



Image with Expanding coupling 90.1101



SERIE SMRS 64

SINGLETURN ABSOLUTE AND INCREMENTAL CONIC SHAFT ENCODER



SSI
SSI + SinCos



BiSS-C
BiSS-C + SinCos

- Singleturn resolution up to 21 bits
- Incremental resolution 2048 SIN/COS per turn
- External diameter 58 mm
- Conic shaft 1:10
- Operating temperature range up to +100°C
- Protection class IP54 according to DIN EN 60529
- Anti-rotation system through flexible flange or expanding coupling
- Connection by cable (other cable length available)



Optical Encoder



Absolute and incremental encoder



SIN/COS



Vibration and shock resistant



IP54

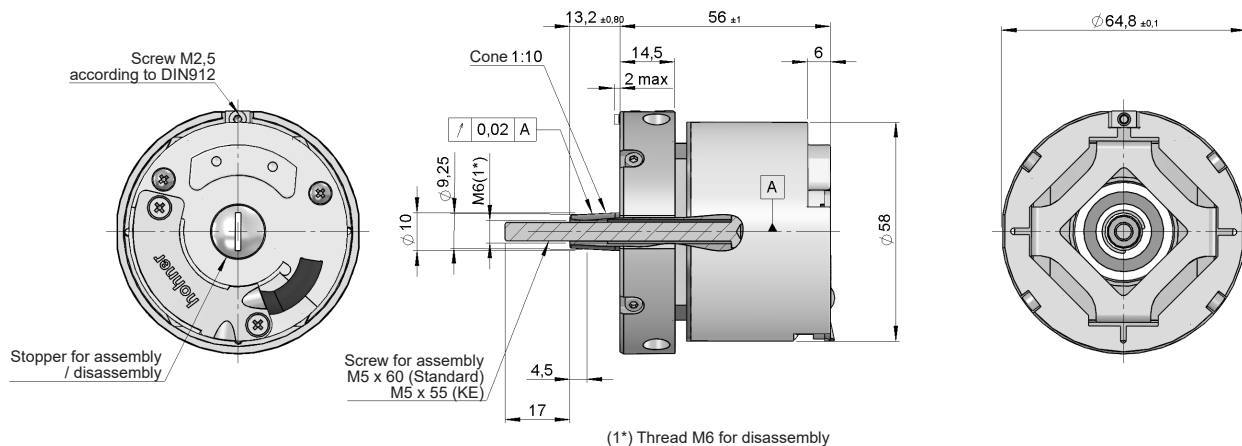


Temperature range
+100°C



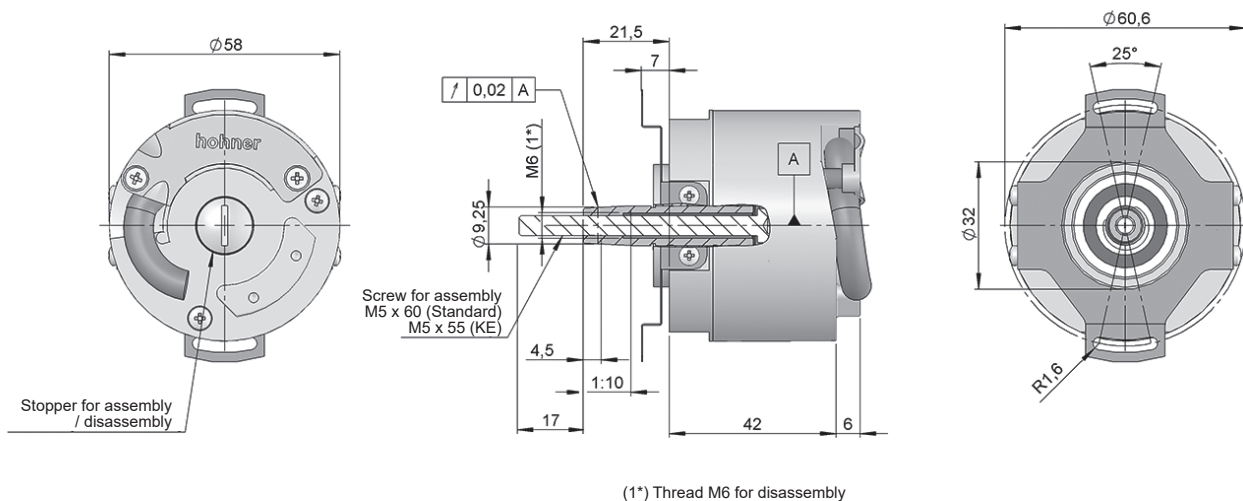
Express Delivery

Expanding coupling (90.1101)



Drawing mechanical option type 2, conic shaft 1:10, connection type 10

Flexible flange (90.1038)



Drawing mechanical option type 1, conic shaft 1:10, connection type 10

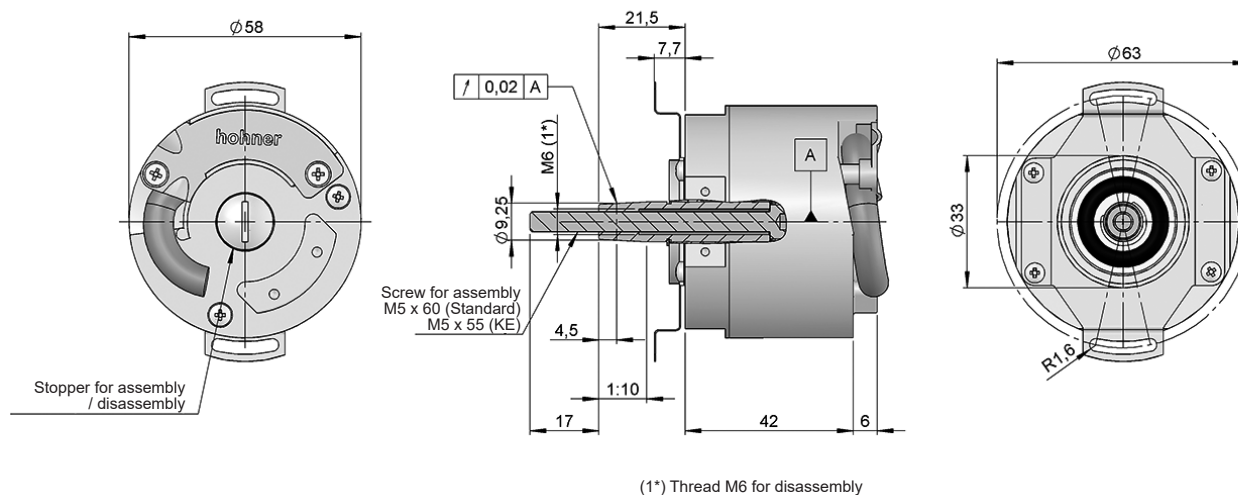


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Flexible flange (90.1027)



Drawing mechanical option type 3, conic shaft 1:10, connection type 10

REFERENCE

Reference example: SMRS64-12103512-17

Serie	Conic shaft	Mechanical option	Connection	Interface	Code	IP	Power supply	Parameters config.	Absolute resolution	Special customer
SMRS64 -	☐	☐	☐ ☐	☐	☐	☐	☐	☐ -	☐ ☐	☐ ☐
	1. Conic 1:10	1. Flexible flange 90.1038 2. Expanding coupling 90.1101 3. Flexible flange 90.1027 (***)	10. Helicoidal cable 20. 30 cm cable + connector D-Sub 15p	1. SSI 2. SSI + 2048 SIN/COS 3. BiSS-C 4. BiSS-C + 2048 SIN/COS 5. BiSS (**)	1. Binary CW 2. Binary CCW 3. Gray (*) 4. Gray (*) 5. BiSS (**)	1. IP54	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 21. 21 bits	KD. Halogen-free cable KE. Screw for assembly M5x55 95.0004099

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

(***) Anti-rotation system type 1 (Flexible flange 90.1038), 2 (Expanding coupling 90.1101) and 3 (Flexible flange 90.1027) supplied assembled.

Other extension cable options available with specific connectors mounted at the end of the cable for different market drives, on request.
All systems and required assembly and disassembly screws available in the section "ACCESSORIES".



Assembly and disassembly instruction manual available in:
www.encoderhohner.com/product/serie-smrs64/

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SSI
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BiSS-C
BiSS-C + SinCos

TECHNICAL SPECIFICATIONS

Materials	Housing: Aluminium Flange: Aluminium Shaft: Stainless Steel
Bearings	Ballraces
Bearings lifetime	1x10 ¹⁰ rev.
Housing fixing	Expanding coupling 90.1101 (assembled) Flexible flange 90.1038 (assembled) Flexible flange 90.1027 (assembled)
Permitted misalignment	±0.5 mm axial (90.1101) ±0.5 mm axial, ±0.3 mm radial (90.1038, 90.1027)
Maximum number of revolutions permitted mechanically	6000 rpm
Protection against dust and splashes according to DIN EN 60529	IP54
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	-20°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% / 4...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
Helicoidal cable	2 meters cable (other cable lengths available or connector mounted at the end of the cable, upon request) 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, 12, 13, 14, 17, 19, 21 bits	10, 12, 13, 14, 17, 19, 21 bits
Code	Binary Gray	Binary
Clock frequency	50 kHz ... 2 MHz	50 kHz ... 10 MHz
Protocol	SSI	BiSS-C

INCREMENTAL OUTPUT

SIN/COS



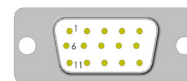
Electronic output	Differential 1 Vpp
Signal offset	2,5 VDC
Resolution	2048 PPR
Cutoff frequency (-3 db)	>500 kHz

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SSI
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BiSS-C
BiSS-C + SinCos

CONNECTION



	Cable 6x2x0,14 mm ² (**) up to 100°C 95.0008072	Cable 6x2x0,14 mm ² (**) Halogen-free cable up to 90°C 95.0008073	D-Sub 15p HD
GND	White	White	13
VCC	Brown	Brown	12
DATA+	Pink	Pink	7
DATA-	Grey	Grey	2
CLOCK+	Yellow	Yellow	6
CLOCK-	Green	Green	1
DIR or RESET	Red-Blue	Red-Blue	11
A+(cos)	Red	Red	8
B+(sin)	Black	Black	9
A-(cos)	Blue	Blue	3
B-(sin)	Violet	Violet	4
Shield*	Shield	Shield	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.

(**) The recommended maximum cable length is 10 meters.

For longer lengths use connection option type 20 connection with extension accessories.



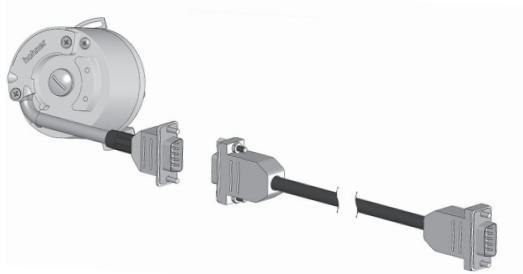
Cable length:	< 25 m	< 50 m	< 100 m	< 200 m	< 400 m
Transmission speed	< 1 MHz	< 400 kHz	< 300 kHz	< 200 kHz	< 100 kHz



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

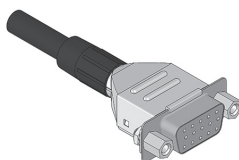
ACCESSORIES

Extension cable connection



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

Female connector (not included)



D-Sub 15p

The female connector is supplied disassembled, with the assembly instruction manual.

Screw for assembly (included)



95.0004105
M5x60
(Standard)

95.0004099
M5 x 55
(Special Customer KE)

Screw for disassembly (not included)



95.0004106
M6x55

95.0004420
Grub screw M5 x 20
45H DIN913