GVS 608 F – FANUC $\alpha i/\alpha$ Interface

Datasheet

General Features

Linear optical measuring system based on a high quality glass scale with optical scaling, particularly suitable for CNC machine tools.

- Serial interfaces FANUC $\alpha i/\alpha$.
- Resolutions up to 0.01 µm.
- Accuracy grade up to ± 2 µm.
- Innovative device inside the scale for the disposal of liquids coming from inefficient filtering systems.
- Adjustable connecting cable output.
- Connector incorporated into the transducer.
- Direct reading of absolute measure.
- Small size, to allow installation in narrow spaces.

Technical Characteristics

Measuring support Grating pitch Linear thermal expansion coefficient	Glass scale 20 µm 8 x 10^{-6} °C^{-1}
Serial interface	FANUC αi- FANUC α
Resolution absolute measure	1 µm – 0.1 µm- 0.01 µm
Accuracy grade	±5 µm * standard version ±3 µm * high-accuracy version (±2 µm for lengths up to 720 mm)
Measuring length ML in mm	70, 120, 170, 220, 270, 320, 370, 420, 470, 520, 570, 620, 720, 770, 820, 920, 1020, 1140, 1240, 1340, 1440, 1540, 1640, 1740, 1840, 2040, 2240, 2440, 2640, 2840, 3040, 3240 (max. Measuring length)
Max. traversing speed	120 m/min
Max. acceleration	30 m/s^2
Required moving force	≤ 2.5 N
Vibration resistance (EN 60068-2-6)	100 m/ s^2 [55 ÷ 2000 Hz]
Shock resistance (EN 60068-2-27)	150 m/s^2 [11 ms]
Protection class (EN 60529)	IP 54 standard IP 64 pressurized
Operating temperature	0 °C ÷ 50 °C
Storage temperature	-20 °C ÷ 70 °C
Relative humidity	20% ÷ 80% (not condensed)
Reading block sliding	by ball bearings ◎
Power supply	5 VDC ± 5%
Current consumption	300 mA_{MAX}
Power supply	5 VDC ±5%
Max. cable length	30 m **
Connector	inside the transducer
Electrical protections	inversion of polarity and short circuits
Weight	435 g + 1290 g/m (per m measuring length)

* The declared accuracy grade of ±X µm is referred to a measuring length of 1 m.

* * Ensuring a minimum power supply voltage of 5 V to the transducer.

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Electrical Characteristics

- Reading device with an infra-red light emitter and receiving photodiodes.
- Serial interface FANUC αi.
- Electrical protection against polarity inversion and short circuits on output ports.

Cable

GVS 608 F absolute optical scale is at INTERFACE FANUC αi supplied with a 7-wire shielded cable, ∅ = 7.4 mm, PUR external sheath, suitable for continuous movements.
Conductors section:
- Power supply: 0.50 mm²
- Signals: 0.18 mm²
- Connector: CU1 PCR 15 Pin
-

GVS 608 F absolute optical scale is at INTERFACE FANUC α supplied with a 8-wire shielded cable, ∅ = 7.4 mm, PUR external sheath, suitable for continuous movements.
Conductors section:
- Power supply: 0.50 mm²
- Signals: 0.18 mm²
- Connector: CY8 PCR 20 Pin

Notice
The cable's bending radius should not be lower than 80 mm.

Mechanical Characteristics

- Rugged and heavy PROFILE made of anodized aluminum.
- Dimensions 40 x 24 mm.
- Elastic COUPLING for misalignment compensation and self-correction of mechanical hysteresis. Backlash error <0.2 µm.
- Non-extendible SEALING LIPS along the sliding side of the reader head, fixed at the lateral ends.
- Pressurizable READER HEAD, consisting of tie rod and reading block, with fully-protected place for electronic boards.
- READING BLOCK sliding through ball bearings.
- Die-cast TIE ROD, with nickel surface treatment.
- Absolute GLASS GRATING placed in the scale housing.
- Elastomeric GASKETS which allow to reproduce the full protection in mechanical joints (in case of disassembling).
- Full possibility to disassemble and reassemble it.
- Possibility of direct service.

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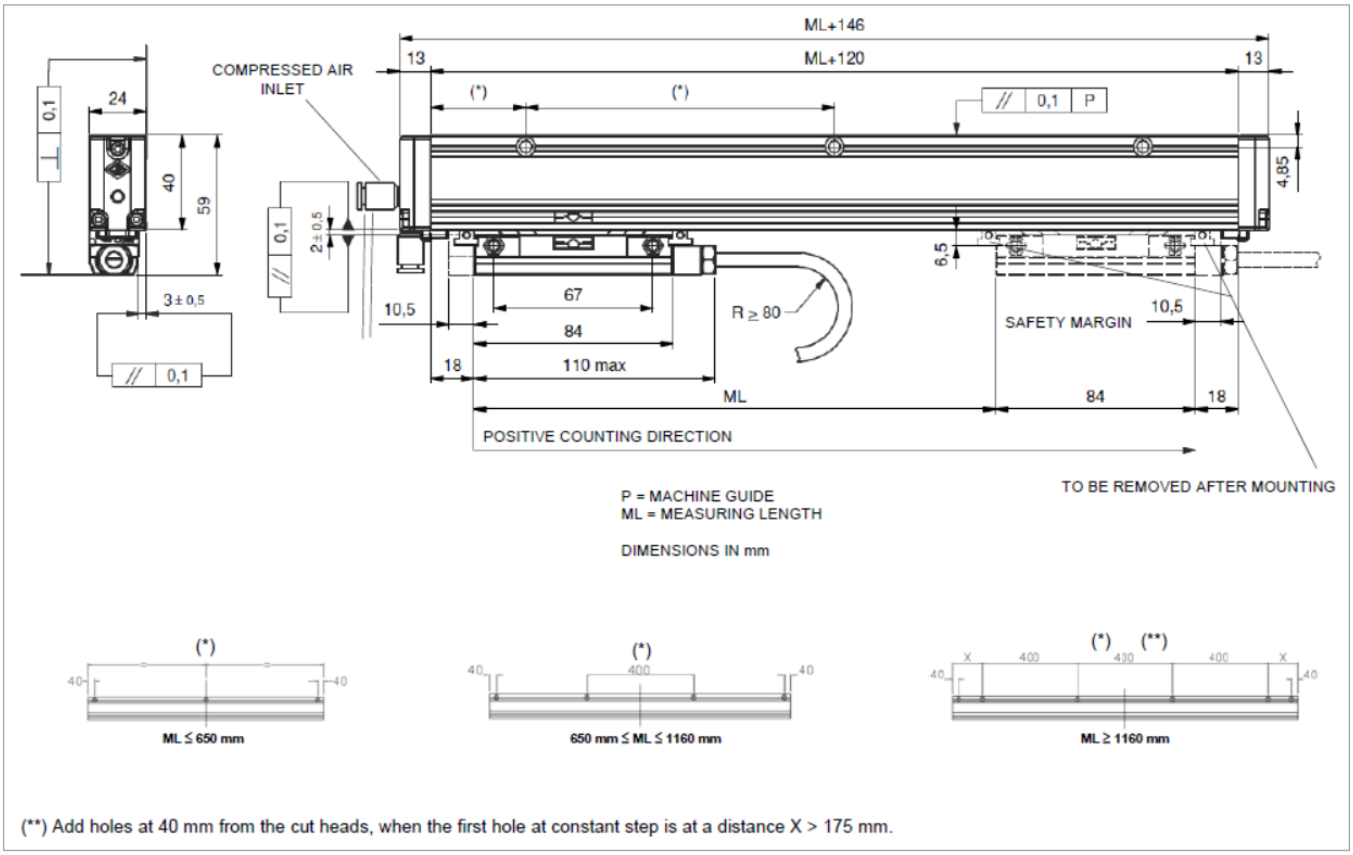
Dimensions



(**) Add holes at 40 mm from the cut heads, when the first hole at constant step is at a distance X > 175 mm.

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Ordering Code

FANUC

Type	GVS608	-	F1A	-	03240	-	V	-	F1	-	M04/F1	-	CU1	-	PR

Resolution
F1 = 1 µm
F01 = 0.1 µm
F001 = 0.01 µm
A = absolute

Measuring length
xxxxx = length in mm
03240 = 3240 mm (max. measuring length)

Power supply
V = 5 VDC

Output signal
F1 = FANUC αi
F2 = FANUC α

Cable length
Mxx = length in m
M04 = 4 m
30 = 30 m

Cable type
F1 = 7-wire shielded cable
F2 = 8-wire shielded cable

Connector, wiring
CU1 = connector FANUC αi
CY8 = connector FANUC α

Option
X = no specifications (standard)
SPxx = special version (on request)
PR = pressurized

Without prior notice, the products may be subject to modifications that the Manufacturer reserves to introduce as deemed necessary for their improvement.

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