

# Euro MT - Multiturn Sensor



- Non-contacting, magnetic
- Long life
- Electrical angle 720° up to 5760° in 360°-steps available (equates to 2 ... 16 turns)
- True-Power-On system (absolute)
- High shock and vibration resistance

By combining separate single-turn angle detection and multi rotation detection, this compact sensor is able to measure angles across multiple turns providing high resolution and accuracy. As the sensor can detect turns in an unpowered state and stores its position in non volatile memory, it is a real true power on angle sensor in a very compact size.



## Specifications

### Mechanical

|                       |                                                                   |
|-----------------------|-------------------------------------------------------------------|
| Typical Life Cycle    | > 50 x 10 <sup>6</sup> (mechanical)                               |
| Torque                | 0.5 Ncm (IP65), 1.0 Ncm (IP67)                                    |
| Measuring range       | 720° up to 5760° in 360°-steps available (equates 2 ... 16 turns) |
| Max. operating speed  | 800 RPM                                                           |
| Housing               | High grade temperature resistant plastic                          |
| Bearing               | Bronze sleeve                                                     |
| Shaft                 | Stainless Steel - push-on coupling or marked shaft                |
| <b>Environmental</b>  |                                                                   |
| Operating temperature | -40°C to +85°C                                                    |
| Vibration             | 5...2000 Hz, A <sub>max</sub> = 0.75 mm, a <sub>max</sub> = 20 g  |
| IP rating             | IP65 (IP67 on request)                                            |

### Linearity

|                 |       |       |       |       |       |
|-----------------|-------|-------|-------|-------|-------|
| Measuring range | 3     | 6     | 10    | 16    | turns |
| Linearity typ.  | 0.167 | 0.083 | 0.050 | 0.031 | %     |
| Linearity max.  | 0.267 | 0.183 | 0.150 | 0.131 | %     |

### Electrical

|                       |                                                                             |
|-----------------------|-----------------------------------------------------------------------------|
| Supply Voltage        | 5 VDC +/- 0.5V                                                              |
| Output signal         | Ratiometric load > 10 kΩ; 0.1...10 V load > 10 kΩ; 4...20 mA, burden < 500Ω |
| Independent linearity | 0.25...0.05 (see table below)                                               |
| Resolution            | 16 bit total                                                                |
| Repeatability         | +/- 0.1%                                                                    |
| Response time         | max. 2 ms                                                                   |
| Isolation resistance  | ≥ 10 MΩ (500 VDC)                                                           |
| Electrical connection | See ordering code                                                           |

## Ordering information

(Please use the characters in the chart below to construct your product code)

Sample Code: **Euro-MT - 2841 - 003 - 2 2 1 - 910**

Stock model : **Euro-MT 2841-003-221-910**

| Series  | Mechanical version           | Number of turns output characteristics | Supply Voltage           | Output signal Supply = 5 VDC (2 _ _) | Output configuration | Electrical connection                                                            |
|---------|------------------------------|----------------------------------------|--------------------------|--------------------------------------|----------------------|----------------------------------------------------------------------------------|
| Euro-MT | 2841: push-on-coupling, IP65 | 003                                    | 2: = 5 VDC (4.5 ... 5.5) | 2: 0.5 ... 4.5 V ratiometric to Ub   | 1: rising curve CW   | 910: 3 x 0.5 metre Raychem cable -<br>Red-Supply<br>White-Single<br>Black-Ground |

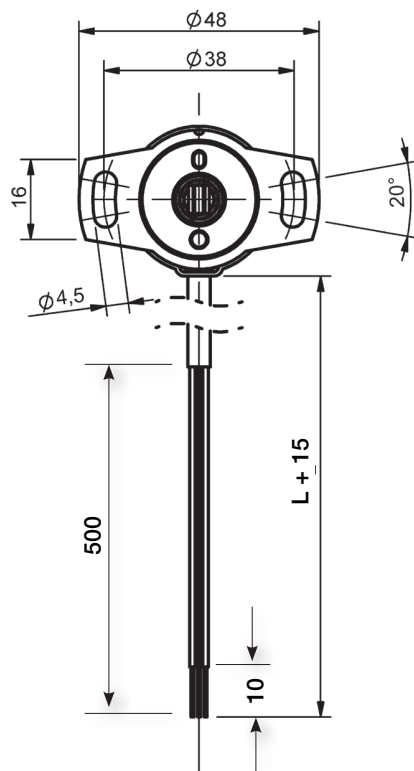
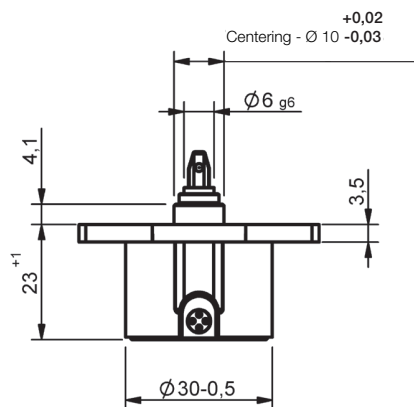
Custom options available upon request for 25+ pieces



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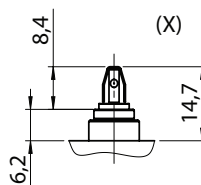
Subject to change without notice

## Dimensions in mm - Euro MT

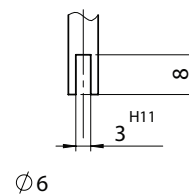


### Shaft detail

Euro MT 2841

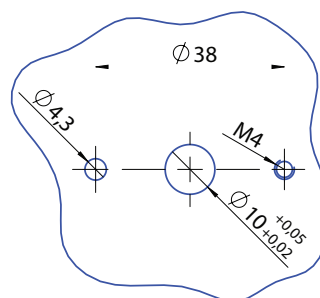


Dimensions of driving shaft  
for Euro MT 2841  
parallel displacement < 0.05mm



When the shaft marking points to the cable outlet,  
the sensor is in a full turn position.

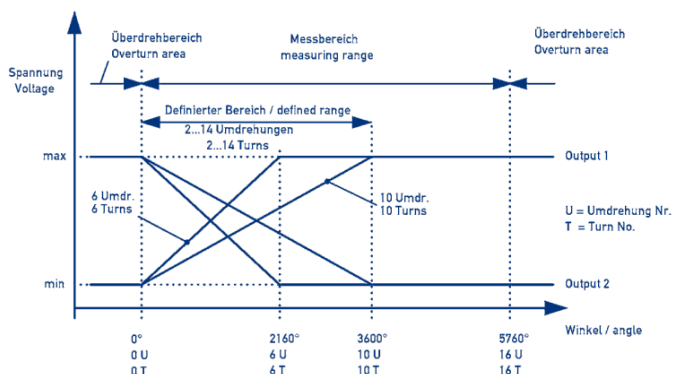
Recommended hole pattern  
2x Ø 4,3 or 2x M4



### Wiring

according to Spec 55 from Raychem (55A 0111-22 ...)  
Insulation: XLETFE  
Outer Ø of insulation: 1.09mm  
Cross-section: 0.38mm<sup>2</sup>  
Wire diameter: 19 x 0.16mm  
Operating temperature: -65 ... + 150 ° C  
  
Red-Supply  
White-Single  
Black-Ground

### Output signal measuring range 2...14 turns



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