



ANM58B-BFNNB0000000000AXX018X16

ANS/ANM58

ABSOLUTE ENCODERS

SICK
Sensor Intelligence.



Ordering information

| Type | part no. |
|-------------------------------|----------|
| ANM58B-BFNNB00000000AXX018X16 | 1146133 |

Other models and accessories → www.sick.com/ANS_ANM58

Illustration may differ



Detailed technical data

Safety-related parameters

| | |
|--|--|
| MTTF_D (mean time to dangerous failure) | 165 years (EN ISO 13849-1) ¹⁾ |
|--|--|

¹⁾ This product is a standard product and does not constitute a safety component as defined in the Machinery Directive. Calculation based on nominal load of components, average ambient temperature 40 °C, frequency of use 8760 h/a. All electronic failures are considered hazardous. For more information, see document no. 8015532.

Performance

| | |
|---|------------------------------------|
| Number of steps per revolution (max. resolution) | 262,144 (18 bit) |
| Number of revolutions | 65,536 (16 bit) |
| Max. resolution (number of steps per revolution x number of revolutions) | 18 bit x 16 bit (262,144 x 65,536) |
| Error limits G | 0.03° |
| Repeatability standard deviation σ_r | 0.002° |

Interfaces

| | |
|-----------------------------------|--|
| Communication interface | PROFINET |
| PROFINET version | PROFINET Version 2.3 |
| Encoder profile | V4.2 |
| Transmission medium | CAT-5e cable |
| Initialization time | 5 s |
| Cycle time | ≥ 1 ms |
| Process data | Position, speed, Encoder status (errors, warnings) |
| Parameterising data | Number of steps per revolution Total measuring range PRESET Direction of rotation Filter for speed calculation Unit for output of the speed value Round axis functionality |
| Available diagnostics data | Minimum and maximum temperature Maximum speed |

| | |
|---------------------------|---|
| | Power-on counter Operating hours counter power-on/motion Counter of direction changes/number of movements cw/number of movements ccw Configurable limit values with limit value monitoring |
| Status information | Via status LED |

Electronics

| | |
|------------------------------------|--|
| Connection type | Male connector, 1x, M12, 4-pin, axial ¹⁾ Female connector, 2x, M12, 4-pin, axial ²⁾ |
| Supply voltage | 10 ... 32 V |
| Power consumption | ≤ 3 W |
| Reverse polarity protection | ✓ |
| Short-circuit protection | ✓ |

¹⁾ A-coded.

²⁾ D-coded.

Mechanics

| | |
|---------------------------------------|---|
| Mechanical design | Blind hollow shaft |
| Shaft diameter | 12 mm |
| Characteristics of the shaft | Front clamp |
| Flange type / stator coupling | Stator coupling, 2-sided, screw hole circle 63 mm |
| Weight | Approx. 0.5 kg |
| Shaft material | Stainless steel |
| Flange material | Aluminum |
| Material, stator coupling | Stainless steel |
| Housing material | Zinc die-cast with copper-nickel coating |
| Start up torque | 1.5 Ncm (+20 °C) |
| Operating torque | < 0.6 Ncm (+20 °C) |
| Permissible movement static | ± 0.3 mm (radial) ± 0.5 mm (axial) |
| Permissible movement dynamic | ± 0.05 mm (radial) ± 0.1 mm (axial) |
| Operating speed | ≤ 6,000 min ⁻¹ |
| Moment of inertia of the rotor | 125 gcm ² |
| Bearing lifetime | L _{mnr} 30 x 10 ⁹ revolutions ¹⁾ |
| Angular acceleration | ≤ 300,000 rad/s ² |

¹⁾ The value corresponds to L 10mr (ISO/TS 16281) at 60 °C operating temperature, rotational speed: 3,000 rpm, with shaft load/shaft movement of max. 50% of the specified maximum value.

Ambient data

| | |
|--------------------------------------|--|
| EMC | According to EN 61000-6-2 and EN 61000-6-3 |
| Enclosure rating | IP65 (IEC 60529) |
| Permissible relative humidity | 90 % (Condensation not permitted) |
| Operating temperature range | -40 °C ... +85 °C ¹⁾ |

¹⁾ Relative to the measuring point on the plug connection side, see dimensional drawing.

²⁾ Operation of the mounted encoder in resonance ranges should be avoided to prevent possible damage or malfunctions.

| | |
|---|---|
| Storage temperature range | -40 °C ... +100 °C, without package |
| Resistance to shocks | 200 g, 6 ms (EN 60068-2-27) |
| Resistance to vibration | 20 g, 10 Hz ... 2,000 Hz (EN 60068-2-6) ²⁾ |
| Operating height (above sea level) | ≤ 3,000 m (70 kPa) |

¹⁾ Relative to the measuring point on the plug connection side, see dimensional drawing.

²⁾ Operation of the mounted encoder in resonance ranges should be avoided to prevent possible damage or malfunctions.

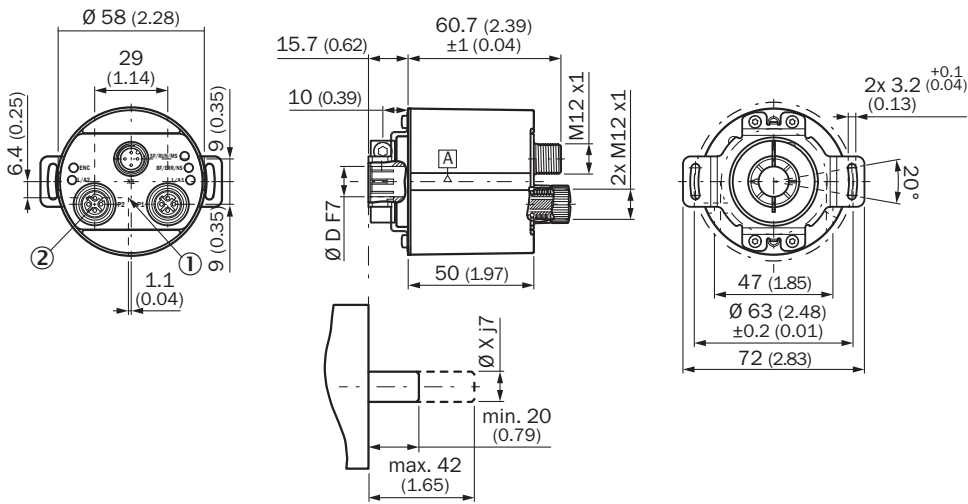
Certificates

| | |
|--|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| China RoHS | ✓ |
| cULus certificate | ✓ |
| Profinet certificate | ✓ |
| Information according to Art. 3 of Data Act (Regulation EU 2023/2854) | ✓ |

Classifications

| | |
|-----------------------|----------|
| ECLASS 5.0 | 27270502 |
| ECLASS 5.1.4 | 27270502 |
| ECLASS 6.0 | 27270590 |
| ECLASS 6.2 | 27270590 |
| ECLASS 7.0 | 27270502 |
| ECLASS 8.0 | 27270502 |
| ECLASS 8.1 | 27270502 |
| ECLASS 9.0 | 27270502 |
| ECLASS 10.0 | 27270502 |
| ECLASS 11.0 | 27270502 |
| ECLASS 12.0 | 27270502 |
| ETIM 5.0 | EC001486 |
| ETIM 6.0 | EC001486 |
| ETIM 7.0 | EC001486 |
| ETIM 8.0 | EC001486 |
| UNSPSC 16.0901 | 41112113 |

Dimensional drawing



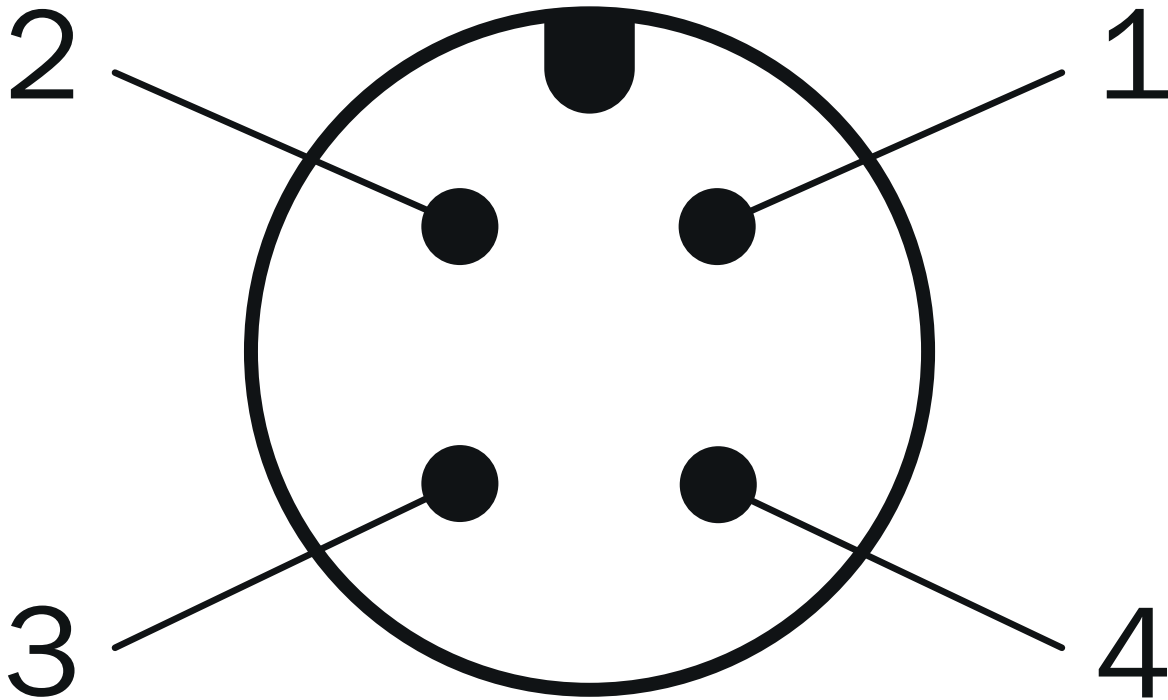
Dimensions in mm (inch)

diameter x f7 corresponds to the shaft diameter

① Operating temperature measuring point: On the plug connection side, see drawing

② Protective cap removed

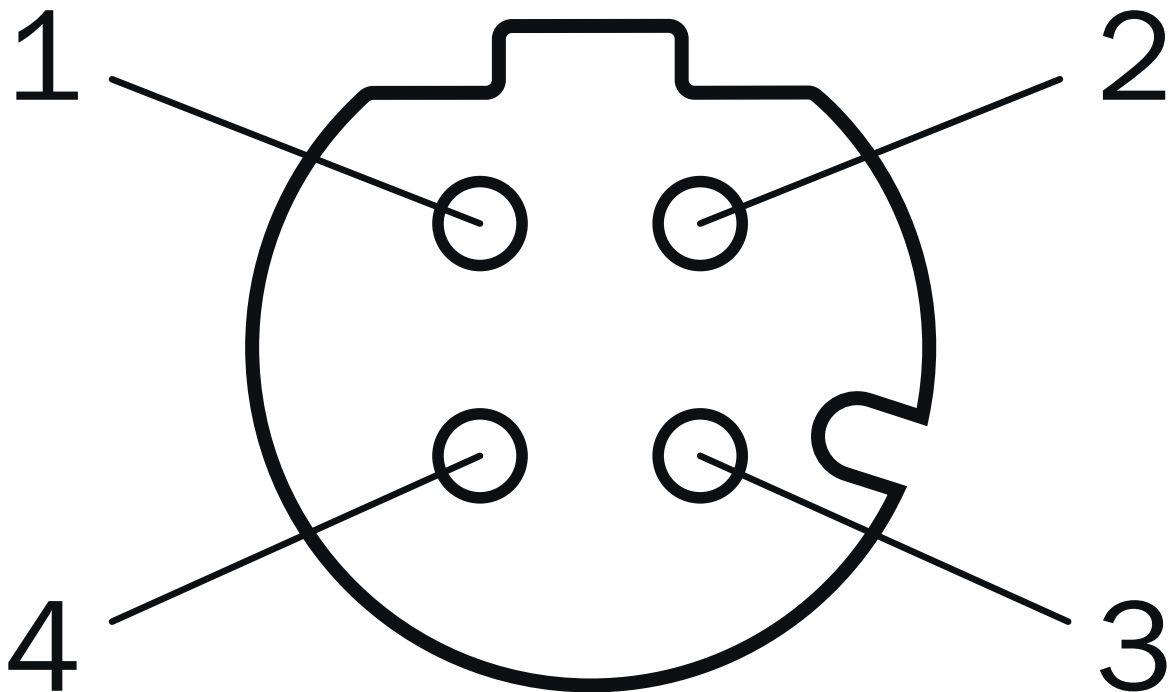
Anschlussbelegung Male connector



Supply voltage

| PIN | Wire color | Signal |
|-----|------------|------------------------------|
| 1 | Brown | U _S 10 V ... 30 V |
| 2 | White | Not assigned |
| 3 | Blue | GND |
| 4 | Black | Not assigned |

Anschlussbelegung Female connector



Port 1, Port 2

| PIN | Wire color | Signal |
|-----|------------|--------|
| 1 | Yellow | T x D+ |
| 2 | White | R x D+ |
| 3 | Orange | T x D- |
| 4 | Blue | R x D- |


Recommended accessories

Other models and accessories → www.sick.com/ANS_ANM58

| | Brief description | Type | part no. |
|---|--|--------------------|----------|
| connectors and cables | | | |
|  | <ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded 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 Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation | YF2A14-010UB3XLEAX | 2145655 |
|  | <ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded 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 Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation | YF2A14-020UB3XLEAX | 2095607 |
|  | <ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded 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 Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation | YF2A14-030UB3XLEAX | 2145656 |
|  | <ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded 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 Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation | YF2A14-050UB3XLEAX | 2095608 |
|  | <ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded 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 Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation | YF2A14-100UB3XLEAX | 2095609 |
|  | <ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 20 m, 4-wire, PUR, halogen-free Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation | YF2A14-200UB3XLEAX | 2095611 |
|  | <ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 25 m, 4-wire, PUR, halogen-free Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation | YF2A14-250UB3XLEAX | 2095615 |
|  | <ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded 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 Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation | YF2A14-C60UB3XLEAX | 2145654 |
|  | <ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded 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 Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation | YG2A14-010UB3XLEAX | 2145658 |
|  | <ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded 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 | YG2A14-020UB3XLEAX | 2095766 |

| | Brief description | Type | part no. |
|---|---|---------------------|----------|
|  | <ul style="list-style-type: none"> Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation Description: Sensor/actuator cable, unshielded 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 Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation | YG2A14-050UB3XLEAX | 2095767 |
|  | <ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 10 m, 4-wire, PUR, halogen-free Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation | YG2A14-100UB3XLEAX | 2095768 |
|  | <ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 20 m, 4-wire, PUR, halogen-free Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation | YG2A14-200UB3XLEAX | 2095770 |
|  | <ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 25 m, 4-wire, PUR, halogen-free Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation | YG2A14-250UB3XLEAX | 2095771 |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, straight, D-coded Connection type head B: Flying leads Signal type: Ethernet, PROFINET Cable: 2 m, 4-wire, PUR, halogen-free Description: Ethernet, shielded, PROFINET Application: Drag chain operation, Zones with oils and lubricants | YM2D24-020P-N1XLEAX | 2106171 |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, straight, D-coded Connection type head B: Flying leads Signal type: Ethernet, PROFINET Cable: 5 m, 4-wire, PUR, halogen-free Description: Ethernet, shielded, PROFINET Application: Drag chain operation, Zones with oils and lubricants | YM2D24-050P-N1XLEAX | 2106172 |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, straight, D-coded Connection type head B: Flying leads Signal type: Ethernet, PROFINET Cable: 10 m, 4-wire, PUR, halogen-free Description: Ethernet, shielded, PROFINET Application: Drag chain operation, Zones with oils and lubricants | YM2D24-100P-N1XLEAX | 2106173 |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, angled, D-coded Connection type head B: Flying leads Signal type: Ethernet, PROFINET Cable: 5 m, 4-wire, PUR, halogen-free Description: Ethernet, shielded, PROFINET Application: Drag chain operation, Zones with oils and lubricants | YN2D24-050P-N1XLEAX | 2106175 |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, angled, D-coded Connection type head B: Flying leads Signal type: Ethernet, PROFINET Cable: 10 m, 4-wire, PUR, halogen-free Description: Ethernet, shielded, PROFINET Application: Drag chain operation, Zones with oils and lubricants | YN2D24-100P-N1XLEAX | 2106176 |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, angled, D-coded Connection type head B: Flying leads Signal type: Ethernet, PROFINET Cable: 25 m, 4-wire, PUR, halogen-free Description: Ethernet, shielded, PROFINET Application: Drag chain operation, Zones with oils and lubricants | YN2D24-250P-N1XLEAX | 2106180 |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, straight, D-coded Connection type head B: Male connector, M12, 4-pin, angled, D-coded Signal type: Ethernet, PROFINET Cable: 2 m, 4-wire, PUR, halogen-free Description: Ethernet, shielded, PROFINET | YM2D24-020P-N1N2D24 | 2106165 |

| | Brief description | Type | part no. |
|---|--|---------------------|----------|
|  | <ul style="list-style-type: none"> Application: Drag chain operation, Zones with oils and lubricants Connection type head A: Male connector, M12, 4-pin, straight, D-coded Connection type head B: Male connector, M12, 4-pin, straight, D-coded Signal type: Ethernet, PROFINET Cable: 5 m, 4-wire, PUR, halogen-free Description: Ethernet, shielded, PROFINET Application: Drag chain operation, Zones with oils and lubricants | YM2D24-050P-N1M2D24 | 2106160 |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, straight, D-coded Connection type head B: Male connector, M12, 4-pin, angled, D-coded Signal type: Ethernet, PROFINET Cable: 5 m, 4-wire, PUR, halogen-free Description: Ethernet, shielded, PROFINET Application: Drag chain operation, Zones with oils and lubricants | YM2D24-050P-N1N2D24 | 2106166 |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, straight, D-coded Connection type head B: Male connector, M12, 4-pin, straight, D-coded Signal type: Ethernet, PROFINET Cable: 10 m, 4-wire, PUR, halogen-free Description: Ethernet, shielded, PROFINET Application: Drag chain operation, Zones with oils and lubricants | YM2D24-100P-N1M2D24 | 2106161 |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, straight, D-coded Connection type head B: Male connector, M12, 4-pin, angled, D-coded Signal type: Ethernet, PROFINET Cable: 10 m, 4-wire, PUR, halogen-free Description: Ethernet, shielded, PROFINET Application: Drag chain operation, Zones with oils and lubricants | YM2D24-100P-N1N2D24 | 2106167 |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, angled, D-coded Connection type head B: Male connector, M12, 4-pin, angled, D-coded Signal type: Ethernet, PROFINET Cable: 2 m, 4-wire, PUR, halogen-free Description: Ethernet, shielded, PROFINET Application: Drag chain operation, Zones with oils and lubricants | YN2D24-020P-N1N2D24 | 2106168 |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, angled, D-coded Connection type head B: Male connector, M12, 4-pin, angled, D-coded Signal type: Ethernet, PROFINET Cable: 10 m, 4-wire, PUR, halogen-free Description: Ethernet, shielded, PROFINET Application: Drag chain operation, Zones with oils and lubricants | YN2D24-100P-N1N2D24 | 2106170 |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, straight, D-coded Connection type head B: Male connector, RJ45, 4-pin, straight Signal type: Ethernet, PROFINET Cable: 2 m, 4-wire, PUR, halogen-free Description: Ethernet, shielded, PROFINET Application: Drag chain operation, Zones with oils and lubricants | YM2D24-020P-N1MRJA4 | 2106182 |
|  | <ul style="list-style-type: none"> Description: Unshielded Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm² | DOS-1204-W | 6007303 |
|  | <ul style="list-style-type: none"> Description: PROFINET, shielded Connection type head A: Male connector, M12, 4-pin, angled, D-coded Signal type: PROFINET Cable: CAT5, CAT5e Connection systems: IDC quick connection Permitted cross-section: 0.14 mm² ... 0.34 mm² | STE-1204-WZ | 6048262 |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, straight, D-coded Connection type head B: Male connector, RJ45, 4-pin, straight Signal type: Ethernet, PROFINET Cable: 5 m, 4-wire, PUR, halogen-free Description: Ethernet, shielded, PROFINET Application: Drag chain operation, Zones with oils and lubricants | YM2D24-050P-N1MRJA4 | 2106184 |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, straight, D-coded Connection type head B: Male connector, RJ45, 4-pin, straight Signal type: Ethernet, PROFINET Cable: 10 m, 4-wire, PUR, halogen-free Description: Ethernet, shielded, PROFINET Application: Drag chain operation, Zones with oils and lubricants | YM2D24-100P-N1MRJA4 | 2106185 |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, angled, D-coded Connection type head B: Male connector, RJ45, 4-pin, straight Signal type: Ethernet, PROFINET Cable: 2 m, 4-wire, PUR, halogen-free | YN2D24-020P-N1MRJA4 | 2106162 |

| | Brief description | Type | part no. |
|---|--|--|----------|
| | <ul style="list-style-type: none"> Description: Ethernet, shielded, PROFINET Application: Drag chain operation, Zones with oils and lubricants | | |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, angled, D-coded Connection type head B: Male connector, RJ45, 4-pin, straight Signal type: Ethernet, PROFINET Cable: 3 m, 4-wire, PUR, halogen-free Description: Ethernet, shielded, PROFINET Application: Drag chain operation, Zones with oils and lubricants | YN2D24-030P-N1MRJA4 | 2144265 |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, angled, D-coded Connection type head B: Male connector, RJ45, 4-pin, straight Signal type: Ethernet, PROFINET Cable: 5 m, 4-wire, PUR, halogen-free Description: Ethernet, shielded, PROFINET Application: Drag chain operation, Zones with oils and lubricants | YN2D24-050P-N1MRJA4 | 2106163 |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, angled, D-coded Connection type head B: Male connector, RJ45, 4-pin, straight Signal type: Ethernet, PROFINET Cable: 10 m, 4-wire, PUR, halogen-free Description: Ethernet, shielded, PROFINET Application: Drag chain operation, Zones with oils and lubricants | YN2D24-100P-N1MRJA4 | 2106164 |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, angled, D-coded Connection type head B: Male connector, RJ45, 4-pin, straight Signal type: Ethernet, PROFINET Cable: 20 m, 4-wire, PUR, halogen-free Description: Ethernet, shielded, PROFINET Application: Drag chain operation, Zones with oils and lubricants | YN2D24-200P-N1MRJA4 | 2127664 |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, angled, D-coded Connection type head B: Male connector, M12, 4-pin, angled, D-coded Signal type: Ethernet, PROFINET Cable: 5 m, 4-wire, PUR, halogen-free Description: Ethernet, shielded, PROFINET Application: Drag chain operation, Zones with oils and lubricants | YN2D24-050P-N1N2D24 | 2127662 |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, RJ45, 4-pin, straight Connection type head B: Male connector, M12, 4-pin, angled, D-coded Signal type: Ethernet, PROFINET Cable: 30 m, 4-wire, CAT5, CAT5e, PVC Description: Ethernet, shielded, PROFINET | SSL-2J04-F30MZ | 6059450 |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, D-coded Connection type head B: Female connector, RJ45, 8-pin Signal type: Ethernet Cable: CAT5, CAT5e Description: Ethernet, shielded Note: Cabinet through | Feedthrough female connector Ethernet RJ45 | 6048180 |
| Mounting systems | | | |
|  | <ul style="list-style-type: none"> Description: Flange adapter, adapts blind hollow shaft to REO flange Material: Aluminum Details: Aluminum Items supplied: Including 4 fillister head screws, M3 x 6 mm Suitable for: Encoder with blind hollow shaft, Ø 12 mm | BEF-FA-REO1112 | 2048948 |

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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