

Serial interface Fanuc α - αi



FANUC

General features

- Absolute optical scale, available in a single piece or in modular version for large machines (up to 30040 mm of measuring length or higher on request).
- Application in various industrial fields such as machine tools, vertical lathes, gantry machines, laser/plasma cutting machines, robotics, automation, etc.
- Stainless steel grating, integral with the machine guide, for an excellent accuracy at any temperature.
- Fanuc α - αi serial interface. Direct reading of absolute measure.
- Resolutions up to 0.1 μm . Accuracy grade $\pm 5 \mu\text{m}$.
- Rigidly bound modules, for a perfect seal against liquids and environmental dirt, unaltered over time.
- Adjustable cable output, through double connector.
- Wide alignment tolerances. Pressurization from both sides of the scale and/or of the transducer.


Mechanical characteristics

- Rugged and heavy profile made of anodized aluminum.
- Dimensions 50 x 58.5 mm.
- Spring system for misalignment compensation and self-correction of mechanical hysteresis.
- 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.
- Stainless steel grating protected by the scale housing.
- Gaskets between modules for a full protection in mechanical joints.
- Full possibility to disassemble and reassemble it.

Electrical characteristics

- Connector on the transducer, easily disconnectable in case of need.
- Reading devices with light emitter and an array of receiving photodiodes.
- Electrical protection against polarity inversion and short circuits on output ports.
- Serial interface Fanuc α - αi .

Technical characteristics

Measuring support	stainless steel grating	
Grating pitch	240 µm	
Linear thermal expansion coefficient	$10.6 \times 10^{-6} \text{ } ^\circ\text{C}^{-1}$	
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Resolution absolute measure	1 µm - 0.1 µm	
Accuracy grade	±5 µm *	
Measuring length ML in mm	640 up to 30040 mm with steps of 200 mm modules length: 1200, 1400, 1600, 1800, 2000 mm	
Max. traversing speed	120 m/min	
Max. acceleration	30 m/s ²	
Required moving force	≤ 15 N	
Vibration resistance (EN 60068-2-6)	≤ 100 m/ s ² [55 ÷ 2000 Hz]	
Shock resistance (EN 60068-2-27)	≤ 300 m/s ² [11 ms]	
Protection class (EN 60529)	IP 53 standard IP 64 pressurized (on request)	
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	280 mA _{MAX} (with R = 120 Ω)	
Max. cable length	30 m **	
Electrical connections	see related table	
Connector	in the transducer, with adjustable output	
Electrical protections	inversion of polarity and short circuits	
Weight	1.7 kg + 3.5 kg/m (per m measuring length)	

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

** Longer cable lengths are available on request.

Cable

Serial interface Fanuc αi version

GVS 908F absolute optical scale is supplied with a **7-wire shielded cable**, Ø = 7.4 mm, PUR external sheath, with low friction coefficient, oil-resistant and suitable for continuous movements and a CU1 PCR 15-Pin connector.

Conductors section:

- power supply: 0.50 mm²
- signals: 0.18 mm²

Notice

The cable's bending radius should not be lower than 80 mm.
The cable is suitable for continuous movements.

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Serial interface Fanuc α version

GVS 908F absolute optical scale is supplied with a **8-wire shielded cable**, Ø = 7.4 mm, PUR external sheath, with low friction coefficient, oil-resistant and suitable for continuous movements and a CY8 PCR 20-Pin connector.

Conductors section:

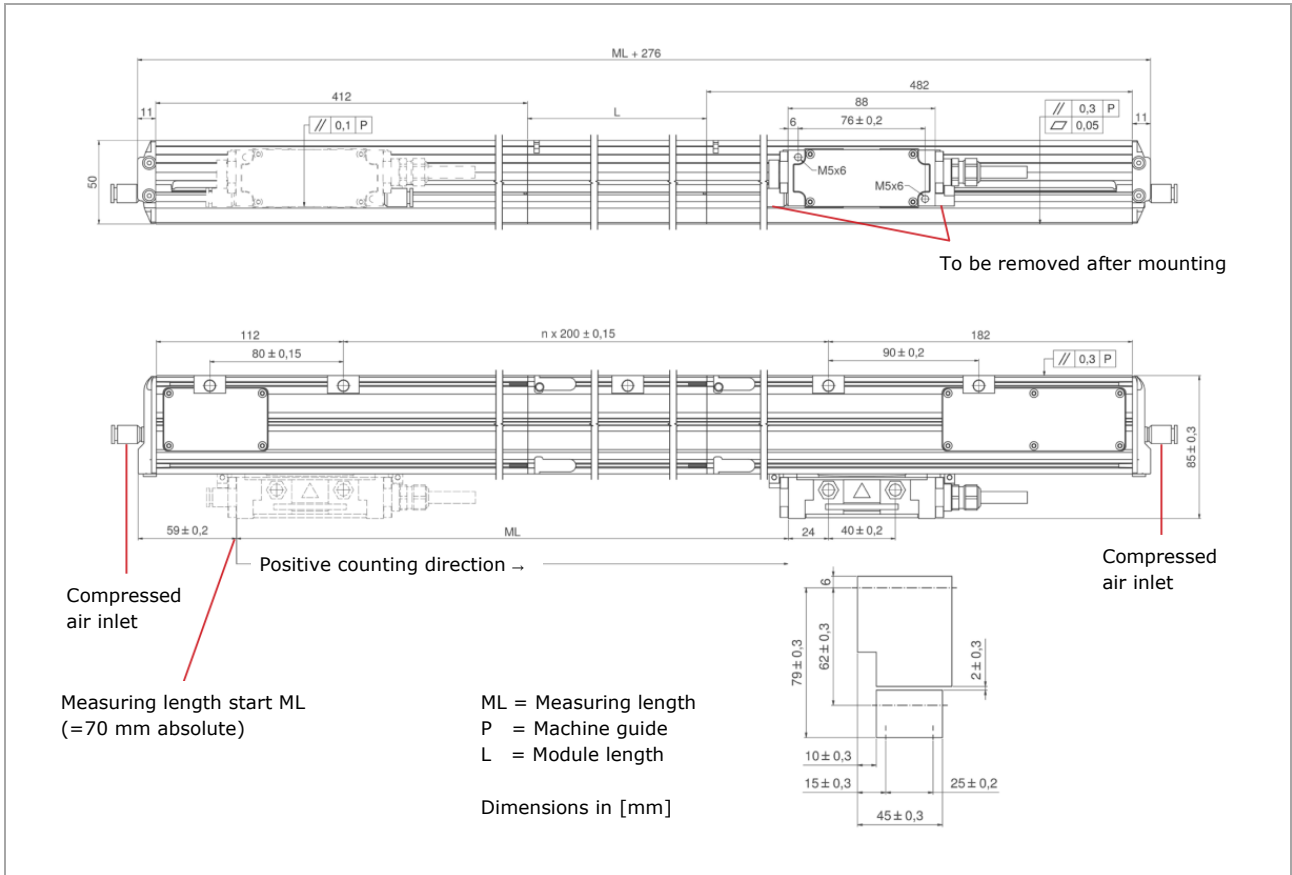
- power supply: 0.50 mm²
- signals: 0.18 mm²

Notice

The cable's bending radius should not be lower than 80 mm.
The cable is suitable for continuous movements.

Datasheet

Dimensions



Datasheet

Ordering example

Type **GVS 908** - **F1A** - **03240** - **05V** - **F1** - **M04/F1** - **CU1** - PR

Scale type, resolution

F1 = 1 μm
F01 = 0.1 μm
A = absolute

Measuring length

03240 = 3240 mm
30040 = 30040 mm (max. measuring length)

Power supply

05V = 5 VDC

Output signals

F1 = FANUC α
F2 = FANUC α

Cable length

Mxx = length in m
M04 = 4 m (standard)
M50 = 50 m

Cable type

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

Connector

CU1 = FANUC α i connector
CY8 = FANUC α connector

Option

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

Manufacturer:  **GIVI MISURE**

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