

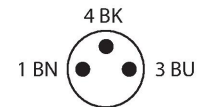
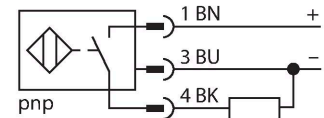
# NI20U-TS12-AP6X2-V1131/S989

## Inductive Sensor – Detection of Small and Fast Tube-guided Parts

### Features

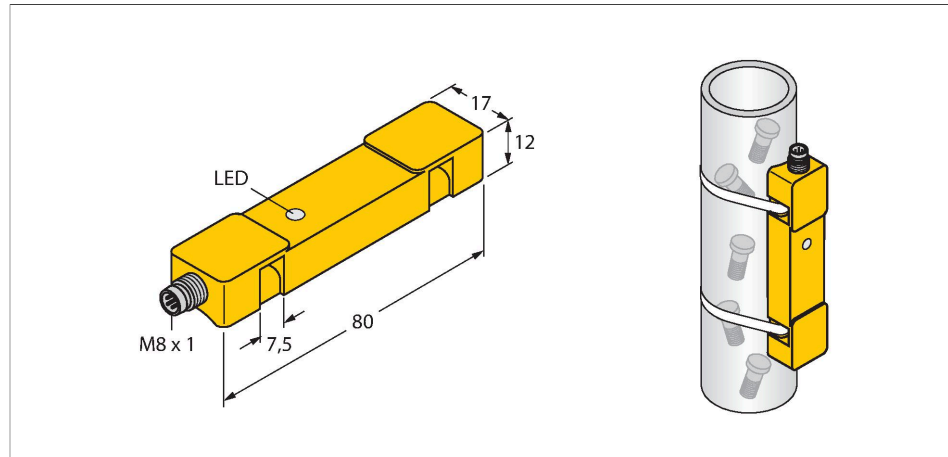
- Rectangular, height 12 mm
- Plastic, PBT-GF30-V0
- Factor 1 for all metals
- High sensitivity for detection of small parts
- Output pulse length min. 100 ms
- DC 3-wire, 10...30 VDC
- NO contact, PNP output
- M8 x 1 male connector

### Wiring diagram



### Functional principle

The highly sensitive sensor detects even small and fast tube-guided parts. Easily mounted with retaining straps. Can be repositioned or replaced during operation. High-quality alternative to simple ring sensors.

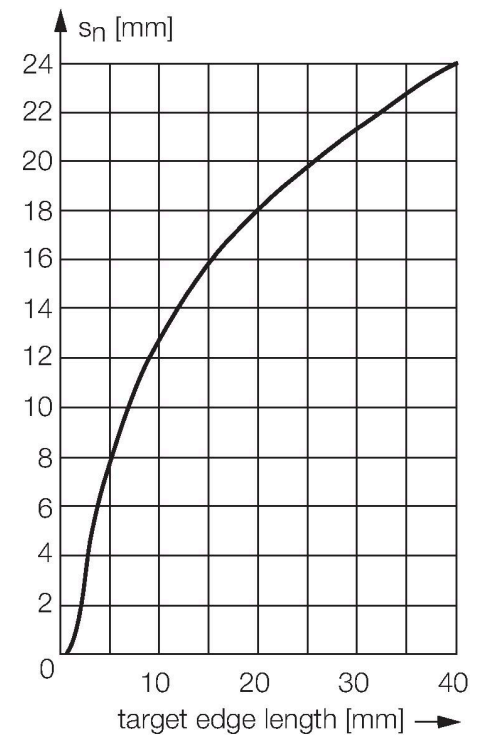


### Technical data

Type	NI20U-TS12-AP6X2-V1131/S989
ID	1646641
Special version	S989 Corresponds to: With increased sensitivity on smaller parts
General data	
Rated switching distance	20 mm
Fly-by speed	0...20 m/s
Mounting conditions	Non-flush
Secured operating distance	$\leq (0.81 \times S_n)$ mm
Repeat accuracy	$\leq 2$ % of full scale
pulse stop	$\geq 5$ ms
Pulse duration at the output	$\geq 100$ ms $\pm 20$ %
Temperature drift	$\leq \pm 10$ %
Hysteresis	3...15 %
Electrical data	
Operating voltage $U_s$	10...30 VDC
Ripple $U_{rs}$	$\leq 10$ % $U_{smax}$
DC rated operating current $I_s$	$\leq 200$ mA
No-load current	$\leq 15$ mA
Residual current	$\leq 0.1$ mA
Isolation test voltage	0.5 kV
Short-circuit protection	yes/Cyclic
Voltage drop at $I_s$	$\leq 1.8$ V

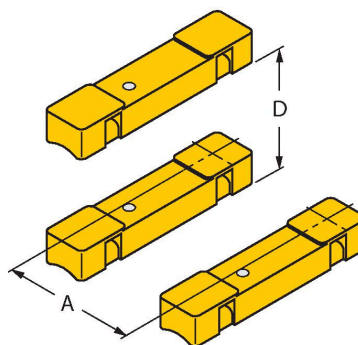
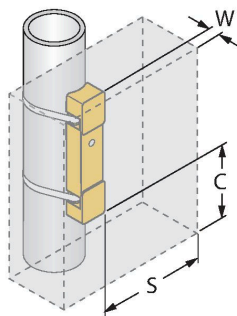
## Technical data

Wire break/reverse polarity protection	yes/Complete
Output function	3-wire, NO contact, PNP
DC field stability	300 mT
AC field stability	300 mT <sub>SS</sub>
Switching frequency	0.008 kHz
<b>Mechanical data</b>	
Design	Rectangular, TS12
Dimensions	80 x 17 x 12 mm
Housing material	Plastic, PBT-GF30-V0
Electrical connection	Connector, M8 × 1
<b>Environmental conditions</b>	
Ambient temperature	-10...+60 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP68
MTTF	874 years acc. to SN 29500 (Ed. 99) 40 °C
Power-on indication	LED, Green
Switching state	LED, Yellow
Included in delivery	2 retaining straps



## Mounting instructions

### Mounting instructions/Description



Distance D	80 mm
Distance W	56 mm
Distance S	56 mm
Distance A	68 mm
Distance C	48 mm
Width active area B	17 mm

The TS12 has no tailback detection function.  
To achieve optimal functionality, use only small targets with a max. length of 20 mm.