



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...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



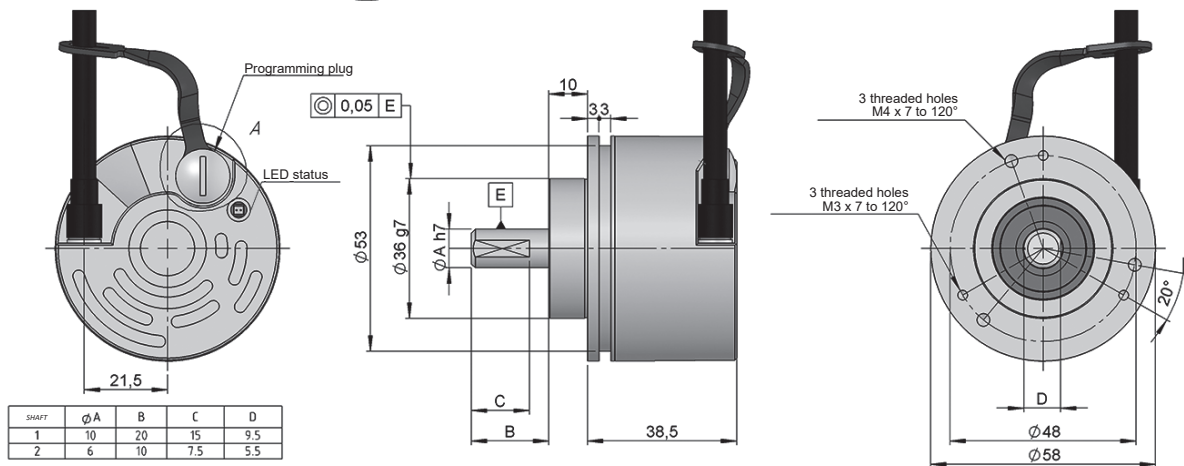
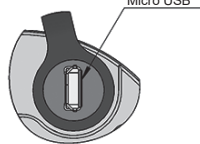
IP65



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, M23

Detail A



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 checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> - | <input checked="" 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. AÃ+BB+OÃ 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.



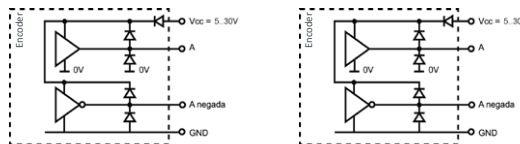
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MECHANICAL SPECIFICATIONS

| | |
|--|---|
| 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 to +80°C |
| Vibration according to DIN EN 60068-2-6 | 100 m/s ² (10Hz...2000Hz) |
| Vibration 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, 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".

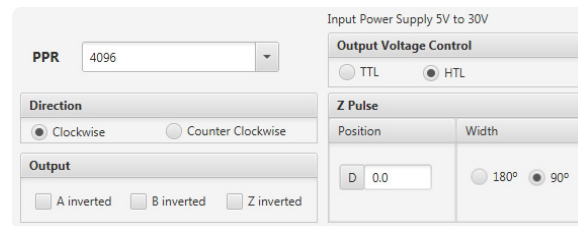
PROGRAMMING DETAILS

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:



Factory configuration:

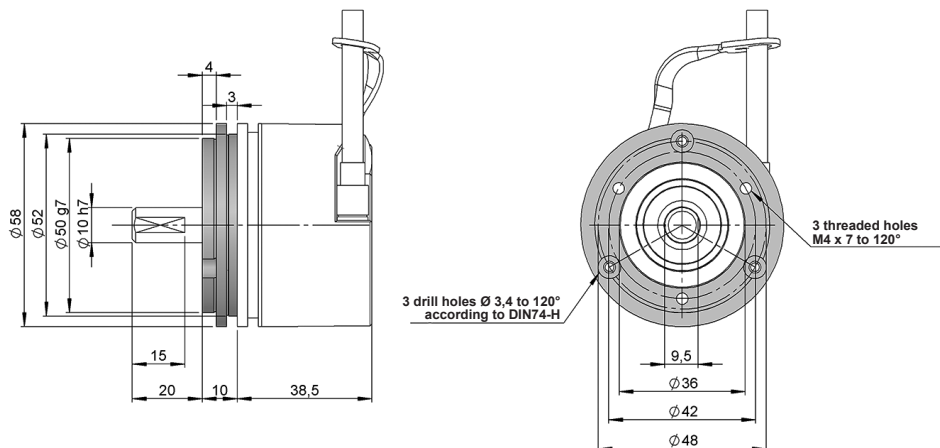
- Pulses: 4096 ppr
- Output: HTL
- Direction: Clockwise (CW)
- Position (Z pulse): 0°
- Width (Index, Z, 0): 90°

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

FLANGE DIMENSIONS

Flange mounting included

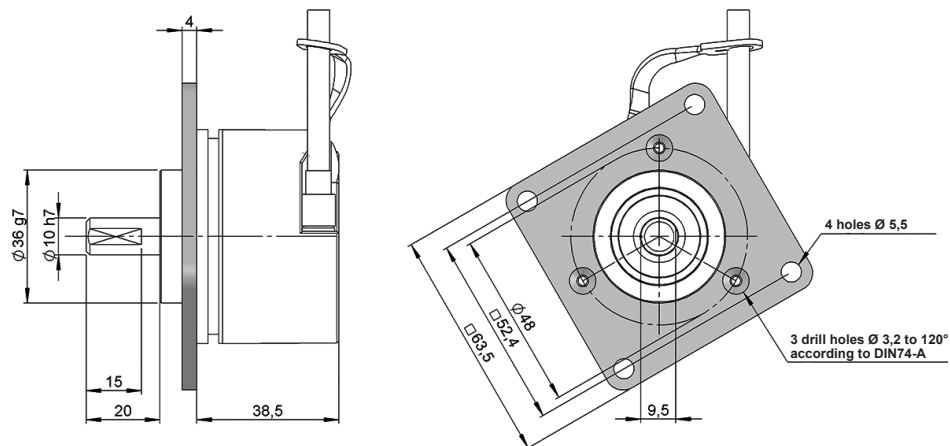
Flange 2
90.1102



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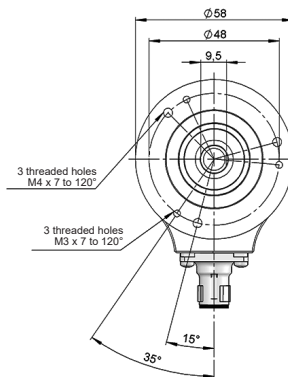
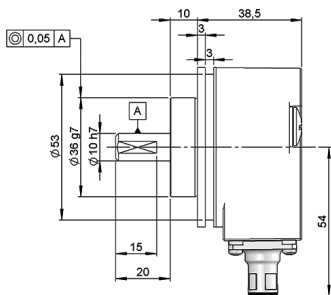
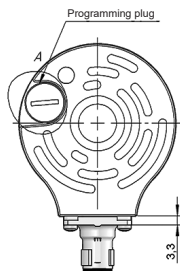
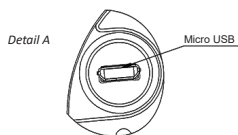
Flange 3
90.1005



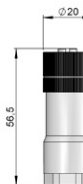
CONNECTION DIMENSIONS

Female connector not included

Connection 2
Radial 90.9508

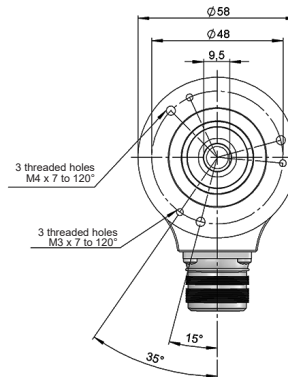
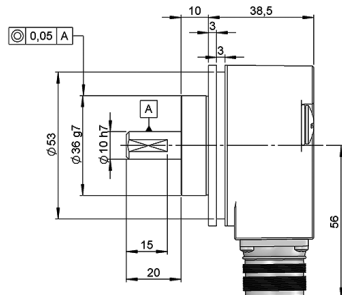
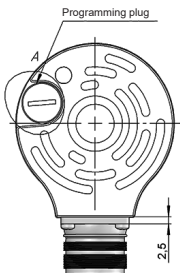
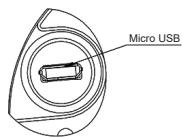


90.9508



90.9508
M12 8p
male panel
counter clockwise

Connection 3
Radial 90.9512



90.9512



90.9512
M23 12p
male panel
counter clockwise