



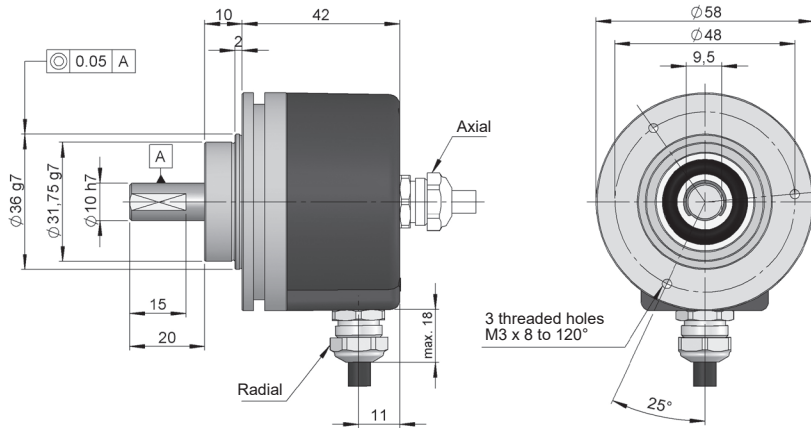
SERIE SMRS 10

SINGLETURN ABSOLUTE AND INCREMENTAL SOLID SHAFT ENCODER

SSI SSI
SSI + SinCos

BiSS BiSS-C
BiSS-C + SinCos

- Singleturn resolution up to 19 bits
- Incremental resolution 2048 SIN/COS
- External diameter 58 mm
- Shaft from $\varnothing 6$ to 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, without flange

REFERENCE

Reference example: SMRS10-21121311S-17

Serie	Solid shaft	Flange	Connection	Interface	Code	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"/>	<input type="checkbox"/>
	1. $\varnothing 6$ mm 2. $\varnothing 10$ mm	1. None 2. 90.1002	11. Axial cable 12. Radial cable	1. SSI 2. SSI + 2048 SIN/COS	1. Binary CW 2. Binary CCW 3. Gray (*) CW 4. Gray (*) CCW 5. BiSS (**)	1. IP65	1. 10..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
	3. 90.1003 4. 90.1004 5. 90.1005 6. 90.1006 (***)	21. 30 cm axial cable + connector D-Sub 15p 22. 30 cm radial cable + connector D-Sub 15p 31. Axial M23 12p 32. Radial M23 12p 41. Axial M12 8p 42. Radial M12 8p 71. Axial M23 17p 72. Radial M23 17p		3. BiSS-C 4. BiSS-C + 2048 SIN/COS						

Order your reference
Step file 3D

info@encoderhohner.com
service available in 24 h

(*) Options only available for Interface type 1 (SSI) and 2 (SSI + 2048 SIN/COS).

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

Default configuration: Binary CW

(***) Flange mounting included in delivery of the encoder.



SERIE SMRS 10

SINGLETURN ABSOLUTE AND INCREMENTAL SOLID SHAFT ENCODER

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
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
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
Direction (*)	Interface 1 and 2 (SSI): External controlled by cable Interface 3 and 4 (BiSS-C): Configurable by BUS
Reset (**)	Interface 1 and 2 (SSI): External controlled by cable Interface 3 and 4 (BiSS-C): Configurable by BUS
Linearity	± ½ LSB
Axial or radial connection	2 meters cable or industrial connector M23 (other cable lengths available on order) or 30 cm cable + connector D-Sub 15p

(*) Connecting DIR input to positive changes its direction.

(**) Connecting RESET input to positive will reset the encoder (Timeout: 15 ms).

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

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 10

SINGLETURN ABSOLUTE AND INCREMENTAL SOLID SHAFT ENCODER

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

CONNECTION



	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	White	White	1	1	10	1	13
VCC	Brown	Brown	8	2	7	2	12
DATA+	Pink	Pink	2	3	14	3	7
DATA-	Grey	Grey	7	4	17	4	2
CLOCK+	Yellow	Yellow	3	5	8	5	6
CLOCK-	Green	Green	6	6	9	6	1
SLI+	-	-	-	-	1		
SLI-	-	-	-	-	4		
DIR or RESET	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	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.



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

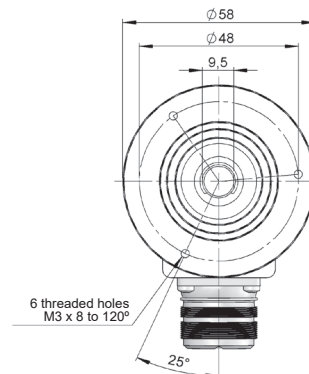
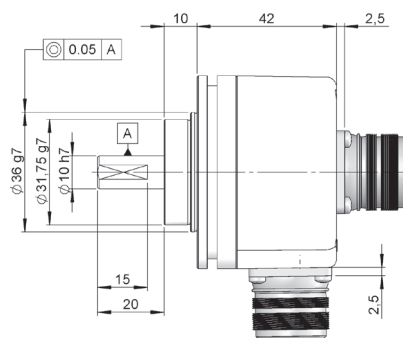
Female connector not included

Connection 31

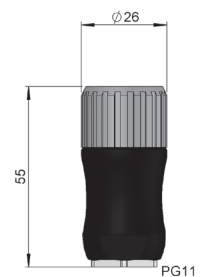
Axial
M23 12p
male panel
clockwise

Connection 32

Radial
M23 12p
male panel
clockwise



Female connector 95.0007131



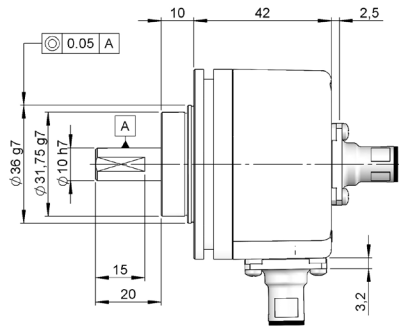
SERIE SMRS 10

SINGLETURN ABSOLUTE AND INCREMENTAL SOLID SHAFT ENCODER

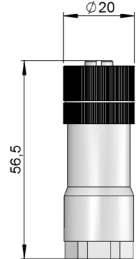
SSI / SSI + SinCos
BiSS-C / BiSS-C + SinCos

Connection 41

Axial
M12 8p
male panel
clockwise

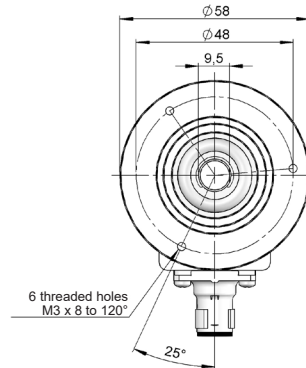


Female connector
95.0007152

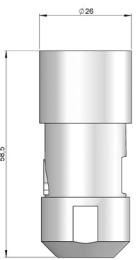


Connection 42

Radial
M12 8p
male panel
clockwise

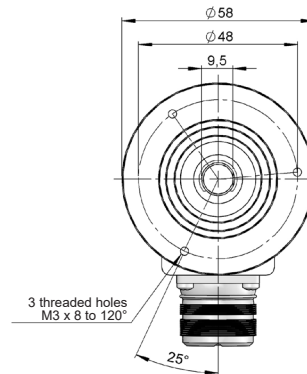
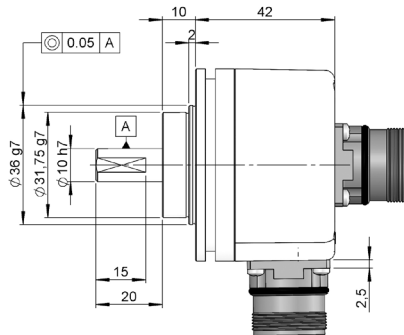


Female connector
95.0007196



Connection 71

Axial
M23 17p
male panel
clockwise



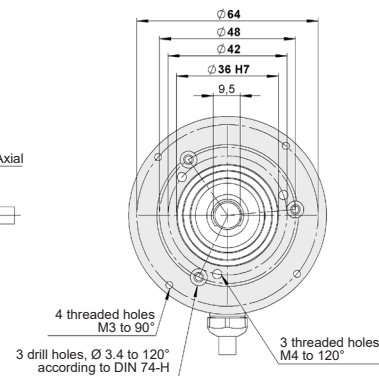
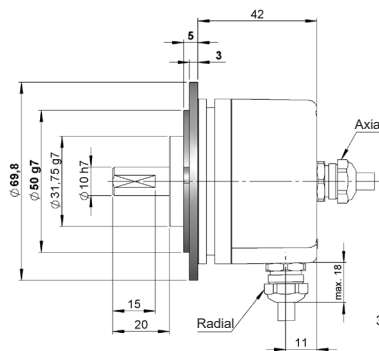
Connection 72

Radial
M23 17p
male panel
clockwise

FLANGE DIMENSIONS

Flange mounting included

Flange 2 90.1002

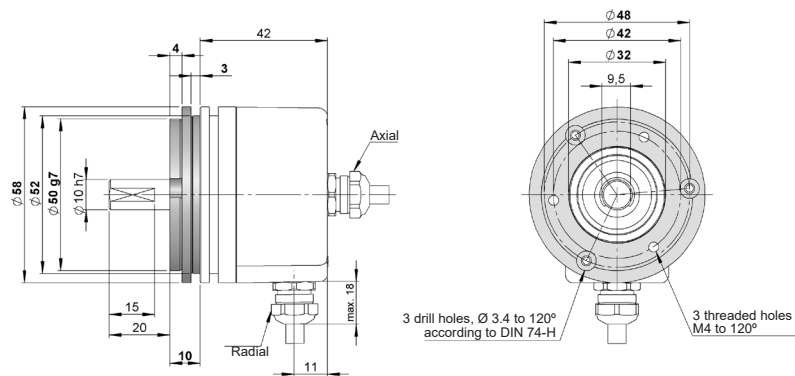


SERIE SMRS 10

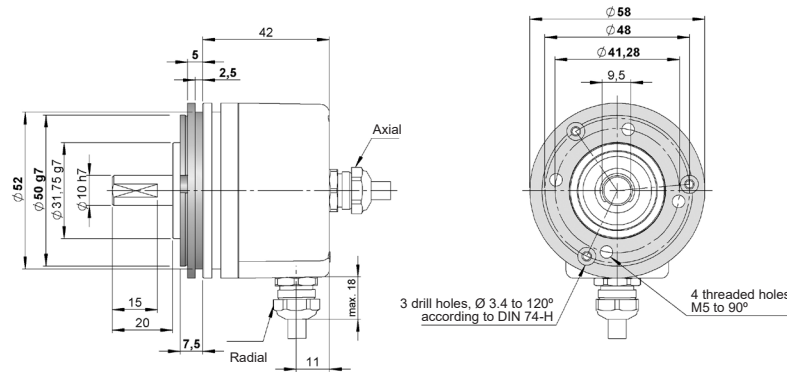
SINGLETURN ABSOLUTE AND INCREMENTAL SOLID SHAFT ENCODER

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

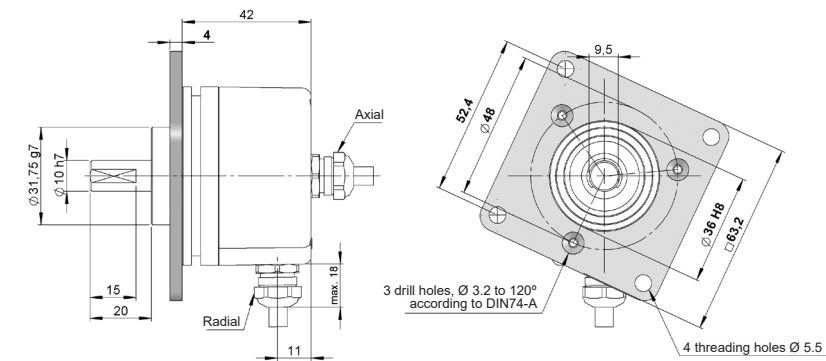
Flange 3
90.1003



Flange 4
90.1004



Flange 5
90.1005



Flange 6
90.1006

