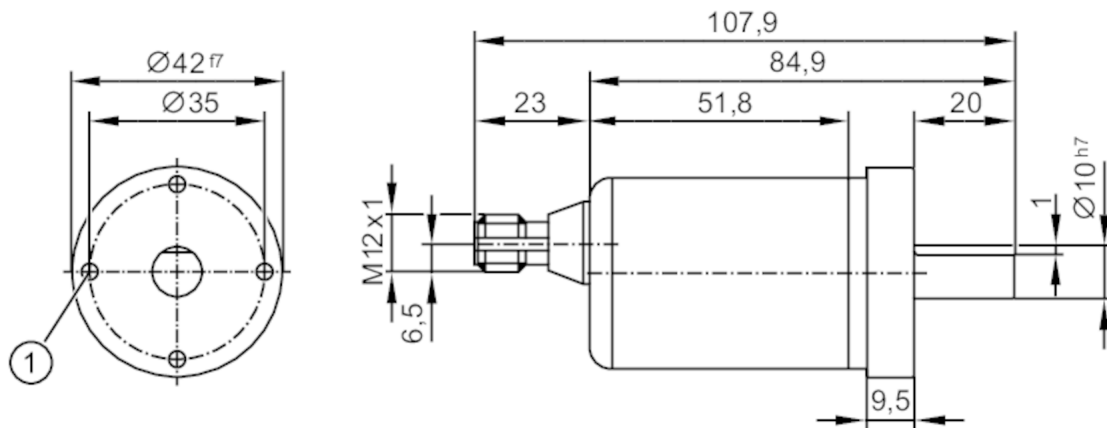


# RMB310



## Absolute multiturn encoder with solid shaft

MULTITURN ENCODER WETLINE



1 M4 Depth 8 mm



### Product characteristics

|                         |                                        |
|-------------------------|----------------------------------------|
| Resolution              | 65536 steps; 32768 revolutions; 31 bit |
| Communication interface | IO-Link                                |
| Shaft design            | solid shaft                            |
| Shaft diameter [mm]     | 10                                     |

### Application

|                    |           |
|--------------------|-----------|
| Function principle | absolute  |
| Revolution type    | multiturn |
| Detection system   | magnetic  |

### Electrical data

|                                    |                         |
|------------------------------------|-------------------------|
| Operating voltage [V]              | 18...30 DC; (; to PELV) |
| Rated insulation voltage [V]       | 30                      |
| Current consumption [mA]           | < 75                    |
| Protection class                   | III                     |
| Reverse polarity protection        | yes                     |
| Max. power-on delay time [ms]      | 1000                    |
| Max. revolution electrical [U/min] | 6000                    |

### Outputs

|                          |     |
|--------------------------|-----|
| Short-circuit protection | yes |
|--------------------------|-----|

### Measuring/setting range

|            |                                        |
|------------|----------------------------------------|
| Resolution | 65536 steps; 32768 revolutions; 31 bit |
|------------|----------------------------------------|

### Accuracy / deviations

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

### Software / programming

|                           |                                                             |
|---------------------------|-------------------------------------------------------------|
| Parameter setting options | preset; zero point; direction of rotation; rotational speed |
|---------------------------|-------------------------------------------------------------|

### Interfaces

|                         |         |
|-------------------------|---------|
| Communication interface | IO-Link |
|-------------------------|---------|



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|                                 |                                                                                                   |                                   |
|---------------------------------|---------------------------------------------------------------------------------------------------|-----------------------------------|
| Transmission type               | COM3 (230,4 kBaud)                                                                                |                                   |
| IO-Link revision                | 1.1                                                                                               |                                   |
| SDCI standard                   | IEC 61131-9 CDV                                                                                   |                                   |
| Profiles                        | Common - I&D                                                                                      | Identification and Diagnosis      |
|                                 | Function                                                                                          | Multiple switching signal         |
|                                 | Function                                                                                          | Measurement data, high resolution |
| SIO mode                        | no                                                                                                |                                   |
| Required master port type       | A                                                                                                 |                                   |
| Min. process cycle time [ms]    | 2.3                                                                                               |                                   |
| IO-Link process data (cyclical) | <b>function</b>                                                                                   | <b>bit length</b>                 |
|                                 | process value                                                                                     | 96                                |
|                                 | device status                                                                                     | 4                                 |
|                                 | binary switching information                                                                      | 5                                 |
| IO-Link functions (acyclical)   | application specific tag; operating hours counter; internal temperature; switching cycles counter |                                   |
| Supported DeviceIDs             | <b>Type of operation</b>                                                                          | <b>DeviceID</b>                   |
|                                 | default                                                                                           | 1064                              |
| Note                            | For further information please see the IODD PDF file under "Downloads"                            |                                   |

## Operating conditions

|                                |                                    |
|--------------------------------|------------------------------------|
| Ambient temperature [°C]       | -40...85                           |
| Storage temperature [°C]       | -40...85                           |
| Max. relative air humidity [%] | 98; (condensation not permissible) |
| Protection                     | IP 68; IP 69K                      |

## Tests / approvals

|                             |                               |                               |
|-----------------------------|-------------------------------|-------------------------------|
| EMC                         | DIN EN 61000-4-2 ESD          | 4 kV CD                       |
|                             | DIN EN 61000-4-3 HF radiated  | 10 V/m                        |
|                             | DIN EN 61000-4-4 Burst        | 2 kV                          |
|                             | DIN EN 61000-4-6 HF conducted | 10 V                          |
| Vibration resistance        | DIN EN 60068-2-6              | 30 g / 10...1000 Hz half-sine |
| Shock resistance            | DIN EN 60068-2-27             | 200 g / 11 ms                 |
| Continuous shock resistance | DIN EN 60068-2-29             | 30 g / 6 ms half-sine         |
| MTTF [years]                | 283                           |                               |
| UL approval                 | power supply                  | Class 2                       |

## Mechanical data

|                                              |                                                                               |
|----------------------------------------------|-------------------------------------------------------------------------------|
| Weight [g]                                   | 472.1                                                                         |
| Housing                                      | cylindrical                                                                   |
| Dimensions [mm]                              | Ø 42 / L = 107.9                                                              |
| Materials                                    | flange: stainless steel (316L/1.4404); housing: stainless steel (316L/1.4404) |
| Max. starting torque [Nm]                    | 0.05                                                                          |
| Reference temperature torque [°C]            | 20                                                                            |
| Shaft design                                 | solid shaft                                                                   |
| Shaft diameter [mm]                          | 10                                                                            |
| Shaft material                               | stainless steel (440B/1.4112)                                                 |
| Max. shaft load axial (at the shaft end) [N] | 300                                                                           |

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## Absolute multiturn encoder with solid shaft

MULTITURN ENCODER WETLINE

|                                           |     |                |
|-------------------------------------------|-----|----------------|
| Max. shaft load radial (at the shaft end) | [N] | 300            |
| Fixing flange                             |     | synchro-flange |

Remarks

|               |        |
|---------------|--------|
| Pack quantity | 1 pcs. |
|---------------|--------|

Electrical connection - plug

Connector: 1 x M12, axial; coding: A; Moulded body: stainless steel (316 / 1.4401)



|   |             |
|---|-------------|
| 1 | UB          |
| 2 | SSC1.2 / IN |
| 3 | GND         |
| 4 | IO-Link     |
| 5 | n. c.       |