

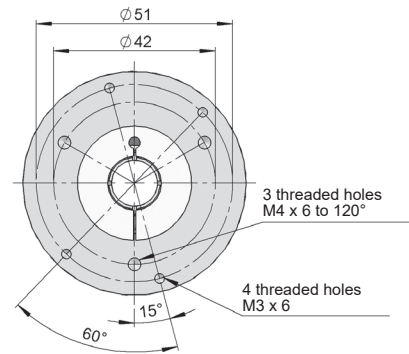
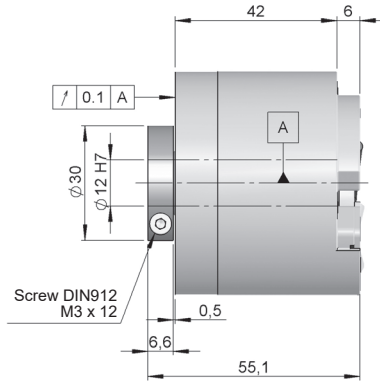
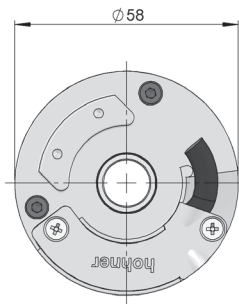
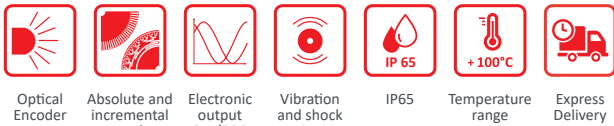
SERIE SMRS 59

SINGLETURN ABSOLUTE AND INCREMENTAL HOLLOW SHAFT ENCODER

SSI SSI
SSI + SinCos

BiSS INTERFACE BiSS-C
BiSS-C + SinCos

- Singleturn resolution up to 19 bits
- Incremental resolution 2048 SIN/COS
- External diameter 58 mm
- Hollow shaft \varnothing 8, 10, 12, 14 or 15 mm
- Operating temperature range up to 100°C
- Protection class IP65 according to DIN EN 60529
- Connection by cable (other cable length available) or industrial connector



Drawing hollow shaft type 3, connection type 10, without flange

REFERENCE

Reference example: SMRS59-31121311S-17

| Serie | Hollow shaft | Anti-rotation system | Connection | Interface | IP | Power supply | Parameters config. | Absolute resolution | Special customer |
|----------|---|--|---|---|--------------------------|--------------------------|--------------------------|---|-------------------------------------|
| SMRS59 - | <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"/> |
| | 3. \varnothing 12 mm 4. \varnothing 10 mm 5. \varnothing 8 mm 6. \varnothing 14 mm 7. \varnothing 15 mm | 1. None 2. Flexible flange (90.1018) 3. Flexible flange (90.1027) 4. Flexible flange (90.1075) (*) | 10. Helicoidal cable 12. Radial cable 20. 30 cm helicoidal cable + connector 21. D-Sub 15p 22. 30 cm radial cable + connector 23. D-Sub 15p 32. Radial M23 12p 42. Radial M12 8p 72. Radial M23 17p | 11. SSI Binary CW 12. SSI Binary CCW 13. SSI Gray CW 14. SSI Gray CCW 21. SSI + 2048 SIN/COS Binary CW 22. SSI + 2048 SIN/COS Binary CCW 23. SSI + 2048 SIN/COS Gray CW 24. SSI + 2048 SIN/COS Gray CCW 35. BiSS-C 45. BiSS-C + 2048 SIN/COS | 1. IP65 (**) | 1. 4..30 VDC 2. 5 VDC | S. Direction R. Reset | 10. 10 bits 12. 12 bits 13. 13 bits 14. 14 bits 17. 17 bits 19. 19 bits (***) | KD. Halogen-free cable MB. -40°C |

Order your reference
Step file 3D

info@encoderhohner.com

service available in 24 h

(*) Anti-rotation system type 3 (Flexible flange 90.1027) and 4 (Flexible flange 90.1075) supplied assembled. Anti-rotation system type 2 (flexible flange 90.1018) supplied disassembled and includes the screws required for assembly.

(**) For helicoidal cable IP54.

(***) 21 bits - Upon request.

Other extension cable options available with specific connectors mounted at the end of the cable for different market drives, on request.



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SSI / SSI + SinCos
BiSS-C / BiSS-C + SinCos

TECHNICAL SPECIFICATIONS

| | |
|--|--|
| Materials | Housing: Aluminium Flange: Aluminium Shaft: Stainless Steel |
| Bearings | Ballraces |
| Bearings lifetime | 1x10 ¹⁰ rev. |
| Maximum number of revolutions permitted mechanically | 6000 rpm |
| Protection against dust and splashes according to DIN EN 60529 | IP65 - Standard IP54 - Helicoidal connection |
| Rotor inertia moment | ≤ 3x10 ⁻⁶ Kgm ² |
| 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. | 0,4 Kg |
| Operating temperature range | -10°C to +100°C - Standard -40°C to +100°C - Special Customer MB |
| Vibration according to DIN EN 60068-2-6 | 100 m/s ² (10Hz...2000Hz) |
| Shock according to DIN EN 60068-2-27 | 1000 m/s ² (6ms) |
| Consumption | ≤ 90 mA |
| Power supply | 5 VDC ±10% / 4...30 VDC |
| Linearity | ± ½ LSB |
| Helicoidal connection | 2 meters cable (other cable lengths available or connector mounted at the end of the cable, upon request) |
| Axial or radial connection | 2 meters cable or industrial connector M23 or M12 (other cable lengths available on order) or 30 cm cable + connector D-Sub 15p Female connector not included |

SSI / BiSS INTERFACE



(*)

| | | |
|--------------------------------|--|--|
| Electronic output | RS485 | RS485 |
| Max. load capability / channel | ±20 mA | ±20 mA |
| Resolution | 10...19 bits 21 bits - Upon request | 10...19 bits 21 bits - Upon request |
| Code | Binary Gray | Binary |
| Clock frequency | 50 kHz ... 2 MHz | 50 kHz ... 10 MHz |
| Protocol | SSI | BiSS-C |

(*) BiSS protocol allows to configure CRC, Alarm messages, Warnings, Sense, Reset and Absolute resolution by BUS. Default configuration: Binary CW.

INCREMENTAL OUTPUT

SIN/COS



| | |
|--------------------------|--------------------|
| Electronic output | Differential 1 Vpp |
| Signal offset | 2,5 VDC |
| Resolution | 2048 ppr |
| Cutoff frequency (-3 db) | >500 kHz |

SERIE SMRS 59

SINGLETURN ABSOLUTE AND INCREMENTAL HOLLOW SHAFT ENCODER

SSI / SSI + SinCos
BiSS-C / BiSS-C + SinCos

CONNECTION



| | Cable (**) 3x2x0,14+2x0,34 95.0008003 | Cable (**) 6x2x0,14 mm ² 95.0008072 | Cable (**) 6x2x0,14mm ² Halogen-free cable up to 90°C 95.0008073 | Connector BiSS M23 12p CW | Connector SSI M23 12p CW | Connector BiSS / SSI M23 17p CW | Connector M12 8p CCW | Connector D-Sub 15p High density |
|-----------------|---|--|---|---------------------------------|--------------------------------|---------------------------------------|----------------------------|--|
| GND | Black | White | White | 1 | 1 | 10 | 1 | 13 |
| VCC | Red | Brown | Brown | 8 | 2 | 7 | 2 | 12 |
| DATA+ | Yellow | Pink | Pink | 2 | 3 | 14 | 3 | 7 |
| DATA- | Green | Grey | Grey | 7 | 4 | 17 | 4 | 2 |
| CLOCK+ | Brown | Yellow | Yellow | 3 | 5 | 8 | 5 | 6 |
| CLOCK- | Blue | Green | Green | 6 | 6 | 9 | 6 | 1 |
| SLI+ | - | - | - | - | - | 1 | | |
| SLI- | - | - | - | - | - | 4 | | |
| DIR or RESET | Grey | Red-Blue | Red-Blue | 9 | 9 | 2 | 7 | 11 |
| A+(cos) | - | Red | Red | 10 | 10 | 15 | | 8 |
| B+(sin) | - | Black | Black | 4 | 7 | 12 | | 9 |
| A-(cos) | - | Blue | Blue | 12 | 12 | 16 | | 3 |
| B-(sin) | - | Violet | Violet | 5 | 8 | 13 | | 4 |
| Shield (*) | Shield | Shield | Shield | 11 | 11 | 11 | 8 | Housing |

(*) Shield connected to the encoder housing. It is recommended to connect the end of the wire shield to the ground of the equipment where the encoder is connected. \perp

(**) The recommended maximum cable length is 10 meters. The 95.0008003 cable for Interfaces types 11, 12, 13, 14 and 35 and the 95.0008072 cable for Interface types 21, 22, 23, 24 and 45. The 95.0008073 cable for special customer KD.



| Cable length | < 25 m | < 50 m | < 100 m | < 200 m | < 400 m |
|--------------------|---------|-----------|-----------|-----------|-----------|
| Transmission speed | < 1 MHz | < 400 kHz | < 300 kHz | < 200 kHz | < 100 kHz |



| Cable length | < 10 m | < 25 m | < 60 m | < 100 m |
|--------------------|----------|---------|---------|---------|
| Transmission speed | < 10 MHz | < 5 MHz | < 2 MHz | < 1 MHz |

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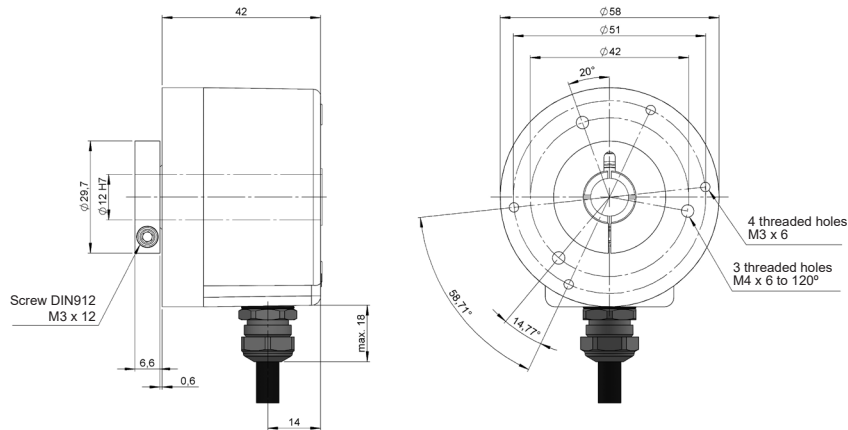
SSI / SSI + SinCos
BiSS-C / BiSS-C + SinCos

CONNECTION DIMENSIONS

Female connector not included

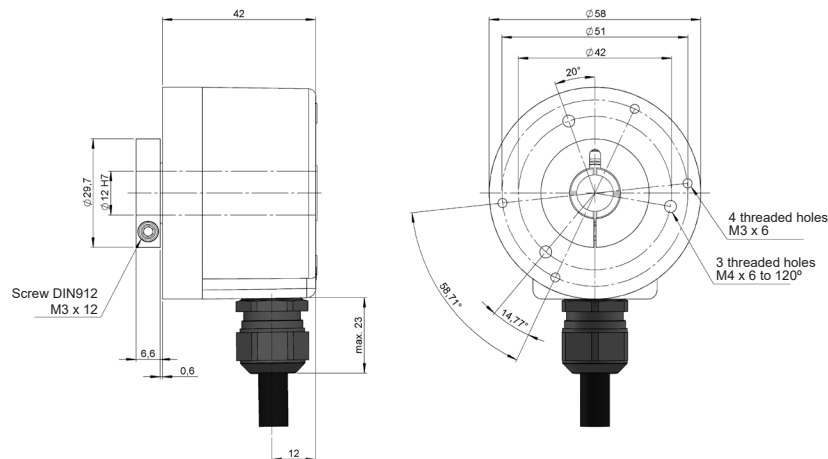
Connection 12

Radial cable
95.0008003



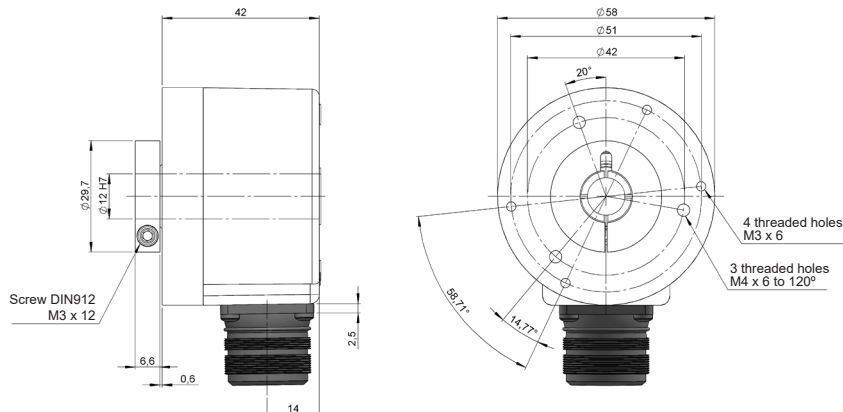
Connection 12

Radial cable
95.0008072
95.0008073

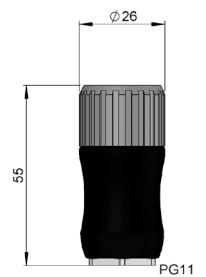


Connection 32

Radial
M23 12p
male panel



Female connector
95.0007131



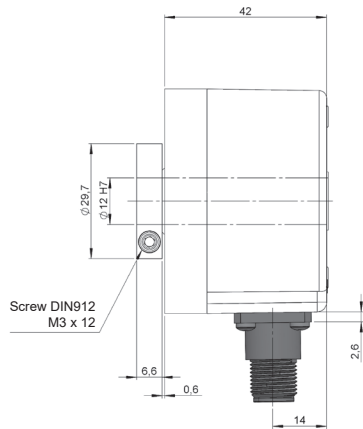
SERIE SMRS 59

SINGLETURN ABSOLUTE AND INCREMENTAL HOLLOW SHAFT ENCODER

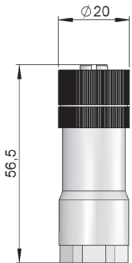
SSI / SSI + SinCos
BiSS-C / BiSS-C + SinCos

Connection 42

Radial
M12 8p
male panel

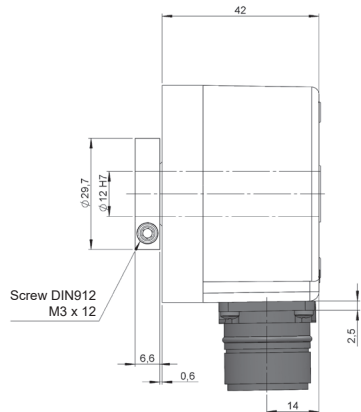


Female connector 95.0007152

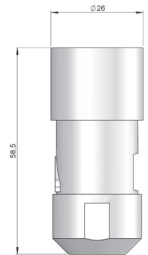


Connection 72

Radial
M23 17p
male panel



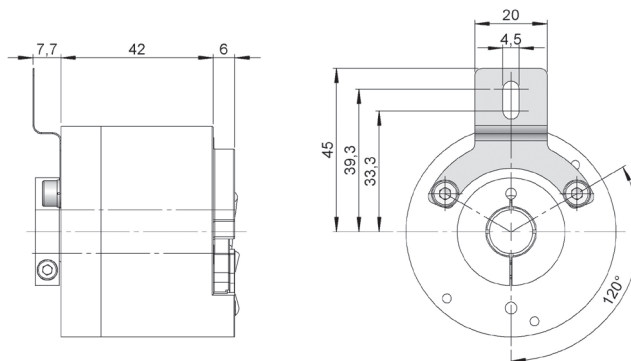
Female connector 95.0007196



ANTI-ROTATION SYSTEMS DIMENSIONS

Anti-rotation system 2

Flexible flange 90.1018



90.1018



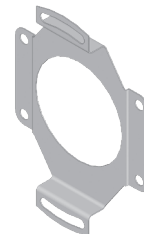
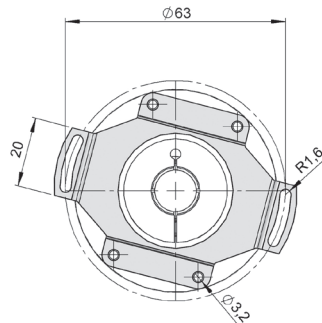
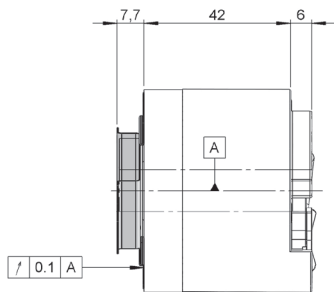
SERIE SMRS 59

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SSI / SSI + SinCos
BiSS-C / BiSS-C + SinCos

Anti-rotation system 3

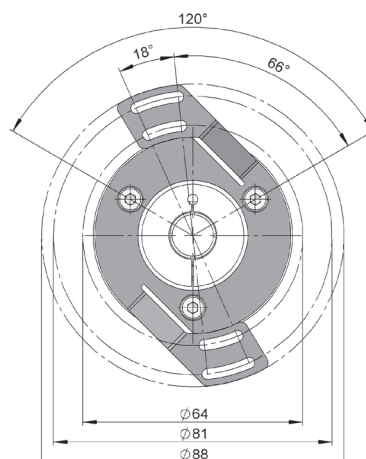
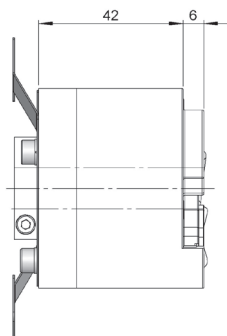
Flexible flange 90.1027



90.1027

Anti-rotation system 4

Flexible flange 90.1075



90.1075