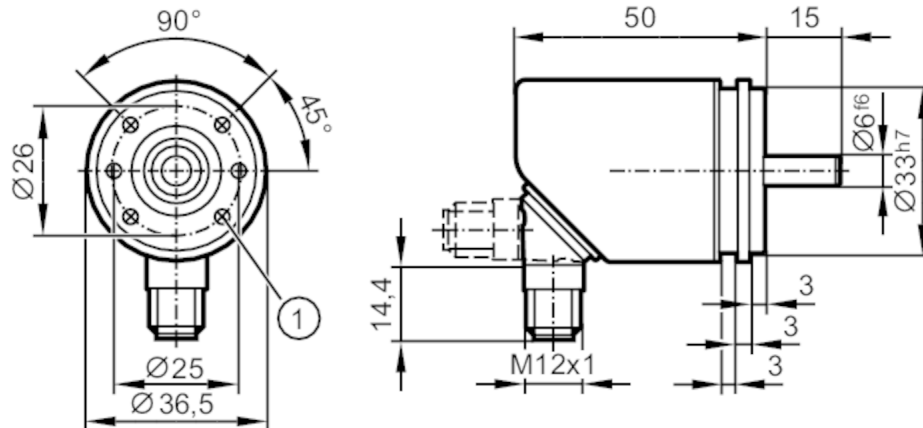




1 M3 x 0.5 Depth 6 mm



## Product characteristics

|                         |                                                                |
|-------------------------|----------------------------------------------------------------|
| Resolution              | 1...10000; (parameterisable; Factory setting: 1024) resolution |
| Communication interface | IO-Link                                                        |
| Shaft design            | solid shaft                                                    |
| Shaft diameter [mm]     | 6                                                              |

## Application

|                    |             |
|--------------------|-------------|
| Function principle | incremental |
| Detection system   | magnetic    |

## Electrical data

|                             |         |              |
|-----------------------------|---------|--------------|
| Operating voltage           | [V]     | 4.75...30 DC |
| Current consumption         | [mA]    | < 150        |
| Protection class            |         | III          |
| Reverse polarity protection |         | yes          |
| Power-on delay time         | [s]     | 0.5          |
| Max. revolution electrical  | [U/min] | 12000        |

## Outputs

|                              |                              |
|------------------------------|------------------------------|
| Electrical design            | HTL/TTL                      |
| Switching frequency [kHz]    | 1000                         |
| Factory setting              | Output function: HTL (50 mA) |
| Short-circuit protection     | yes                          |
| Phase difference A and B [°] | 90                           |

### Measuring/setting range

|            |                                                                |
|------------|----------------------------------------------------------------|
| Resolution | 1...10000; (parameterisable; Factory setting: 1024) resolution |
|------------|----------------------------------------------------------------|

### Accuracy / deviations

|          |     |     |
|----------|-----|-----|
| Accuracy | [°] | 0.1 |
|----------|-----|-----|

## Software / programming

|                           |                                             |
|---------------------------|---------------------------------------------|
| Parameter setting options | Resolution: direction of rotation: HTL: TTL |
|---------------------------|---------------------------------------------|



## Incremental encoder with solid shaft

INCREMENTAL ENCODER BASIC LINE

| Interfaces                                |                      |                                                            |
|-------------------------------------------|----------------------|------------------------------------------------------------|
| Communication interface                   |                      | IO-Link                                                    |
| Transmission type                         |                      | COM2 (38,4 kBaud)                                          |
| IO-Link revision                          |                      | 1.1                                                        |
| Profiles                                  | Smart Sensor - SSP 0 | Generic Profiled Sensor                                    |
|                                           | Function             | Device identification                                      |
|                                           | Function             | Process data variable                                      |
|                                           | Function             | Device diagnosis                                           |
| SIO mode                                  |                      | yes                                                        |
| Min. process cycle time                   | [ms]                 | 2.3                                                        |
| Supported DeviceIDs                       |                      | <b>Type of operation</b><br>default                        |
|                                           |                      | <b>DeviceID</b><br>499                                     |
| Operating conditions                      |                      |                                                            |
| Ambient temperature                       | [°C]                 | -40...85                                                   |
| Storage temperature                       | [°C]                 | -40...85                                                   |
| Max. relative air humidity                | [%]                  | 95; (condensation not permissible)                         |
| Protection                                |                      | IP 65; IP 66; (on the housing: IP 67; on the shaft: IP 64) |
| Tests / approvals                         |                      |                                                            |
| Shock resistance                          |                      | 100 g                                                      |
| Vibration resistance                      |                      | 20 g                                                       |
| MTTF                                      | [years]              | 292                                                        |
| Mechanical data                           |                      |                                                            |
| Weight                                    | [g]                  | 245                                                        |
| Housing                                   |                      | cylindrical                                                |
| Dimensions                                | [mm]                 | Ø 36.5 / L = 65                                            |
| Materials                                 |                      | flange: aluminium; housing: stainless steel (444/1.4521)   |
| Max. revolution, mechanical [U/min]       |                      | 12000                                                      |
| Max. starting torque                      | [Nm]                 | 0.01                                                       |
| Reference temperature torque              | [°C]                 | 20                                                         |
| Shaft design                              |                      | solid shaft                                                |
| Shaft diameter                            | [mm]                 | 6                                                          |
| Shaft material                            |                      | stainless steel                                            |
| Max. shaft load axial (at the shaft end)  | [N]                  | 10                                                         |
| Max. shaft load radial (at the shaft end) | [N]                  | 20                                                         |
| Fixing flange                             |                      | Ø 36.5 mm                                                  |
| Remarks                                   |                      |                                                            |
| Pack quantity                             |                      | 1 pcs.                                                     |

# RB3100



## Incremental encoder with solid shaft

INCREMENTAL ENCODER BASIC LINE

### Electrical connection

Connector: 1 x M12, radial, can also be used axially; coding: A; Moulded body: stainless steel (316 / 1.4401); Maximum cable length: 100 m; (IO-Link: max. 20 m)



### IO-Link

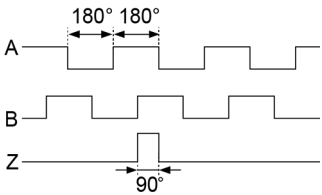
|        |                |
|--------|----------------|
| 1      | L+             |
| 2      | not to be used |
| 3      | L-             |
| 4      | IO-Link        |
| 5      | not to be used |
| Screen | plug           |

### encoder

|        |                    |
|--------|--------------------|
| 1      | UB                 |
| 2      | A                  |
| 3      | GND                |
| 4      | Z/0-Pulse (90 deg) |
| 5      | B                  |
| Screen | plug               |

### Diagrams and graphs

#### Pulse diagram



direction of rotation clockwise (looking at the shaft)