



# MM18-70A-N-ZW0

MMN

MAGNETIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ

### Ordering information

Type	part no.
MM18-70A-N-ZW0	7900288

**Included in delivery:** BEF-MU-M18 (1)

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

### Detailed technical data

#### Features

<b>Housing</b>	Metric
<b>Thread size</b>	M18 x 1
<b>Diameter</b>	Ø 18 mm
<b>Sensing range <math>S_n</math></b>	5 mm ... 70 mm <sup>1)</sup>
<b>Safe sensing range <math>S_a</math></b>	56.7 mm
<b>Magnetic sensitivity</b>	0.7 mT
<b>Switching frequency</b>	5,000 Hz
<b>Connection type</b>	Cable, 2-wire, 2 m <sup>2)</sup>
<b>Switching output</b>	NAMUR
<b>Switching output detail</b>	NAMUR
<b>Output characteristic</b>	Control current depending on switching state according to NAMUR EN 60947-5-6
<b>Electrical wiring</b>	DC 2-wire
<b>Magnetic alignment</b>	Axial
<b>Enclosure rating</b>	IP67 <sup>3)</sup>
<b>Items supplied</b>	Mounting nut, brass, nickel-plated (2x)

<sup>1)</sup> Sensing range based on installation in non-magnetic material using Magnet MAG-3010-B (M4.0).

<sup>2)</sup> Do not bend below 0 °C.

<sup>3)</sup> According to EN 60529.

#### Mechanics/electronics

<b>Ripple</b>	≤ 5 % <sup>1)</sup>
<b>Time delay before availability</b>	≤ 2 ms
<b>Hysteresis</b>	1 % ... 10 %
<b>Reproducibility</b>	≤ 1 % <sup>2)</sup>
<b>Temperature drift (of <math>S_n</math>)</b>	± 10 %
<b>EMC</b>	According to EN 60947-5-2

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

<sup>2)</sup> Von  $S_r$  ( $V_S$  und  $T_a$  constant).

<sup>3)</sup> For connection to a separately certified intrinsically safe circuit only.

<b>Current consumption, sensor is activated</b>	≥ 2.5 mA
<b>Current consumption, sensor is not activated</b>	≤ 1 mA
<b>Cable material</b>	PVC
<b>Conductor size</b>	0.34 mm <sup>2</sup>
<b>Cable resistance</b>	≤ 50 Ω
<b>Wire-break protection</b>	✓
<b>Reverse polarity protection</b>	Yes
<b>Short-circuit protection</b>	Yes
<b>Shock and vibration resistance</b>	30 g, 11 ms / 10 ... 55 Hz, 1 mm
<b>Ambient operating temperature</b>	-25 °C ... +70 °C
<b>Housing material</b>	Metal, Nickel-plated brass
<b>Housing length</b>	50 mm
<b>Thread length</b>	40 mm
<b>Tightening torque, max.</b>	≤ 25 Nm
<b>Type approval certificate</b>	TÜV 99 ATEX 1398
<b>ATEX marking</b>	EX II 2G Ex ib IIC T6 Gb Ta: - 25 °C ... + 70 °C
<b>Ex area category</b>	2G
<b>Input voltage U<sub>i</sub> max.</b>	16 V <sup>3)</sup>
<b>Input power P<sub>i</sub> max.</b>	100 mW <sup>3)</sup>
<b>Input current I<sub>i</sub> max.</b>	30 mA <sup>3)</sup>
<b>Internal capacitance C<sub>i</sub> max.</b>	15 nF <sup>3)</sup>
<b>Internal inductance L<sub>i</sub> max.</b>	35 µH <sup>3)</sup>
<b>Nominal voltage</b>	8.2 V DC

<sup>1)</sup> Of V<sub>S</sub>.

<sup>2)</sup> Von Sr (VS und Ta constant).

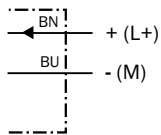
<sup>3)</sup> For connection to a separately certified intrinsically safe circuit only.

## Classifications

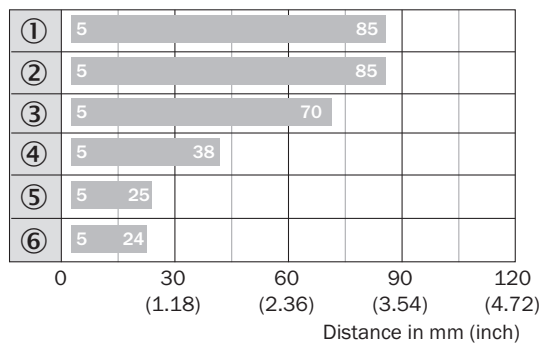
<b>ECLASS 5.0</b>	27270104
<b>ECLASS 5.1.4</b>	27270104
<b>ECLASS 6.0</b>	27270104
<b>ECLASS 6.2</b>	27270104
<b>ECLASS 7.0</b>	27270104
<b>ECLASS 8.0</b>	27270104
<b>ECLASS 8.1</b>	27270104
<b>ECLASS 9.0</b>	27270104
<b>ECLASS 10.0</b>	27270104
<b>ECLASS 11.0</b>	27270104
<b>ECLASS 12.0</b>	27274301
<b>ETIM 5.0</b>	EC002544
<b>ETIM 6.0</b>	EC002544

<b>ETIM 7.0</b>	EC002544
<b>ETIM 8.0</b>	EC002544
<b>UNSPSC 16.0901</b>	39122230

### Connection diagram Cd-012



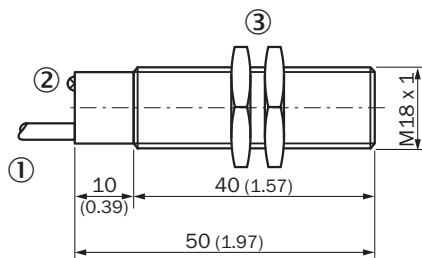
### Sensing range diagram



■ Max. sensing range  $S_n$ , flush or non-flush installation, non-magnetizable material

Magnet type	Part no.
① MAG-3315-B (M 5.1)	7902086
② MAG-3015-B (M 5.0)	7901786
③ MAG-3010-B (M 4.0)	7901785
④ MAG-2006-B (M 3.0)	7901784
⑤ MAG-0625-A (M 2.0)	7901783
⑥ MAG-1003-S (M 1.0)	7901782

### Dimensional drawing MM18 Namur, cable



Dimensions in mm (inch)



① Connection







② Display LED

③ Fastening nuts (2x); width across 24, metal

Recommended accessories

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

	Brief description	Type	part no.
integration modules and adapters			
	<ul style="list-style-type: none"><li><b>Description:</b> NAMUR isolating amplifier, Cable fault detection, Switching outputs: 2 NO relay (1 per channel), Supply voltage: 24 V ... 230 V, Voltage type: AC/DC</li></ul>	EN2-2EX1	6041096
	<ul style="list-style-type: none"><li><b>Description:</b> NAMUR isolating amplifier, Cable fault detection, Switching outputs: 2 NO relay (1 per channel), Supply voltage: 19,2 V ... 30 V, Voltage type: DC</li></ul>	EN2-2EX3	6041095

	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> Clamping block for round sensors M18, with 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-KHF-M18	2051482
	<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 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> 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> Plate N06N for universal clamp bracket, M18</li> <li><b>Material:</b> Stainless steel, stainless steel</li> <li><b>Details:</b> Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp)</li> <li><b>Items supplied:</b> Universal clamp (5322627), 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-N06N	2051622

## 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)