

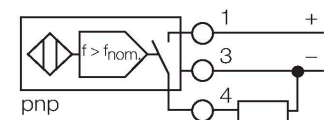
# DNI30U-K40SR-AP4X2

## Inductive Sensor – Rotation speed monitor

### Features

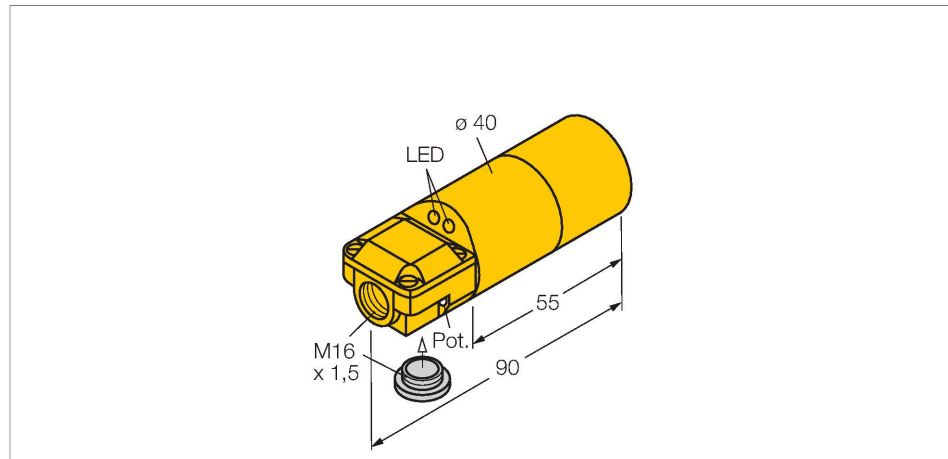
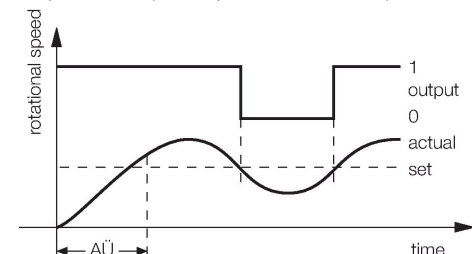
- 2 cable entries (axial, radial)
- Smooth barrel, Ø 40 mm
- Plastic, ABS
- Large monitoring range of 60 to 3000 1/min
- Fixed start-up time delay 5 s
- Switchpoint adjustable via potentiometer
- Factor 1 for all metals
- Resistant to magnetic fields
- DC 3-wire, 10...65 VDC
- NO contact, PNP output
- Terminal chamber

### 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	DNI30U-K40SR-AP4X2
ID	1500202
<b>General data</b>	
Rotational speed range, adjustable	1...50 Hz
Hysteresis (rotational-speed range)	3...15 %
Rated switching distance	30 mm
Mounting conditions	Non-flush
Secured operating distance	$\leq (0.81 \times S_n)$ mm
Repeat accuracy	$\leq 2$ % of full scale
Temperature drift	$\leq \pm 10$ %
	$\leq \pm 15$ %, $\leq -25$ °C v $\geq +70$ °C
Hysteresis	3...15 %
<b>Electrical data</b>	
Operating voltage $U_b$	10...65 VDC
Ripple $U_{rs}$	$\leq 10$ % $U_{bmax}$
DC rated operating current $I_b$	$\leq 200$ mA
No-load current	$\leq 20$ mA
Residual current	$\leq 0.1$ mA
Isolation test voltage	0.5 kV
Short-circuit protection	yes/Cyclic
Voltage drop at $I_b$	$\leq 1.8$ V
Wire break/reverse polarity protection	yes/Complete
Output function	3-wire, NO contact, PNP
Insulation class	□

Technical data

Mechanical data	
Design	Smooth barrel, 40 mm
Dimensions	90 mm
Housing material	Plastic, ABS, Yellow
Active area material	Plastic, ABS, yellow
Electrical connection	Terminal chamber
Clamping ability	≤ 2.5 mm²
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	LED, Green
Switching state	LED, Yellow
Included in delivery	BS 40, cable gland, dummy plug

Mounting instructions

# Mounting instructions/Description

The image contains three technical diagrams illustrating the mounting of the BS 40 sensor. The top diagram shows the sensor (a grey L-shaped bracket with two yellow cylindrical probes) being mounted onto a rectangular panel. Dimension lines indicate the following measurements: 'N' is the distance between the two probes; 'S' is the distance from the panel surface to the probe tips; 'D' is the distance between the probe centers; and 'W' is the distance from the panel edge to the first probe. The bottom-left diagram shows a side view of the sensor bracket with dimension 'T' indicating its thickness. The bottom-right diagram shows two sensor brackets connected by a cable, with dimension 'G' indicating the distance between the mounting points of the two brackets.

Distance D	3 x B
Distance W	3 x Sn
Distance T	3 x B
Distance S	1.5 x B
Distance G	6 x Sn
Distance N	2 x Sn
Diameter active area B	Ø 40 mm

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# Accessories

BS 40

69466

Fixing clamp; material mounting  
block: PBT

