

# ROTACOD

Absolute encoders with Modbus TCP/IP interface

Series

EM58 • HS58 • HM58 MT



- EM58 series: general purpose, multi turn
- HS58 series: high accuracy, single turn
- HM58 series: high resolution, multi turn
- Fast and precise optical sensing
- Position and velocity output
- Integrated web server for parameter setup
- Status information & LED diagnostics



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## ENVIRONMENTAL SPECIFICATIONS

|                              |   |
|------------------------------|---|
| Shock:                       | 100 g, 6 ms   |
| Vibrations:                  | 10 g, 5-2000 Hz   |
| Protection:                  | IP65  |
| Operating temperature range: | -25°C +85°C (-13°F +185°F)                                    |
| Storage temperature range:   | -40°C +100°C (-40°F +212°F)<br>(98% R.H.without condensation) |

## MECHANICAL SPECIFICATIONS

|  |  |
|--|--|
| Dimensions:                              | see drawing  |
| Shaft diameter:                          | Ø 6, 8, 9.52, 10, 12 mm  |
| Hollow shaft diameter:                   | Ø 14, 15 mm  |
| Reducing sleeves BR1-xx from Ø 15 mm to: | Ø 6, 8, 9.52, 10, 11, 12 mm  |
| Shaft loading (axial, radial):           | 40 N max.  |
| Shaft rotational speed:                  | 6000 rpm max.  |
| Bearings life:                           | 400 x 10 <sup>6</sup> rev. min.<br>(10 <sup>9</sup> rev. min. with shaft loading of 20 N max.) |
| Weight:                                  | ~ 350 g (12,3 oz)  |

## ELECTRICAL SPECIFICATIONS

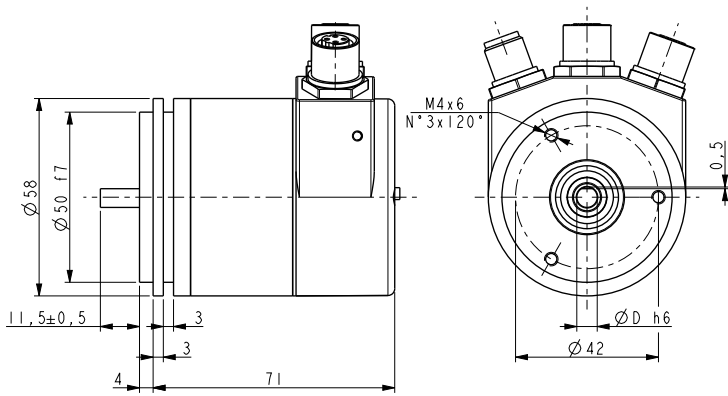
|                          |   |
|--------------------------|---|
| Resolution:              | HS: 262144 cpr<br>EM: 8192 cpr x 16384 turns<br>HM: 65536 cpr x 16384 turns |
| Accuracy:                | HS, HM: ± 0,007° - EM: ± 0,5°   |
| Counting frequency:      | 150 kHz max.  |
| Power supply:            | +10V +30V   |
| Power consumption:       | 1,7 W max.  |
| Interface:               | Ethernet Modbus TCP/IP  |
| Programmable parameters: | see user manual   |
| Communication modes:     | Polled mode (master-slave)  |
| Cycle time:              | 2 ms max.   |
| Protection:              | against inversion of polarity and short-circuit                             |
| EMC:                     | electro-magnetic immunity, according to: EN 61000-4-2<br>EN 61000-4-4       |
| Optoelectronic life:     | 100.000 h min.  |

## MATERIALS

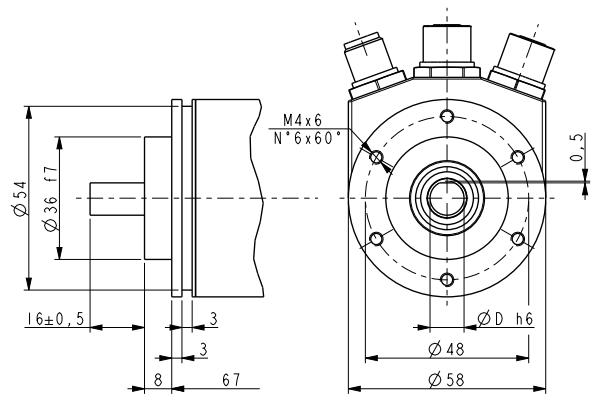
|               |  |
|---------------|--|
| Flange:       | anticorodal, UNI EN AW-6082                |
| Housing:      | anticorodal, UNI EN AW-6082                |
| Bearings:     | ABEC 5                                     |
| Shaft:        | stainless steel, non magnetic, UNI EN 4305 |
| Light source: | GaAl diodes                                |

## ACCESSORIES

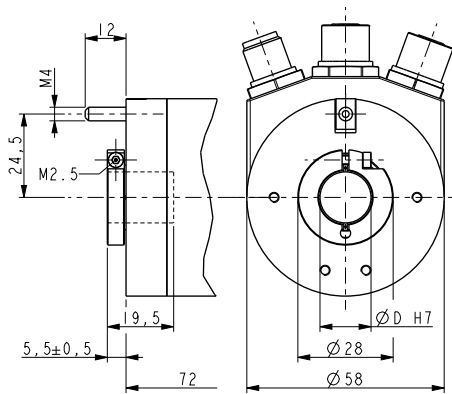
|                            |  |
|----------------------------|--|
| PAN/PGF:                   | flexible couplings                       |
| BR1:                       | reducing sleeves                         |
| LKM-386:                   | fixing clamps                            |
| EC-M12ME-EC-GN-5:          | M12 cordset with 5 m cable               |
| EC-M12ME-EC-GN-10:         | M12 cordset with 10 m cable              |
| EXC-M12ME-EC-GN-5-RJ8-EC:  | M12+RJ8 cordset w/ 5 m cable             |
| EXC-M12ME-EC-GN-10-RJ8-EC: | M12+RJ8 cordset w/ 10 m cable            |
| EC-M12PP-LK-PBS-5:         | M12 power supply cordset with 5 m cable  |
| EC-M12PP-LK-PBS-10:        | M12 power supply cordset with 10 m cable |



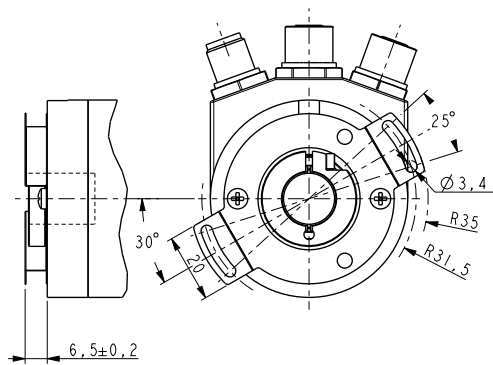
EM58 • HS58 • HM58 MT



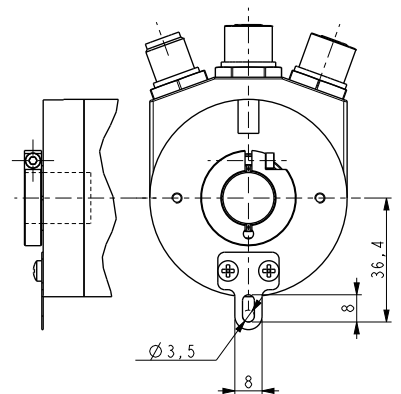
EM58S • HS58S • HM58S MT



EMC58 • HSC58 • HMC58 MT



EMC59 • HSC59 • HMC59 MT



EMC60 • HSC60 • HMC60 MT

Order code - Single turn

|       |    |   |    |   |    |       |
|-------|----|---|----|---|----|-------|
| HS58  | XX | / | MT | - | XX | /Sxxx |
| HS58S | Ⓐ  |   |    |   | Ⓑ  | Ⓒ     |
| HSC58 |    |   |    |   |    |       |
| HSC59 |    |   |    |   |    |       |
| HSC60 |    |   |    |   |    |       |

Order code - Multi turn

|       |       |          |    |   |    |       |
|-------|-------|----------|----|---|----|-------|
| HM58  | EM58  | XX/XXXXX | MT | - | XX | /Sxxx |
| HM58S | EM58S | Ⓐ        |    |   | Ⓑ  | Ⓒ     |
| HMC58 | EMC58 |          |    |   |    |       |
| HMC59 | EMC59 |          |    |   |    |       |
| HMC60 | EMC60 |          |    |   |    |       |

|                 |                    |                  |
|-----------------|--------------------|------------------|
| Ⓐ RESOLUTION    | Ⓑ SHAFT DIAMETER   | Ⓒ CUSTOM VERSION |
| 18 = 262144 cpr | 6 = 6 mm           |                  |
|                 | 8 = 8 mm           |                  |
|                 | P9 = 9.52 mm, 3/8" |                  |
|                 | 10 = 10 mm         |                  |
|                 | 12 = 12 mm         |                  |
|                 | 14 = 14 mm (HSCxx) |                  |
|                 | 15 = 15 mm (HSCxx) |                  |

|   |                           |                  |
|---|---------------------------|------------------|
| Ⓐ RESOLUTION                              | 10 = 10 mm                | Ⓒ CUSTOM VERSION |
| 13/16384 = 8192 cpr x 16384 turns (EMxx)  | 12 = 12 mm                |                  |
| 16/16384 = 65536 cpr x 16384 turns (HMxx) | 14 = 14 mm (EMCxx, HMCxx) |                  |
|   | 15 = 15 mm (EMCxx, HMCxx) |                  |
| Ⓑ SHAFT DIAMETER                          |                           |                  |
| 6 = 6 mm                                  |                           |                  |
| 8 = 8 mm                                  |                           |                  |
| P9 = 9.52 mm, 3/8"                        |                           |                  |