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 Ø 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**

SHAFT	ØA	B	C	D
1	10	20	15	9.5
2	6	10	7.5	5.5

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 -	☐	☐	C	☐	C -	C	.☐☐☐☐
	1. Ø 10x20 mm **2.** Ø 6x10 mm	**1. None** **3.** 90.1102 **5.** 90.1005 (*)	**C.** AÃ+BB̃+0Õ	**1. Helicoidal cable** **2.** Radial M12 8p CCW **3.** Radial M23 12p CCW	**C.** 5...30 VDC / HTL - TTL	**C.** 1...65536	
			CONFIGURABLE ● CW / CCW ● Z 90° and 180° ● Z position of 0...360°		CONFIGURABLE ● Electronic output HTL / TTL	CONFIGURABLE	

Order your reference
Step file 3D
info@hohner-elektrotechnik.de
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: 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)
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*	Tipical: 45 mA Max: 150 mA	Tipical: 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 of 400mA (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	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

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:

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.hohner-elektrotechnik.de

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

Connection 3
Radial
M23 12p
male panel
counter clockwise

Female connector
95.0007137

PRE-ASSEMBLED CABLES

89.003.02.047.xx

length

Cable 3x2x0,14+2x0,34
Female connector
M12 8p CW

89.010.02.015.xx

length

Cable 3x2x0,14+2x0,34
Female connector
M23 12p CW