



SERIE 28

MINIATURE BLIND HOLLOW SHAFT INCREMENTAL ENCODER FOR INDUSTRIAL APPLICATIONS

- Resolution up to 4096 pulses per turn
- External diameter 24 mm
- Blind hollow shaft $\varnothing$ 4, 6 or 8 mm
- Protection class IP64 according to DIN EN 60529
- Shaft fixing through setscrew or clamp
- Anti-rotation system through flexible flange or pin torque support
- Connection by cable (other cable length available)



Optical
Encoder

Incremental
Encoder

Miniature
Encoder

Vibration
and shock
resistant

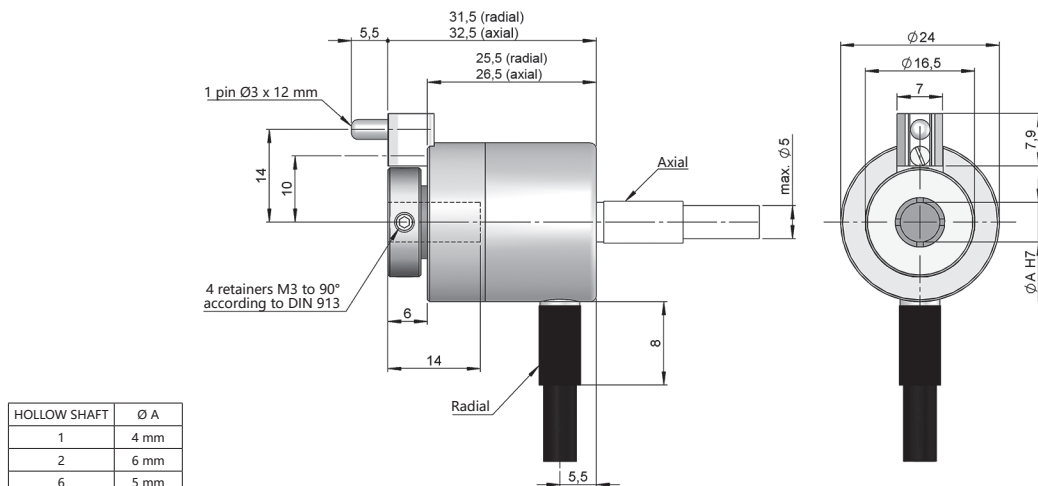
IP 64

Temperature
range

Express
Delivery

Option A:

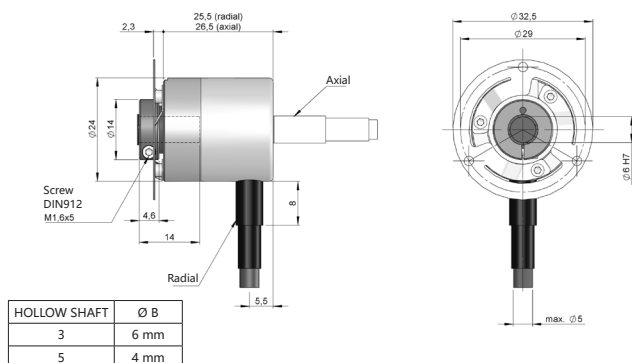
Setscrew / Anti-rotation pin (93.0108205)



Drawing blind hollow shaft mechanical option type 2 (Anti-rotation pin 93.0108204, pin included), connection type 1/2

Option B:

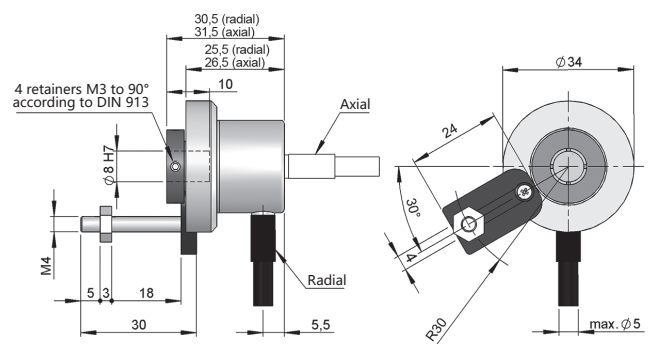
Clamp / Flexible flange (90.1116)



Drawing blind hollow shaft mechanical option type 3, connection type 1/2

Option C:

Setscrew / Anti-rotation pin (93.0108201 + 93.0108202)



Drawing blind hollow shaft mechanical option type 4, connection type 1/2



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REFERENCE						Reference example: 28-1721-500
Serie	Mechanical option	Output signals	Connection	Power Supply / Electronic output	Pulses number	Special customer
28 -	☐	☐	☐	☐ -	☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐
	1. Option A - Ø 4 mm, with setscrew and anti-rotation pin (93.0108205) 2. Option A - Ø 6 mm, with setscrew and anti-rotation pin (93.0108205) 3. Option B - Ø 6 mm, with clamp and flexible flange (90.1116) 4. Option C - Ø 8 mm, with setscrew and anti-rotation pin (93.0108201 + 93.0108202) 5. Option B - Ø 4 mm, with clamp and flexible flange (90.1116) 6. Option A - Ø 5 mm, with setscrew and anti-rotation pin (93.0108205)	2. AB 3. ABZ 7. ABZ, $\overline{ABZ}$ 8. AB, $\overline{AB}$	1. Axial cable 2. Radial cable	0. 11...30 VDC / NPN Open collector 11...30 VDC 1. 11...30 VDC / Line driver differential Push-Pull 11...30 VDC 2. 5 VDC / RS422 5 VDC (compatible TTL)		WT00. -40°C Order your reference Step file 3D info@encoderhohner.com service available in 24 h

(*) Anti-rotation system type 1/2 (Anti-rotation pin 93.0108205), 3 (Flexible flange 90.1116) and 4 (Anti-rotation pin 93.0108201 + 93.0108202) supplied assembled.

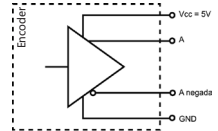
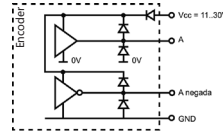
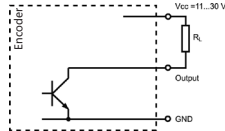
MECHANICAL SPECIFICATIONS

Materials	Cover: Aluminium Housing: Aluminium Shaft: Brass
Bearings	Ballraces
Bearings lifetime	1x10 ¹⁰ rev.
Housing fixing	Anti-rotation pin or flexible flange (included)
Permitted misalignment	±0.1 mm axial, ±0.3 mm radial (93.0108205) ±0.1 mm axial, ±0.1 mm radial (90.1116) ±0.1 mm axial, ±0.3 mm radial (93.0108201 + 93.0108202)
Shaft fixing	Setscrew or Clamp
Blind hollow shaft diameter	4, 6 or 8 mm
Maximum number of revolutions permitted mechanically	6000 rpm
Protection against dust and splashes according to DIN EN 60529	IP64
Rotor inertia moment	5 gcm ²
Starting torque at 20°C (68°F)	≤ 0,01 Nm
Maximum load permitted on axial shaft	10 N
Maximum load permitted on radial shaft	10 N
Weight aprox.	0.06 Kg
Operating temperature range	-20°C to +80°C - Standard -40°C to +80°C - Special Customer WT00
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	4096
Axial or radial connection	2 meters cable (other cable lengths available or connector mounted at the end of the cable, upon request)

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OUTPUT SIGNALS



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

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

CONNECTION



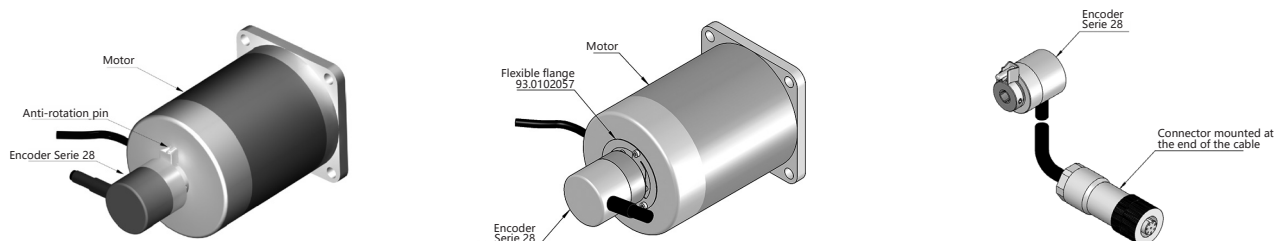
	Cable 5x0.14 95.0008051 (*)	Cable 8x0.14 95.0008052 (*)
GND	White (WH)	White (WH)
+UB	Brown (BN)	Brown (BN)
A	Green (GN)	Green (GN)
B	Yellow (YE)	Grey (GY)
$\bar{A}$	-	Yellow (YE)
$\bar{B}$	-	Pink (PK)
Z	Grey (GY)	Blue (BU)
$\bar{Z}$	Grey (GY)	Red (RD)
Case	Shield	Shield

(*) For lengths over 2 meters standard cable, we recommend the use of twisted pair cable 2x2x0.14+1x0.14 (95.0008002) or 3x2x0.14+2x0.34 (95.0008003). Request the final cable length required to avoid junctions.

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ACCESSORIES EXAMPLES

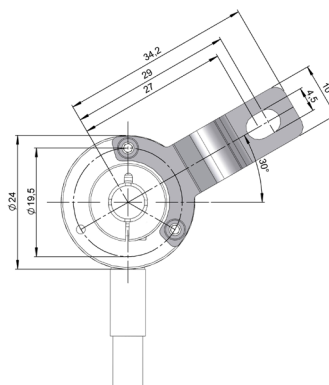
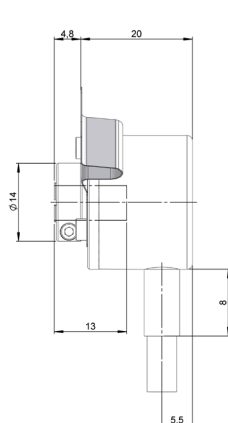


All the accessories available in the section "MOUNTING ACCESSORIES".

ANTI-ROTATION SYSTEMS DIMENSIONS

Flexible flange 93.0102094

(with mechanical option type B)



93.0102094

