjusted via potentiometer
- Fixed start-up time delay 5 s
- Resistant to magnetic fields
- DC 3-wire, 10...65 VDC
- NO contact, PNP output
- Cable connection

### 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).



### Technical data

|                                        |                                                                |
|----------------------------------------|----------------------------------------------------------------|
| Type                                   | DBI10U-M30-AP4X2                                               |
| ID                                     | 1582231                                                        |
| <b>General data</b>                    |                                                                |
| Rotational speed range, adjustable     | 0.05...50 Hz                                                   |
|                                        | adjustable via potentiometer                                   |
| Hysteresis (rotational-speed range)    | 3...15 %                                                       |
| Rated switching distance               | 10 mm                                                          |
| Mounting conditions                    | Flush                                                          |
| Secured operating distance             | $\leq (0.81 \times S_n) \text{ mm}$                            |
| Repeat accuracy                        | $\leq 2 \%$ of full scale                                      |
| Temperature drift                      | $\leq \pm 10 \%$                                               |
|                                        | $\leq \pm 15 \%, \leq -25 \text{ °C} \vee \geq +70 \text{ °C}$ |
| Hysteresis                             | 3...15 %                                                       |
| <b>Electrical data</b>                 |                                                                |
| Operating voltage $U_B$                | 10...65 VDC                                                    |
| Ripple $U_{ss}$                        | $\leq 10 \%$ $U_{Bmax}$                                        |
| DC rated operating current $I_o$       | $\leq 200 \text{ mA}$                                          |
| No-load current                        | $\leq 20 \text{ mA}$                                           |
| Residual current                       | $\leq 0.1 \text{ mA}$                                          |
| Isolation test voltage                 | 0.5 kV                                                         |
| Short-circuit protection               | yes/Cyclic                                                     |
| Voltage drop at $I_o$                  | $\leq 1.8 \text{ V}$                                           |
| Wire break/reverse polarity protection | yes/Complete                                                   |
| Output function                        | 3-wire, NO contact, PNP                                        |

## Technical data

|                                       |                                           |
|---------------------------------------|-------------------------------------------|
| Insulation class                      | □                                         |
| <b>Mechanical data</b>                |                                           |
| Design                                | Threaded barrel, M30 x 1.5                |
| Dimensions                            | 64 mm                                     |
| Housing material                      | Metal, CuZn, Chrome-plated                |
| Active area material                  | Plastic, PBT                              |
| End cap                               | Plastic, EPTR                             |
| Max. tightening torque of 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 <sup>2</sup>                  |
| <b>Environmental conditions</b>       |                                           |
| 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                   | LED, Green                                |
| Switching state                       | LED, Green/yellow/blue                    |

## Mounting instructions

### Mounting instructions/Description



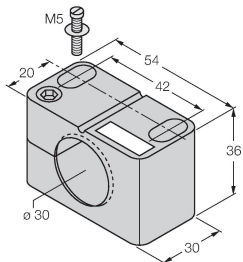
|                        |         |
|------------------------|---------|
| Distance D             | 2 x B   |
| Distance W             | 3 x Sn  |
| Distance T             | 3 x B   |
| Distance S             | 1.5 x B |
| Distance G             | 6 x Sn  |
| Diameter active area B | Ø 30 mm |

## Accessories

### BST-30B

6947216

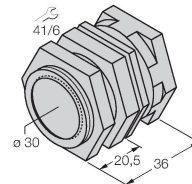
Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6



### QM-30

6945103

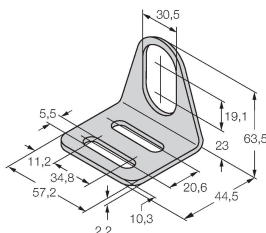
Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M36 × 1.5. Note: The switching distance of the proximity switches may change when using quick-mount brackets.



### MW30

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

