

Encoder Installation Manual

B58N Ceramics

Hollow shaft encoder for ceramic press application



Date: June 19th of 2026

Description

The B58N encoder was developed for the ceramic segment, addressing the harsh environment on ceramic tiles presses. This encoder line has resolution from 1 to 10,000 PPR, HTL output, and A, B, and Z signals, it delivers precision and reliability in a compact 58 mm format and IP67 protection (cover and shaft). Available with cable output or side connector, it easily adapts to different machine configurations.

Key Features

- Hollow shaft with integrated coupling, ensuring quick assembly
- IP67 protection on both encoder sides
- Built to resist environments with high levels of dust
- Simplified installation
- Incremental optical encoder technology

Important Installation Information

Encoder Assembly: Before Installation, ensure power is disconnected from encoder and motor or machine. Not doing so, may damage the encoder.

Warning: The loads applied to the encoder shaft must be in accordance with the specifications of this device.

Important Wiring Instructions: Use of shielded cable is recommended for all encoder installations. The shield should be connected to signal ground at the receiving device only.

Grounding: For applications with high ground potential differences, DO NOT ground the encoder through both machine and controls end. Connect the shield at the controls end only. NOTE: If the shield is connected at both ends, grounding problems that degrade system performance can result.

CE Grounding Measures: For best EMC immunity the cable screen must be grounded on both encoder and controls end. For cable lengths longer than 30m or outdoor applications, additional measures must be implemented to comply with CE requirements. Connection of the encoder to DC power supply network is prohibited if CE compliance is required. CE-compliant products are tested to EN61326-1 EMC.

In all cases, system CE compliance is ultimately the responsibility of the manufacturer integrating the encoder.

Wiring should be run through dedicated conduits or harnesses (not shared with any other wiring) which are spaced at least 12 inches apart. This protects the cable from physical damage while providing a degree of electrical isolation. Also, do not run cable near other conductors which carry current to heavy loads such as motors, motor starters, contactors, or solenoids. Doing so could result in electrical transients in the encoder cable which causes undesired signal pulses. To determine which cable assembly to order, refer to the Electrical Connections table (in the encoder's technical datasheet).

Warning: Unused encoder signal wires must be individually insulated and under no circumstances be in contact with ground, voltage sources, or other signal lines.

Mechanical Installation

A. General Overview

The following instructions are meant to assist in proper installation of Hengstler-Dynapar brand, Series B58N Ceramic encoders. The encoder is a speed and position transducer that when mounted to a rotating shaft, produces output pulses that are directly proportional to the shaft speed and direction.

The hollow shaft encoder is attached to the motor shaft by using an integrated coupling and screw at rear end. The B58N can accommodate several machine shaft diameters by selecting the appropriate bore size. During installation, certain physical properties associated with the mechanical coupling must be observed to ensure a long operation life of the encoder.

B. Shaft Extension

Solid shaft preferred, keyway allowed; flatted shaft must not be used. The maximum shaft engagement length that will allow support to encoder housing is 20mm.

C. Coupling Point

Coupling diameter on the machine must have 50mm F7, with three equidistant holes at 67mm diameter. The minimum depth of the coupling should be 4mm. The encoder must be fixed with fixing clamps at its flange.

STEP 1: PREPARATION AND RECOMMENDED TOOLS

Disconnect power from equipment and encoder cable. Ensure that you have the proper tools. Typical tools that may be needed depending on the options chosen are:

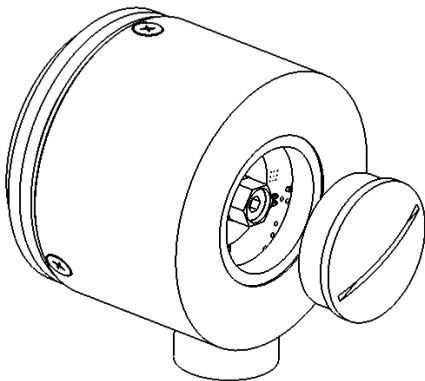
- Flathead screwdriver
- Hex screwdriver 3mm
- Hex socket or Bolt-Through Socket Wrench size 8
- Torque wrench

STEP 2: CHECK AND CLEAN THE MATING SHAFT

Ensure that the mating shaft is within proper tolerances. Recommended mating shaft diameter tolerances should be nominal g6 (-25µm, -9µm).

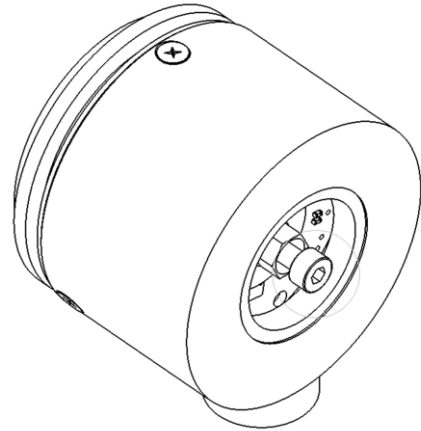
Clean the mating shaft of any burrs or dust particles.

STEP 3: UNSCREW THE PG PLUG



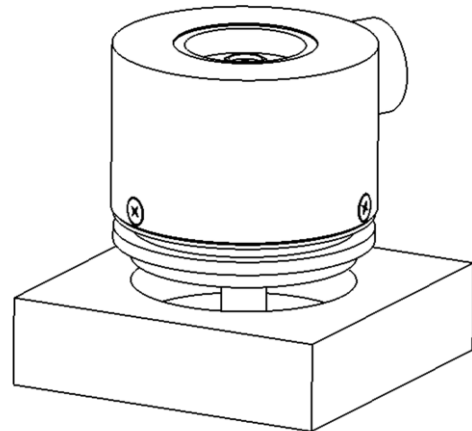
The encoder is shipped with an PG plug to cover the back end of the encoder body, and to protect the shaft's fixing screw. To remove the PG plug, use a flathead screwdriver. Do not use power tools to work on the encoder fitting.

STEP 4: LOOSEN M4 SCREW AND OPEN COUPLING



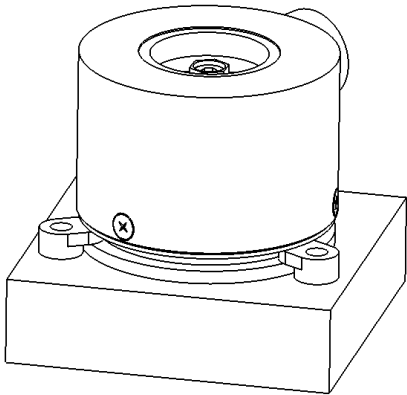
Hold the outer hex screw on the shaft with a hex socket or wrench, to avoid spinning. Then, use a hex screwdriver to loosen the M4 screw on the encoder back side. This will loosen the shaft coupling on the application side.

STEP 5: MOUNT THE ENCODER ON THE SHAFT



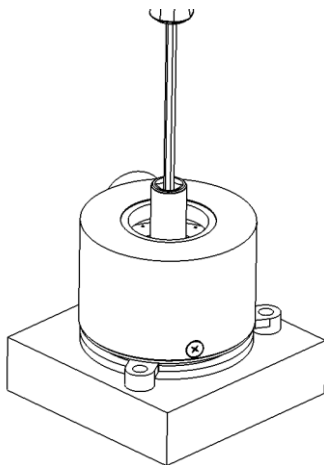
Mount the encoder's hollow shaft on the machine's shaft. Check the o'ring is located properly in the channel in the flange, this ensures the proper IP protection rate on the shaft side.

STEP 6: FIX THE CLAMPS ON ENCODER FLANGE



Fix the encoder on the machine by fixing clamps (sold separately) by the encoder's synchro flange. Tighten the screws on the mounting clamps to lock the encoder in place.

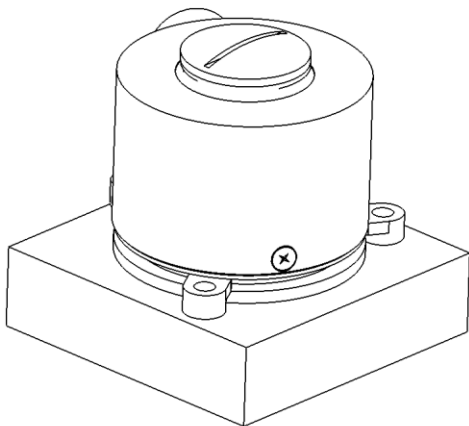
STEP 7: TIGHTEN M4 SCREW ON SHAFT



Tighten the M4 screw on the shaft at the back side of the encoder, use a hex screwdriver. The recommended torque is 3Nm.

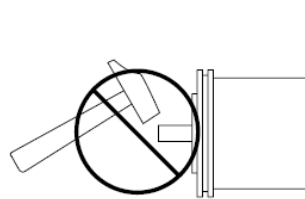
STEP 8: CLOSE PG PLUG

Close the PG plug on the back, check if the plug's o'ring is in place to ensure correct IP protection levels. Use a flathead screwdriver to tighten the PG plug by hand.

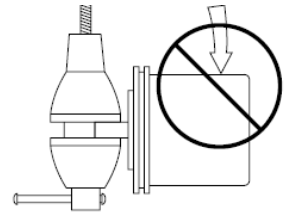


D. General Guidelines

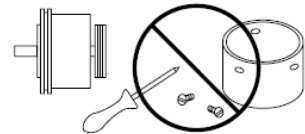
Encoders provide quality measurements and long life when common sense, care, and accurate alignments are provided during installation. The following general guidelines will help to ensure a trouble-free installation.



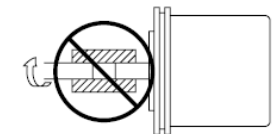
Do not shock the encoder.



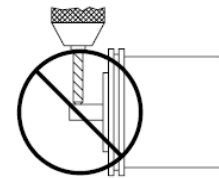
Do not subject the encoder to axial or radial shaft stresses.



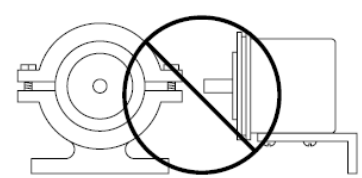
Do not disassemble the encoder.



Do not use a rigid coupling.



Do not tool the encoder or its shaft.



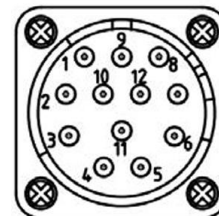
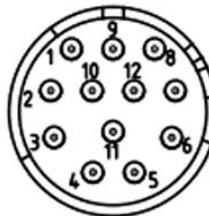
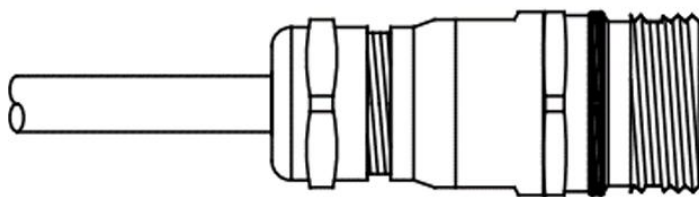
Do not use makeshift techniques to mount the encoder.

Electrical Connections

Connectors CONIN M23, 12 pins Code R and no plug option 0

The pin number and the cables' colours are shown as reference. Find below the combination of connection outputs.

Encoder Function	Connector R – 12 pin, M23 external thread, CCW	Connector 0 – Cable outlet
	Pin	Wire Colour
Signal B-	1	ORANGE / WHITE
-	2	-
Signal Z+	3	YELLOW
Signal Z-	4	YELLOW / WHITE
Singal A+	5	BROWN
Signal A-	6	BROWN / WHITE
-	7	-
Signal B+	8	ORANGE
Case	9	GREEN
GND	10	BLACK
-	11	-
+VCC	12	RED



Notes

Cable configuration: PVC insulation, 105°C class, totally shielded
Standard cable length of 1,5m, any other length can be requested
Other connectors can be quoted

Technical drawing of a mechanical component, showing four views: front, side, top, and bottom. The drawing includes various dimensions and a cross-section view.

Dimensions:

- Overall diameter: $\phi 58$
- Overall length: 49
- Internal diameter (top view): $\phi 10$
- Internal diameter (side view): $\phi 55$
- Internal diameter (bottom view): $\phi 44$
- Internal diameter (cross-section): $\phi 50$
- Internal diameter (cross-section): $\phi 48$
- Internal diameter (cross-section): $\phi 44$
- Internal diameter (cross-section): $\phi 40$
- Internal diameter (cross-section): $\phi 36$
- Internal diameter (cross-section): $\phi 32$
- Internal diameter (cross-section): $\phi 28$
- Internal diameter (cross-section): $\phi 24$
- Internal diameter (cross-section): $\phi 20$
- Internal diameter (cross-section): $\phi 16$
- Internal diameter (cross-section): $\phi 12$
- Internal diameter (cross-section): $\phi 8$
- Internal diameter (cross-section): $\phi 4$
- Internal diameter (cross-section): $\phi 0$

Other features:

- Thread: M4
- Surface finish: H7
- Material: 21,00

©2026 Dynapar. All rights reserved. Specifications subject to change without notice.