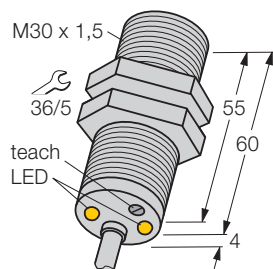
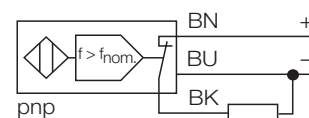


# **Inductive sensor rotational speed monitor DTBi10U-M30-AP4X2**



- threaded barrel, M30 x 1,5
- chrome-plated brass
- large monitoring range of 3 to 3000 1/min
- adjustable via push button [T]
- fixed start-up time delay of 5 s
- magnetic field immune
- 3-wire DC, 10...65 VDC
- normally open pnp output
- cable connection

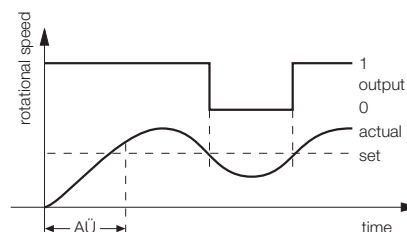
## **Wiring diagram**



## **Function principles**

The rotational speed is detected by periodic attenuation 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**



|                                                        |                                                  |
|--------------------------------------------------------|--------------------------------------------------|
| <b>Type</b>                                            | DTBi10U-M30-AP4X2                                |
| Ident-No.                                              | 1582230                                          |
| <b>Speed range, adjustable</b>                         | 0,05... 50 Hz<br>adjustable with teach-in button |
| Hysteresis (speed range)                               | 3... 15 %                                        |
| Rated operating distance $S_n$                         | 10 mm                                            |
| Mounting mode                                          | flush                                            |
| Hysteresis (switching distance)                        | 3... 15 %                                        |
| Min. repeat accuracy                                   | ≤ 2 %                                            |
| Temperature drift                                      | ≤ ± 10 %                                         |
| Operating temperature                                  | ≤ ± 15 %, ≤ -25 °C v ≥ +70 °C<br>-30 ...+ 85 °C  |
| <b>Rated operational voltage (DC) <math>U_B</math></b> | 10... 65 VDC                                     |
| Max. ripple                                            | ≤ 10 % $U_{pp}$                                  |
| Rated operational current (DC) $I_e$                   | ≤ 200 mA                                         |
| No-load current $I_0$                                  | ≤ 20 mA                                          |
| Max. OFF-state current                                 | ≤ 0,1 mA                                         |
| Rated insulation voltage                               | ≤ 0,5 kV                                         |
| Output function                                        | 3-wire, normally open, PNP                       |
| Short-circuit protection                               | yes, cyclic                                      |
| Max. voltage drop at $I_e$                             | ≤ 1,8 V                                          |
| Wire breakage / reverse polarity protection            | yes / complete                                   |
| Protection class                                       | □                                                |
| <b>Housing style</b>                                   | threaded barrel; M30 x 1,5                       |
| Dimensions                                             | 64 mm                                            |
| Housing material                                       | metal, CuZn, chrome-plated                       |
| Active face                                            | plastic, PBT                                     |
| Max. fixing torque of coupling nut                     | 90 Nm                                            |
| Wiring                                                 | cable                                            |
| Cable                                                  | Ø 5,2, LiYY, PVC, 2 m                            |
| Cable cross section                                    | 3 x 0,34 mm <sup>2</sup>                         |
| Vibration resistance                                   | 55 Hz (1 mm)                                     |
| Shock resistance                                       | 30 x g (11 ms)                                   |
| Degree of protection                                   | IP67                                             |



**Inductive sensor  
rotational speed monitor  
DTBi10U-M30-AP4X2**

The logo for Turck, featuring the word "TURCK" in a bold, black, sans-serif font. The logo is positioned on a yellow background that forms a large, stylized "T" shape.

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**Switching status indication**

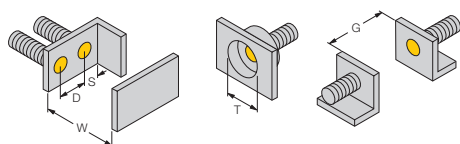
LED green / yellow / red

**Inductive sensor  
rotational speed monitor  
DTBi10U-M30-AP4X2****Mounting instructions**

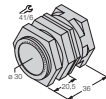
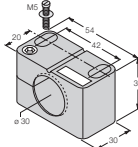
|       |         |
|-------|---------|
| Gap D | 2 x B   |
| Gap W | 3 x Sn  |
| Gap T | 3 x B   |
| Gap S | 1,5 x B |
| Gap G | 6 x Sn  |

**Diameter of active face B**

Ø 30 mm



**Inductive sensor  
rotational speed monitor  
DTBi10U-M30-AP4X2****Accessories**

| Typ     | Ident-No. | Description                                                                                       | Dimension drawing                                                                   |
|---------|-----------|---------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| QM-30   | 6945103   | quick-mount fixing clamp with dead-stop; material: chrome-plated brass external thread M36 x 1,5. |  |
| BST-30B | 6947216   | fixing clamp with dead-stop; material: PA6                                                        |  |