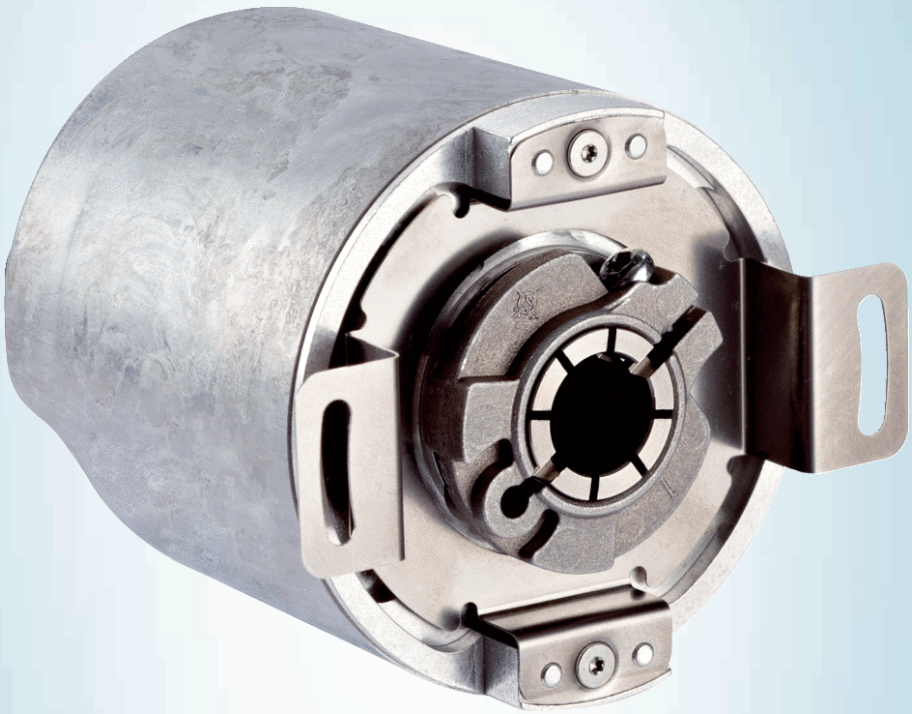
Data sheet



# AFM60A-BKNB018x12

## AFS/AFM60 Ethernet

**ABSOLUTE ENCODERS**

SICK
Sensor Intelligence.

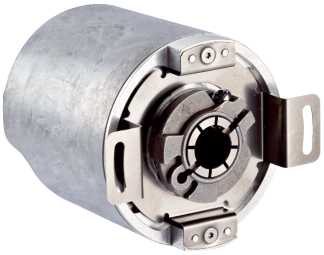


Illustration may differ

## Ordering information

| Type | part no. |
|---|---|
| AFM60A-BKNB018x12 | 1059029 |

Other models and accessories ➜ www.sick.com/AFS_AFM60_Ethernet

## Detailed technical data

### Safety-related parameters

| | |
|---|---|
| **$MTTF_D$ (mean time to dangerous failure)** | 80 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** | 4,096 (12 bit) |
| **Max. resolution (number of steps per revolution x number of revolutions)** | 18 bit x 12 bit (262,144 x 4,096) |
| **Error limits G** | 0.03 ° [1] |
| **Repeatability standard deviation $\sigma_r$** | 0.002 ° [2] |

[1] In accordance with DIN ISO 1319-1, position of the upper and lower error limit depends on the installation situation, specified value refers to a symmetrical position, i.e. deviation in upper and lower direction is the same.
[2] In accordance with DIN ISO 55350-13; 68.3% of the measured values are inside the specified area.

### Interfaces

| | |
|---|---|
| **Communication interface** | PROFINET |
| **Encoder profile** | V4.1 class3 |
| **Data transmission rate (baud rate)** | 10 Mbit/s, 100 Mbit/s |
| **Transmission medium** | CAT-5e cable |
| **Initialization time** | 6 s |
| **Cycle time** | ≤ 1 ms |
| **Parameterising data** | Number of steps per revolution<br>Number of revolutions<br>PRESET<br>Counting direction<br>Sampling rate for speed calculation<br>Unit for output of the speed value<br>Round axis functionality |
| **Available diagnostics data** | Minimum and maximum temperature<br>Maximumspeed |

| | |
|---|---|
| | Power-on counter<br>Operatinghours counter power-on/motion<br>Counter of direction changes/number of movements cw/number of movements ccw<br>Maximum supply voltage |

## Electronics

| | |
|---|---|
| **Connection type** | Male connector, 1x, M12, 4-pin, axial [1]<br>Female connector, 2x, M12, 4-pin, axial [2] |
| **Supply voltage** | 10 ... 30 V |
| **Power consumption** | ≤ 3 W (without load) |
| **Reverse polarity protection** | ✓ |

[1] A-coded.
[2] D-coded.

## Mechanics

| | |
|---|---|
| **Mechanical design** | Blind hollow shaft |
| **Shaft diameter** | 1/4″ |
| **Characteristics of the shaft** | Front clamp |
| **Weight** | 0.2 kg |
| **Shaft material** | Stainless steel |
| **Flange material** | Aluminum |
| **Housing material** | Aluminum |
| **Start up torque** | 0.8 Ncm (+20 °C) |
| **Operating torque** | 0.6 Ncm (+20 °C) |
| **Permissible movement static** | ± 0.3 mm (radial)<br>± 0.5 mm (axial) |
| **Permissible movement dynamic** | ± 0.05 mm (radial)<br>± 0.1 mm (axial) |
| **Operating speed** | ≤ 6,000 $min^{-1}$ [1] |
| **Moment of inertia of the rotor** | 40 $gcm^2$ |
| **Bearing lifetime** | 3 x 10^9 revolutions |
| **Angular acceleration** | ≤ 500,000 $rad/s^2$ |

[1] Allow for self-heating of 3.3 K per 1,000 rpm when designing the operating temperature range.

## Ambient data

| | |
|---|---|
| **EMC** | According to EN 61000-6-2 and EN 61000-6-3 |
| **Enclosure rating** | IP65, shaft side (IEC 60529)<br>IP67, housing side (IEC 60529) [1] |
| **Permissible relative humidity** | 90 % (Condensation not permitted) |
| **Operating temperature range** | –40 °C ... +85 °C |
| **Storage temperature range** | –40 °C ... +100 °C, without package |
| **Resistance to shocks** | 100 g, 6 ms (EN 60068-2-27) |
| **Resistance to vibration** | 30 g, 10 Hz ... 2,000 Hz (EN 60068-2-6) |

[1] With mating connector fitted.

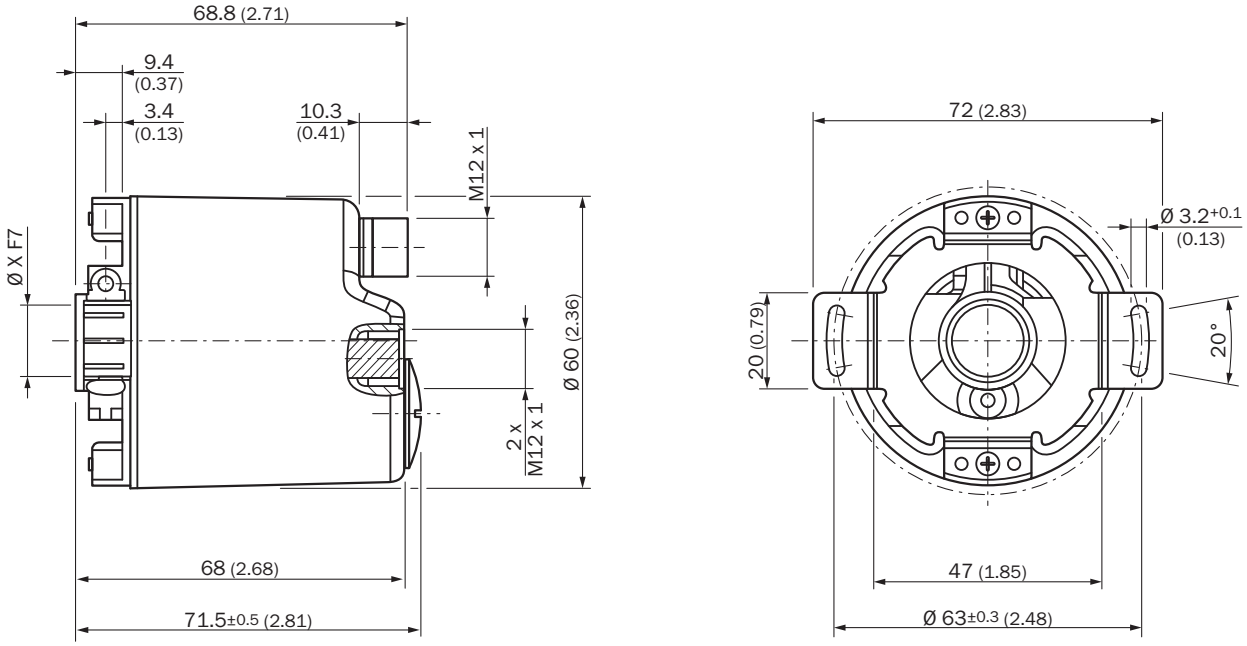
## Classifications

| | |
|---|---|
| **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 |

## Certificates

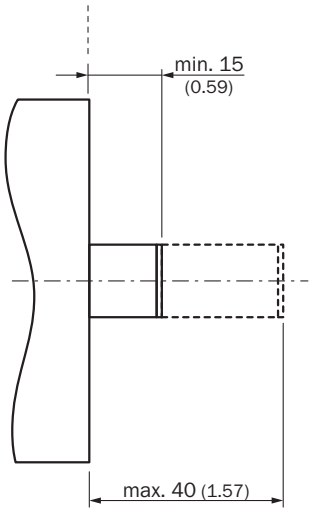
| | |
|---|---|
| **EU declaration of conformity** | ✓ |
| **UK declaration of conformity** | ✓ |
| **ACMA declaration of conformity** | ✓ |
| **Moroccan declaration of conformity** | ✓ |
| **China-RoHS** | ✓ |
| **cTUVus certificate** | ✓ |
| **Information according to Art. 3 of Data Act (Regulation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

## Dimensional drawing Blind hollow shaft



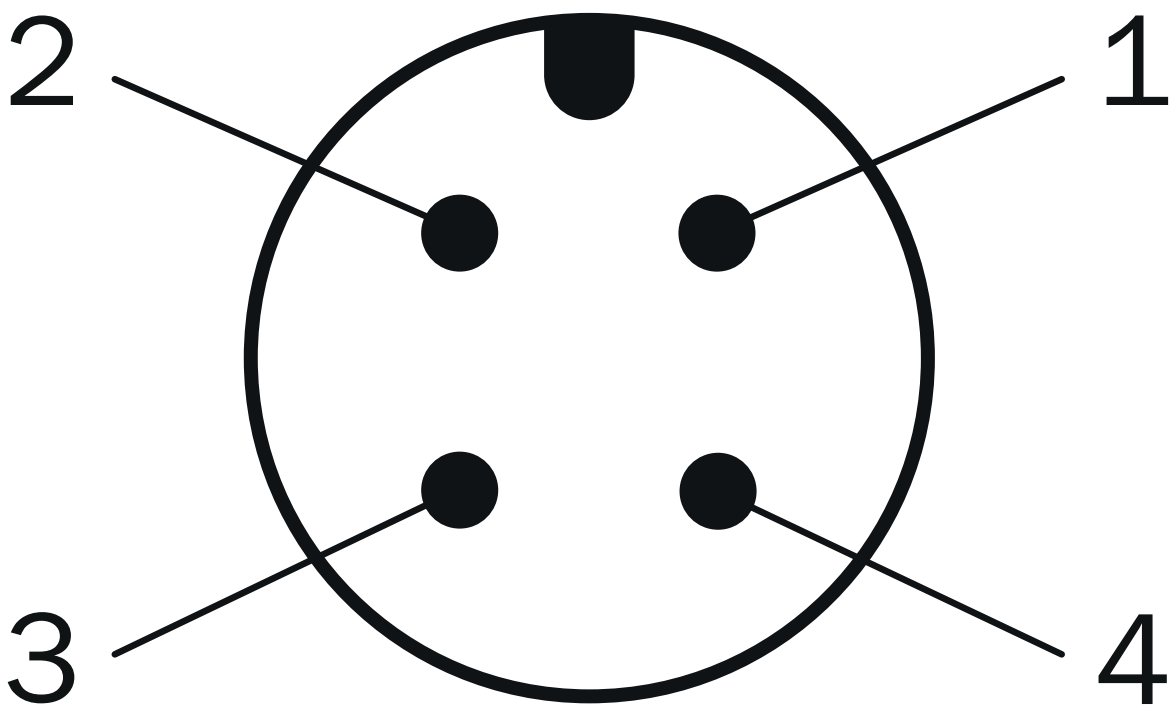

Dimensions in mm (inch)
diameter x f7 corresponds to the shaft diameter

## Attachment specifications Blind hollow shaft




All dimensions in mm (inch)

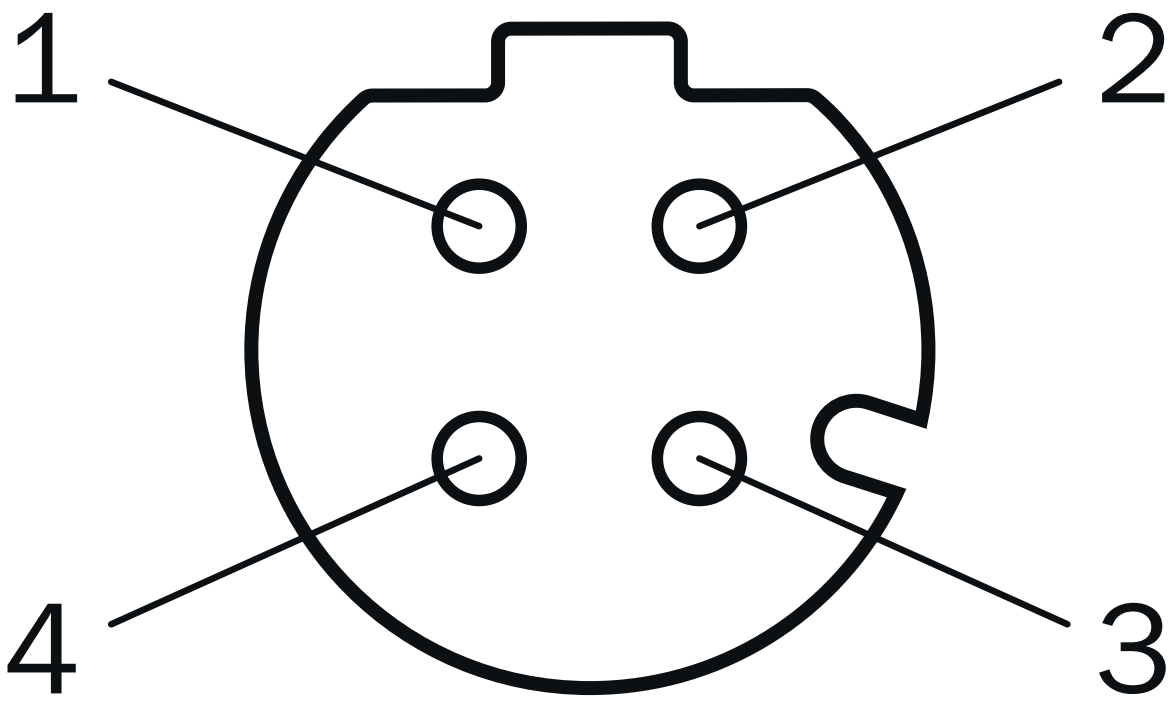
## PIN assignment Male connector




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 |

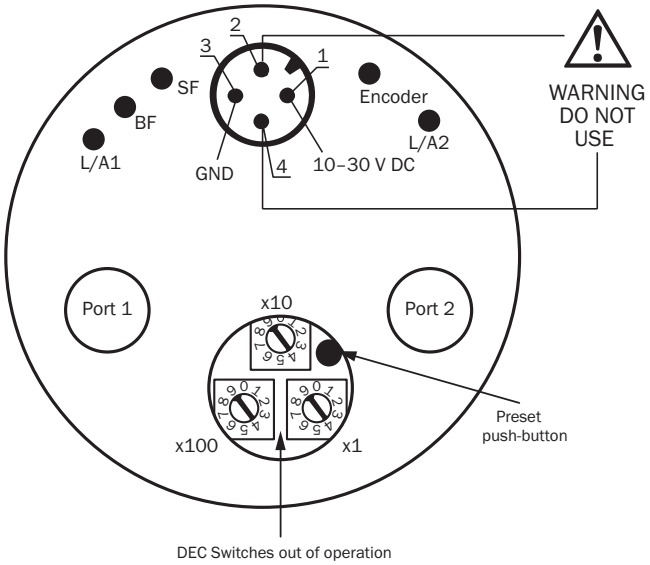
## PIN assignment Female connector




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- |

## Connection diagram



## Recommended accessories

Other models and accessories ➜ www.sick.com/AFS_AFM60_Ethernet

| | Brief description | Type | part no. |
|---|---|---|---|
| connectors and cables | | | |
|  | • **Connection type head A:** Female connector, M12, 4-pin, angled, A-coded<br>• **Description:** Unshielded<br>• **Connection systems:** Screw-type terminals<br>• **Permitted cross-section:** ≤ 0.75 mm² | DOS-1204-W | 6007303 |
|  | • **Connection type head A:** Female connector, M12, 4-pin, D-coded<br>• **Connection type head B:** Female connector, RJ45, 8-pin<br>• **Signal type:** Ethernet<br>• **Cable:** CAT5, CAT5e<br>• **Description:** Ethernet, shielded<br>• **Note:** Cabinet through | Feedthrough female connector Ethernet RJ45 | 6048180 |
|  | • **Connection type head A:** Male connector, RJ45, 4-pin, straight<br>• **Connection type head B:** Male connector, M12, 4-pin, angled, D-coded<br>• **Signal type:** Ethernet, PROFINET<br>• **Cable:** 30 m, 4-wire, CAT5, CAT5e, PVC<br>• **Description:** Ethernet, shieldedPROFINET | SSL-2J04-F30MZ | 6059450 |
|  | • **Connection type head A:** Male connector, M12, 4-pin, angled, D-coded<br>• **Signal type:** PROFINET<br>• **Cable:** CAT5, CAT5e<br>• **Description:** PROFINET, shielded<br>• **Connection systems:** IDC quick connection<br>• **Permitted cross-section:** 0.14 mm² ... 0.34 mm² | STE-1204-WZ | 6048262 |
|  | • **Connection type head A:** Female connector, M12, 4-pin, straight, A-coded<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 2 m, 4-wire, PUR, halogen-free<br>• **Description:** Sensor/actuator cable, unshielded<br>• **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<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 5 m, 4-wire, PUR, halogen-free<br>• **Description:** Sensor/actuator cable, unshielded<br>• **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<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 10 m, 4-wire, PUR, halogen-free<br>• **Description:** Sensor/actuator cable, unshielded<br>• **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation | YF2A14-100UB3XLEAX | 2095609 |
|  | • **Connection type head A:** Female connector, M12, 4-pin, straight, A-coded<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 25 m, 4-wire, PUR, halogen-free<br>• **Description:** Sensor/actuator cable, unshielded<br>• **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation | YF2A14-250UB3XLEAX | 2095615 |
|  | • **Connection type head A:** Female connector, M12, 4-pin, angled, A-coded<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 2 m, 4-wire, PUR, halogen-free<br>• **Description:** Sensor/actuator cable, unshielded<br>• **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<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 5 m, 4-wire, PUR, halogen-free<br>• **Description:** Sensor/actuator cable, unshielded<br>• **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation | YG2A14-050UB3XLEAX | 2095767 |
|  | • **Connection type head A:** Female connector, M12, 4-pin, angled, A-coded<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 10 m, 4-wire, PUR, halogen-free<br>• **Description:** Sensor/actuator cable, unshielded | YG2A14-100UB3XLEAX | 2095768 |

| | Brief description | Type | part no. |
|---|---|---|---|
| | • **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation | | |
|  | • **Connection type head A:** Female connector, M12, 4-pin, angled, A-coded<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 25 m, 4-wire, PUR, halogen-free<br>• **Description:** Sensor/actuator cable, unshielded<br>• **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation | YG2A14-250UB3XLEAX | 2095771 |
|  | • **Connection type head A:** Male connector, M12, 4-pin, angled, D-coded<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Ethernet, PROFINET<br>• **Cable:** 25 m, 4-wire, PUR, halogen-free<br>• **Description:** Ethernet, shieldedPROFINET<br>• **Application:** Drag chain operation, Zones with oils and lubricants | YN2D24-250P-N1XLEAX | 2106180 |
|  | • **Connection type head A:** Male connector, M12, 4-pin, angled, D-coded<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Ethernet, PROFINET<br>• **Cable:** 10 m, 4-wire, PUR, halogen-free<br>• **Description:** Ethernet, shieldedPROFINET<br>• **Application:** Drag chain operation, Zones with oils and lubricants | YN2D24-100P-N1XLEAX | 2106176 |
|  | • **Connection type head A:** Male connector, M12, 4-pin, angled, D-coded<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Ethernet, PROFINET<br>• **Cable:** 5 m, 4-wire, PUR, halogen-free<br>• **Description:** Ethernet, shieldedPROFINET<br>• **Application:** Drag chain operation, Zones with oils and lubricants | YN2D24-050P-N1XLEAX | 2106175 |
|  | • **Connection type head A:** Male connector, M12, 4-pin, straight, D-coded<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Ethernet, PROFINET<br>• **Cable:** 10 m, 4-wire, PUR, halogen-free<br>• **Description:** Ethernet, shieldedPROFINET<br>• **Application:** Drag chain operation, Zones with oils and lubricants | YM2D24-100P-N1XLEAX | 2106173 |
|  | • **Connection type head A:** Male connector, M12, 4-pin, straight, D-coded<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Ethernet, PROFINET<br>• **Cable:** 5 m, 4-wire, PUR, halogen-free<br>• **Description:** Ethernet, shieldedPROFINET<br>• **Application:** Drag chain operation, Zones with oils and lubricants | YM2D24-050P-N1XLEAX | 2106172 |
|  | • **Connection type head A:** Male connector, M12, 4-pin, straight, D-coded<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Ethernet, PROFINET<br>• **Cable:** 2 m, 4-wire, PUR, halogen-free<br>• **Description:** Ethernet, shieldedPROFINET<br>• **Application:** Drag chain operation, Zones with oils and lubricants | YM2D24-020P-N1XLEAX | 2106171 |
|  | • **Connection type head A:** Male connector, M12, 4-pin, angled, D-coded<br>• **Connection type head B:** Male connector, M12, 4-pin, angled, D-coded<br>• **Signal type:** Ethernet, PROFINET<br>• **Cable:** 10 m, 4-wire, PUR, halogen-free<br>• **Description:** Ethernet, shieldedPROFINET<br>• **Application:** Drag chain operation, Zones with oils and lubricants | YN2D24-100P-N1N2D24 | 2106170 |
|  | • **Connection type head A:** Male connector, M12, 4-pin, angled, D-coded<br>• **Connection type head B:** Male connector, M12, 4-pin, angled, D-coded<br>• **Signal type:** Ethernet, PROFINET<br>• **Cable:** 2 m, 4-wire, PUR, halogen-free<br>• **Description:** Ethernet, shieldedPROFINET<br>• **Application:** Drag chain operation, Zones with oils and lubricants | YN2D24-020P-N1N2D24 | 2106168 |
|  | • **Connection type head A:** Male connector, M12, 4-pin, straight, D-coded<br>• **Connection type head B:** Male connector, M12, 4-pin, straight, D-coded<br>• **Signal type:** Ethernet, PROFINET<br>• **Cable:** 10 m, 4-wire, PUR, halogen-free<br>• **Description:** Ethernet, shieldedPROFINET<br>• **Application:** Drag chain operation, Zones with oils and lubricants | YM2D24-100P-N1M2D24 | 2106161 |
|  | • **Connection type head A:** Male connector, M12, 4-pin, straight, D-coded<br>• **Connection type head B:** Male connector, M12, 4-pin, angled, D-coded<br>• **Signal type:** Ethernet, PROFINET<br>• **Cable:** 10 m, 4-wire, PUR, halogen-free<br>• **Description:** Ethernet, shieldedPROFINET | YM2D24-100P-N1N2D24 | 2106167 |

| | Brief description | Type | part no. |
|---|---|---|---|
| | • **Application:** Drag chain operation, Zones with oils and lubricants | | |
|  | • **Connection type head A:** Male connector, M12, 4-pin, straight, D-coded<br>• **Connection type head B:** Male connector, M12, 4-pin, angled, D-coded<br>• **Signal type:** Ethernet, PROFINET<br>• **Cable:** 5 m, 4-wire, PUR, halogen-free<br>• **Description:** Ethernet, shieldedPROFINET<br>• **Application:** Drag chain operation, Zones with oils and lubricants | YM2D24-050P-N1N2D24 | 2106166 |
|  | • **Connection type head A:** Male connector, M12, 4-pin, straight, D-coded<br>• **Connection type head B:** Male connector, M12, 4-pin, angled, D-coded<br>• **Signal type:** Ethernet, PROFINET<br>• **Cable:** 2 m, 4-wire, PUR, halogen-free<br>• **Description:** Ethernet, shieldedPROFINET<br>• **Application:** Drag chain operation, Zones with oils and lubricants | YM2D24-020P-N1N2D24 | 2106165 |
|  | • **Connection type head A:** Male connector, M12, 4-pin, straight, D-coded<br>• **Connection type head B:** Male connector, RJ45, 4-pin, straight<br>• **Signal type:** Ethernet, PROFINET<br>• **Cable:** 2 m, 4-wire, PUR, halogen-free<br>• **Description:** Ethernet, shieldedPROFINET<br>• **Application:** Drag chain operation, Zones with oils and lubricants | YM2D24-020P-N1MRJA4 | 2106182 |
|  | • **Connection type head A:** Male connector, M12, 4-pin, straight, D-coded<br>• **Connection type head B:** Male connector, RJ45, 4-pin, straight<br>• **Signal type:** Ethernet, PROFINET<br>• **Cable:** 10 m, 4-wire, PUR, halogen-free<br>• **Description:** Ethernet, shieldedPROFINET<br>• **Application:** Drag chain operation, Zones with oils and lubricants | YM2D24-100P-N1MRJA4 | 2106185 |
|  | • **Connection type head A:** Male connector, M12, 4-pin, angled, D-coded<br>• **Connection type head B:** Male connector, RJ45, 4-pin, straight<br>• **Signal type:** Ethernet, PROFINET<br>• **Cable:** 10 m, 4-wire, PUR, halogen-free<br>• **Description:** Ethernet, shieldedPROFINET<br>• **Application:** Drag chain operation, Zones with oils and lubricants | YN2D24-100P-N1MRJA4 | 2106164 |
|  | • **Connection type head A:** Male connector, M12, 4-pin, angled, D-coded<br>• **Connection type head B:** Male connector, RJ45, 4-pin, straight<br>• **Signal type:** Ethernet, PROFINET<br>• **Cable:** 5 m, 4-wire, PUR, halogen-free<br>• **Description:** Ethernet, shieldedPROFINET<br>• **Application:** Drag chain operation, Zones with oils and lubricants | YN2D24-050P-N1MRJA4 | 2106163 |
|  | • **Connection type head A:** Male connector, M12, 4-pin, angled, D-coded<br>• **Connection type head B:** Male connector, RJ45, 4-pin, straight<br>• **Signal type:** Ethernet, PROFINET<br>• **Cable:** 2 m, 4-wire, PUR, halogen-free<br>• **Description:** Ethernet, shieldedPROFINET<br>• **Application:** Drag chain operation, Zones with oils and lubricants | YN2D24-020P-N1MRJA4 | 2106162 |
|  | • **Connection type head A:** Male connector, M12, 4-pin, straight, D-coded<br>• **Connection type head B:** Male connector, M12, 4-pin, straight, D-coded<br>• **Signal type:** Ethernet, PROFINET<br>• **Cable:** 5 m, 4-wire, PUR, halogen-free<br>• **Description:** Ethernet, shieldedPROFINET<br>• **Application:** Drag chain operation, Zones with oils and lubricants | YM2D24-050P-N1M2D24 | 2106160 |
|  | • **Connection type head A:** Male connector, M12, 4-pin, angled, D-coded<br>• **Connection type head B:** Male connector, RJ45, 4-pin, straight<br>• **Signal type:** Ethernet, PROFINET<br>• **Cable:** 3 m, 4-wire, PUR, halogen-free<br>• **Description:** Ethernet, shieldedPROFINET<br>• **Application:** Drag chain operation, Zones with oils and lubricants | YN2D24-030P-N1MRJA4 | 2144265 |
|  | • **Connection type head A:** Female connector, M12, 4-pin, straight, A-coded<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 0.6 m, 4-wire, PUR, halogen-free<br>• **Description:** Sensor/actuator cable, unshielded<br>• **Application:** Uncontaminated 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<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 1 m, 4-wire, PUR, halogen-free<br>• **Description:** Sensor/actuator cable, unshielded | YF2A14-010UB3XLEAX | 2145655 |

| | Brief description | Type | part no. |
|---|---|---|---|
| | • **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation | | |
|  | • **Connection type head A:** Female connector, M12, 4-pin, straight, A-coded<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 3 m, 4-wire, PUR, halogen-free<br>• **Description:** Sensor/actuator cable, unshielded<br>• **Application:** Uncontaminated 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<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 0.6 m, 4-wire, PUR, halogen-free<br>• **Description:** Sensor/actuator cable, unshielded<br>• **Application:** Uncontaminated 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<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 1 m, 4-wire, PUR, halogen-free<br>• **Description:** Sensor/actuator cable, unshielded<br>• **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation | YG2A14-010UB3XLEAX | 2145658 |
|  | • **Connection type head A:** Male connector, M12, 4-pin, angled, D-coded<br>• **Connection type head B:** Male connector, M12, 4-pin, angled, D-coded<br>• **Signal type:** Ethernet, PROFINET<br>• **Cable:** 5 m, 4-wire, PUR, halogen-free<br>• **Description:** Ethernet, shieldedPROFINET<br>• **Application:** Drag chain operation, Zones with oils and lubricants | YN2D24-050P-N1N2D24 | 2127662 |
|  | • **Connection type head A:** Male connector, M12, 4-pin, angled, D-coded<br>• **Connection type head B:** Male connector, RJ45, 4-pin, straight<br>• **Signal type:** Ethernet, PROFINET<br>• **Cable:** 20 m, 4-wire, PUR, halogen-free<br>• **Description:** Ethernet, shieldedPROFINET<br>• **Application:** Drag chain operation, Zones with oils and lubricants | YN2D24-200P-N1MRJA4 | 2127664 |
|  | • **Connection type head A:** Male connector, M12, 4-pin, straight, D-coded<br>• **Connection type head B:** Male connector, RJ45, 4-pin, straight<br>• **Signal type:** Ethernet, PROFINET<br>• **Cable:** 5 m, 4-wire, PUR, halogen-free<br>• **Description:** Ethernet, shieldedPROFINET<br>• **Application:** Drag chain operation, Zones with oils and lubricants | YM2D24-050P-N1MRJA4 | 2106184 |
|  | • **Connection type head A:** Male connector, M12, 4-pin, angled, D-coded<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Ethernet, PROFINET<br>• **Cable:** 20 m, 4-wire, PUR, halogen-free<br>• **Description:** Ethernet, shieldedPROFINET<br>• **Application:** Drag chain operation, Zones with oils and lubricants | YN2D24-200P-N1XLEAX | 2122743 |
|  | • **Connection type head A:** Female connector, M12, 4-pin, angled, A-coded<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 20 m, 4-wire, PUR, halogen-free<br>• **Description:** Sensor/actuator cable, unshielded<br>• **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation | YG2A14-200UB3XLEAX | 2095770 |
|  | • **Connection type head A:** Female connector, M12, 4-pin, straight, A-coded<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 20 m, 4-wire, PUR, halogen-free<br>• **Description:** Sensor/actuator cable, unshielded<br>• **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation | YF2A14-200UB3XLEAX | 2095611 |

| | Brief description | Type | part no. |
|---|---|---|---|
| Mounting systems | | | |
|  | • **Description:** Flange adapter, adaptation of face mount flange with 36 mm centering hub to 50 mm servo flange, aluminum, including 3 flat head screws M4 x 10<br>• **Material:** Aluminum<br>• **Details:** Aluminum<br>• **Items supplied:** Including 3 countersunk screws M3 x 10 | BEF-FA-036-050 | 2029160 |
|  | • **Description:** Flange adapter, adaptation of face mount flange with 36 mm centering hub to 60 mm square mounting plate, aluminum, including 3 flat head screws M4 x 8<br>• **Material:** Aluminum<br>• **Details:** Aluminum<br>• **Items supplied:** Including 3 countersunk screws M4 x 8 | BEF-FA-036-060REC | 2029162 |
|  | • **Description:** Flange adapter, adaptation of face mount flange with 36 mm centering hub to 58 mm square mounting plate with shock absorbers, aluminum<br>• **Material:** Aluminum<br>• **Details:** Aluminum | BEF-FA-036-060RSA | 2029163 |
|  | • **Description:** Flange adapter, adaptation of face mount flange with 36 mm centering hub to 63 mm square mounting plate, aluminum, including 3 flat head screws M4 x 10<br>• **Material:** Aluminum<br>• **Details:** Aluminum<br>• **Items supplied:** Including 3 countersunk screws M3 x 10 | BEF-FA-036-063REC | 2034225 |
|  | • **Product family:** Stator couplings<br>• **Description:** Standard stator coupling | BEF-DS00XFX | 2056812 |
|  | • **Product family:** Stator couplings<br>• **Description:** One-sided stator coupling, slot, slot radius 33 mm to 211.9 mm, slot width 5.1 mm | BEF-DS03DFS/VFS | 2047431 |
|  | • **Product family:** Stator couplings<br>• **Description:** Stator coupling with hole circle diameter Ø72 mm | BEF-DS07XFX | 2059368 |
|  | • **Description:** Clamping ring for metal hollow shaft<br>• **Material:** Steel<br>• **Details:** Metal | BEF-KR-M | 2064709 |

| | Brief description | Type | part no. |
|---|---|---|---|
| measuring wheels and measuring wheel mechanics | | | |
|  | • **Product segment:** Measuring wheels and measuring wheel mechanics<br>• **Product family:** Measuring wheels<br>• **Description:** Aluminium measuring wheel with O-ring (NBR70) for 6 mm solid shaft, circumference 200 mm | BEF-MR006020R | 2055222 |
|  | • **Product segment:** Measuring wheels and measuring wheel mechanics<br>• **Product family:** Measuring wheels<br>• **Description:** Measuring wheel with O-ring (NBR70) for 6 mm solid shaft, circumference 300 mm | BEF-MR006030R | 2055634 |
|  | • **Product segment:** Measuring wheels and measuring wheel mechanics<br>• **Product family:** Measuring wheels<br>• **Description:** Plastic measuring wheel with smooth plastic surface (Hytrel), for 10 mm solid shaft, circumference 200 mm | BEF-MR-010020 | 5312988 |
|  | • **Product segment:** Measuring wheels and measuring wheel mechanics<br>• **Product family:** Measuring wheels<br>• **Description:** Measuring wheel with ridged plastic surface (Hytrel) for 10 mm solid shaft, circumference 200 mm | BEF-MR-010020G | 5318678 |
|  | • **Product segment:** Measuring wheels and measuring wheel mechanics<br>• **Product family:** Measuring wheels<br>• **Description:** Aluminium measuring wheel with O-ring (NBR70) for 10 mm solid shaft, circumference 200 mm | BEF-MR010020R | 2055224 |
|  | • **Product segment:** Measuring wheels and measuring wheel mechanics<br>• **Product family:** Measuring wheels<br>• **Description:** Aluminium measuring wheel with O-ring (NBR70) for 10 mm solid shaft, circumference 300 mm | BEF-MR010030R | 2049278 |
|  | • **Product segment:** Measuring wheels and measuring wheel mechanics<br>• **Product family:** Measuring wheels<br>• **Description:** Plastic measuring wheel with smooth plastic surface (Hytrel) for 10 mm solid shaft, circumference 500 mm | BEF-MR-010050 | 5312989 |
|  | • **Product segment:** Measuring wheels and measuring wheel mechanics<br>• **Product family:** Measuring wheels<br>• **Description:** Measuring wheel with O-ring (NBR70) for 10 mm solid shaft, circumference 500 mm | BEF-MR010050R | 2055227 |
| | • **Product segment:** Measuring wheels and measuring wheel mechanics | BEF-OR-053-040 | 2064061 |

| | Brief description | Type | part no. |
|---|---|---|---|
| | • **Product family:** Measuring wheel mechanics<br>• **Description:** O-ring for measuring wheels (circumference 200 mm) | | |
| | • **Product segment:** Measuring wheels and measuring wheel mechanics<br>• **Product family:** Measuring wheel mechanics<br>• **Description:** O-ring for measuring wheels (circumference 300 mm)<br>• **Items supplied:** 2x O-ring | BEF-OR-083-050 | 2064076 |

# 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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