

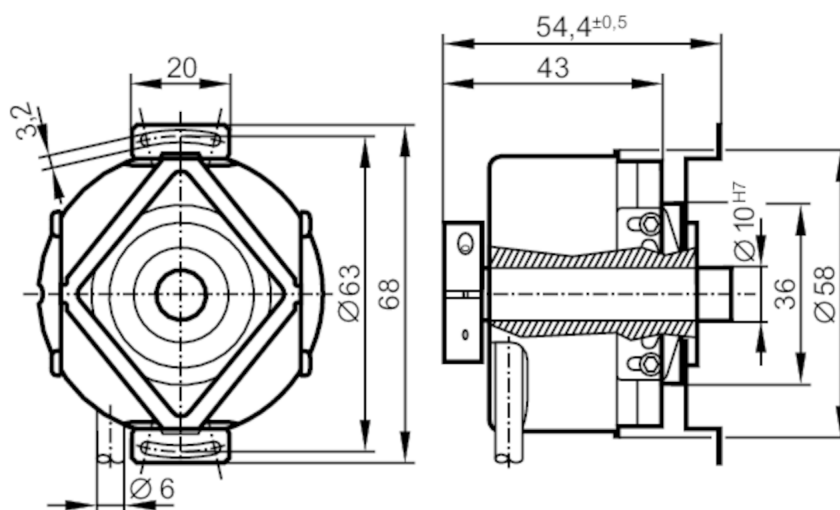
# RO1355

## Incremental encoder with hollow shaft

RO-7200-I05/N11



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### Application

|                    |             |
|--------------------|-------------|
| Function principle | incremental |
|--------------------|-------------|

### Electrical data

|                             |      |       |
|-----------------------------|------|-------|
| Operating voltage tolerance | [%]  | 10    |
| Operating voltage           | [V]  | 5 DC  |
| Current consumption         | [mA] | < 150 |

### Outputs

|                              |       |     |
|------------------------------|-------|-----|
| Electrical design            |       | TTL |
| Max. current load per output | [mA]  | 20  |
| Switching frequency          | [kHz] | 300 |
| Phase difference A und B     | [°]   | 90  |

### Measuring/setting range

|            |                 |
|------------|-----------------|
| Resolution | 7200 resolution |
|------------|-----------------|

### Operating conditions

|                            |                                                     |           |
|----------------------------|-----------------------------------------------------|-----------|
| Ambient temperature        | [°C]                                                | -30...100 |
| Max. relative air humidity | [%]                                                 | 98        |
| Protection                 | IP 64; (on the housing: IP 66; on the shaft: IP 64) |           |

### Tests / approvals

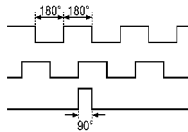
|                      |         |                     |
|----------------------|---------|---------------------|
| Shock resistance     |         | 100 g (6 ms)        |
| Vibration resistance |         | 10 g (55...2000 Hz) |
| MTTF                 | [years] | 190                 |

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| Mechanical data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                            |                                               |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-------|---|-------|------------|------|---|------|------------|-----|---------|-------|------------------|------|-----------|-------|-----------|-------------|---------|-------------|---------|-------|------------------|--------|---------|
| Weight                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | [g]                                                                                                                                                        | 448.6                                         |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
| Dimensions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | [mm]                                                                                                                                                       | Ø 58 / L = 54.4                               |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
| Materials                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                            | aluminium                                     |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
| Max. revolution, mechanical                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | [U/min]                                                                                                                                                    | 12000; (when using both shaft clamping rings) |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
| Max. starting torque                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | [Nm]                                                                                                                                                       | 2.5                                           |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
| Reference temperature torque                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | [°C]                                                                                                                                                       | 20                                            |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
| Shaft design                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                            | continuous hollow shaft                       |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
| Shaft diameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | [mm]                                                                                                                                                       | 10                                            |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
| Shaft fit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                            | H7                                            |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
| Shaft material                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                            | stainless steel                               |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
| Installation depth of shaft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | [mm]                                                                                                                                                       | 10                                            |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
| Max. axial shaft misalignment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | [mm]                                                                                                                                                       | 1; (max. radial shaft alignment: ± 0,05 mm)   |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
| Remarks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                            |                                               |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
| Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                            | discontinued article                          |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
| Electrical connection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                            |                                               |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
| Cable: 1 m, PUR; radial, can also be used axially                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                            |                                               |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
| <table><tr><td>brown</td><td>A</td></tr><tr><td>green</td><td>A inverted</td></tr><tr><td>grey</td><td>B</td></tr><tr><td>pink</td><td>B inverted</td></tr><tr><td>red</td><td>0 index</td></tr><tr><td>black</td><td>0 index inverted</td></tr><tr><td>blue</td><td>L+ sensor</td></tr><tr><td>white</td><td>0V sensor</td></tr><tr><td>brown/green</td><td>L+ (Up)</td></tr><tr><td>white/green</td><td>0V (Un)</td></tr><tr><td>lilac</td><td>failure inverted</td></tr><tr><td>screen</td><td>housing</td></tr></table> |                                                                                                                                                            |                                               | brown | A | green | A inverted | grey | B | pink | B inverted | red | 0 index | black | 0 index inverted | blue | L+ sensor | white | 0V sensor | brown/green | L+ (Up) | white/green | 0V (Un) | lilac | failure inverted | screen | housing |
| brown                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | A                                                                                                                                                          |                                               |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
| green                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | A inverted                                                                                                                                                 |                                               |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
| grey                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | B                                                                                                                                                          |                                               |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
| pink                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | B inverted                                                                                                                                                 |                                               |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
| red                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0 index                                                                                                                                                    |                                               |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
| black                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0 index inverted                                                                                                                                           |                                               |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
| blue                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | L+ sensor                                                                                                                                                  |                                               |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
| white                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0V sensor                                                                                                                                                  |                                               |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
| brown/green                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | L+ (Up)                                                                                                                                                    |                                               |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
| white/green                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0V (Un)                                                                                                                                                    |                                               |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
| lilac                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | failure inverted                                                                                                                                           |                                               |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
| screen                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | housing                                                                                                                                                    |                                               |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
| Diagrams and graphs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                            |                                               |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |
| Pulse diagram                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <div></div> <div>Output A</div> <div>Output B</div> <div>0 index</div> |                                               |       |   |       |            |      |   |      |            |     |         |       |                  |      |           |       |           |             |         |             |         |       |                  |        |         |

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