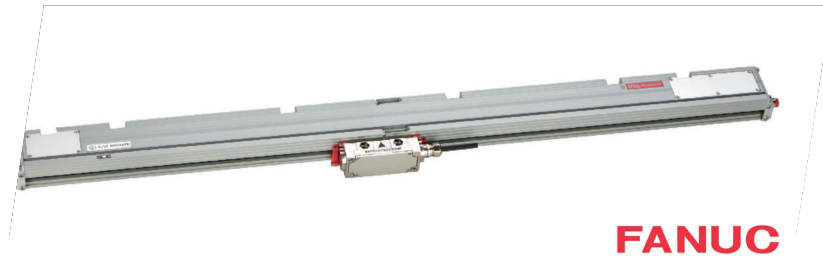




code **ST02** project **A72-A** release **B**

## GENERAL FEATURES

- Absolute optical scale, available in a single piece or in modular version for large machines (up to 30040 mm of measuring length).
- 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 ± 5 μm.
- 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.

### Cod. GVS 908

### F

<b>Measuring support</b>	stainless steel grating
- Grating pitch	240 μm
- Linear thermal expansion coefficient	10.6 x 10 <sup>-6</sup> °C <sup>-1</sup> 
<b>Serial interface</b>	FANUC α-αi
<b>Resolution absolute measure</b>	1 - 0.1 μm
<b>Accuracy grade</b>	± 5 μm *
<b>Measuring length ML in mm</b>	from 640 mm to 30040 mm, with steps of 200 mm Modules length: 1200, 1400, 1600, 1800, 2000 mm
<b>Max. traversing speed</b>	120 m/min
<b>Max. acceleration</b>	30 m/s <sup>2</sup>
<b>Required moving force</b>	≤ 15 N
<b>Vibration resistance (EN 60068-2-6)</b>	≤ 100 m/s <sup>2</sup> [55 ÷ 2000 Hz]
<b>Shock resistance (EN 60068-2-27)</b>	≤ 300 m/s <sup>2</sup> [11 ms]
<b>Protection class (EN 60529)</b>	IP 53 standard IP 64 pressurized
<b>Operating temperature</b>	0 °C ÷ 50 °C
<b>Storage temperature</b>	-20 °C ÷ 70 °C
<b>Relative humidity</b>	20% ÷ 80% (not condensed)
<b>Reading block sliding</b>	by ball bearings 
<b>Power supply</b>	5 Vdc ± 5%
<b>Current consumption</b>	280 mA <sub>MAX</sub> (with R = 120 Ω)
<b>Max. cable length</b>	30 m **
<b>Connector</b>	on the transducer, with adjustable output
<b>Electrical protections</b>	inversion of polarity and short circuits
<b>Weight</b>	1.7 kg + 3.5 kg/m

\* The declared accuracy grade of ± X μm is referred to a measuring length of 1 m.  
\*\* Longer cable lengths are available on request.

## MECHANICAL CHARACTERISTICS

- Rugged and heavy **PROFILE** made of anodized aluminum. Dimensions 50x58.5 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.
- Absolute 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.
- Possibility of direct **SERVICE**.

## ELECTRICAL CHARACTERISTICS

- Connector on the transducer, easily disconnectable in case of need.
- Reading device with an infra-red light emitter and receiving photodiodes.
- Serial interface FANUC α-αi.
- Electrical protection against polarity inversion and short circuits on output ports.
- PUR cable with low friction coefficient, resistant to oil and suitable for continuous movements.

### SERIAL INTERFACE FANUC αi

- 7-wire shielded cable  $\phi = 7.4$  mm, PUR external sheath, CU1 PCR 15-Pin connector.
- Conductors section:  
power supply 0.50 mm<sup>2</sup>;  
signals 0.18 mm<sup>2</sup>.

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

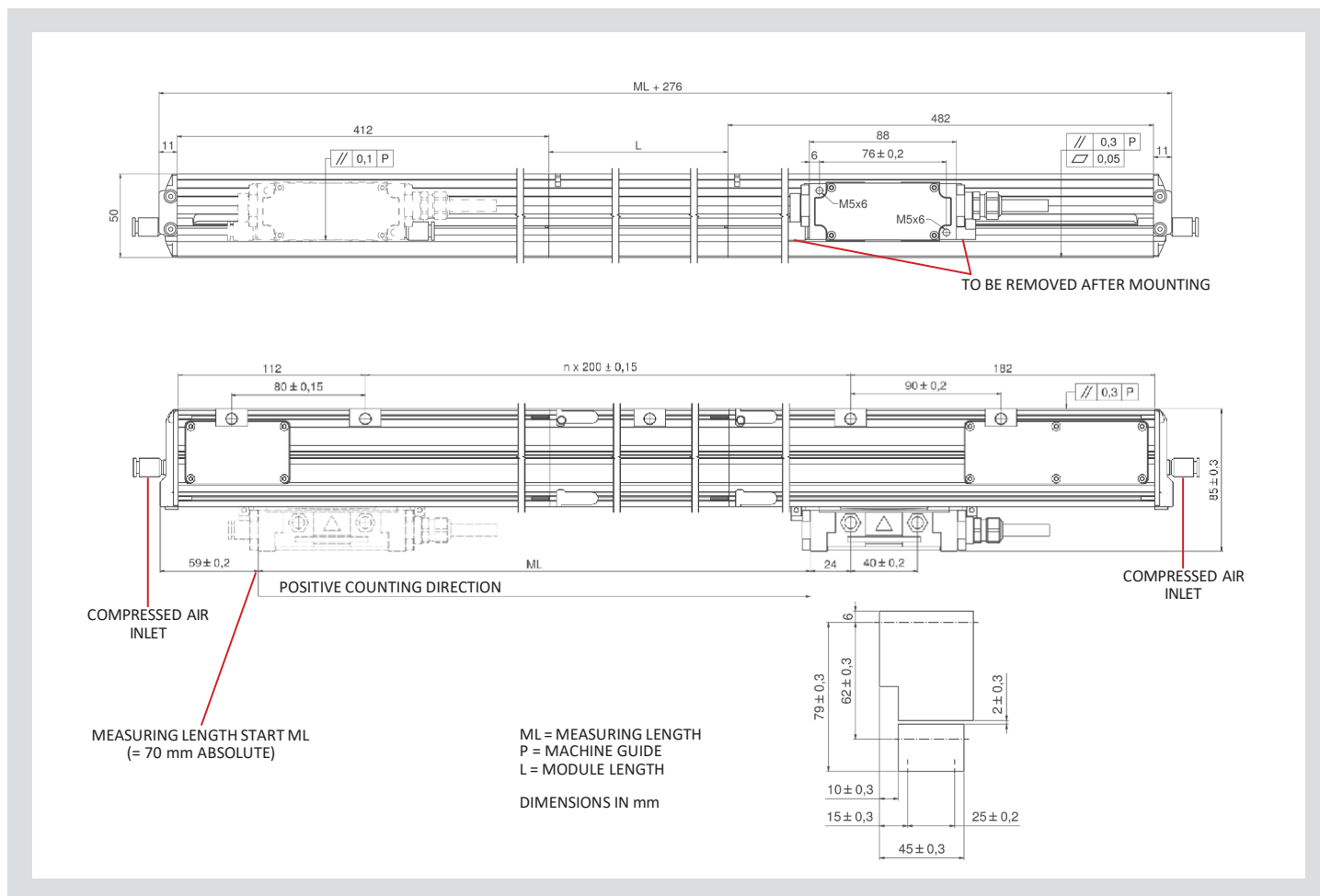
### SERIAL INTERFACE FANUC α

- 8-wire shielded cable  $\phi = 7.4$  mm, PUR external sheath, CY8 PCR 20-Pin connector.
- Conductors section:  
power supply 0.50 mm<sup>2</sup>;  
signals 0.18 mm<sup>2</sup>.

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

code **ST02** | project **A72-A** | release **B**

### DIMENSIONS



### ORDERING CODE

Example OPTICAL SCALE **GVS 908 F1A 03240 V F1 M04/F1 CU1 PR**

Model	Scale type, resolution	Measuring length	Power supply	Output signals	Cable length, cable type	Connector, wiring	Special, pressurization
GVS 908	F1 = 1 $\mu$ m F01 = 0.1 $\mu$ m A = absolute	Measuring length in mm 03240 = ML 30040 = ML <sub>MAX</sub>	V = 5 Vdc	F1 = FANUC αi F2 = FANUC α	Mnn = length in m M04 = 4 m M10 = 10 m F1 = 7 wires F2 = 8 wires	CU1 = FANUC αi connector CY8 = FANUC α connector	No cod. = standard SPnn = special nn PR = pressurized

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