



CAPACITIVE AND MAGNETIC PROXIMITY SENSORS

PRODUCTS AT A GLANCE

Capacitive proximity sensors, magnetic proximity sensors

CAPACITIVE PROXIMITY SENSORS

| Product family | | Housing | | Housing material | Special features | | | | |
|--|-----------|----------------------|-------------|------------------|------------------|--------------|---------------------------|-------------------------------|-----------------------------|
| | | Cylindrical threaded | Rectangular | Plastic | IP69K | PTFE-coating | Compensation of adhesions | Increased switching frequency | Visual adjustment indicator |
|  | CM12 | ■ | | ■ | | | | | ■ |
| | CM18/CM30 | ■ | | ■ | ■ | | | | ■ |
|  | CM PTFE | ■ | | ■ | | ■ | | | |
|  | CQ4 | | ■ | ■ | | | | ■ | |
| | CQ28 | | ■ | ■ | | | | | |
| | CQ35 | | ■ | ■ | | | | | |
|  | CQF | | ■ | ■ | ■ | | ■ | | |

MAGNETIC PROXIMITY SENSORS



| Product family | | Housing | | Size | | | | Housing material | | |
|---|------------|----------------------|-------------|------|-----|-----|-------------------------|---------------------|-----------------|------------------|
| | | Cylindrical threaded | Rectangular | M8 | M12 | M18 | 10.3 mm x 37 mm x 16 mm | Nickel plated brass | Stainless steel | Plastic, VISTAL® |
|  | MM08 | ■ | | ■ | | | | ■ | | |
| | MM12 | ■ | | | ■ | | | ■ | | |
| | MM18 | ■ | | | | ■ | | ■ | ■ | |
|  | MM12 Namur | ■ | | | ■ | | | ■ | | |
| | MM18 Namur | ■ | | | | ■ | | ■ | | |
|  | MQ10 | | ■ | | | | ■ | | | ■ |

| Teach-in | | | Electrical wiring | | | Sensing range S _n | | | | | Page |
|------------------|---------|----------------|-------------------|-----------|-----------|------------------------------|----|----|----|----|------|
| by potentiometer | By wire | By push button | AC 2-wire | DC 3-wire | DC 4-wire | 5 | 10 | 15 | 20 | 25 | |
| | ■ | ■ | | | ■ | 8 mm | | | | | → 4 |
| ■ | | | ■ | | ■ | 25 mm | | | | | → 4 |
| ■ | | | | | ■ | 8 mm | | | | | → 4 |
| ■ | | | | ■ | | 8 mm | | | | | → 5 |
| | ■ | ■ | | | ■ | 10 mm | | | | | → 5 |
| ■ | | | | | ■ | 25 mm | | | | | → 5 |
| | ■ | | | ■ | ■ | 6 mm | | | | | → 5 |

| Sensor properties | | Application | | | Sensing range S _n | | | | | | | | Page | | | | |
|-------------------|--------------|--------------------|---------------------------|----------------------------------|------------------------------|----|----|----|----|----|----|----|------|-----|-----|-----|--|
| DC 3-wire | NAMUR output | Factory automation | Explosion-hazardous areas | Object detection behind surfaces | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | |
| ■ | | ■ | | ■ | 60 mm | | | | | | | | → 6 | | | | |
| ■ | | ■ | | ■ | 60 mm | | | | | | | | → 6 | | | | |
| ■ | | ■ | | ■ | 90 mm | | | | | | | | → 6 | | | | |
| | ■ | | ■ | ■ | 120 mm | | | | | | | | → 7 | | | | |
| | ■ | | ■ | ■ | 90 mm | | | | | | | | → 7 | | | | |
| ■ | | ■ | | ■ | 120 mm | | | | | | | | → 7 | | | | |

| | | | |
|--|--|---|--|
| |  <p>CM12/CM18/CM30</p> |  <p>CM PTFE</p> | |
| | Tried-and-tested sensors for object detection and level measurement | Sensors in cylindrical PTFE-housing that withstand tough environments | |

| Technical data overview | | | |
|-------------------------|---------------------------------|---------------------------|--|
| Housing | Cylindrical thread design | Cylindrical thread design | |
| Thread size | M12 x 1 M18 x 1 M30 x 1.5 | M18 x 1 | |
| Dimensions (W x H x D) | - | - | |
| Sensing range S_n | 6 mm ... 25 mm | ≤ 8 mm | |
| Housing material | Plastic | PTFE coating | |
| Enclosure rating | IP68 IP69K IP67 | IP67 | |
| Connection | Male connector / cable | Cable | |
| Electrical wiring | DC 4-wire / AC 2-wire | DC 4-wire | |

| At a glance | | |
|-------------|--|--|
| | <ul style="list-style-type: none"> • Detects powders, granulates, liquids and solids • High electromagnetic compatibility • Visual adjustment indicator • Ecolab certified (CM18/CM30)  | <ul style="list-style-type: none"> • Use in aggressive environmental conditions • Housing material made from PTFE • Detects powders, granulates, liquids and solids • High electromagnetic compatibility  |

| | | | |
|----------------------|--|--|--|
| Detailed information | → www.sick.com/CM | → www.sick.com/CM_PTFE | |
|----------------------|--|--|--|



CQ4/CQ28/CQ35

Reliable capacitive proximity sensors enclosed in a rectangular housing



CQF

Reliable level measurement of water-based liquids

Rectangular

-

16 mm x 39.5 mm x 12 mm (CQ4)
28 mm x 46 mm x 5.5 mm (CQ28)
35 mm x 69.5 mm x 15 mm (CQ35)

6 mm ... 25 mm

Plastic

IP67 / IP68

Cable

Male connector

Cable with male connector

DC 3-wire / DC 4-wire

Rectangular

-

16 mm x 34 mm x 8 mm

≤ 6 mm

Plastic

IP67, IP68, IP69K

Cable / cable with male connector

DC 4-wire

- Detects powders, granulates, liquids and solids
- High electromagnetic compatibility



→ www.sick.com/CQ

- Detects liquids with a conductivity of up to 50 mS/cm
- Compensation of foam, moisture and adhesions
- Flexible and easy installation – thanks to the supplied mounting bracket
- Ecolab certified



→ www.sick.com/CQF



MM08/MM12/MM18

Magnetic proximity sensors in common M8, M12, and M18 cylindrical housing

Technical data overview

| | |
|----------------------------------|---|
| Housing | Cylindrical thread design |
| Thread size | M8 x 1 M12 x 1 M18 x 1 |
| Housing | - |
| Sensing range S_n | 45 mm ... 120 mm |
| Magnetic field sensitivity, min. | 0.4 mT ... 1 mT |
| Housing material | Nickel-plated brass / V4A (1.4404, 316L) |
| Enclosure rating | IP67 |
| Connection | Connector M8, 3-pin / Cable, 3-wire / male connector M12, 4-pin |

At a glance

- Electrical configuration: DC 3-wire
- Temperature range: -25 °C to +75 °C
- Plastic sensing face
- Reliable detection of permanent magnets through non-ferromagnetic materials such as stainless steel, aluminum, plastic or wood
- Solves high-temperature applications by installing the permanent magnet in the high-temperature area and the sensor behind an insulated area



Detailed information

→ www.sick.com/MM



MM12 Namur/MM18 Namur

NAMUR magnetic proximity sensors in a cylindrical housing for explosive areas



MQ10

Magnetic proximity sensors in a rectangular housing

| | Cylindrical thread design | Rectangular |
|--|---|---|
| | M12 x 1 M18 x 1 | - |
| | - | 10 mm x 28 mm x 16 mm |
| | 60 mm ... 120 mm | ≤ 60 mm |
| | ≤ 0.4 mT ... ≤ 1 mT | ≤ 1 mT |
| | Nickel-plated brass | VISTAL® |
| | IP67 | IP67 |
| | Male connector M12, 4-pin / Cable, 2-wire / Cable with connector M9, 5-pin, with knurled nuts | Connector M8, 3-pin / Cable, 3-wire / Cable with connector M12, 3-pin |

- Electrical configuration: NAMUR
- Temperature range: -25 °C to +70 °C
- Plastic sensing face
- Reliable detection of permanent magnets through non-ferromagnetic materials such as stainless steel, aluminum, plastic or wood
- NAMUR design for usage in explosion-hazardous areas (EX II 1G/1D und EX II 2G)



→ www.sick.com/MM_Namur

- Electrical configuration: DC, 3-wire
- Temperature range: -25 °C to +75 °C
- Tough VISTAL™ housing
- Reliable detection of permanent magnets through non-ferromagnetic materials such as stainless steel, aluminum, plastic or wood
- Solves high-temperature applications by installing the permanent magnet in the high-temperature area and the sensor behind an insulated area



→ www.sick.com/MQ

SICK AT A GLANCE

SICK is a leading manufacturer of intelligent sensors and sensor solutions for industrial applications. With more than 10,000 employees and over 50 subsidiaries and equity investments as well as numerous agencies worldwide, SICK is always close to its customers. 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.

SICK has extensive experience in various industries and understands their processes and requirements. With intelligent sensors, SICK delivers exactly what the 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 SICK a reliable supplier and development partner.

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Detailed addresses and further locations → www.sick.com