

# IM18-20NPS-ZW1

IML

**INDUCTIVE PROXIMITY SENSORS**

**SICK**  
Sensor Intelligence.



Ordering information

Type	part no.
IM18-20NPS-ZW1	6027518

Other models and accessories → [www.sick.com/IML](http://www.sick.com/IML)

Illustration may differ



Detailed technical data

Features

<b>Housing</b>	Metric
<b>Housing</b>	Standard design
<b>Thread size</b>	M18 x 1
<b>Diameter</b>	Ø 18 mm
<b>Sensing range <math>S_n</math></b>	20 mm
<b>Safe sensing range <math>S_a</math></b>	16.2 mm
<b>Installation type</b>	Non-flush
<b>Switching frequency</b>	200 Hz
<b>Connection type</b>	Cable, 3-wire, 2 m
<b>Switching output</b>	PNP
<b>Switching output detail</b>	PNP
<b>Output function</b>	NO
<b>Electrical wiring</b>	DC 3-wire
<b>Enclosure rating</b>	IP67 <sup>1)</sup>
<b>Special features</b>	Triple sensing range
<b>Items supplied</b>	Mounting nut, brass, chromium-plated (2x) Washer, brass, chromium-plated, with locking teeth (2x)

<sup>1)</sup> According to EN 60529.

Mechanics/electronics

<b>Supply voltage</b>	10 V DC ... 30 V DC
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<sup>1)</sup> Of  $V_S$ .

<sup>2)</sup> At  $I_a$  max.

<sup>3)</sup> Of  $S_r$ .

<sup>4)</sup> UB = 20 V DC ... 30 V DC, TA = 23 °C ± 5 °C.

<b>Ripple</b>	$\leq 20 \% ^{1)}$
<b>Voltage drop</b>	$\leq 2 \text{ V} ^{2)}$
<b>Time delay before availability</b>	$\leq 100 \text{ ms}$
<b>Hysteresis</b>	$1 \% \dots 15 \%$
<b>Reproducibility</b>	$\leq 5 \% ^{3) 4)}$
<b>Temperature drift (of <math>S_r</math>)</b>	$\pm 10 \%$
<b>EMC</b>	According to EN 60947-5-2
<b>Continuous current <math>I_a</math></b>	$\leq 200 \text{ mA}$
<b>Cable material</b>	PVC
<b>Conductor size</b>	$0.34 \text{ mm}^2$
<b>Cable diameter</b>	$\varnothing 5 \text{ mm}$
<b>Short-circuit protection</b>	✓
<b>Power-up pulse protection</b>	✓
<b>Shock and vibration resistance</b>	$30 \text{ g}, 11 \text{ ms} / 10 \dots 55 \text{ Hz}, 1 \text{ mm}$
<b>Ambient operating temperature</b>	$-25 \text{ }^\circ\text{C} \dots +70 \text{ }^\circ\text{C}$
<b>Housing material</b>	Brass, chromium-plated
<b>Sensing face material</b>	Plastic, PTB
<b>Housing length</b>	$50 \text{ mm}$
<b>Thread length</b>	$40 \text{ mm}$
<b>Tightening torque, max.</b>	$25 \text{ Nm}$

<sup>1)</sup> Of  $V_S$ .

<sup>2)</sup> At  $I_a \text{ max.}$

<sup>3)</sup> Of  $S_r$ .

<sup>4)</sup>  $U_B = 20 \text{ V DC} \dots 30 \text{ V DC}, T_A = 23 \text{ }^\circ\text{C} \pm 5 \text{ }^\circ\text{C}.$

### Safety-related parameters

<b>MTTF<sub>D</sub></b>	171 years
<b>DC<sub>avg</sub></b>	0%
<b>T<sub>M</sub> (mission time)</b>	20 years

### Reduction factors

<b>Note</b>	The values are reference values which may vary
<b>Stainless steel (V2A, 304)</b>	Approx. 0.66
<b>Aluminum (Al)</b>	Approx. 0.4
<b>Copper (Cu)</b>	Approx. 0.35
<b>Brass (Br)</b>	Approx. 0.45

### Installation note

<b>Remark</b>	Associated graphic see "Installation"
<b>A</b>	$21 \text{ mm}$
<b>B</b>	$60 \text{ mm}$
<b>C</b>	$18 \text{ mm}$
<b>D</b>	$60 \text{ mm}$

<b>E</b>	20 mm
<b>F</b>	200 mm

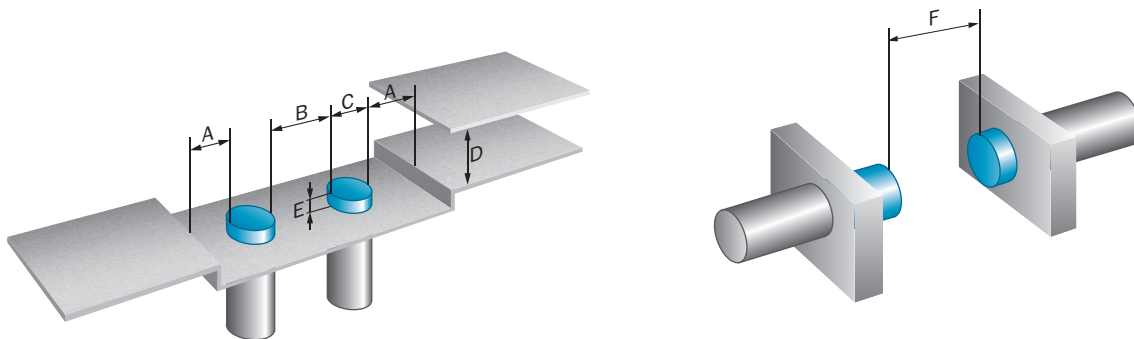
#### Certificates

<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>Moroccan declaration of conformity</b>	✓
<b>China RoHS</b>	✓

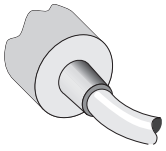
#### Classifications

<b>ECLASS 5.0</b>	27270101
<b>ECLASS 5.1.4</b>	27270101
<b>ECLASS 6.0</b>	27270101
<b>ECLASS 6.2</b>	27270101
<b>ECLASS 7.0</b>	27270101
<b>ECLASS 8.0</b>	27270101
<b>ECLASS 8.1</b>	27270101
<b>ECLASS 9.0</b>	27270101
<b>ECLASS 10.0</b>	27270101
<b>ECLASS 11.0</b>	27270101
<b>ECLASS 12.0</b>	27274001
<b>ETIM 5.0</b>	EC002714
<b>ETIM 6.0</b>	EC002714
<b>ETIM 7.0</b>	EC002714
<b>ETIM 8.0</b>	EC002714
<b>UNSPSC 16.0901</b>	39122230

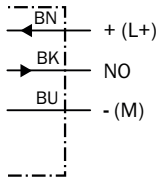
#### Installation note Non-flush installation



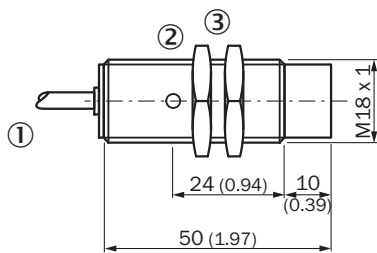
## Connection type



## Connection diagram Cd-001



## Dimensional drawing IM18 Triplex, cable, non-flush








Dimensions in mm (inch)

- ① Connection
- ② Display LED
- ③ Fastening nuts (2x); width across 36, metal

## Recommended accessories

Other models and accessories → [www.sick.com/IML](http://www.sick.com/IML)

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"> <li><b>Description:</b> Clamping block for round sensors M18, without fixed stop</li> <li><b>Material:</b> Plastic</li> <li><b>Details:</b> Plastic (PA12), glass-fiber reinforced</li> <li><b>Items supplied:</b> Mounting hardware included</li> <li><b>Suitable for:</b> GR18, MH15V, V180-2, V18</li> </ul>	BEF-KH-M18	2051481
	<ul style="list-style-type: none"> <li><b>Description:</b> Plate N06 for universal clamp bracket, M18</li> <li><b>Material:</b> Steel, zinc diecast</li> <li><b>Details:</b> Zinc plated steel (sheet), Zinc die cast (clamping bracket)</li> <li><b>Items supplied:</b> Universal clamp (5322626), mounting hardware</li> <li><b>Usable for:</b> MH15, MH15V, V180-2, V18V, W15, GR18, V18, V18 Laser, V12-2, SimpleSense, SureSense, M18 round sensors</li> </ul>	BEF-KHS-N06	2051612
	<ul style="list-style-type: none"> <li><b>Description:</b> Mounting plate for M18 sensors</li> <li><b>Material:</b> Steel</li> <li><b>Details:</b> Steel, zinc coated</li> <li><b>Items supplied:</b> Without mounting hardware</li> <li><b>Suitable for:</b> GR18, V180-2, V18, W15, Z1, Z2</li> </ul>	BEF-WG-M18	5321870
	<ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket for M18 sensors</li> <li><b>Material:</b> Steel</li> <li><b>Details:</b> Steel, zinc coated</li> <li><b>Items supplied:</b> Without mounting hardware</li> <li><b>Suitable for:</b> GR18, V180-2, V18, W15, Z1, Z2</li> </ul>	BEF-WN-M18	5308446
	<ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket for M18 sensors</li> <li><b>Material:</b> Stainless steel</li> <li><b>Details:</b> Stainless steel</li> <li><b>Items supplied:</b> Without mounting hardware</li> </ul>	BEF-WN-M18N	5320947

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

**For us, that is “Sensor Intelligence.”**

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)