



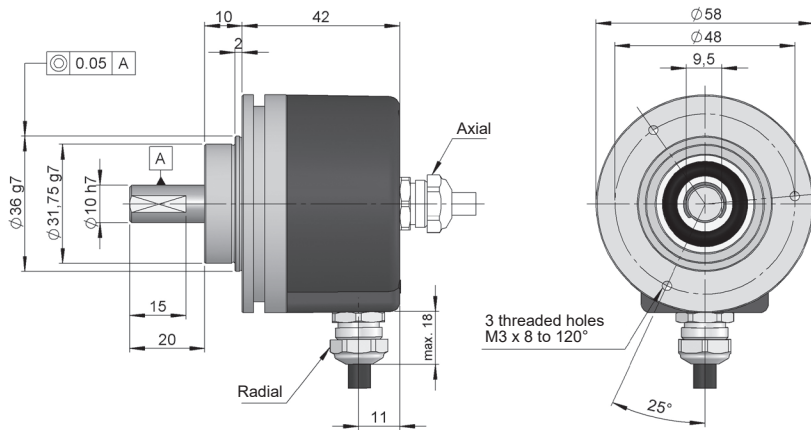
SERIE SMRS 10

SINGLETURN ABSOLUTE AND INCREMENTAL SOLID 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
- Solid shaft \varnothing 6, 8 or 10 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 shaft type 2, connection type 11/12, cable 95.0008003, without flange

REFERENCE

Reference example: SMRS10-21121311S-17

Serie	Solid shaft	Flange	Connection	Interface	IP	Power supply	Parameters config.	Absolute resolution	Special customer
SMRS10 -	<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 6 mm	1. None	10. Helicoidal cable	11. SSI Binary CW	1. IP65	1. 4..30 VDC	S. Direction	10. 10 bits	KD. Halogen-free cable	
2. \varnothing 10 mm	2. 90.1002	11. Axial cable	12. SSI Binary CCW	(*)	2. 5 VDC	R. Reset	12. 12 bits	MB. -40°C	
3. \varnothing 8 mm	3. 90.1003	12. Radial cable	13. SSI Gray CW				13. 13 bits		
4. 90.1004	4. 90.1004	21. 30 cm axial cable + connector D-Sub 15p	14. SSI Gray CCW				14. 14 bits		
5. 90.1005	5. 90.1005	22. 30 cm radial cable + connector D-Sub 15p	21. SSI + 2048 SIN/COS Binary CW				17. 17 bits		
6. 90.1006	6. 90.1006	31. Axial M23 12p	22. SSI + 2048 SIN/COS Binary CCW				19. 19 bits (**)		
		32. Radial M23 12p	23. SSI + 2048 SIN/COS Gray CW						
		41. Axial M12 8p	24. SSI + 2048 SIN/COS Gray CCW						
		42. Radial M12 8p	35. BiSS-C						
		71. Axial M23 17p	45. BiSS-C + 2048 SIN/COS						
		72. Radial M23 17p							

Order your reference
Step file 3D

info@encoderhohner.com

service available in 24 h

(*) 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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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 Kg·m 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% / 10...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

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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



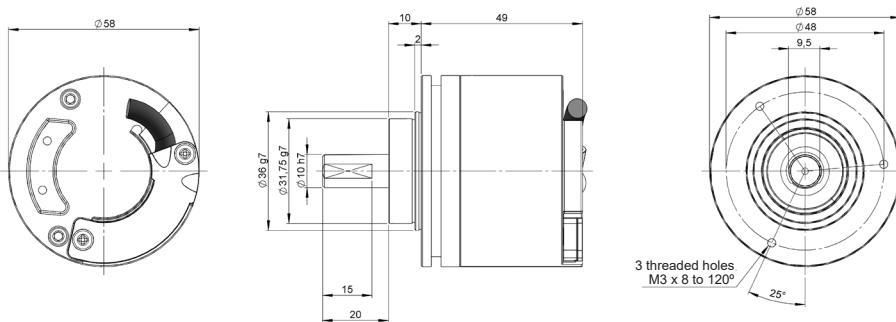
Cable length	< 10 m	< 25 m	< 60 m	< 100 m
Transmission speed	< 10 MHz	< 5 MHz	< 2 MHz	< 1 MHz

CONNECTION DIMENSIONS

Female connector not included

Connection 10

Helicoidal cable



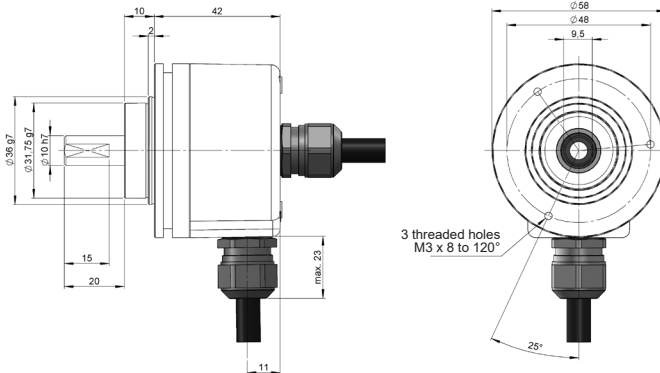
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SSI / SSI + SinCos
BiSS-C / BiSS-C + SinCos

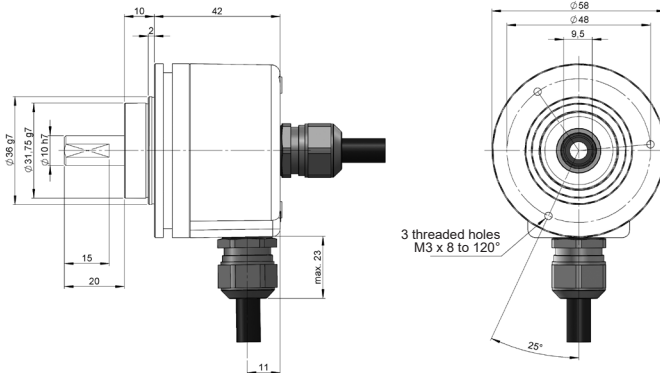
Connection 11

Axial cable
95.0008072
95.0008073



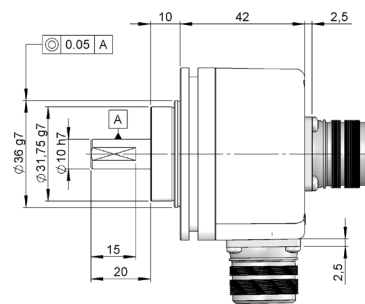
Connection 12

Radial cable
95.0008072
95.0008073

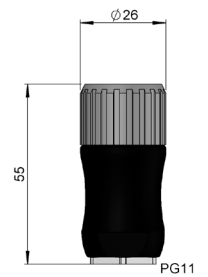


Connection 31

Axial
M23 12p
male panel
clockwise

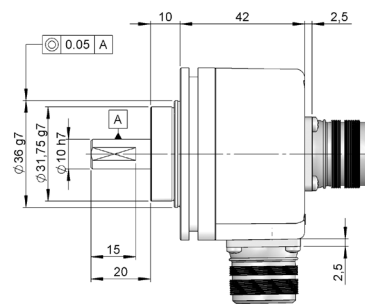


Female connector 95.0007131

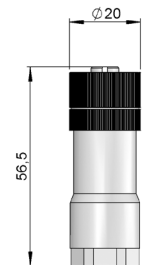


Connection 32

Radial
M23 12p
male panel
clockwise

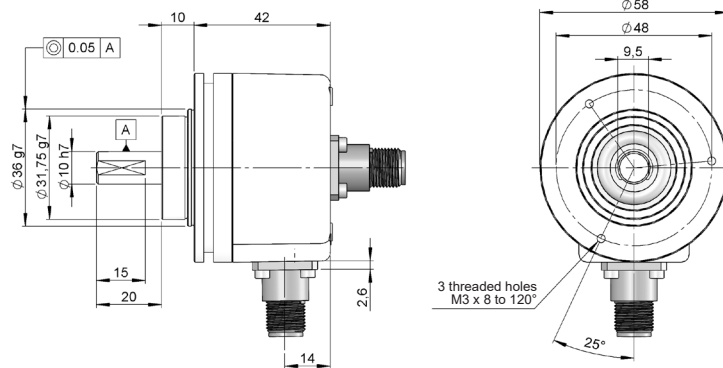


Female connector 95.0007152



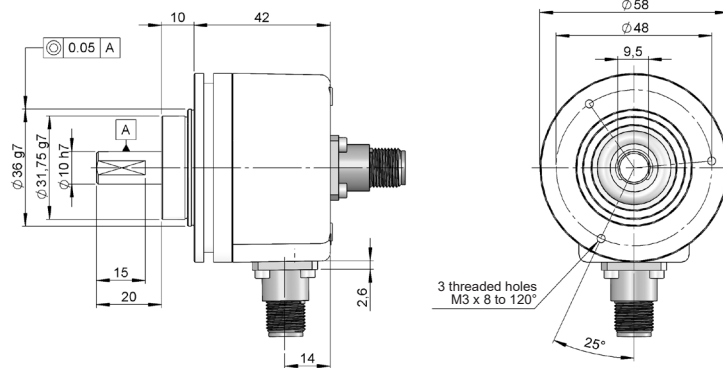
Connection 41

Axial
M12 8p
male panel
clockwise



Connection 42

Radial
M12 8p
male panel
clockwise



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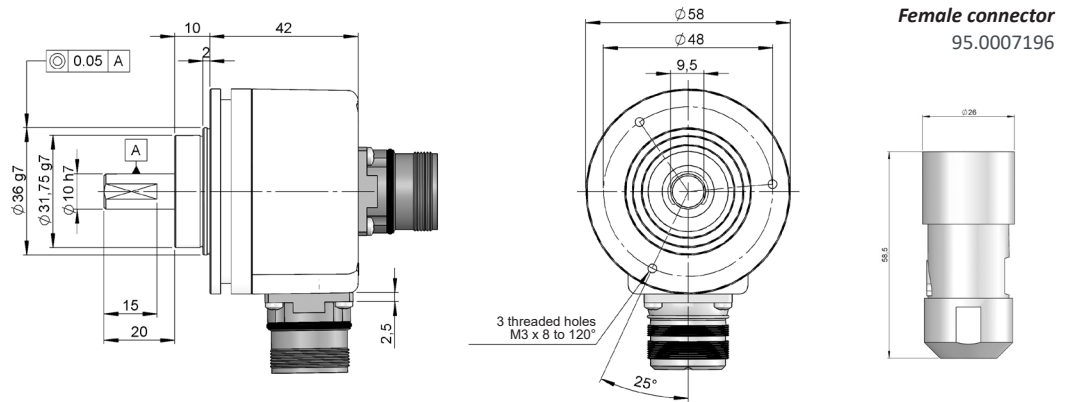
SSI / SSI + SinCos
BiSS-C / BiSS-C + SinCos

Connection 71

Axial
M23 17p
male panel
clockwise

Connection 72

Radial
M23 17p
male panel
clockwise

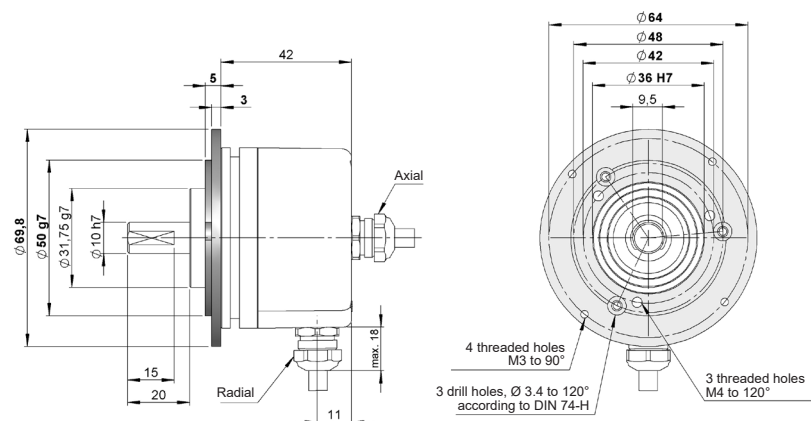


FLANGE DIMENSIONS

Flange mounting included

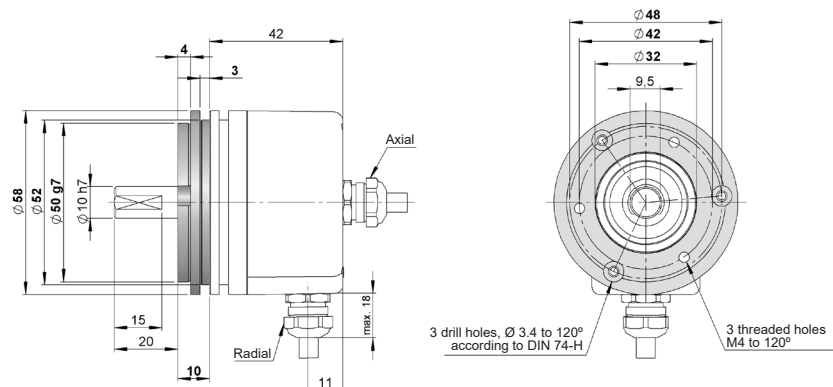
Flange 2

90.1002



Flange 3

90.1003

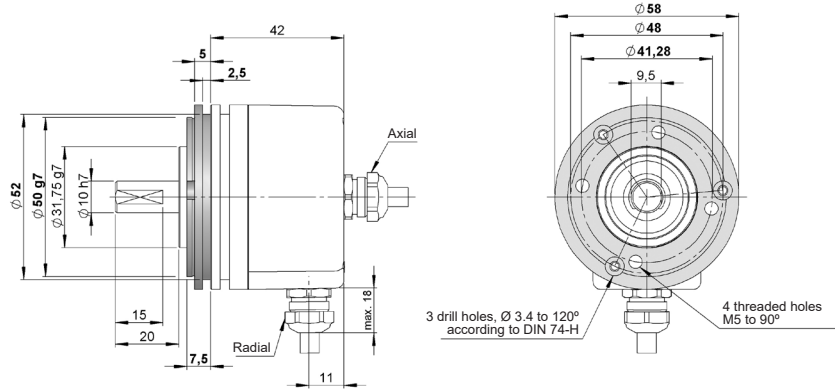


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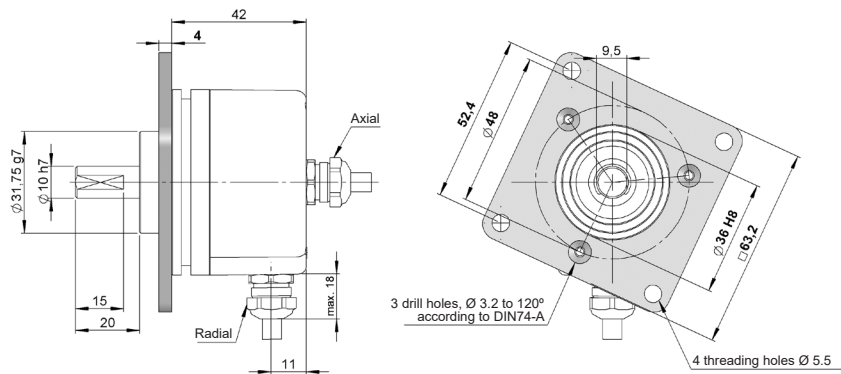
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SSI / SSI + SinCos
BiSS-C / BiSS-C + SinCos

Flange 4
90.1004



Flange 5
90.1005



Flange 6
90.1006

