



## MWS075-22Q4ANR118X16

MWS075

MEASURING WHEEL ENCODERS

**SICK**  
Sensor Intelligence.



## Ordering information

| Type                 | part no. |
|----------------------|----------|
| MWS075-22Q4ANR118X16 | 1151264  |

**Included in delivery:** ANM58B-FENNA0000301000XX018X16 (1), BEF-MWS075-ARM (1), BEF-MR010030R (1)

Other models and accessories → [www.sick.com/MWS075](http://www.sick.com/MWS075)

Illustration may differ



## Detailed technical data

## Safety-related parameters

|  |  |
|--|--|
| <b>MTTF<sub>D</sub> (mean time to dangerous failure)</b> | 165 years (EN ISO 13849-1) <sup>1)</sup> |
|--|--|

<sup>1)</sup> 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

|   |                                    |
|---|------------------------------------|
| <b>Max. resolution (number of steps per revolution x number of revolutions)</b> | 18 bit x 16 bit (262,144 x 65,536) |
| <b>Measuring increment (resolution in mm/pulse)</b>                             | 1)                                 |
| <b>Repeatability</b>  | < 0.1 mm <sup>2)</sup>             |

<sup>1)</sup> Value based on measuring wheel circumference. The measuring wheel circumference depends on manufacturing tolerances, wear and tear, the selected spring tensioning force, and the behavior of the measurement wheel surface at different temperatures and on different measurement surfaces. To obtain the most accurate measurement results, we recommend performing a reference run for positioning tasks so that application-specific measuring wheel characteristics can be taken into account.

<sup>2)</sup> Value is based on the mechanics. Backlash of the measuring wheel mechanics, is at a minimum. This enables a precise and repeatable measurement results.

## Interfaces

|                                |          |
|--------------------------------|----------|
| <b>Communication interface</b> | PROFINET |
|--------------------------------|----------|

## Electronics

|                                    |  |
|------------------------------------|--|
| <b>Connection type</b>             | Male connector, 1x, M12, 4-pin, radial <sup>1)</sup><br>Female connector, 2x, M12, 4-pin, radial <sup>2)</sup> |
| <b>Supply voltage</b>              | 10 V ... 32 V  |
| <b>Reverse polarity protection</b> | ✓  |

<sup>1)</sup> A-coded.

<sup>2)</sup> D-coded.

## Mechanics

|  |  |
|--|--|
| <b>Measuring wheel circumference</b>                                       | 300 mm   |
| <b>Measuring wheel surface</b>   | O-ring NBR70 <sup>1)</sup>                               |
| <b>Start up torque</b>   | 1.1 Ncm  |
| <b>Operating torque</b>  | 0.5 Ncm  |
| <b>Operating speed</b>   | $\leq 9,000 \text{ min}^{-1}$ <sup>2)</sup>              |
| <b>Bearing lifetime</b>  | $3 \times 10^9$ revolutions                              |
| <b>Maximum travel/deflection of spring arm</b>                             | 14 mm at 14 N spring travel                              |
| <b>Recommended pretension</b>  | 15 N At 10 mm deflection                                 |
| <b>Max. permissible working area for the spring (continuous operation)</b> | $\pm 3$ mm   |
| <b>Recommended spring deflection</b>                                       | 2 mm ... 13 mm   |
| <b>Service life of spring element</b>                                      | > 1.4 million cycles <sup>3)</sup>                       |
| <b>Mounting position relative to the measuring object</b>                  | Preferably from above, from below possible <sup>4)</sup> |
| <b>Mounted encoder</b>   | ANM58 PROFINET, ANM58B-FENNA0000301000XX018X16, 1146130  |
| <b>Mounted mechanic</b>  | BEF-MWS075-ARM, 2145180                                  |
| <b>Attached measuring wheel</b>  | BEF-MR010030R, 2049278                                   |

<sup>1)</sup> The surface of a measuring wheel is subject to wear. This depends on contact pressure, acceleration behavior in the application, traversing speed, measurement surface, mechanical alignment of the measuring wheel, temperature, and ambient conditions. We recommend you regularly check the condition of the measuring wheel and replace as required.

<sup>2)</sup> Allow for self-heating of 3.3 K per 1,000 rpm when designing the operating temperature range.

<sup>3)</sup> One cycle corresponds to an upward and downward movement of  $\pm 3$  mm from the recommended pretension position.

<sup>4)</sup> When mounted from below, the encoder weight during spring pretensioning must be taken into account.

## Ambient data

|                                    |  |
|------------------------------------|--|
| <b>EMC</b>                         | According to EN 61000-6-2 and EN 61000-6-3 |
| <b>Enclosure rating</b>            | IP65 (IEC 60529)                           |
| <b>Operating temperature range</b> | -40 °C ... +85 °C                          |
| <b>Storage temperature range</b>   | -40 °C ... +100 °C, without package        |

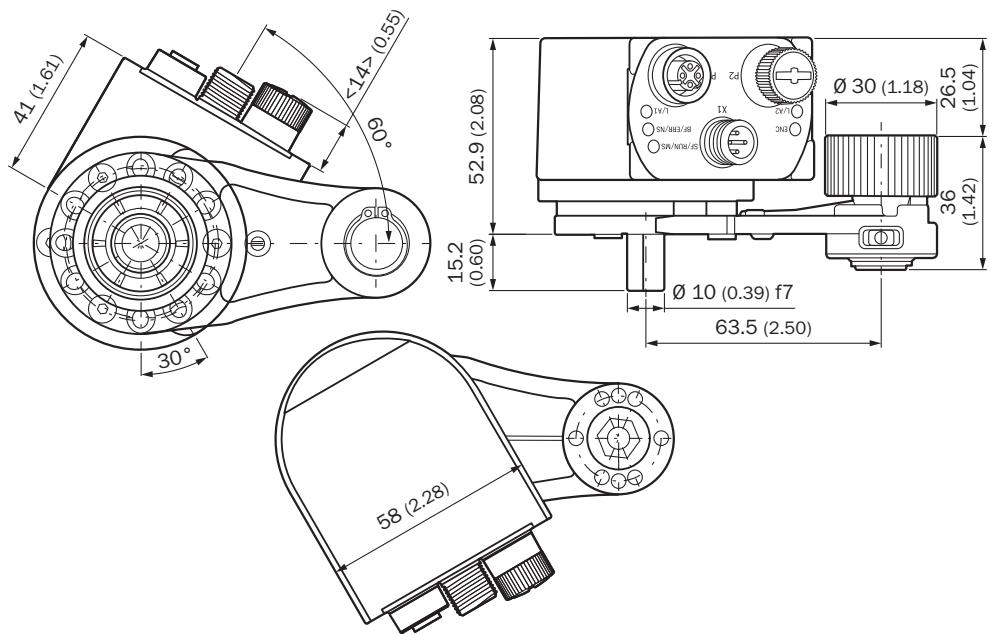
## Certificates

|                                       |   |
|---------------------------------------|---|
| <b>EU declaration of conformity</b>   | ✓ |
| <b>UK declaration of conformity</b>   | ✓ |
| <b>ACMA declaration of conformity</b> | ✓ |
| <b>China-RoHS</b>                     | ✓ |

## Classifications

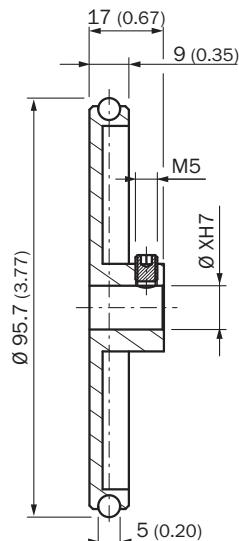
|                     |          |
|---------------------|----------|
| <b>ECLASS 5.0</b>   | 27270501 |
| <b>ECLASS 5.1.4</b> | 27270501 |
| <b>ECLASS 6.0</b>   | 27270590 |
| <b>ECLASS 6.2</b>   | 27270590 |
| <b>ECLASS 7.0</b>   | 27270501 |
| <b>ECLASS 8.0</b>   | 27270501 |
| <b>ECLASS 8.1</b>   | 27270501 |

|                       |          |
|-----------------------|----------|
| <b>ECLASS 9.0</b>     | 27270501 |
| <b>ECLASS 10.0</b>    | 27270790 |
| <b>ECLASS 11.0</b>    | 27270707 |
| <b>ECLASS 12.0</b>    | 27270504 |
| <b>ETIM 5.0</b>       | EC001486 |
| <b>ETIM 6.0</b>       | EC001486 |
| <b>ETIM 7.0</b>       | EC001486 |
| <b>ETIM 8.0</b>       | EC001486 |
| <b>UNSPSC 16.0901</b> | 41112113 |

**Dimensional drawing**

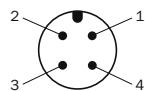
Dimensions in mm (inch)

## Dimensional drawing



Dimensions in mm (inch)

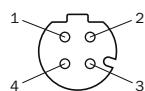
## PIN assignment Male connector



## Supply voltage

| PIN | Wire color | Signal                       |
|-----|------------|------------------------------|
| 1   | Brown      | U <sub>S</sub> 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- |

## Recommended accessories

Other models and accessories → [www.sick.com/MWS075](http://www.sick.com/MWS075)

| <b>Brief description</b>  | <b>Type</b>   | <b>part no.</b> |
|---|---------------|-----------------|
| Mounting systems  |               |                 |
| <ul style="list-style-type: none"><li>• <b>Description:</b> Mounting bracket for MWS075</li><li>• <b>Suitable for:</b> MWS075</li></ul> | BEF-WF-MWS075 | 2145906         |

|   | Brief description  | Type           | part no. |
|---|--|----------------|----------|
| measuring wheels and measuring wheel mechanics                                      |  |                |          |
|    | <ul style="list-style-type: none"><li><b>Product segment:</b> Measuring wheels and measuring wheel mechanics</li><li><b>Product family:</b> Measuring wheels</li><li><b>Description:</b> Aluminium measuring wheel with O-ring (NBR70) for 10 mm solid shaft, circumference 200 mm</li></ul>             | BEF-MR010020R  | 2055224  |
|    | <ul style="list-style-type: none"><li><b>Product segment:</b> Measuring wheels and measuring wheel mechanics</li><li><b>Product family:</b> Measuring wheels</li><li><b>Description:</b> Aluminium measuring wheel with O-ring (NBR70) for 10 mm solid shaft, circumference 300 mm</li></ul>             | BEF-MR010030R  | 2049278  |
|    | <ul style="list-style-type: none"><li><b>Product segment:</b> Measuring wheels and measuring wheel mechanics</li><li><b>Product family:</b> Measuring wheels</li><li><b>Description:</b> Measuring wheel with O-ring (NBR70) for 10 mm solid shaft, circumference 500 mm</li></ul>                       | BEF-MR010050R  | 2055227  |
|   | <ul style="list-style-type: none"><li><b>Product segment:</b> Measuring wheels and measuring wheel mechanics</li><li><b>Product family:</b> Measuring wheels</li><li><b>Description:</b> Aluminum measuring wheel with cross-knurled surface for 10 mm solid shaft, circumference 200 mm</li></ul>       | BEF-MR10200AK  | 4084737  |
|  | <ul style="list-style-type: none"><li><b>Product segment:</b> Measuring wheels and measuring wheel mechanics</li><li><b>Product family:</b> Measuring wheels</li><li><b>Description:</b> Aluminum measuring wheel with smooth polyurethane surface for 10 mm solid shaft, circumference 200 mm</li></ul> | BEF-MR10200AP  | 4084738  |
|  | <ul style="list-style-type: none"><li><b>Product segment:</b> Measuring wheels and measuring wheel mechanics</li><li><b>Product family:</b> Measuring wheels</li><li><b>Description:</b> Aluminum measuring wheel with ridged polyurethane surface for 10 mm solid shaft, circumference 200 mm</li></ul> | BEF-MR10200APG | 4084740  |
|   | <ul style="list-style-type: none"><li><b>Product segment:</b> Measuring wheels and measuring wheel mechanics</li><li><b>Product family:</b> Measuring wheels</li></ul>   | BEF-MR10200APN | 4084739  |

|   | <b>Brief description</b>  | <b>Type</b>     | <b>part no.</b> |
|---|---|-----------------|-----------------|
|   | <ul style="list-style-type: none"> <li><b>Description:</b> Aluminum measuring wheel with studded polyurethane surface for 10 mm solid shaft, circumference 200 mm</li> </ul>  |                 |                 |
|    | <ul style="list-style-type: none"> <li><b>Product segment:</b> Measuring wheels and measuring wheel mechanics</li> <li><b>Product family:</b> Measuring wheels</li> <li><b>Description:</b> Aluminum measuring wheel with cross-knurled surface for 10 mm solid shaft, circumference 300 mm</li> </ul>  | BEF-MR10300AK   | 2115703         |
|    | <ul style="list-style-type: none"> <li><b>Product segment:</b> Measuring wheels and measuring wheel mechanics</li> <li><b>Product family:</b> Measuring wheels</li> <li><b>Description:</b> Aluminum measuring wheel with smooth polyurethane surface for 10 mm solid shaft, circumference 300 mm</li> </ul>  | BEF-MR10300AP   | 2118512         |
|    | <ul style="list-style-type: none"> <li><b>Product segment:</b> Measuring wheels and measuring wheel mechanics</li> <li><b>Product family:</b> Measuring wheels</li> <li><b>Description:</b> Aluminum measuring wheel with ridged polyurethane surface for 10 mm solid shaft, circumference 300 mm</li> </ul>  | BEF-MR10300APG  | 2118496         |
|   | <ul style="list-style-type: none"> <li><b>Product segment:</b> Measuring wheels and measuring wheel mechanics</li> <li><b>Product family:</b> Measuring wheels</li> <li><b>Description:</b> Aluminum measuring wheel with studded polyurethane surface for 10 mm solid shaft, circumference 300 mm</li> </ul>   | BEF-MR10300APN  | 2118494         |
|  | <ul style="list-style-type: none"> <li><b>Product segment:</b> Measuring wheels and measuring wheel mechanics</li> <li><b>Product family:</b> Measuring wheels</li> <li><b>Description:</b> Aluminum measuring wheel with cross-knurled surface for 10 mm solid shaft, circumference 500 mm</li> </ul>  | BEF-MR10500AK   | 4084733         |
|  | <ul style="list-style-type: none"> <li><b>Product segment:</b> Measuring wheels and measuring wheel mechanics</li> <li><b>Product family:</b> Measuring wheels</li> <li><b>Description:</b> Aluminum measuring wheel with cross knurled surface for solid shaft 10 mm, circumference 500 mm +/-0,2 mm (circumferential tolerance at 20 °C. Circumferential tolerance depends on the temperature coefficient of the material)</li> </ul> | BEF-MR10500AK-A | 2125732         |
|  | <ul style="list-style-type: none"> <li><b>Product segment:</b> Measuring wheels and measuring wheel mechanics</li> <li><b>Product family:</b> Measuring wheels</li> <li><b>Description:</b> Aluminum measuring wheel with smooth polyurethane surface for 10 mm solid shaft, circumference 500 mm</li> </ul>  | BEF-MR10500AP   | 4084734         |
|  | <ul style="list-style-type: none"> <li><b>Product segment:</b> Measuring wheels and measuring wheel mechanics</li> <li><b>Product family:</b> Measuring wheels</li> <li><b>Description:</b> Aluminum measuring wheel with ridged polyurethane surface for 10 mm solid shaft, circumference 500 mm</li> </ul>  | BEF-MR10500APG  | 4084736         |
|  | <ul style="list-style-type: none"> <li><b>Product segment:</b> Measuring wheels and measuring wheel mechanics</li> <li><b>Product family:</b> Measuring wheels</li> <li><b>Description:</b> Aluminum measuring wheel with studded polyurethane surface for 10 mm solid shaft, circumference 500 mm</li> </ul>   | BEF-MR10500APN  | 4084735         |

|   | Brief description   | Type               | part no. |
|---|---|--------------------|----------|
| connectors and cables   |   |                    |          |
|    | <ul style="list-style-type: none"><li><b>Connection type head A:</b> Male connector, RJ45, 4-pin, straight</li><li><b>Connection type head B:</b> Male connector, M12, 4-pin, angled, D-coded</li><li><b>Signal type:</b> Ethernet, PROFINET</li><li><b>Cable:</b> 30 m, 4-wire, CAT5, CAT5e, PVC</li><li><b>Description:</b> Ethernet, shieldedPROFINET</li></ul>  | SSL-2J04-F30MZ     | 6059450  |
|    | <ul style="list-style-type: none"><li><b>Connection type head A:</b> Male connector, M12, 4-pin, angled, D-coded</li><li><b>Signal type:</b> PROFINET</li><li><b>Cable:</b> CAT5, CAT5e</li><li><b>Description:</b> PROFINET, shielded</li><li><b>Connection systems:</b> IDC quick connection</li><li><b>Permitted cross-section:</b> 0.14 mm<sup>2</sup> ... 0.34 mm<sup>2</sup></li></ul>  | STE-1204-WZ        | 6048262  |
|    | <ul style="list-style-type: none"><li><b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li><li><b>Connection type head B:</b> Flying leads</li><li><b>Signal type:</b> Sensor/actuator cable</li><li><b>Cable:</b> 1 m, 4-wire, PUR, halogen-free</li><li><b>Description:</b> Sensor/actuator cable, unshielded</li><li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li></ul>   | YF2A14-010UB3XLEAX | 2145655  |
|    | <ul style="list-style-type: none"><li><b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li><li><b>Connection type head B:</b> Flying leads</li><li><b>Signal type:</b> Sensor/actuator cable</li><li><b>Cable:</b> 2 m, 4-wire, PUR, halogen-free</li><li><b>Description:</b> Sensor/actuator cable, unshielded</li><li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li></ul>   | YF2A14-020UB3XLEAX | 2095607  |
|    | <ul style="list-style-type: none"><li><b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li><li><b>Connection type head B:</b> Flying leads</li><li><b>Signal type:</b> Sensor/actuator cable</li><li><b>Cable:</b> 3 m, 4-wire, PUR, halogen-free</li><li><b>Description:</b> Sensor/actuator cable, unshielded</li><li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li></ul>   | YF2A14-030UB3XLEAX | 2145656  |
|   | <ul style="list-style-type: none"><li><b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li><li><b>Connection type head B:</b> Flying leads</li><li><b>Signal type:</b> Sensor/actuator cable</li><li><b>Cable:</b> 5 m, 4-wire, PUR, halogen-free</li><li><b>Description:</b> Sensor/actuator cable, unshielded</li><li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li></ul>   | YF2A14-050UB3XLEAX | 2095608  |
|  | <ul style="list-style-type: none"><li><b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li><li><b>Connection type head B:</b> Flying leads</li><li><b>Signal type:</b> Sensor/actuator cable</li><li><b>Cable:</b> 10 m, 4-wire, PUR, halogen-free</li><li><b>Description:</b> Sensor/actuator cable, unshielded</li><li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li></ul>  | YF2A14-100UB3XLEAX | 2095609  |
|  | <ul style="list-style-type: none"><li><b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li><li><b>Connection type head B:</b> Flying leads</li><li><b>Signal type:</b> Sensor/actuator cable</li><li><b>Cable:</b> 20 m, 4-wire, PUR, halogen-free</li><li><b>Description:</b> Sensor/actuator cable, unshielded</li><li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li></ul>  | YF2A14-200UB3XLEAX | 2095611  |
|  | <ul style="list-style-type: none"><li><b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li><li><b>Connection type head B:</b> Flying leads</li><li><b>Signal type:</b> Sensor/actuator cable</li><li><b>Cable:</b> 25 m, 4-wire, PUR, halogen-free</li><li><b>Description:</b> Sensor/actuator cable, unshielded</li><li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li></ul>  | YF2A14-250UB3XLEAX | 2095615  |
|  | <ul style="list-style-type: none"><li><b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li><li><b>Connection type head B:</b> Flying leads</li><li><b>Signal type:</b> Sensor/actuator cable</li><li><b>Cable:</b> 0.6 m, 4-wire, PUR, halogen-free</li><li><b>Description:</b> Sensor/actuator cable, unshielded</li><li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li></ul> | YF2A14-C60UB3XLEAX | 2145654  |
|  | <ul style="list-style-type: none"><li><b>Connection type head A:</b> Female connector, M12, 4-pin, angled, A-coded</li><li><b>Connection type head B:</b> Flying leads</li><li><b>Signal type:</b> Sensor/actuator cable</li><li><b>Cable:</b> 1 m, 4-wire, PUR, halogen-free</li><li><b>Description:</b> Sensor/actuator cable, unshielded</li></ul>   | YG2A14-010UB3XLEAX | 2145658  |

|   | <b>Brief description</b>  | <b>Type</b>         | <b>part no.</b> |
|---|---|---------------------|-----------------|
|    | <ul style="list-style-type: none"> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 2 m, 4-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul> | YG2A14-020UB3XLEAX  | 2095766         |
|    | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 4-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>  | YG2A14-050UB3XLEAX  | 2095767         |
|    | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 10 m, 4-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>   | YG2A14-100UB3XLEAX  | 2095768         |
|    | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 20 m, 4-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>   | YG2A14-200UB3XLEAX  | 2095770         |
|    | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 25 m, 4-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>   | YG2A14-250UB3XLEAX  | 2095771         |
|   | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M12, 4-pin, straight, D-coded</li> <li><b>Connection type head B:</b> Male connector, RJ45, 4-pin, straight</li> <li><b>Signal type:</b> Ethernet, PROFINET</li> <li><b>Cable:</b> 2 m, 4-wire, PUR, halogen-free</li> <li><b>Description:</b> Ethernet, shieldedPROFINET</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li> </ul>  | YM2D24-020P-N1MRJA4 | 2106182         |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M12, 4-pin, straight, D-coded</li> <li><b>Connection type head B:</b> Male connector, M12, 4-pin, angled, D-coded</li> <li><b>Signal type:</b> Ethernet, PROFINET</li> <li><b>Cable:</b> 2 m, 4-wire, PUR, halogen-free</li> <li><b>Description:</b> Ethernet, shieldedPROFINET</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li> </ul>  | YM2D24-020P-N1N2D24 | 2106165         |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M12, 4-pin, straight, D-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Ethernet, PROFINET</li> <li><b>Cable:</b> 2 m, 4-wire, PUR, halogen-free</li> <li><b>Description:</b> Ethernet, shieldedPROFINET</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li> </ul>   | YM2D24-020P-N1XLEAX | 2106171         |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M12, 4-pin, straight, D-coded</li> <li><b>Connection type head B:</b> Male connector, M12, 4-pin, straight, D-coded</li> <li><b>Signal type:</b> Ethernet, PROFINET</li> <li><b>Cable:</b> 5 m, 4-wire, PUR, halogen-free</li> <li><b>Description:</b> Ethernet, shieldedPROFINET</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li> </ul>  | YM2D24-050P-N1M2D24 | 2106160         |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M12, 4-pin, straight, D-coded</li> <li><b>Connection type head B:</b> Male connector, RJ45, 4-pin, straight</li> <li><b>Signal type:</b> Ethernet, PROFINET</li> <li><b>Cable:</b> 5 m, 4-wire, PUR, halogen-free</li> <li><b>Description:</b> Ethernet, shieldedPROFINET</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li> </ul>  | YM2D24-050P-N1MRJA4 | 2106184         |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M12, 4-pin, straight, D-coded</li> <li><b>Connection type head B:</b> Male connector, M12, 4-pin, angled, D-coded</li> <li><b>Signal type:</b> Ethernet, PROFINET</li> <li><b>Cable:</b> 5 m, 4-wire, PUR, halogen-free</li> <li><b>Description:</b> Ethernet, shieldedPROFINET</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li> </ul>  | YM2D24-050P-N1N2D24 | 2106166         |

|   | <b>Brief description</b>  | <b>Type</b>         | <b>part no.</b> |
|---|---|---------------------|-----------------|
|    | <ul style="list-style-type: none"><li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li><li><b>Connection type head A:</b> Male connector, M12, 4-pin, straight, D-coded</li><li><b>Connection type head B:</b> Flying leads</li><li><b>Signal type:</b> Ethernet, PROFINET</li><li><b>Cable:</b> 5 m, 4-wire, PUR, halogen-free</li><li><b>Description:</b> Ethernet, shieldedPROFINET</li><li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li></ul> | YM2D24-050P-N1XLEAX | 2106172         |
|    | <ul style="list-style-type: none"><li><b>Connection type head A:</b> Male connector, M12, 4-pin, straight, D-coded</li><li><b>Connection type head B:</b> Male connector, M12, 4-pin, straight, D-coded</li><li><b>Signal type:</b> Ethernet, PROFINET</li><li><b>Cable:</b> 10 m, 4-wire, PUR, halogen-free</li><li><b>Description:</b> Ethernet, shieldedPROFINET</li><li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li></ul>  | YM2D24-100P-N1M2D24 | 2106161         |
|    | <ul style="list-style-type: none"><li><b>Connection type head A:</b> Male connector, M12, 4-pin, straight, D-coded</li><li><b>Connection type head B:</b> Male connector, RJ45, 4-pin, straight</li><li><b>Signal type:</b> Ethernet, PROFINET</li><li><b>Cable:</b> 10 m, 4-wire, PUR, halogen-free</li><li><b>Description:</b> Ethernet, shieldedPROFINET</li><li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li></ul>  | YM2D24-100P-N1MRJA4 | 2106185         |
|    | <ul style="list-style-type: none"><li><b>Connection type head A:</b> Male connector, M12, 4-pin, straight, D-coded</li><li><b>Connection type head B:</b> Male connector, M12, 4-pin, angled, D-coded</li><li><b>Signal type:</b> Ethernet, PROFINET</li><li><b>Cable:</b> 10 m, 4-wire, PUR, halogen-free</li><li><b>Description:</b> Ethernet, shieldedPROFINET</li><li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li></ul>  | YM2D24-100P-N1N2D24 | 2106167         |
|    | <ul style="list-style-type: none"><li><b>Connection type head A:</b> Male connector, M12, 4-pin, straight, D-coded</li><li><b>Connection type head B:</b> Flying leads</li><li><b>Signal type:</b> Ethernet, PROFINET</li><li><b>Cable:</b> 10 m, 4-wire, PUR, halogen-free</li><li><b>Description:</b> Ethernet, shieldedPROFINET</li><li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li></ul>   | YM2D24-100P-N1XLEAX | 2106173         |
|   | <ul style="list-style-type: none"><li><b>Connection type head A:</b> Male connector, M12, 4-pin, angled, D-coded</li><li><b>Connection type head B:</b> Male connector, RJ45, 4-pin, straight</li><li><b>Signal type:</b> Ethernet, PROFINET</li><li><b>Cable:</b> 2 m, 4-wire, PUR, halogen-free</li><li><b>Description:</b> Ethernet, shieldedPROFINET</li><li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li></ul>   | YN2D24-020P-N1MRJA4 | 2106162         |
|  | <ul style="list-style-type: none"><li><b>Connection type head A:</b> Male connector, M12, 4-pin, angled, D-coded</li><li><b>Connection type head B:</b> Male connector, M12, 4-pin, angled, D-coded</li><li><b>Signal type:</b> Ethernet, PROFINET</li><li><b>Cable:</b> 2 m, 4-wire, PUR, halogen-free</li><li><b>Description:</b> Ethernet, shieldedPROFINET</li><li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li></ul>   | YN2D24-020P-N1N2D24 | 2106168         |
|  | <ul style="list-style-type: none"><li><b>Connection type head A:</b> Male connector, M12, 4-pin, angled, D-coded</li><li><b>Connection type head B:</b> Male connector, RJ45, 4-pin, straight</li><li><b>Signal type:</b> Ethernet, PROFINET</li><li><b>Cable:</b> 3 m, 4-wire, PUR, halogen-free</li><li><b>Description:</b> Ethernet, shieldedPROFINET</li><li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li></ul>   | YN2D24-030P-N1MRJA4 | 2144265         |
|  | <ul style="list-style-type: none"><li><b>Connection type head A:</b> Male connector, M12, 4-pin, angled, D-coded</li><li><b>Connection type head B:</b> Male connector, RJ45, 4-pin, straight</li><li><b>Signal type:</b> Ethernet, PROFINET</li><li><b>Cable:</b> 5 m, 4-wire, PUR, halogen-free</li><li><b>Description:</b> Ethernet, shieldedPROFINET</li><li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li></ul>   | YN2D24-050P-N1MRJA4 | 2106163         |
|  | <ul style="list-style-type: none"><li><b>Connection type head A:</b> Male connector, M12, 4-pin, angled, D-coded</li><li><b>Connection type head B:</b> Male connector, M12, 4-pin, angled, D-coded</li><li><b>Signal type:</b> Ethernet, PROFINET</li><li><b>Cable:</b> 5 m, 4-wire, PUR, halogen-free</li><li><b>Description:</b> Ethernet, shieldedPROFINET</li><li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li></ul>   | YN2D24-050P-N1N2D24 | 2127662         |
|  | <ul style="list-style-type: none"><li><b>Connection type head A:</b> Male connector, M12, 4-pin, angled, D-coded</li><li><b>Connection type head B:</b> Flying leads</li><li><b>Signal type:</b> Ethernet, PROFINET</li><li><b>Cable:</b> 5 m, 4-wire, PUR, halogen-free</li><li><b>Description:</b> Ethernet, shieldedPROFINET</li><li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li></ul>  | YN2D24-050P-N1XLEAX | 2106175         |

|   | <b>Brief description</b>  | <b>Type</b>                                | <b>part no.</b> |
|---|---|--|-----------------|
|    | <ul style="list-style-type: none"> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li> <li><b>Connection type head A:</b> Male connector, M12, 4-pin, angled, D-coded</li> <li><b>Connection type head B:</b> Male connector, RJ45, 4-pin, straight</li> <li><b>Signal type:</b> Ethernet, PROFINET</li> <li><b>Cable:</b> 10 m, 4-wire, PUR, halogen-free</li> <li><b>Description:</b> Ethernet, shieldedPROFINET</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li> </ul> | YN2D24-100P-N1MRJA4                        | 2106164         |
|    | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M12, 4-pin, angled, D-coded</li> <li><b>Connection type head B:</b> Male connector, M12, 4-pin, angled, D-coded</li> <li><b>Signal type:</b> Ethernet, PROFINET</li> <li><b>Cable:</b> 10 m, 4-wire, PUR, halogen-free</li> <li><b>Description:</b> Ethernet, shieldedPROFINET</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li> </ul>   | YN2D24-100P-N1N2D24                        | 2106170         |
|    | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M12, 4-pin, angled, D-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Ethernet, PROFINET</li> <li><b>Cable:</b> 10 m, 4-wire, PUR, halogen-free</li> <li><b>Description:</b> Ethernet, shieldedPROFINET</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li> </ul>  | YN2D24-100P-N1XLEAX                        | 2106176         |
|    | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M12, 4-pin, angled, D-coded</li> <li><b>Connection type head B:</b> Male connector, RJ45, 4-pin, straight</li> <li><b>Signal type:</b> Ethernet, PROFINET</li> <li><b>Cable:</b> 20 m, 4-wire, PUR, halogen-free</li> <li><b>Description:</b> Ethernet, shieldedPROFINET</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li> </ul>   | YN2D24-200P-N1MRJA4                        | 2127664         |
|    | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M12, 4-pin, angled, D-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Ethernet, PROFINET</li> <li><b>Cable:</b> 25 m, 4-wire, PUR, halogen-free</li> <li><b>Description:</b> Ethernet, shieldedPROFINET</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li> </ul>  | YN2D24-250P-N1XLEAX                        | 2106180         |
|   | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, angled, A-coded</li> <li><b>Description:</b> Unshielded</li> <li><b>Connection systems:</b> Screw-type terminals</li> <li><b>Permitted cross-section:</b> ≤ 0.75 mm<sup>2</sup></li> </ul>  | DOS-1204-W                                 | 6007303         |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, D-coded</li> <li><b>Connection type head B:</b> Female connector, RJ45, 8-pin</li> <li><b>Signal type:</b> Ethernet</li> <li><b>Cable:</b> CAT5, CAT5e</li> <li><b>Description:</b> Ethernet, shielded</li> <li><b>Note:</b> Cabinet through</li> </ul>   | Feedthrough female connector Ethernet RJ45 | 6048180         |

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