



MM18-70A-N-ZC0

MMN

MAGNETIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	part no.
MM18-70A-N-ZC0	7900289

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

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

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	5,000 Hz
Connection type	Male connector M12, 4-pin
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 ²⁾
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⁾ According to EN 60529.

Mechanics/electronics

Ripple	≤ 5 % ¹⁾
Time delay before availability	≤ 2 ms
Hysteresis	1 % ... 10 %
Reproducibility	≤ 1 % ²⁾
Temperature drift (of S_r)	± 10 %
EMC	According to EN 60947-5-2
Current consumption, sensor is activated	≥ 2.5 mA

¹⁾ Of V_S .

²⁾ Von S_r (V_S und T_a constant).

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

Current consumption, sensor is not activated	≤ 1 mA
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	Metal, Nickel-plated brass
Housing length	65 mm
Thread length	40 mm
Tightening torque, max.	≤ 25 Nm
Type approval certificate	TÜV 99 ATEX 1398
ATEX marking	EX II 2G Ex ib IIC T6 Gb Ta: - 25 °C ... + 70 °C
Ex area category	2G
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.	15 nF ³⁾
Internal inductance L_i max.	35 µH ³⁾
Nominal voltage	8.2 V DC

¹⁾ Of V_S.

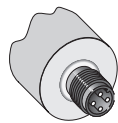
²⁾ Von Sr (VS und Ta constant).

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

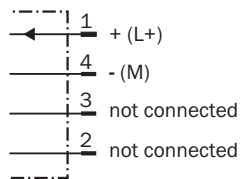
Classifications

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

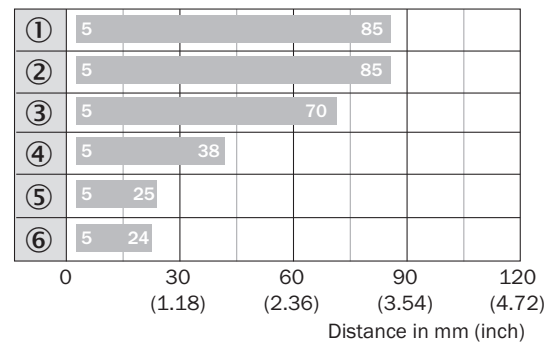
Connection type



Connection diagram Cd-015



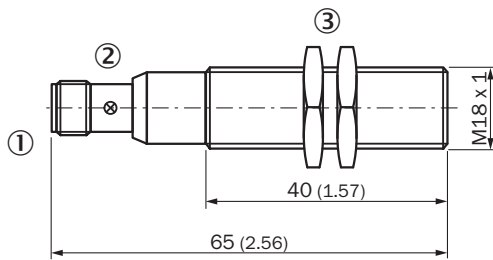
Sensing range diagram



■ 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, connector



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

	Brief description	Type	part no.
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	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

	Brief description	Type	part no.
connectors and cables			
	Connection type head A: Male connector, M12, 4-pin, angled, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm²	STE-1204-W	6022084
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm²	DOS-1204-G	6007302
	Connection type head A: Female connector, M12, 4-pin, angled, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm²	DOS-1204-W	6007303
	Connection type head A: Male connector, M12, 4-pin, straight, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm²	STE-1204-G	6009932
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-020UB3XLEAX	2095607
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-050UB3XLEAX	2095608
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 10 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-100UB3XLEAX	2095609
	Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YG2A14-020UB3XLEAX	2095766
	Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YG2A14-050UB3XLEAX	2095767
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones	YF2A14-020VB3XLEAX	2096234
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones	YF2A14-050VB3XLEAX	2096235
	Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded	YG2A14-020VB3XLEAX	2095895

	Brief description	Type	part no.
	Application: Zones with chemicals, Untaminated zones Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Untaminated zones	YG2A14-050VB3XLEAX	2095897
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.6 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Untaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-C60UB3XLEAX	2145654
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 1 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Untaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-010UB3XLEAX	2145655
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 3 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Untaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-030UB3XLEAX	2145656
	Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.6 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Untaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YG2A14-C60UB3XLEAX	2145657
	Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 1 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Untaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YG2A14-010UB3XLEAX	2145658
	Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.6 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Untaminated zones	YG2A14-C60VB3XLEAX	2145709
	Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 1 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Untaminated zones	YG2A14-010VB3XLEAX	2145710
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.6 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Untaminated zones	YF2A14-C60VB3XLEAX	2145707
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 1 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Untaminated zones	YF2A14-010VB3XLEAX	2145708

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.”

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