MM18-70A-N-ZW0

MMN

MAGNETIC SENSORS

SICK
Sensor Intelligence.

MM18-70A-N-ZW0 | MMN
MAGNETIC SENSORS

Ordering information

Type	part no.
MM18-70A-N-ZW0	1102545

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

Other models and accessories ➜ www.sick.com/MMN

Illustration may differ

Detailed technical data

Features

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

[1] Sensing range based on installation in non-magnetic material using Magnet MAG-3010-B (M4.0).

[2] Do not bend below 0 °C.

[3] According to EN 60529.

Mechanics/electronics

Ripple	≤ 5 % [1]
Time delay before availability	≤ 2 ms
Hysteresis	≤ 25 %

[1] Of V_S.

[2] Von Sr (VS und Ta constant).

[3] For connection to a separately certified intrinsically safe circuit only.

Reproducibility	≤ 1 % [2]
Temperature drift (of S_r)	± 10 %
EMC	According to EN 60947-5-2
Current consumption, sensor is activated	≥ 2.3 mA
Current consumption, sensor is not activated	≤ 1 mA
Cable material	PVC
Conductor size	0.34 mm²
Cable resistance	≤ 50 Ω
Wire-break protection	✓
Reverse polarity protection	Yes
Short-circuit protection	Yes
Shock and vibration resistance	30 g, 11 ms / 10 ... 55 Hz, 1 mm
Ambient operating temperature	–25 °C ... +70 °C
Housing material	Nickel-plated brass
Housing length	50 mm
Thread length	40 mm
Tightening torque, max.	≤ 25 Nm
Type approval certificate	TÜV 19 ATEX 241335
UK type examination certificate	UL22UKEX2385
ATEX marking	EX II 1G Ex ia IIC T6 Ga EX II 1D Ex ia IIIC T_{200}85 °C Da Ta: –25 °C ... +70 °C
Ex area category	1G, 1D
Input voltage U_i max.	16 V [3]
Input power P_i max.	100 mW [3]
Input current I_i max.	30 mA [3]
Internal capacitance C_i max.	130 nF [3]
Internal inductance L_i max.	10 µH [3]
Nominal voltage	8.2 V DC

[1] Of V_S.

[2] Von Sr (VS und Ta constant).

[3] For connection to a separately certified intrinsically safe circuit only.

Safety-related parameters

$MTTF_D$	2,828 years
DC_{avg}	0 %
T_M (mission time)	20 years

Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓

Moroccan declaration of conformity	✓
China RoHS	✓
ATEX certificate	✓

Classifications

ECLASS 5.0	27270104
ECLASS 5.1.4	27270104
ECLASS 6.0	27270104
ECLASS 6.2	27270104
ECLASS 7.0	27270104
ECLASS 8.0	27270104
ECLASS 8.1	27270104
ECLASS 9.0	27270104
ECLASS 10.0	27270104
ECLASS 11.0	27270104
ECLASS 12.0	27274301
ETIM 5.0	EC002544
ETIM 6.0	EC002544
ETIM 7.0	EC002544
ETIM 8.0	EC002544
UNSPSC 16.0901	39122230

Installation note

installation in magnetizable material
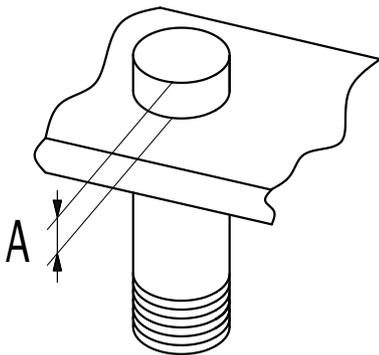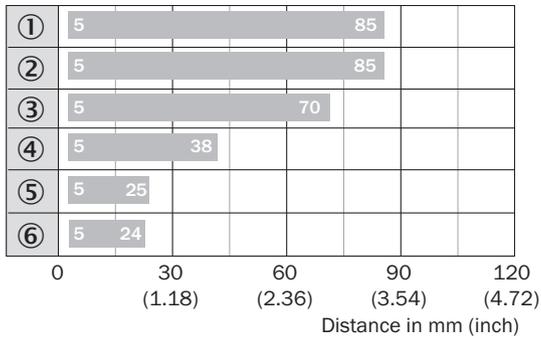
installation in non-magnetizable material
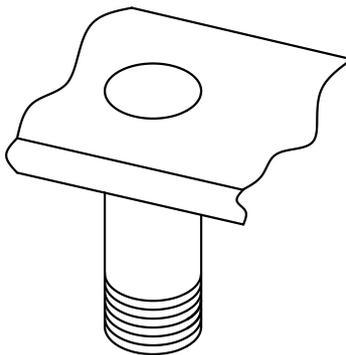
Ø	A (mm)	M (Nm)
M18	15	< 25

Connection diagram Cd-012

```
  BN        + (L+)

  BU        - (M)
```

Sensing range diagram

①	5 ─────────── 85
②	5 ─────────── 85
③	5 ──────── 70
④	5 ──── 38
⑤	5 ── 25
⑥	5 ── 24

```
0        30        60        90       120
       (1.18)    (2.36)    (3.54)    (4.72)
              Distance in mm (inch)
```
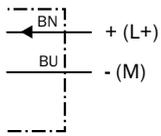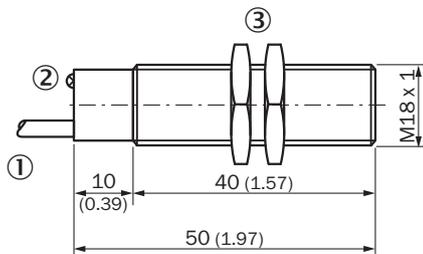
▨ Max. sensing range S$_n$, flush or non-flush installation, non-magnetizable material

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

```
          ③
②
                       M18 x 1
①
    10      40 (1.57)
  (0.39)
       50 (1.97)
```

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

	Brief description	Type	part no.
integration modules and adapters			
	• **Description:** NAMUR isolating amplifier, Cable fault detection, Switching outputs: 2 NO relay (1 per channel), Supply voltage: 24 V ... 230 V, Voltage type: AC/DC	EN2-2EX1	6041096
	• **Description:** NAMUR isolating amplifier, Cable fault detection, Switching outputs: 2 NO relay (1 per channel), Supply voltage: 19,2 V ... 30 V, Voltage type: DC	EN2-2EX3	6041095
Mounting systems			
	• **Description:** Clamping block for round sensors M18, without fixed stop • **Material:** Plastic • **Details:** Plastic (PA12), glass-fiber reinforced • **Items supplied:** Mounting hardware included • **Suitable for:** GR18, MH15V, V180-2, V18, IME18, IMX18, IMA18, IMB18, IMI18	BEF-KH-M18	2051481
	• **Description:** Clamping block for round sensors M18, with fixed stop • **Material:** Plastic • **Details:** Plastic (PA12), glass-fiber reinforced • **Items supplied:** Mounting hardware included • **Suitable for:** GR18, MH15V, V180-2, V18	BEF-KHF-M18	2051482
	• **Description:** Mounting bracket for M18 sensors • **Material:** Steel • **Details:** Steel, zinc coated • **Items supplied:** Without mounting hardware • **Suitable for:** GR18, V180-2, V18, W15, Z1, Z2	BEF-WN-M18	5308446
	• **Description:** Mounting plate for M18 sensors • **Material:** Steel • **Details:** Steel, zinc coated • **Items supplied:** Without mounting hardware • **Suitable for:** GR18, V180-2, V18, W15, Z1, Z2	BEF-WG-M18	5321870
	• **Description:** Plate N06 for universal clamp bracket, M18 • **Material:** Steel, zinc diecast • **Details:** Zinc plated steel (sheet), Zinc die cast (clamping bracket) • **Items supplied:** Universal clamp (5322626), mounting hardware • **Usable for:** MH15, MH15V, V180-2, V18V, W15, GR18, V18, V18 Laser, V12-2, SimpleSense, SureSense, M18 round sensors	BEF-KHS-N06	2051612
	• **Description:** Plate N06N for universal clamp bracket, M18 • **Material:** Stainless steel, stainless steel • **Details:** Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp) • **Items supplied:** Universal clamp (5322627), mounting hardware • **Usable for:** MH15, MH15V, V180-2, V18V, W15, GR18, V18, V18 Laser, V12-2, SimpleSense, SureSense, M18 round sensors	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:

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