

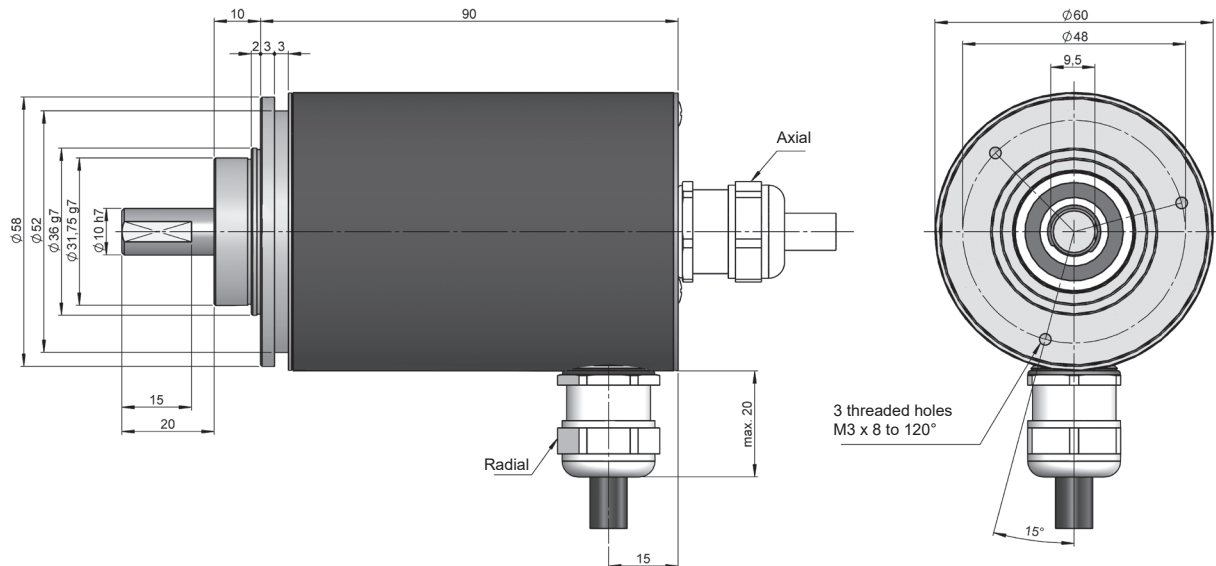


# SERIE CM10

MULTITURN ABSOLUTE ENCODER

PARALLEL

- Parallel
- Singleturn resolution up to 13 bits
- Multiturn resolution up to 24 bits
- External diameter 58 mm
- Shaft  $\varnothing$  6 or 10 mm
- Protection class IP65 according to DIN EN 40050
- Connection by cable (other cable length available) or industrial connector



Drawing shaft type 1, connection type 11/12, without flange

## REFERENCE

Reference example: CM10-12110212S-1024/2048

| Serie                     | Solid shaft              | Flange                   | Connection               | Interface                | Code                     | IP                         | Power Supply / Electronic output | Parameters config.       | Singleturn resolution    | Multiturn resolution     | Special customer         |
|---------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|----------------------------|----------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| CM10 -                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>   | <input type="checkbox"/>         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 1. $\varnothing$ 10x20 mm | 1. None                  | 11. Axial cable          | 0. Parallel              | 1. Binary CW             | 1. IP65                  | 2. 10...30 VDC / NPN       | Blank. None                      |                          |                          |                          |                          |
| 2. $\varnothing$ 6x10 mm  | 2. 90.1002               | 12. Radial cable         |                          | 2. Binary CCW            |                          | 3. 10...30 VDC / Push-Pull | S. Direction                     |                          |                          |                          |                          |
|                           | 3. 90.1003               | 31. Axial M23 12p        |                          | 3. Gray CW               |                          | 4. 10...30 VDC / NPN OC    |                                  |                          |                          |                          |                          |
|                           | 4. 90.1004               | 32. Radial M23 12p       |                          | 4. Gray CCW              |                          |                            |                                  |                          |                          |                          |                          |
|                           | 5. 90.1005               | 41. Axial M23 16p        |                          | 5. Gray excess CW        |                          |                            |                                  |                          |                          |                          |                          |
|                           | 6. 90.1006               | 42. Radial M23 16p       |                          | 6. Gray excess CCW       |                          |                            |                                  |                          |                          |                          |                          |
|                           |                          | 51. Axial M27 21p        |                          |                          |                          |                            |                                  |                          |                          |                          |                          |
|                           |                          | 52. Radial M27 21p       |                          |                          |                          |                            |                                  |                          |                          |                          |                          |
|                           |                          | 61. Axial M27 26p        |                          |                          |                          |                            |                                  |                          |                          |                          |                          |
|                           |                          | 62. Radial M27 26p       |                          |                          |                          |                            |                                  |                          |                          |                          |                          |

Order your reference  
Step file 3D

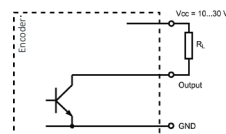
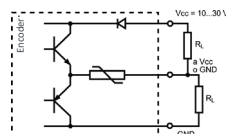
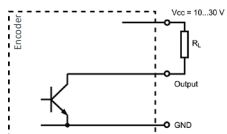
info@encoderhohner.com  
service available in 24 h



### MECHANICAL SPECIFICATIONS

|                                                                |                                                                                                                         |
|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Materials                                                      | Housing: Steel<br>Flange: Aluminium<br>Shaft: Stainless Steel                                                           |
| Bearings                                                       | Ballraces                                                                                                               |
| Bearings lifetime                                              | 1x10 <sup>10</sup> rev.                                                                                                 |
| Shaft diameter                                                 | 6 or 10 mm                                                                                                              |
| Maximum number of revolutions permitted mechanically           | 6000 rpm                                                                                                                |
| Protection against dust and splashes according to DIN EN 40050 | IP65                                                                                                                    |
| Rotor inertia moment                                           | 30 gcm <sup>2</sup>                                                                                                     |
| Starting torque at 20°C (68°F)                                 | ≤ 0,02 Nm                                                                                                               |
| Maximum load permitted on axial shaft                          | 40 N                                                                                                                    |
| Maximum load permitted on radial shaft                         | 60 N                                                                                                                    |
| Weight aprox.                                                  | 0,5 Kg                                                                                                                  |
| Operating temperature range                                    | -10°C to +70°C                                                                                                          |
| Vibration                                                      | 100 m/s <sup>2</sup> (10Hz...2000Hz)                                                                                    |
| Shock                                                          | 1000 m/s <sup>2</sup> (6ms)                                                                                             |
| Axial or radial connection                                     | 2 meters cable or industrial connector (other cable lengths available on order)<br><b>Female connector not included</b> |

### OUTPUT SIGNALS



| OUTPUT CIRCUIT                 | NPN            | Push-Pull      | NPN Open Collector |
|--------------------------------|----------------|----------------|--------------------|
| Reference code                 | 2              | 3              | 4                  |
| Power supply                   | 10...30 VDC    | 10...30 VDC    | 10...30 VDC        |
| Consumption max.               | 150 mA         | 150 mA         | 150 mA             |
| Max. load capability / channel | 40 mA          | ±30 mA         | 40 mA              |
| "Low" signal level             | VOL < 2.5 VDC  | VOL < 2.5 VDC  | VOL < 2.5 VDC      |
| "High" signal level            | VOH > VCC - 3V | VOH > VCC - 3V | VOH > VCC - 3V     |
| Frequency                      | 200 kHz        | 200 kHz        | 200 kHz            |

### ELECTRICAL SPECIFICATIONS

|                       |                                          |
|-----------------------|------------------------------------------|
| Interface             | Parallel                                 |
| Inputs                | Opto-coupled                             |
| Code                  | Binary<br>Gray                           |
| Singleturn resolution | up to 8192 points per turn (13 bits) (*) |
| Multiturn resolution  | up to 4096 turns (12 bits)               |
| Linearity             | ±1/2 LSB                                 |
| Parameters config.    | Direction                                |

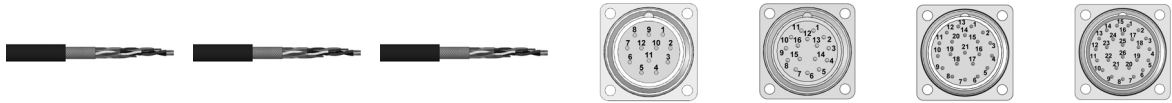
(\*) 8192 points per turn (13 bits) only available for multiturn resolution up to 2048 points per turn (11 bits).

# SERIE CM10

## MULTITURN ABSOLUTE ENCODER

## PARALLEL

### CONNECTION



|        | Cable<br>15x0,14 mm <sup>2</sup><br>95.0008031 | Cable<br>25x0,14 mm <sup>2</sup><br>95.0008030 | Cable<br>36x0,14 mm <sup>2</sup><br>95.0008032 | Connector<br>M23 12p<br>CW | Connector<br>M23 16p<br>CW | Connector<br>M27 21p<br>CW | Connector<br>M27 26p<br>CW |
|--------|------------------------------------------------|------------------------------------------------|------------------------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| GND    | Black                                          | Black                                          | Black                                          | 1                          | 1                          | 1                          | 1                          |
| VCC    | Red                                            | Red                                            | Red                                            | 2                          | 2                          | 2                          | 2                          |
| Bit 0  | Brown                                          | Brown                                          | Brown                                          | 3                          | 3                          | 3                          | 3                          |
| Bit 1  | White                                          | White                                          | White                                          | 4                          | 4                          | 4                          | 4                          |
| Bit 2  | Yellow                                         | Yellow                                         | Yellow                                         | 5                          | 5                          | 5                          | 5                          |
| Bit 3  | Green                                          | Green                                          | Green                                          | 6                          | 6                          | 6                          | 6                          |
| Bit 4  | Orange                                         | Pink                                           | Pink                                           | 7                          | 7                          | 7                          | 7                          |
| Bit 5  | Violet                                         | Orange                                         | Orange                                         | 8                          | 8                          | 8                          | 8                          |
| Bit 6  | Grey                                           | Grey                                           | Grey                                           | 9                          | 9                          | 9                          | 9                          |
| Bit 7  | Blue                                           | Blue                                           | Blue                                           | 10                         | 10                         | 10                         | 10                         |
| Bit 8  | White - Black                                  | Yellow - Black                                 | Yellow - Black                                 | 11                         | 11                         | 11                         | 11                         |
| Bit 9  | White - Red                                    | Yellow - Red                                   | Yellow - Red                                   | 12                         | 12                         | 12                         | 12                         |
| Bit 10 | White - Brown                                  | Yellow - Brown                                 | Yellow - Brown                                 |                            | 13                         | 13                         | 13                         |
| Bit 11 | White - Yellow                                 | Yellow - Green                                 | Yellow - Green                                 |                            | 14                         | 14                         | 14                         |
| Bit 12 | White - Blue                                   | Yellow - Grey                                  | Yellow - Pink                                  |                            | 15                         | 15                         | 15                         |
| Bit 13 |                                                | Yellow - Blue                                  | Yellow - Grey                                  |                            | 16                         | 16                         | 16                         |
| Bit 14 |                                                | White - Black                                  | Yellow - Blue                                  |                            |                            | 17                         | 17                         |
| Bit 15 |                                                | White - Red                                    | White - Black                                  |                            |                            | 18                         | 18                         |
| Bit 16 |                                                | White - Brown                                  | White - Red                                    |                            |                            | 18                         | 19                         |
| Bit 17 |                                                | White - Green                                  | White - Brown                                  |                            |                            | 19                         | 20                         |
| Bit 18 |                                                | White - Pink                                   | White - Green                                  |                            |                            | 20                         | 21                         |
| Bit 19 |                                                | White - Orange                                 | White - Pink                                   |                            |                            | 21                         | 22                         |
| Bit 20 |                                                | White - Grey                                   | White - Orange                                 |                            |                            |                            | 23                         |
| Bit 21 |                                                | White - Blue                                   | White - Grey                                   |                            |                            |                            | 24                         |
| Bit 22 |                                                |                                                | White - Blue                                   |                            |                            |                            | 25                         |
| Bit 23 |                                                |                                                | Green - Black                                  |                            |                            |                            | 26                         |
| DIR    | White - Yellow                                 | Yellow - Pink                                  | Grey - Brown                                   | 11                         | 15                         | 20                         | 25                         |
| RES    | White - Blue                                   | White - Blue                                   | Grey - Blue                                    | 12                         | 16                         | 21                         | 26                         |

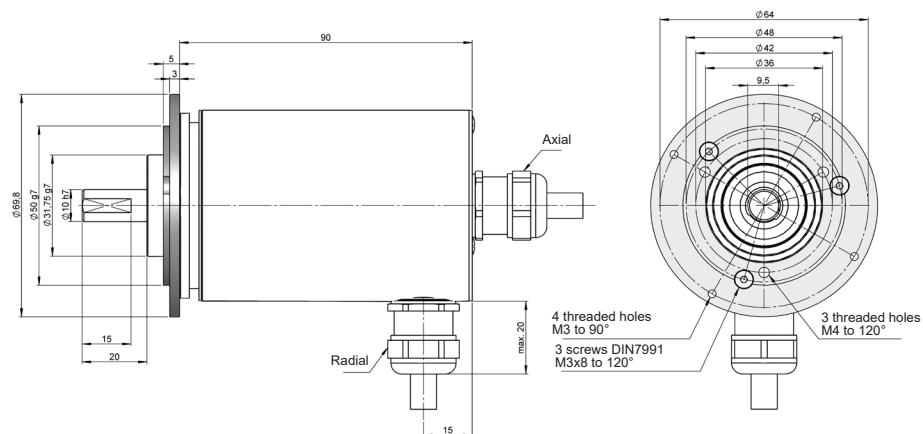
# SERIE CM10

MULTITURN ABSOLUTE ENCODER

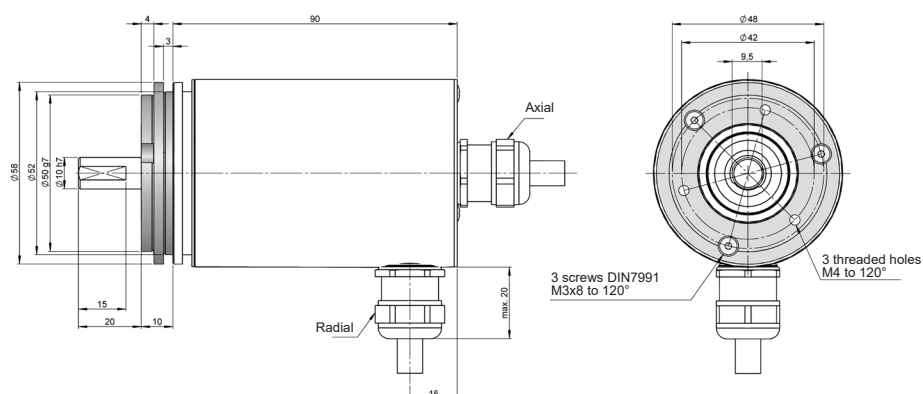
PARALLEL

## FLANGE DIMENSIONS

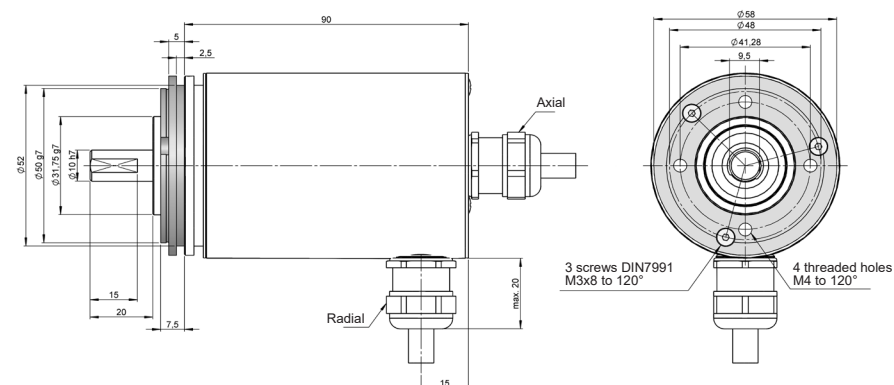
Flange 2  
90.1002



Flange 3  
90.1003



Flange 4  
90.1004

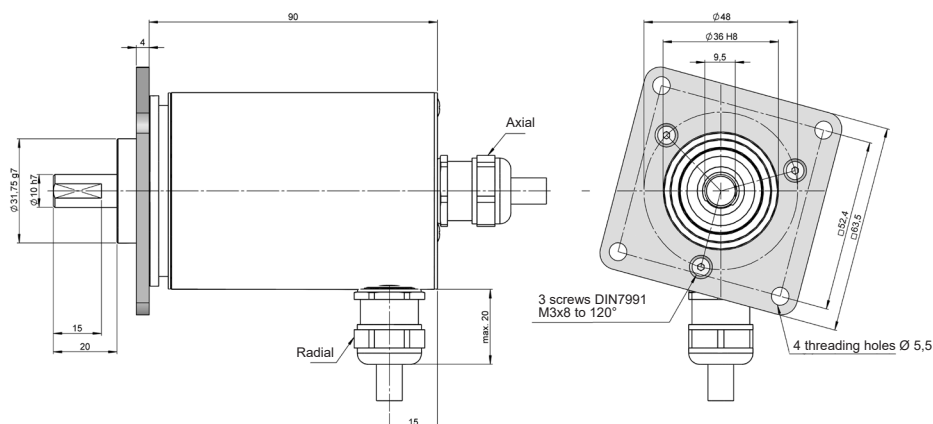


# SERIE CM10

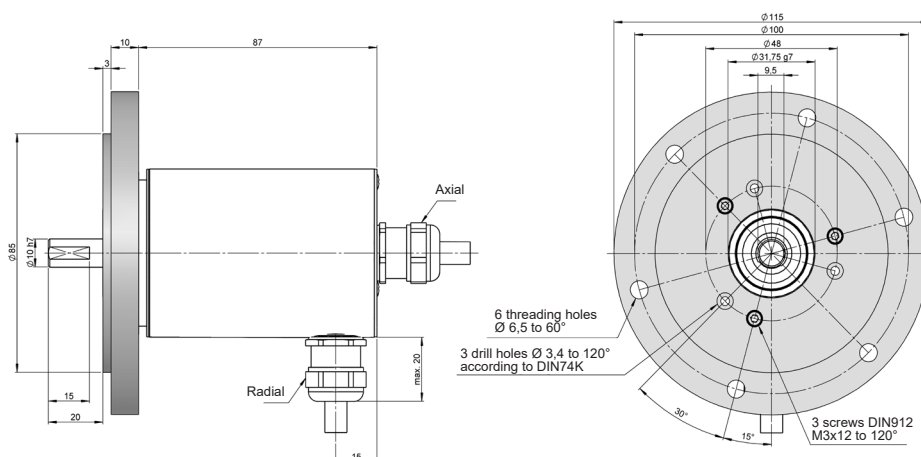
## MULTITURN ABSOLUTE ENCODER

## PARALLEL

Flange 5  
90.1005



Flange 6  
90.1006



### CONNECTION DIMENSIONS

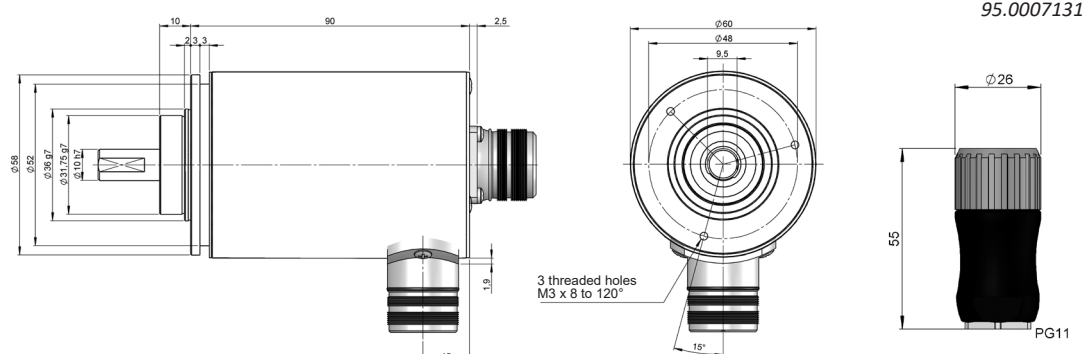
Female connector not included

Connection 31

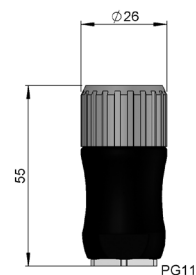
Axial  
M23 12p  
male panel  
clockwise

Connection 32

Radial  
M23 12p  
male panel  
clockwise



Female connector  
95.0007131

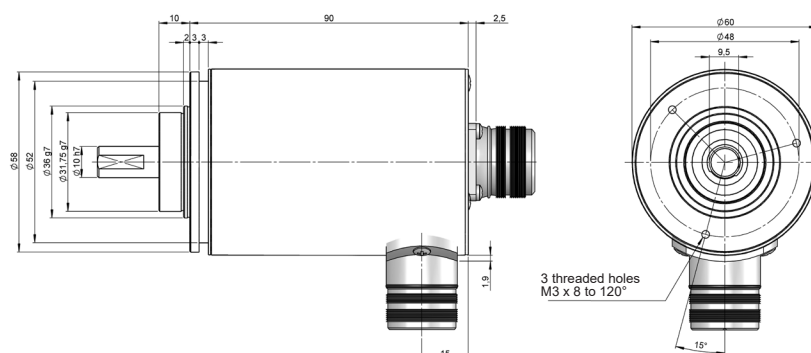


## MULTITURN ABSOLUTE ENCODER

## PARALLEL

### Connection 41

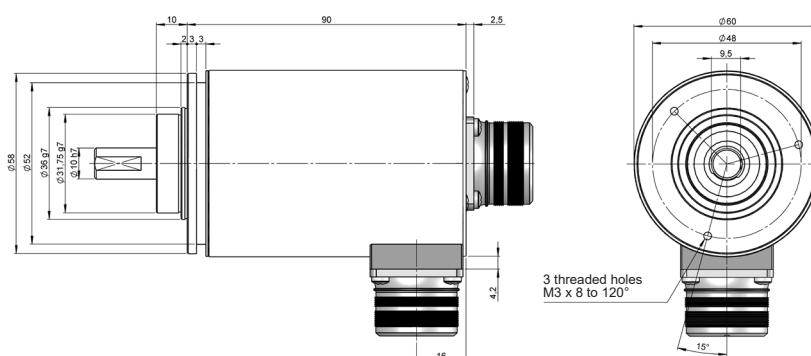
Axial  
M23 16p  
male panel  
clockwise



**Female connector**  
95.0007006

### Connection 42

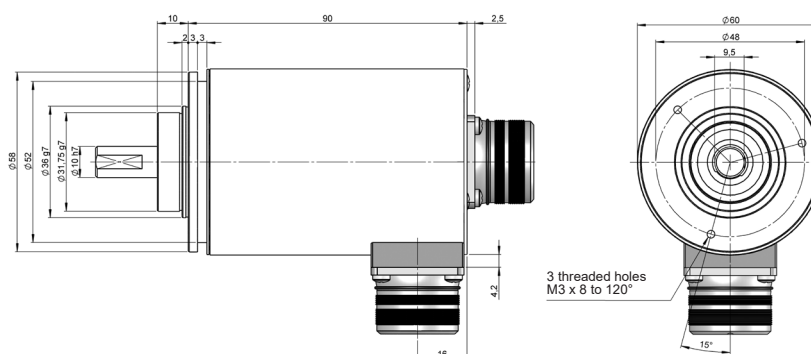
Radial  
M23 16p  
male panel  
clockwise



**Female connector**  
95.0007062

## Connection 52

Radial  
M27 21p  
male panel  
clockwise



**Female connector**  
95.0007063

### Connection 61

Axial  
M27 26p  
male panel  
clockwise

## Connection 62

Radial  
M27 26p  
male panel  
clockwise