



SERIE PR90

PROGRAMMABLE INCREMENTAL SOLID SHAFT ENCODER FOR INDUSTRIAL APPLICATIONS



Programmable incremental optical encoder from 1 to 65536 pulses per rotation



Programmable via USB, without an additional programming box



Programmable without powering up the encoder



Multi-voltage 5...30 VDC Automatic power voltage recognition



0° to 360° reference signal position



Optical Encoder



Incremental Encoder



Programmable Encoder



High shaft load capacity



Vibration and shock resistant

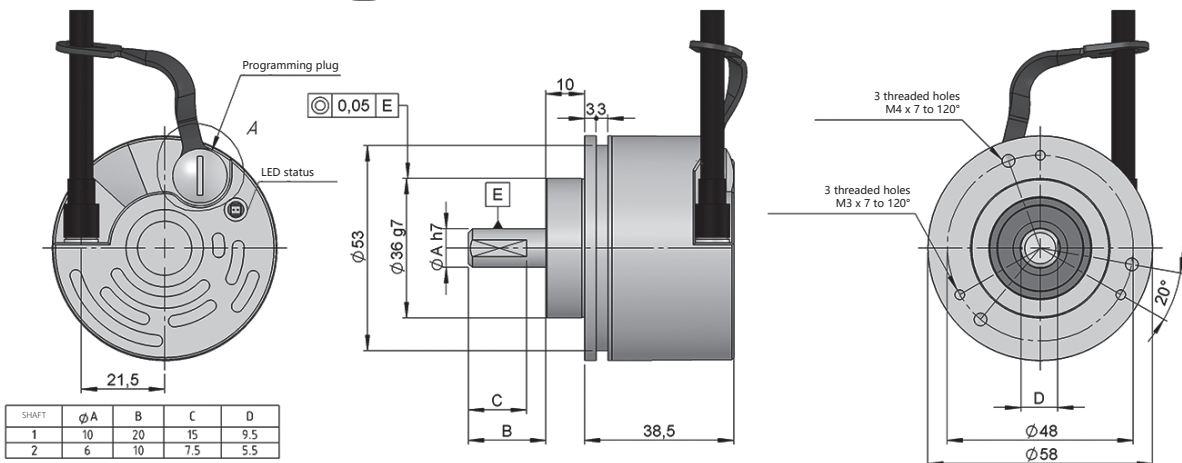
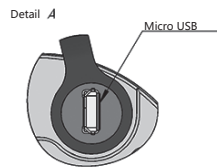


IP65



Express Delivery

- External diameter 58 mm
- Shaft \varnothing 6 or 10 mm
- Protection class IP65 according to DIN EN 60529
- Connection by cable (other cable length available) or industrial connector M12 or M23



Drawing shaft type 1, connection type 1, without flange

REFERENCE

Reference example: PR90-11C1C-C

Serie	Solid shaft	Flange	Output signals	Connection	Power Supply / Electronic output	Pulses number	Special customer
PR90 -	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1. \varnothing 10x20 mm 2. \varnothing 6x10 mm	1. None 3. 90.1102 5. 90.1005 (*)	C. ABZ, \overline{ABZ} CONFIGURABLE • CW / CCW • Z 90° and 180° • Z position of 0...360°	1. Helicoidal cable 2. Radial M12 8p CCW 3. Radial M23 12p CCW	C. 5...30 VDC / HTL - TTL CONFIGURABLE • Electronic output HTL / TTL	C. 1...65536 CONFIGURABLE	

Order your reference Step file 3D

info@encoderhohner.com
service available in 24 h

(*) Flange mounting included in delivery of the encoder.

Female connector is not included in the reference. All options available in the sections "CONNECTION DIMENSIONS", upon request.



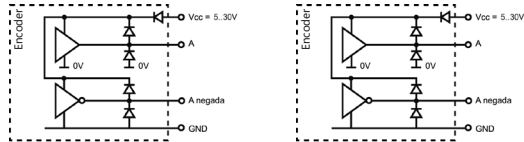
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MECHANICAL SPECIFICATIONS

Materials	Cover: Zamac 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	IP65
Rotor inertia moment	30 gcm ²
Starting torque at 20°C (68°F)	≤ 0.01 Nm
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
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	65536
Connection	2 meters cable or industrial connector M12 or M23 (other cable lengths available on order) Female connector not included

OUTPUT SIGNALS



OUTPUT CIRCUIT	TTL	HTL
Reference code	C	C
Power supply	5...30 VDC	5...30 VDC
Consumption (*)	Typical: 45 mA Max: 150 mA	Typical: 45 mA Max: 150 mA
Max. load capability / channel	±20 mA	±20 mA
Length of cable allowed	1200 m	1200 m
“Low” signal level	VOL < 0.5 VDC	VOL < 2.5 VDC
“High” signal level	VOH > 2.5 VDC	VOH > VCC – 1.5 VDC
Frequency	900 kHz	900 kHz
Short circuit protection	Yes	Yes
Protection polarity inversion	Yes	Yes

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

(*) Peak current up to 800mA (1ms) at start-up of the encoder.

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CONNECTION



	Cable 4x2x0.14 95.0008011	Connector M12 8p CCW	Connector M23 12p CCW
GND	Black (BK)	7	10
+UB	Red (RD)	8	12
A	Yellow (YE)	2	5
B	Green (GN)	4	8
\bar{A}	Brown (BN)	1	6
\bar{B}	Blue (BU)	3	1
Z	Grey (GY)	6	3
\bar{Z}	Orange (OG)	5	4
Case	Shield	Case	Case

CONNECTION PC



Cable (*)
uUSB/USB
90.9452

(*) The connection cable uUSB / USB is not included in the reference.

PROGRAMMING DETAILS

LED status:

● **green intermittent indicator:**
Communication between devices

● **red indicator:**
Error detection (overload, low power, optical failure, communications failure, humidity...)
See type of error in the programming software

Configuration options:

Input Power Supply 5V to 30V

PPR: 4096

Output Voltage Control: TTL HTL

Z Pulse: Position: 0.0, Width: 180° 90°

Direction: Clockwise Counter Clockwise

Output: A inverted B inverted Z inverted

Factory configuration:

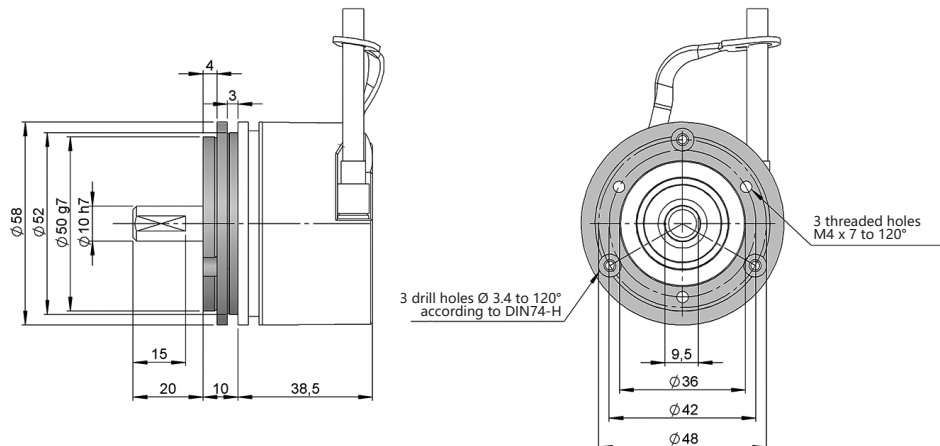
- Pulses: 4096 ppr
- Output: HTL
- Direction: Clockwise (CW)
- Position (Z pulse): 0°
- Width (Index, Z, 0): 90°

Download the software and programming manual from: www.encoderhohner.com/pr90/

FLANGE DIMENSIONS

Flange mounting included

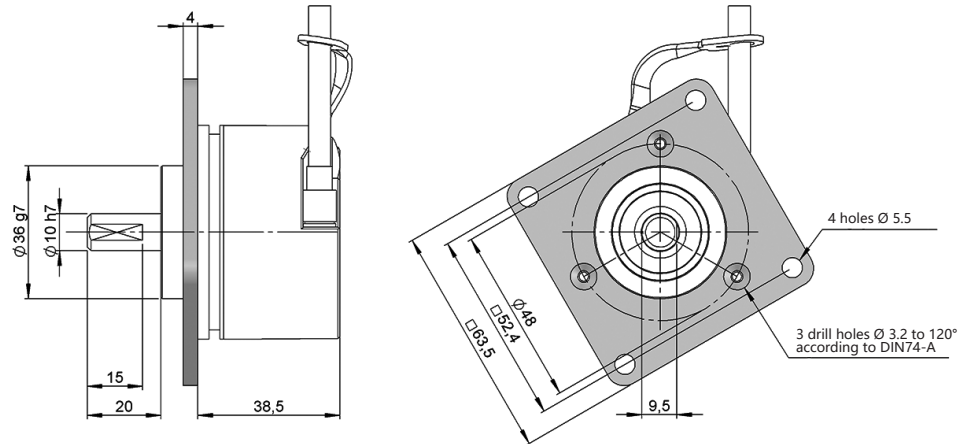
Flange 3
90.1102



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Flange 5
90.1005

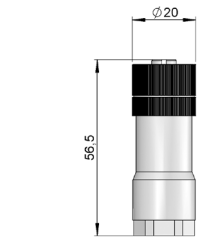
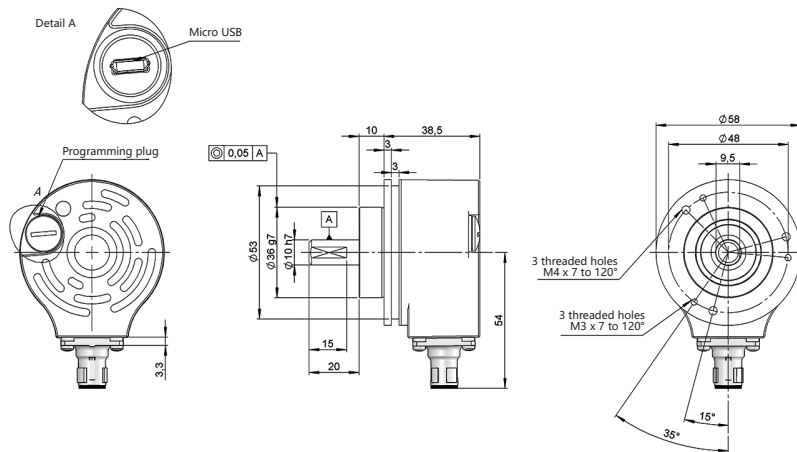


CONNECTION DIMENSIONS

Female connector not included

Connection 2
Radial

M12 8p
male panel
counter clockwise



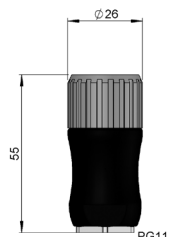
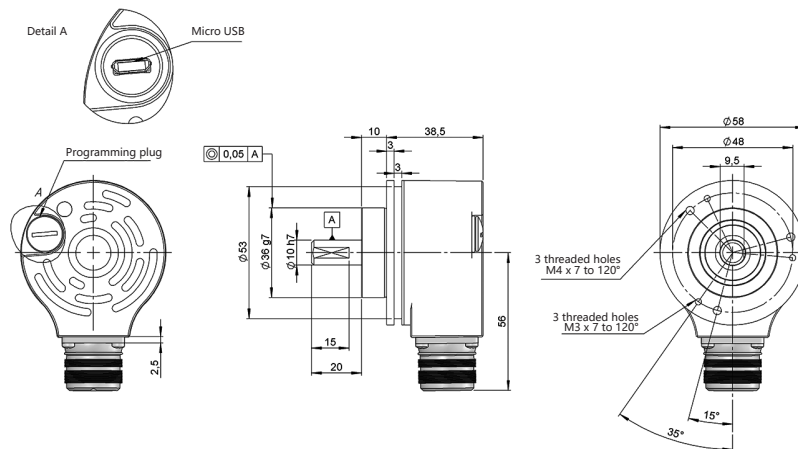
Female connector
95.0007152



Pre-assembled cable
89.003.02.047.XX
Length in meters

Connection 3
Radial

M23 12p
male panel
counter clockwise



Female connector
95.0007137



Pre-assembled cable
89.010.02.015.XX
Length in meters