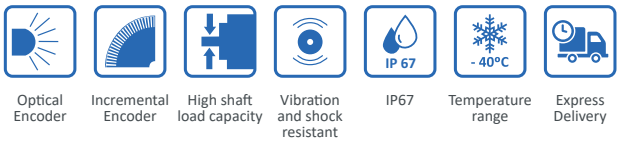
SERIE 19

HIGH RESOLUTION BLIND HOLLOW SHAFT INCREMENTAL ENCODER FOR INDUSTRIAL APPLICATIONS

- Resolution up to 50.000 pulses per turn
- External diameter 58 mm
- Blind hollow shaft Ø 6, 8, 10, 12, 14 or 15 mm
- Protection class IP67 according to DIN EN 60529
- Shaft fixing through clamp
- Anti-rotation system through flexible flange or pin torque support
- Connection by cable (other cable length available) or industrial connector M12, M23

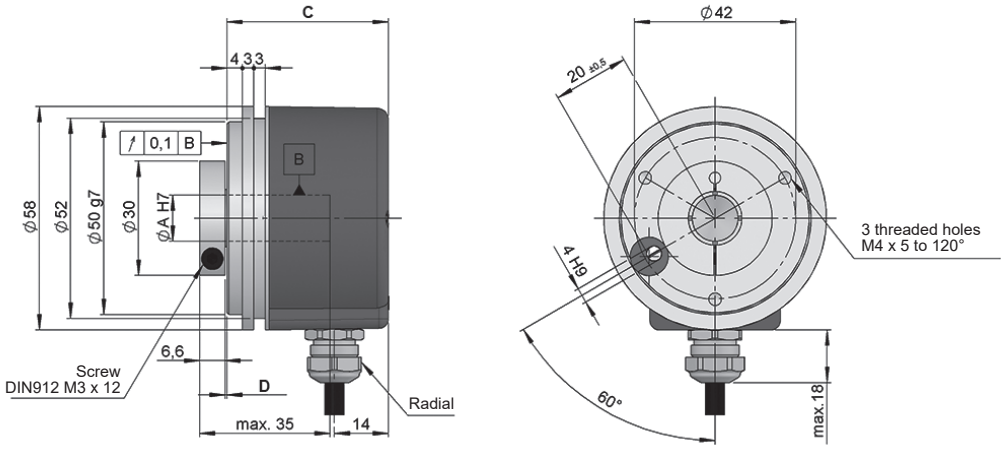


Optical Encoder | Incremental Encoder | High shaft load capacity | Vibration and shock resistant | IP67 | Temperature range | Express Delivery

Clamp

HOLLOW SHAFT	Ø A
1	6 mm
3	8 mm
4	10 mm
5	12 mm
7	14 mm
8	15 mm

SERIE	C	D
19	42 mm	0,5 mm
19A	51,8 mm	1 mm



Drawing S19 blind hollow shaft type 5, connection type 3

REFERENCE

Reference example: 19-15639-1024

Serie	Mechanical option	Blind-Hollow shaft	Output signals	Connection	Power Supply / Electronic output	Pulses number	Special customer
19/19A -	☐	☐	☐	☐	☐ -	☐☐☐☐☐ .	☐☐☐☐
19. IP65 **19A.** IP67	**1.** Clamp	**1.** Ø 6x26 mm **3.** Ø 8x26 mm **4.** Ø 10x26 mm **5.** Ø 12x26 mm **7.** Ø 14x26 mm **8.** Ø 15x26 mm	**1.** A **2.** A+B **3.** A+B+Õ **5.** AÃ+BB̃ **6.** AÃ+BB̃+0Õ **9.** A+B+0	**3.** Radial cable **5.** Radial M23 12p CW **L.** Radial M12 8p CCW (**)	**0.** 11...30 VDC / NPN Open collector 11..30 VDC **6.** 11...30 VDC / RS422 5 VDC (compatible TTL) **7.** 5 VDC / RS422 5 VDC (compatible TTL) **9.** 11..30 VDC / Line driver differential Push-Pull 11..30 VDC	(*)	**HT00.** -40°C

Order your reference Step file 3D

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service available in 24 h

(*) 10.000 to 50.000 pulses with interpolation. Available 10.000 direct optical pulses without interpolating upon request.
(**) Special customer for connection options with axial outputs, 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".

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HIGH RESOLUTION BLIND HOLLOW SHAFT INCREMENTAL ENCODER FOR INDUSTRIAL APPLICATIONS

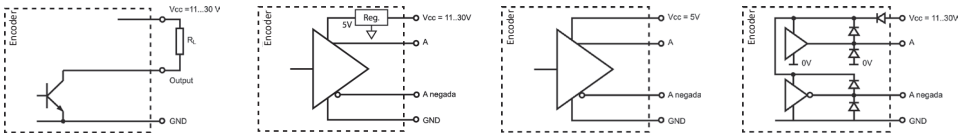
MECHANICAL SPECIFICATIONS

Materials	Housing: Aluminium Flange: Aluminium Shaft: Stainless Steel
Bearings	Ballraces
Bearings lifetime	$1x10^{10}$ rev.
Housing fixing	Anti-rotation pin or flexible flange
Permitted misalignment	±0.5 mm axial, ±0.3 mm radial (90.1014, 90.1024)
Shaft fixing	Clamp
Blind hollow shaft diameter	6, 8, 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 19A
Rotor inertia moment	30 gcm² (19) 50 gcm² (19A)
Starting torque at 20°C (68°F)	≤ 0,02 Nm (19) ≤ 0,04 Nm (19A)
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 HT00
Vibration according to DIN EN 60068-2-6	100 m/s² (10Hz...2000Hz)
Shock according to DIN EN 60068-2-27	1000 m/s² (6ms)
Maximum pulses per turn	50.000
Radial connection	2 meters cable or industrial connector M12, M23 (other cable lengths available on order) Female connector not included

SERIE 19

HIGH RESOLUTION BLIND HOLLOW SHAFT INCREMENTAL ENCODER FOR INDUSTRIAL APPLICATIONS

OUTPUT SIGNALS



OUTPUT CIRCUIT	NPN Open Collector	RS422 (TTL compatible)	RS422 (TTL compatible)	Push-Pull Differential
Reference code	*0*	*6*	*7*	*9*
Power supply	11...30 VDC	11...30 VDC	5 VDC ±5%	11...30 VDC
Output voltage	11...30 VDC	5 VDC	5 VDC	11...30 VDC
Consumption	40 mA	Tipical: 80 mA Max: 160 mA	Tipical: 70 mA Max: 150 mA	Tipical: 45 mA Max: 150 mA
Max. load capability / channel	40 mA	±20 mA	±20 mA	±30 mA
Length of cable allowed	50 m (24 VDC)	1200 m	1200 m	100 m
“Low” signal level	VOL < 0.4 VDC (24 VDC)	VOL < 0.5 VDC	VOL < 0.5 VDC	VOL < 2.5 VDC
“High” signal level	VOH > 22 VDC (24 VDC)	VOH > 2.5 VDC	VOH > 2.5 VDC	VOH > VCC – 3 VDC
Frequency	100 kHz	300 kHz	300 kHz	200 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 2x2x0,14+1x0,14 95.0008002	Cable 3x2x0,14+2x0,34 95.0008003 (*)	Connector M12 8p CCW	Connector M23 12p CW
GND	Yellow	Black	1	1
VCC	White	Red	2	2
A	Brown	Yellow	3	3
B	Green	Green	4	4
$\tilde{A}$		Brown	5	5
$\tilde{B}$		Blue	6	6
0 (reference)	Grey	Grey	7	7
$\tilde{0}$	Grey	Orange	8	8
Shield (**)	Shield	Shield	Housing	Housing

(*) Cable 3x2x0,14+2x0,34 only for encoders with inverted signals.

(**) 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. ⏚

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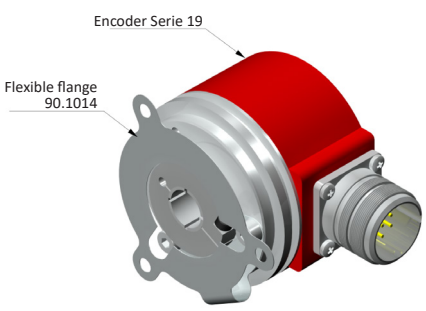
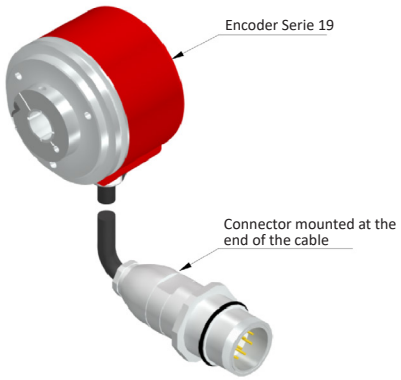
HIGH RESOLUTION BLIND HOLLOW SHAFT INCREMENTAL ENCODER FOR INDUSTRIAL APPLICATIONS

ACCESSORIES EXAMPLES





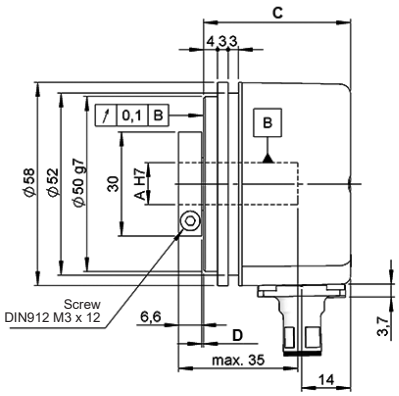
All the accessories available in the section “MOUNTING ACCESSORIES”.

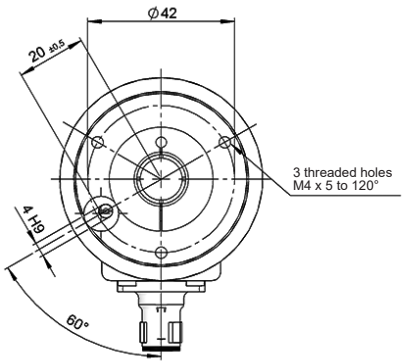
CONNECTION DIMENSIONS

Female connector not included

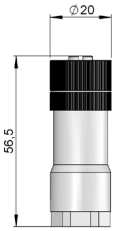
Connection L

Radial
M12 8p
male panel
counter clockwise



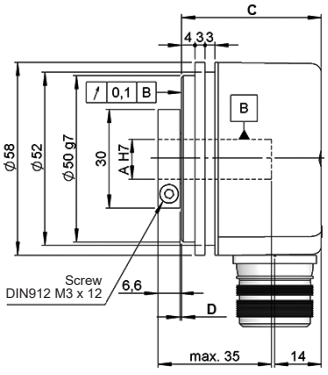


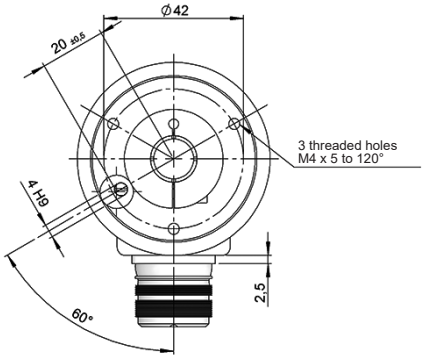
Female connector
95.0007152



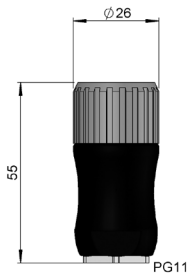
Connection 5

Radial
M23 12p
male panel
clockwise





Female connector
95.0007131



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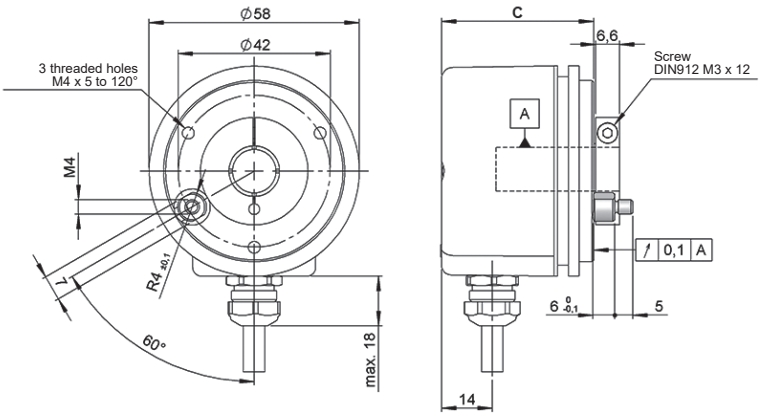
ANTI-ROTATION SYSTEMS DIMENSIONS

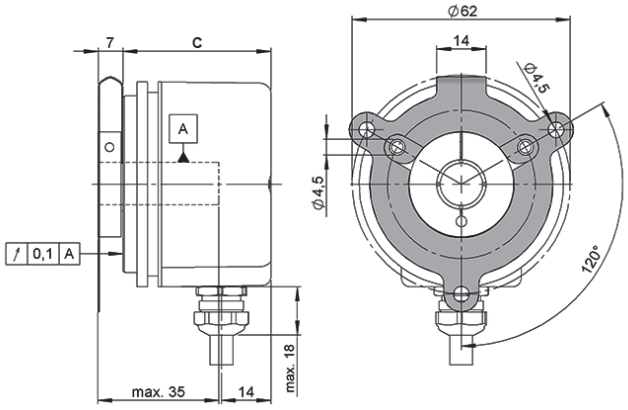
Anti-rotation pin
90.1040

90.1040



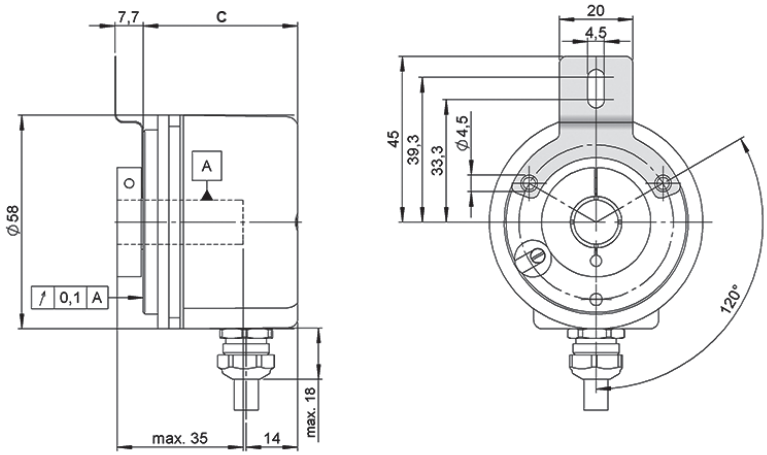
Flexible flange
90.1014

90.1014



Flexible flange
90.1018

90.1018



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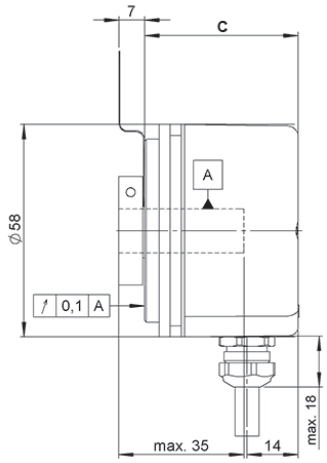
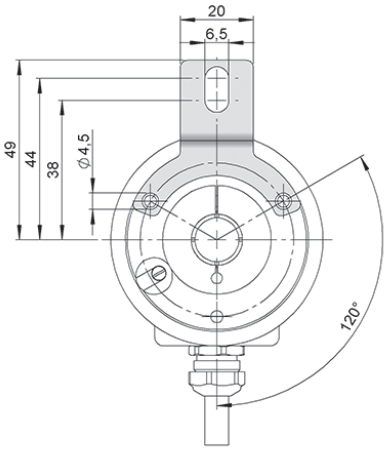
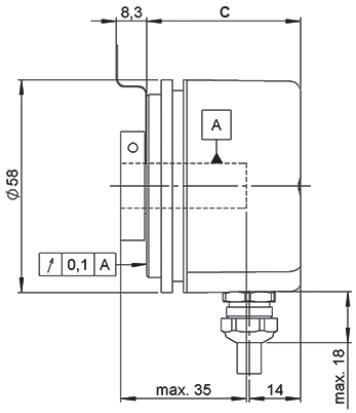
Flexible flange
90.1020

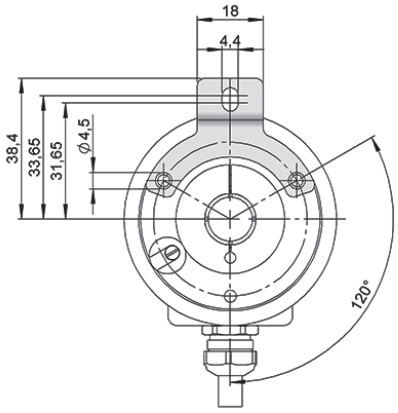




90.1020

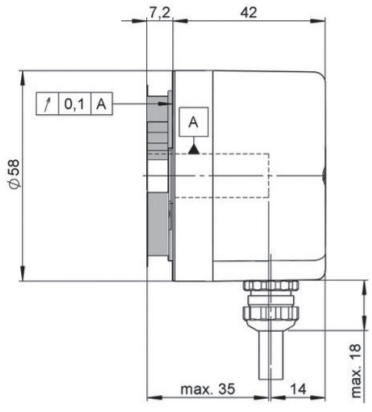
Flexible flange
90.1024

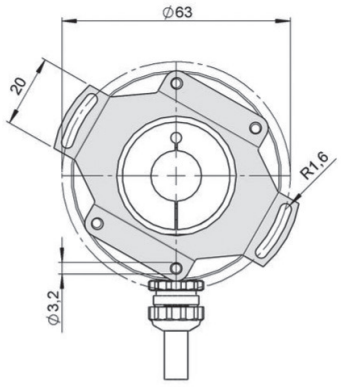




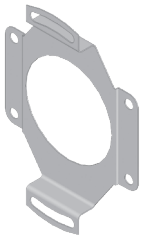
90.1024

Flexible flange
90.1027





90.1027



⚠ *This flexible flange requires a special customer code in the reference: 19-XXXXX-XXXXX.HG01*

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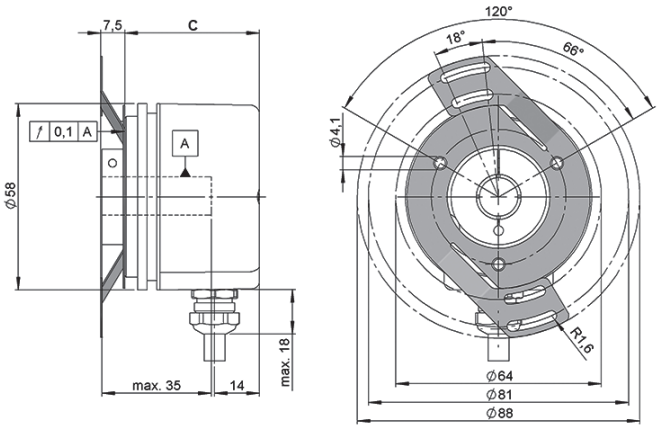
HIGH RESOLUTION BLIND HOLLOW SHAFT INCREMENTAL ENCODER FOR INDUSTRIAL APPLICATIONS

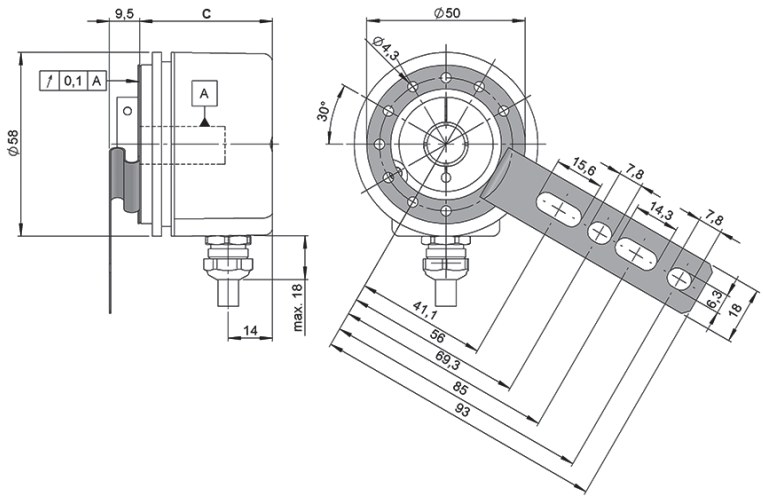
Flexible flange
90.1075

90.1075



Flexible flange
90.1095

90.1095



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