

GB Assembly Instructions

**G110H
G110S
Incremental Encoder**

9-16



Danger
Warnings of possible danger.



General instructions
Information on appropriate product handling.



General remarks

Additional information

The installation instruction is supplementary to already existing documentation (e.g. catalog, data sheet, manual).



It is imperative to read the manual carefully prior to starting the device.

Appropriate use

- The encoder is a precision measuring device. It is explicitly designed for registration of angular positions and revolutions as well as evaluation and supply of measuring values as electric output signals for the subsequently connected device. The encoder must not be used for any other purpose.

Start up

- Installation and assembly of the encoder only by electrically skilled and qualified personnel.
- Consider also the operation manual of the machine manufacturer.

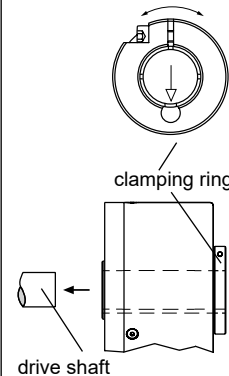


Safety instructions

- All electrical connections are to be revised prior to starting the system.
- Incorrect assembly and electrical connections or any other inappropriate work at encoder and system may lead to malfunction or failure of the encoder.
- Any risk of personal injury, damage of the system or company equipment due to failure or malfunction of the encoder has to be eliminated by corresponding safety measures.
- Do not operate encoder beyond the limit values stated in the data sheet.



Any disregard may lead to malfunctions, material damage and personal injury.



Disposal

Encoder components are to be disposed of according to the regulations prevailing in the respective country.



Transport and storing

- In original packing only.
- Do not drop or expose encoder to major shocks.

Assembly

- Open clamping ring completely before mounting the encoder.
- Avoid punches or shocks on case and shaft.
- Avoid case distortion.
- Do not open or modify encoder in any mechanical way.
- The spring arm of the spring coupling has to be free movable.



Hollow shaft, bearing, glass disc or electronic components might be damaged and a secure operation is no longer guaranteed.

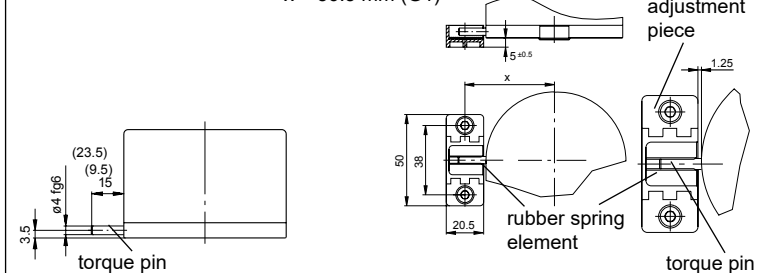
Mounting

Mounting with clamping ring
Plug encoder completely onto drive shaft (ISO-fit g7). End shaft: Depth of immersion 42 mm. Position of the clamping ring has to be set properly to the hollow shaft slot (see drawing) and tighten clamping ring firmly.

Mechanical assembly

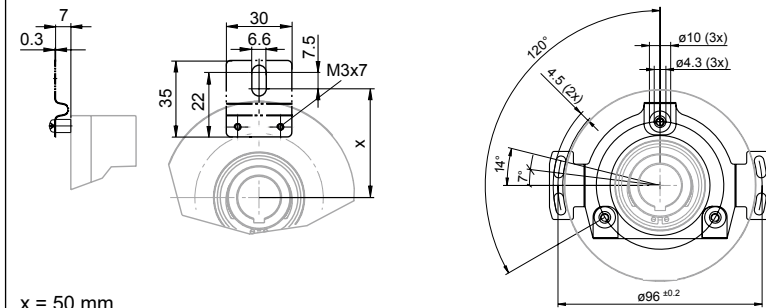
Slide encoder onto the drive shaft and insert torque pin into the adjusting element provided by customer or insert pin into the mounted adjusting part (with rubber spring element) provided by customer.

x = 56.5 mm (G1)



Spring coupling

Fasten spring coupling at the fixing holes provided on housing by means of screws. Slide encoder onto the drive shaft and fasten spring coupling at the surface provided with screws.



Starting torque

Spring coupling mounting M3 max. 1.2 Nm / M4 max. 1.9 Nm

Clamping ring mounting M5 max. 6 Nm



All movable adjusting elements need tolerance in both axial and radial direction in order to equalize shifts by temperature and of mechanical nature. Tighten both fixing and clamping ring screws firmly. The spring coupling is not allowed to have any contact to the encoder or motor except on the mounting point.

Electrical installation

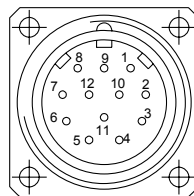
- Do not modify encoder in any electrical way and carry out any wiring work under power supply.
- Any electrical connection and plugging-on whilst under power supply is not permitted.
- A separate encoder supply has to be provided with consumers with high interference emission.
- Installation of the whole system has to be according to EMC standards. Installation environment as well as wiring have an impact on the encoder's EMC. Encoder and supplying lines are to be in separated locations or remote from lines with high interference emission (frequency transformers, protections, etc.).
- Encoder case and supply cable have to be completely screened.
- Ground (PE) encoder by using screened cables. The braided shield has to be connected to cable gland or plug. Grounding (PE) on both sides is recommended. Ground the case by the mechanical assembly, if latter is electrically isolated a second connection has to be provided. Ground cable screen by the subsequently connected devices. In case of ground loop problems at least grounding on one side is imperative.
- Any outputs not used must not be connected. Unused cable cores have to be isolated. Max. allowed bending radius of cable: 90 mm



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Output drivers: With the operating voltage switched off, do not apply voltage to the outputs (track) (danger of permanent damage). The ends of output connecting cables should be terminated with a terminating resistor, otherwise the output drivers will be overloaded as a result of output reflections.



Connection – connector M23

Whilst not connected, the plug is always to be sealed by the plastic cover provided by the manufacturer upon delivery. Appropriate mating connectors available as spare part or with different cable length, please refer to accessories. In case of customer-specific length use only screened cable and connectors corresponding to EMC standards. Consider the wiring instructions of the respective supplier.

- Press mating connector softly onto the plug.
- Turn mating connector until the code-mark is interlocking the corresponding space provided by plug.
- Insert bushing completely.

Tighten the nut as far as possible

Terminal assignment

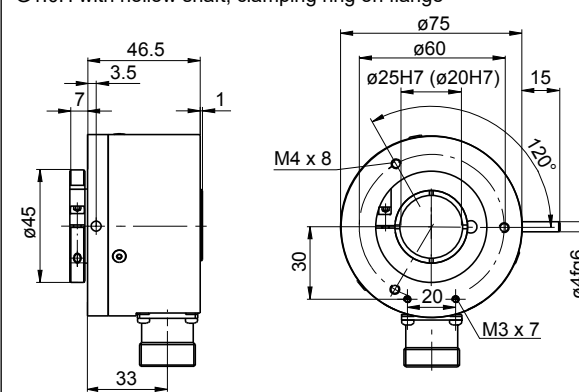
Connector	Assignment
Pin 1	Track B inv.
Pin 2	UB-Sense
Pin 3	Track N (zero puls)
Pin 4	Track N inv. (zero puls inv.)
Pin 5	Track A
Pin 6	Track A inv.
Pin 7	-
Pin 8	Track B
Pin 9	-
Pin 10	GND
Pin 11	GND-Sense
Pin 12	UB



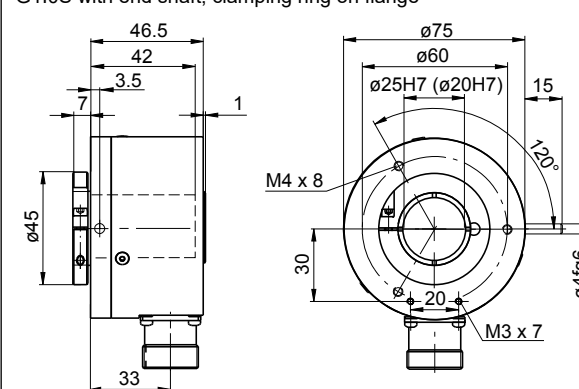
An optimized connection between encoder case and the braided shield of the connection cable is only achieved by the braided shield being placed generously onto the connector and the nut being secured firmly. Please use cores twisted in pairs (for example track A/track A inv.) for extension cables of more than 10 m length.

Dimensions

G110H with hollow shaft, clamping ring on flange



G110S with end shaft, clamping ring on flange



G110H with hollow shaft, clamping ring on housing

