



INCREMENTAL SOLID SHAFT ENCODER COST OPTIMIZED FOR INDUSTRIAL APPLICATIONS

- Resolution available up to less than 1000 pulses per turn
- External diameter 58 mm
- Shaft Ø 6 mm
- Protection class IP54 according to DIN EN 60529
- Different flanges available
- Connection by cable (other cable length available) or industrial connector

[illegible]

Drawing mechanical option type 1, connection type 2, without flange

Technical drawing of the M4 x 7.5 to 120° adapter. The side view shows a cylindrical component with a total length of 36 mm and a maximum diameter of 18 mm. It features a central threaded hole with a diameter of 52 mm and a length of 25.07 mm. The adapter is designed to fit into a hole with a diameter of 58 mm. The top view shows a circular cross-section with a diameter of 58 mm and a central hole with a diameter of 38 mm. Three threaded holes are located around the perimeter, spaced 120 degrees apart. The drawing includes a tolerance of 0.05 mm for the central hole diameter.

Drawing mechanical option type 2, connection type 2, without flange

Reference example: 20-11621-500

Serie	Mechanical option	Flange	Output signals	Connection	Power Supply / Electronic output	Pulses number	Special customer
20 -							
	1. Option A Ø 6x10 mm 2. Option B Ø 6x15 mm	1. None 2. 90.1002 3. 90.1004 4. 90.1005 (*)	1. A 2. AB 3. AB, $\bar{Z}$ 5. AB, $\overline{AB}$ 6. ABZ, $\overline{ABZ}$ 9. ABZ	1. Axial DIN 43650 4p 2. Axial cable	0. 11...30 VDC / NPN Open collector 11...30 VDC 1. 11...30 VDC / Push-Pull 11...30 VDC 2. 5 VDC / Line driver differential (compatible TTL) 5 VDC (**)		Order your reference Step file 3D info@encoderhohner.com service available in 24 h

(*) Flange options 90.1002, 90.1004, 90.1005 (2/3/4) only available for the mechanical option A Ø6x10 mm (1).

Flange mounting included.

(**) Electronic output NPN Open Collector (0) only available for output signals options without inverted signals (1/2/9).

Order your reference
Step file 3D

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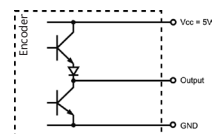
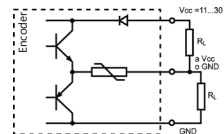
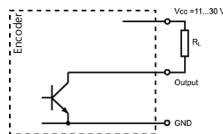
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MECHANICAL SPECIFICATIONS

Materials	Cover: Plastic Housing: 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	IP54
Rotor inertia moment	10 gcm ²
Starting torque at 20°C (68°F)	≤ 0.005 Nm
Maximum load permitted on axial shaft	20 N
Maximum load permitted on radial shaft	30 N
Weight aprox.	0.3 Kg
Operating temperature range	-20°C to +60°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)
Maximum pulses per turn	987
Axial connection	2 meters cable or industrial connector (other cable lengths available on order) Female connector not included

OUTPUT SIGNALS



OUTPUT CIRCUIT	NPN Open Collector	Push-Pull	Line Driver (TTL compatible)
Reference code	0	1	2
Power supply	11...30 VDC	11...30 VDC	5 VDC ±10%
Output voltage	11...30 VDC	11...30 VDC	5 VDC
Consumption	40 mA	Typical: 45 mA Max: 150 mA	Typical: 120 mA Max: 150 mA
Max. load capability / channel	40 mA	±30 mA	±40 mA
Length of cable allowed	50 m (24 VDC)	50 m	100 m
“Low” signal level	VOL < 0.4 VDC (24 VDC)	VOL < 2.5 VDC	VOL < 0.2 VDC
“High” signal level	VOH > 2.2 VDC (24 VDC)	VOH > VCC – 3 VDC	VOH > 2.4 VDC
Frequency	100 kHz	200 kHz	100 kHz
Short circuit protection	Not permanent	Yes	Yes
Protection polarity inversion	Yes	Yes	No

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

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CONNECTION



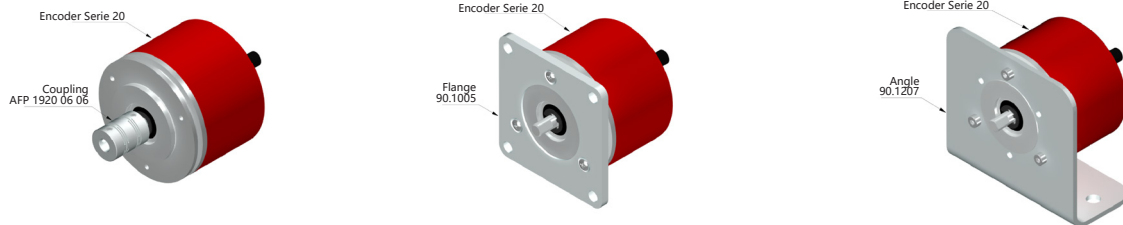
	Cable 2x2x0.14+1x0.14 95.0008002	Cable 3x2x0.14+2x0.34 95.0008003 (*)	Connector DIN 43650 4p
GND	Yellow (YE)	Black (BK)	1
+UB	White (WH)	Red (RD)	2
A	Brown (BN)	Yellow (YE)	3
B	Green (GN)	Green (GN)	4
$\bar{A}$	-	Brown (BN)	-
$\bar{B}$	-	Blue (BU)	-
Z	Grey (GY) (**)	Grey (GY)	-
$\bar{Z}$	Grey (GY) (***)	Orange (OG)	-

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

(**) Only available for Output signals option 9 (ABZ).

(***) Only available for Output signals option 3 (AB, $\bar{Z}$).

ACCESSORIES EXAMPLES

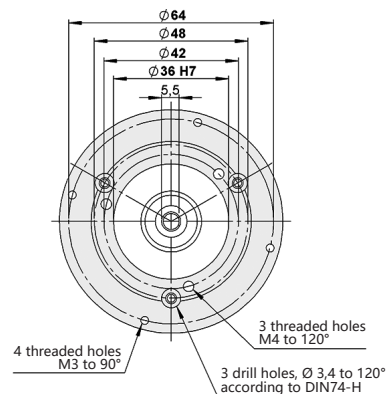
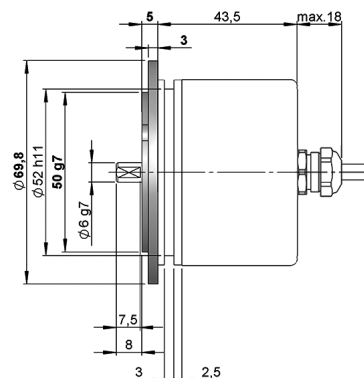


All the accessories available in the section "MOUNTING ACCESSORIES".

FLANGE DIMENSIONS

Flange mounting included

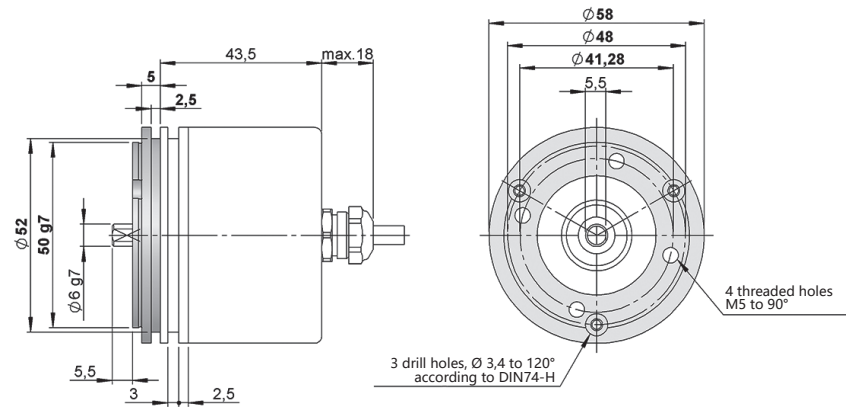
Flange 2
90.1002



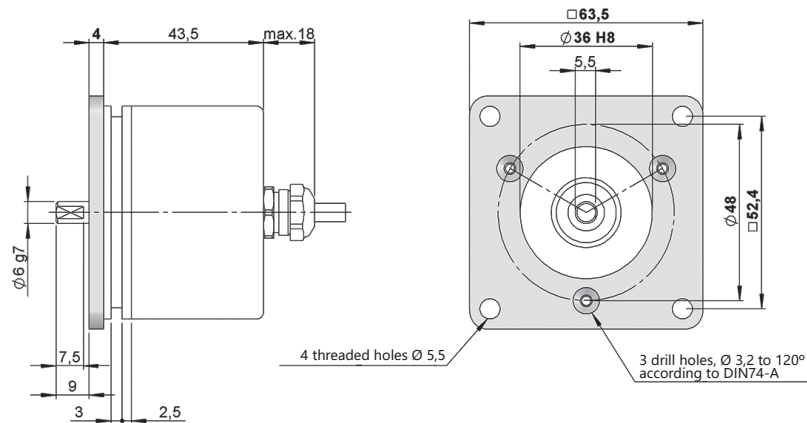
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Flange 3 90.1004



Flange 4 90.1005

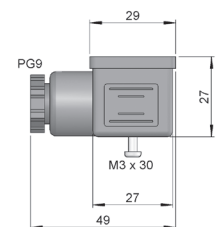
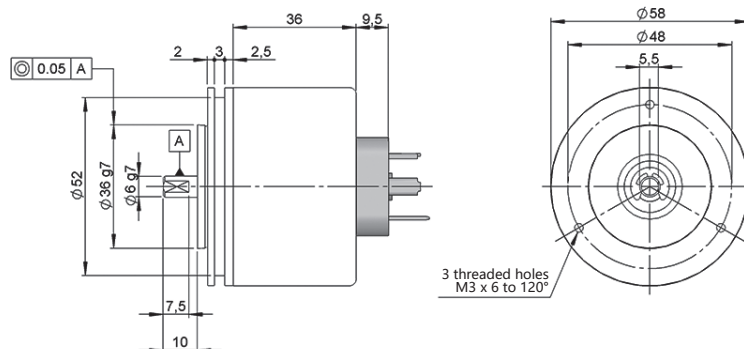


CONNECTION DIMENSIONS

Female connector not included

Connection 1

Axial
DIN 43650 4p
male panel



Female connector
95.0007011

Pre-assembled cable
89.001.01.000.XX
Length in meters