



SERIE PR90

PROGRAMMABLE INCREMENTAL SOLID SHAFT ENCODER FOR INDUSTRIAL APPLICATIONS



Programmable incremental optical encoder from 1 to 65.536 pulses per rotation



Programmable via USB, without an additional programming box



Programmable without powering up the encoder



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



0° to 360° reference signal position



Optical Encoder



Incremental Encoder



Programmable Encoder



High shaft load capacity



Vibration and shock resistant

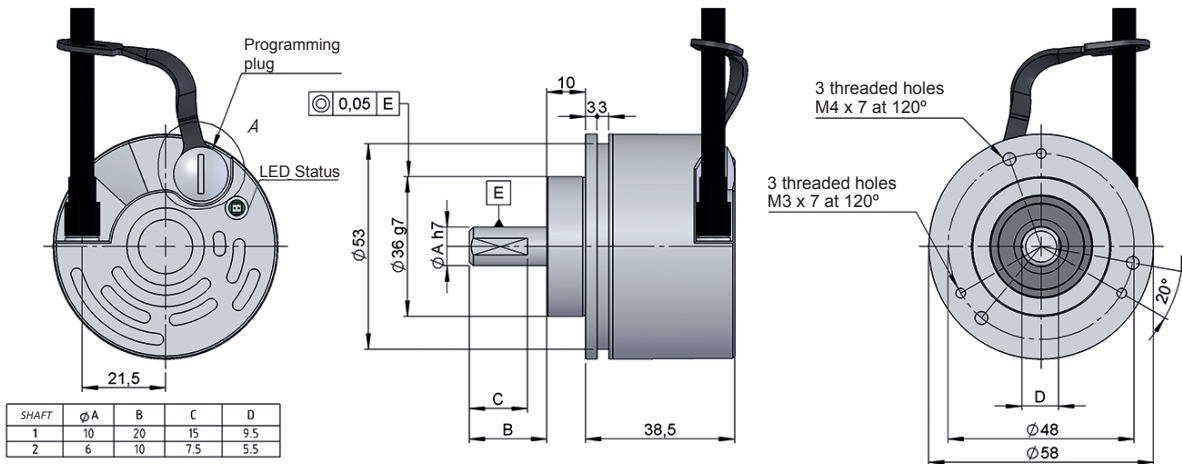
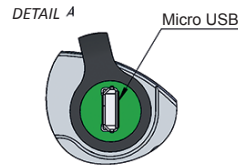


IP 65



Fast delivery

- External diameter 58 mm
- Shaft \varnothing 6 or 10 mm
- Protection class IP65 according to DIN EN 60529
- Connection by cable (any 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	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"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	1. \varnothing 10x20mm 2. \varnothing 6x10mm	1. None 3. 90.1102 5. 90.1005 (*)	C. A \tilde{A} +B \tilde{B} +0 $\tilde{0}$ CONFIGURABLE • CW / CCW • Z 90° and 180° • Z position of 0...360°	1. Helicoidal cable 2. Radial 90.9508 M12 8p CCW 3. Radial 90.9512 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

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

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

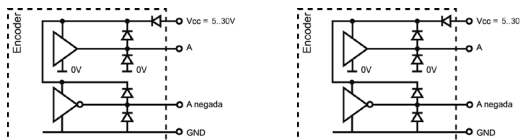
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MECHANICAL SPECIFICATIONS

Materials	Cover: Aluminium 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 a +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	65.536
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

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CONNECTION



	95.0008011 Cable 4x2x0,14	90.9508 M12 8p CCW	90.9512 M23 12p CCW
GND	Black	7	10
VCC	Red	8	12
A	Yellow	2	5
B	Green	4	8
\tilde{A}	Brown	1	6
\tilde{B}	Blue	3	1
0 (reference)	Grey	6	3
$\tilde{0}$	Orange	5	4

Shield connected to the housing

CONNECTION PC*



90.9452
Cable uUSB/USB

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

Available in the section "ACCESSORIES".

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

Direction: Clockwise Counter Clockwise

Output: A inverted B inverted Z inverted

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

Factory configuration:

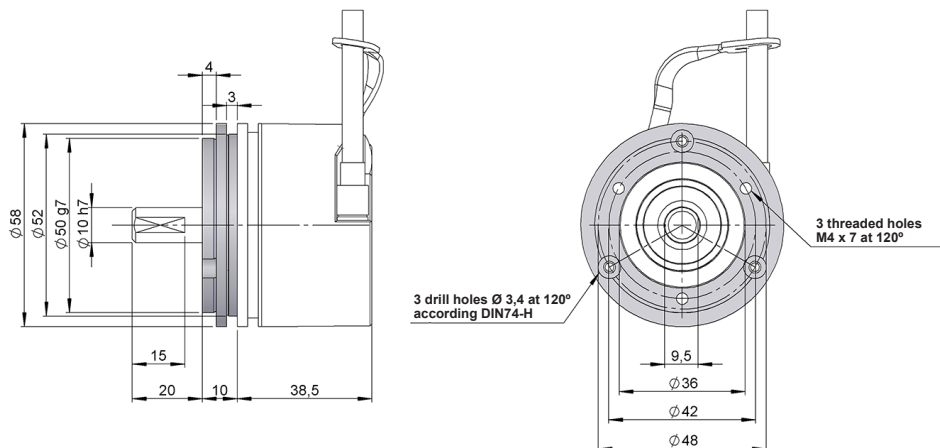
- Pulses: 4096 ppr
- Output: HTL
- Direction: Clockwise (CW)
- Position (Z pulse): 0°
- Width (Index, Z, 0): 90°

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

FLANGE DIMENSIONS

Flange mounting included

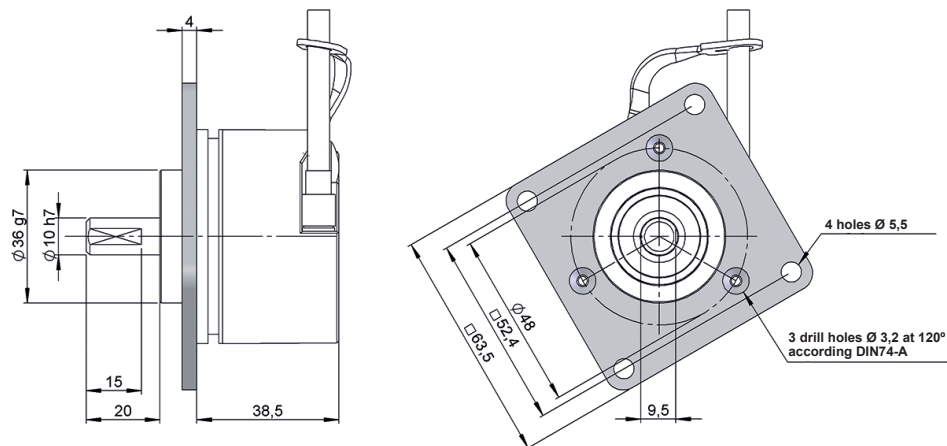
Flange 2
90.1102



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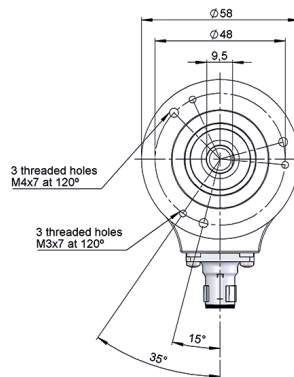
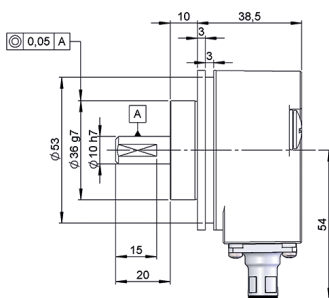
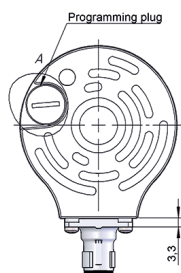
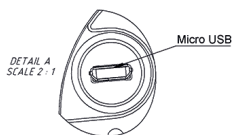
Flange 3
90.1005



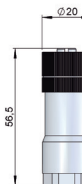
CONNECTION DIMENSIONS

Female connector not included

Connection 2
Radial 90.9508



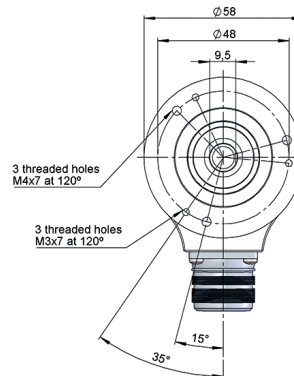
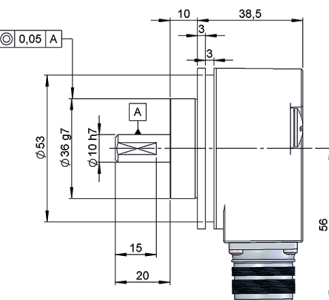
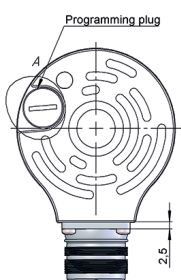
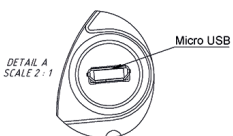
90.9508



90.9508

M12 8p
male connector
counter clockwise

Connection 3
Radial 90.9512



90.9512



90.9512

M23 12p
male connector
counter clockwise