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|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |
| Optical Encoder | Incremental Encoder | High shaft load capacity | Vibration and shock resistance | IP67 | Temperature range
- 40°C | Express Delivery |

Technical drawings of the 59A pressure washer showing front, side, and top views with dimensions in mm.

Front View Dimensions:

- Overall diameter: $\varnothing 58$
- Central shaft diameter: $\varnothing 30$

Side View Dimensions:

- Overall length: C
- Shaft diameter: $\varnothing 52$
- Mounting flange diameter: $\varnothing 50$
- Flange thickness: 15
- Flange bore diameter: $\varnothing 15$
- Flange bore tolerance: / 0,1 B
- Flange bore fit: $\varnothing A H7$
- Mounting flange diameter: 43
- Mounting flange thickness: 3
- Mounting flange bore diameter: $\varnothing 15$
- Mounting flange bore tolerance: / 0,1 B
- Mounting flange bore fit: $\varnothing A H7$
- Mounting flange diameter: 43
- Mounting flange thickness: 3
- Mounting flange bore diameter: $\varnothing 15$
- Mounting flange bore tolerance: / 0,1 B
- Mounting flange bore fit: $\varnothing A H7$

Top View Dimensions:

- Overall diameter: $\varnothing 42$
- Mounting holes: 3 threaded holes M4 x 5 to 120°
- Mounting hole diameter: 20 $\pm 0,5$
- Mounting hole position: 4 H9
- Mounting hole angle: 60°
- Mounting hole diameter: 4
- Mounting hole position: 4 H9
- Mounting hole angle: 60°
- Mounting hole diameter: 4
- Mounting hole position: 4 H9
- Mounting hole angle: 60°

Tables:

HOLLOW SHAFT	$\varnothing A$
1	10 mm
2	12 mm
3	14 mm
4	15 mm

SERIE	C	D
59	42 mm	0,5 mm
59A	44,5 mm	1 mm

Front View: Shows a circular motor body with a diameter of $\varnothing 58$. The shaft has four hollow shaft options (A) with diameters of 10 mm, 12 mm, 14 mm, and 15 mm.

HOLLOW SHAFT	$\varnothing A$
1	10 mm
2	12 mm
3	14 mm
4	15 mm

Side View: Shows the motor's profile with various dimensions. The total width is C . The mounting flange has a diameter of $\varnothing 52$ and a thickness of 4.33 . The shaft diameter is $\varnothing 50\text{ g7}$. The distance from the shaft center to the mounting face is B , with a tolerance of ± 0.1 . The distance from the shaft center to the bottom of the mounting flange is 6.6 . The distance from the shaft center to the top of the mounting flange is 0.5 . The distance from the shaft center to the bottom of the motor housing is 15 . The distance from the shaft center to the top of the motor housing is 6.6 .

Rear View: Shows the motor's base with a diameter of $\varnothing 42$. It features three threaded holes (M4 x 5 to 120°). The distance between the mounting holes is 20 ± 0.5 . The distance from the shaft center to the mounting hole is $4 H9$. The distance from the shaft center to the bottom of the mounting flange is 0.5 . The distance from the shaft center to the bottom of the motor housing is $max. 18$. The angle between the mounting holes is 60° .



SERIE 59

HIGH RESOLUTION HOLLOW SHAFT INCREMENTAL ENCODER FOR INDUSTRIAL APPLICATIONS

REFERENCE							Reference example: 59-21111-1024
Serie	Mechanical option	Hollow shaft	Output signals	Connection	Power Supply / Electronic output	Pulses number	Special customer
59/59A -	☐	☐	☐	☐	☐ -	☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐
59. IP65	1. Rear clamp	1. Ø 10 mm	1. A $\tilde$ A+B $\tilde$ B+0 $\tilde$ 0	1. Radial cable	0. 11...30 VDC / NPN Open collector 11...30 VDC	(*)	GT00. -40°C
59A. IP67	2. Frontal clamp	2. Ø 12 mm 3. Ø 14 mm 4. Ø 15 mm	2. A $\tilde$ A+B $\tilde$ B	2. Radial M23 12p CW 3. Radial M12 8p CCW	1. 11...30 VDC / Line driver differential Push-Pull 11...30 VDC 2. 5 VDC / RS422 5 VDC (compatible TTL) 6. 11...30 VDC / RS422 5 VDC (compatible TTL)		

Order your reference
Step file 3D

info@encoderhohner.com
service available in 24 h

(*) 10.000 to 50.000 pulses with interpolation. Available 10.000 direct optical pulses without interpolating upon request.

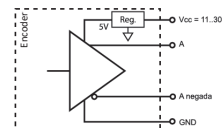
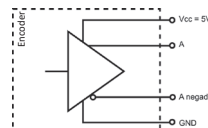
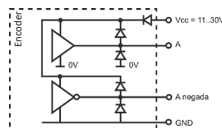
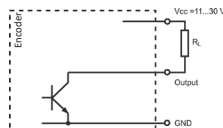
The required anti-rotation system is not included in the reference (order separately). Anti-rotation system is supplied disassembled and includes the screws required for assembly to the encoder. All systems available in the sections "MOUNTING ACCESSORIES".

MECHANICAL SPECIFICATIONS	
Materials	Housing: Aluminium Flange: Aluminium Shaft: Stainless Steel
Bearings	Ballraces
Bearings lifetime	1x10 ¹⁰ rev.
Housing fixing	Anti-rotation pin, Flexible flange or Anti-turn stick
Permitted misalignment	±0.5 mm axial, ±0.3 mm radial (90.1014, 90.1024)
Shaft fixing	Front or Rear clamp
Hollow shaft diameter	10, 12, 14 or 15 mm
Maximum number of revolutions permitted mechanically	6000 rpm
Protection against dust and splashes according to DIN EN 60529	IP65 - Standard IP67 - Option 59A
Rotor inertia moment	30 gcm ² (59) 40 gcm ² (59A)
Starting torque at 20°C (68°F)	≤ 0,02 Nm (59) ≤ 0,04 Nm (59A)
Maximum load permitted on axial shaft	40 N
Maximum load permitted on radial shaft	80 N
Weight aprox.	0,5 Kg
Operating temperature range	-20°C to +80°C - Standard -40°C to +80°C - Special Customer GT00
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)
Maximum pulses per turn	50.000
Radial connection	2 meters cable or industrial connector M12 or M23 (other cable lengths available on order) Female connector not included

SERIE 59

HIGH RESOLUTION HOLLOW SHAFT INCREMENTAL ENCODER FOR INDUSTRIAL APPLICATIONS

OUTPUT SIGNALS



OUTPUT CIRCUIT	NPN Open Collector	Push-Pull Differential	RS422 (TTL compatible)	RS422 (TTL compatible)
Reference code	0	1	2	6
Power supply	11...30 VDC	11...30 VDC	5 VDC ±5%	11...30 VDC
Output voltage	11...30 VDC	11...30 VDC	5 VDC	5 VDC
Consumption	40 mA	Typical: 45 mA Max: 150 mA	Typical: 70 mA Max: 150 mA	Typical: 80 mA Max: 160 mA
Max. load capability / channel	40 mA	±30 mA	±20 mA	±20 mA
Length of cable allowed	50 m (24 VDC)	100 m	1200 m	1200 m
"Low" signal level	VOL < 0.4 VDC (24 VDC)	VOL < 2.5 VDC	VOL < 0.5 VDC	VOL < 0.5 VDC
"High" signal level	VOH > 22 VDC (24 VDC)	VOH > VCC - 3 VDC	VOH > 2.5 VDC	VOH > 2.5 VDC
Frequency	100 kHz	200 kHz	300 kHz	300 kHz
Short circuit protection	Not permanent	Yes	Yes	Yes
Protection polarity inversion	Yes	Yes	No	Yes

Channel B leads (90° electric) channel A, view from the shaft, shaft rotating clockwise

CONNECTION



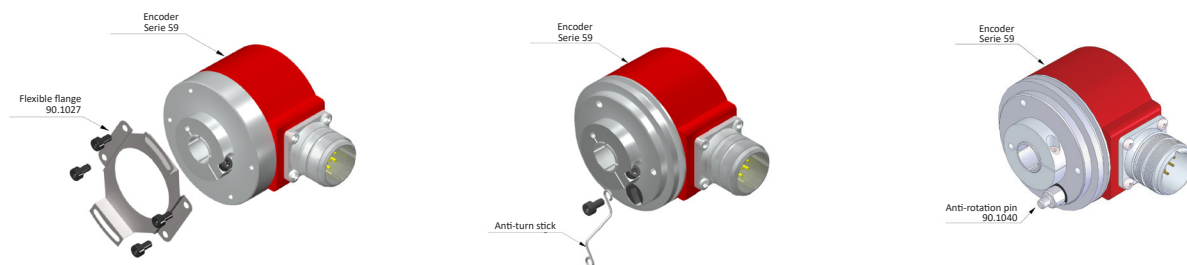
	Cable 3x2x0,14+2x0,34 95.0008003	Connector M12 8p CCW	Connector M23 12p CW
GND	Black	1	1
VCC	Red	2	2
A	Yellow	3	3
B	Green	4	4
$\tilde{A}$	Brown	5	5
$\tilde{B}$	Blue	6	6
0 (reference)	Grey	7	7
$\tilde{0}$	Orange	8	8
Shield*	Shield	Housing	Housing

(*) 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. $\perp$

SERIE 59

HIGH RESOLUTION HOLLOW SHAFT INCREMENTAL ENCODER FOR INDUSTRIAL APPLICATIONS

ACCESSORIES EXAMPLES



All the accessories available in the section "MOUNTING ACCESSORIES".

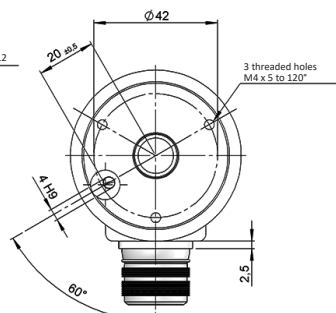
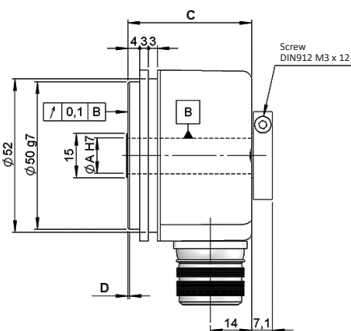
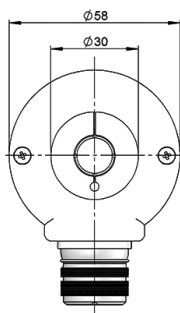
CONNECTION DIMENSIONS

Female connector not included

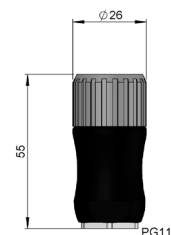
Connection 2 Radial

Fixation 1 Rear clamp

M23 12p
male panel
clockwise



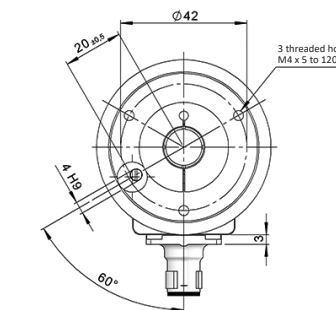
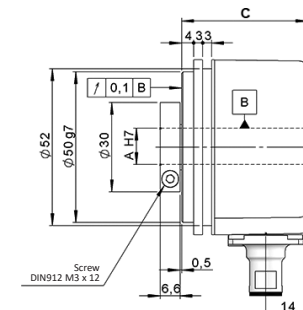
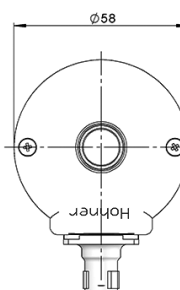
Female connector 95.0007131



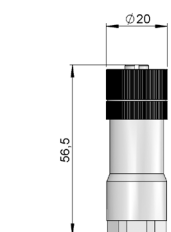
Connection 3 Radial

Fixation 2 Frontal clamp

M12 8p
male panel
counter clockwise



Female connector 95.0007152

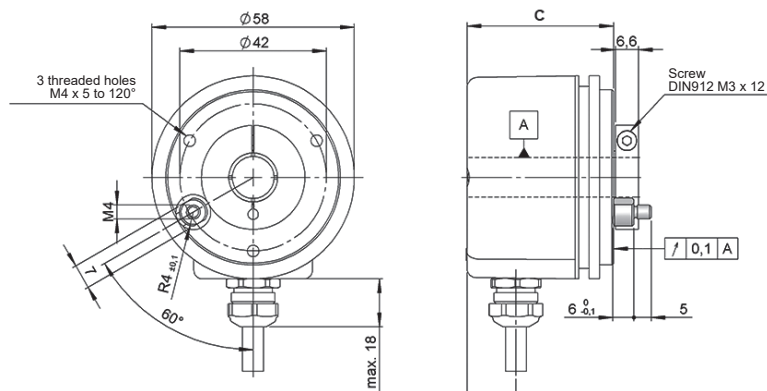


SERIE 59

HIGH RESOLUTION HOLLOW SHAFT INCREMENTAL ENCODER FOR INDUSTRIAL APPLICATIONS

ANTI-ROTATION SYSTEMS DIMENSIONS

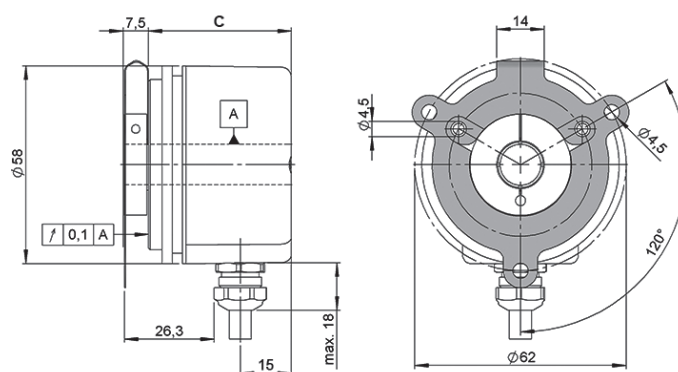
Anti-rotation pin
90.1040



90.1040



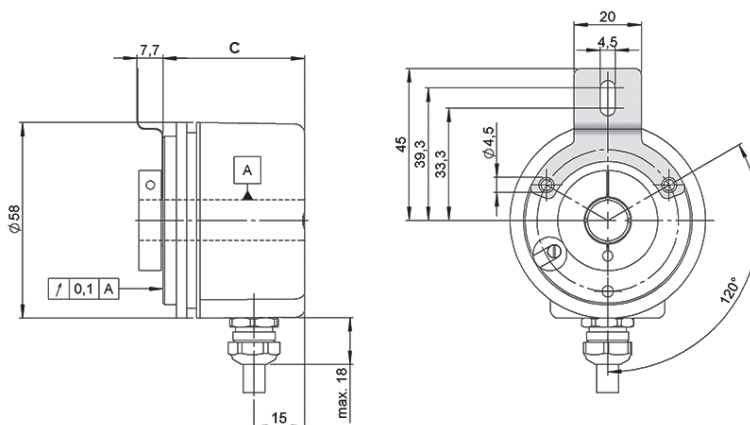
Flexible flange
90.1014



90.1014



Flexible flange
90.1018



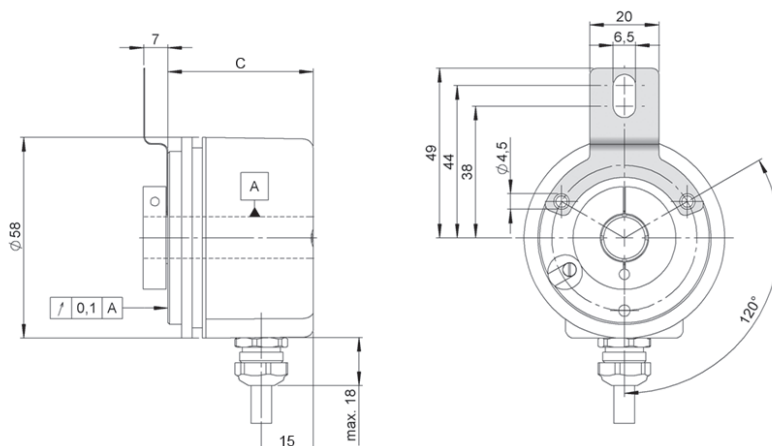
90.1018



SERIE 59

HIGH RESOLUTION HOLLOW SHAFT INCREMENTAL ENCODER FOR INDUSTRIAL APPLICATIONS

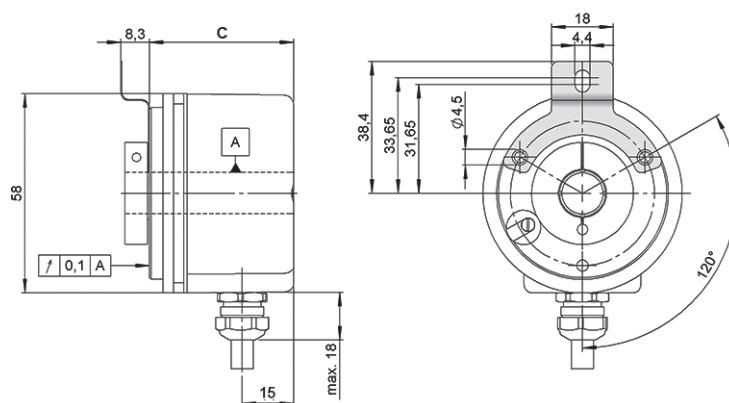
Flexible flange
90.1020



90.1020



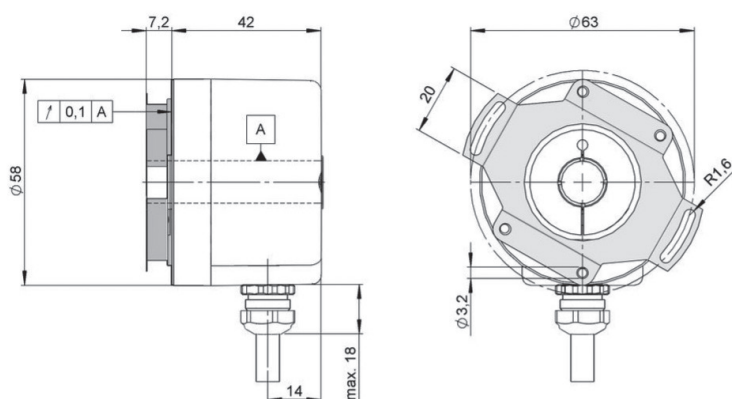
Flexible flange
90.1024



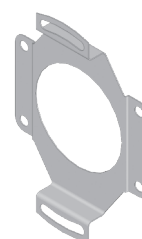
90.1024



Flexible flange
90.1027



90.1027

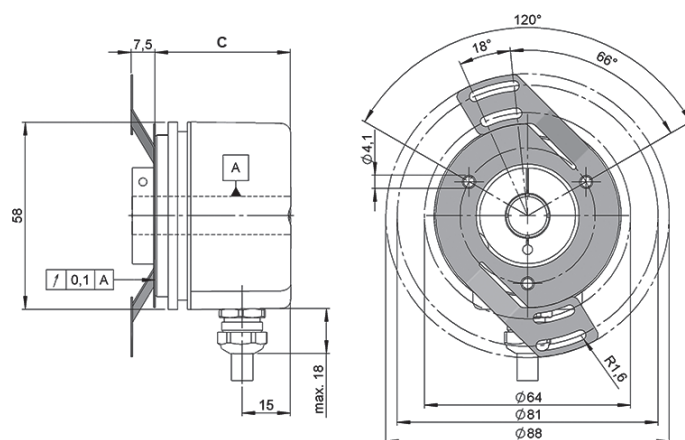


*This flexible flange
requires a special
customer code in the
reference: 59-XXXXX-
XXXXX.GG02*

SERIE 59

HIGH RESOLUTION HOLLOW SHAFT INCREMENTAL ENCODER FOR INDUSTRIAL APPLICATIONS

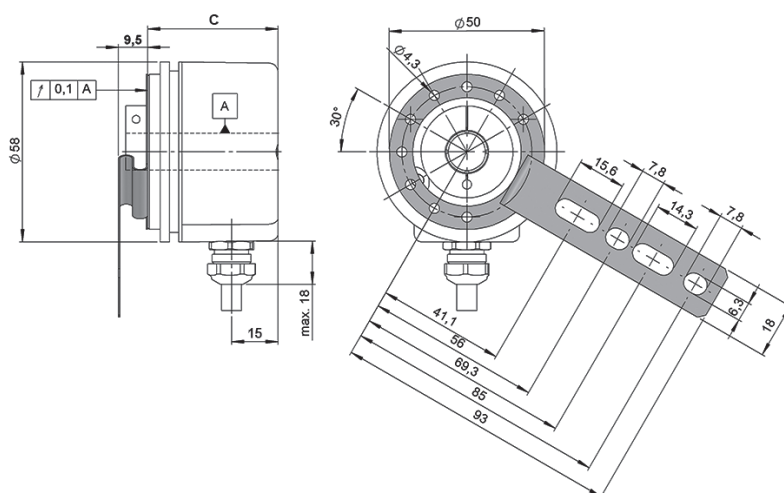
Flexible flange
90.1075



90.1075



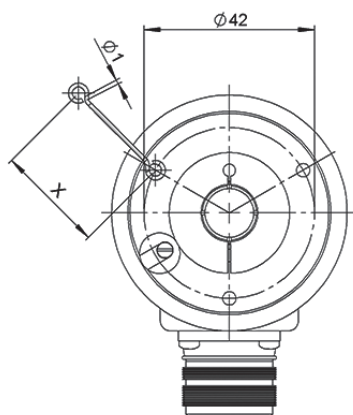
Flexible flange
90.1095



90.1095



Anti-turn stick



90.1033	X= 33 mm
90.1044	X= 83 mm
90.1043	X= 132 mm

(*) other length available on order