

Code ST02	Project A55-A	Release B	TECHNICAL DATASHEET
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ABSOLUTE OPTICAL SCALE GVS 608 F - FANUC α i INTERFACE

GENERAL FEATURES

- Absolute optical scale with glass measuring support, FANUC α i interface.
- Resolutions up to 0.1 μ m. Accuracy grade up to $\pm 1 \mu$ m.
- 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.



MECHANICAL AND ELECTRICAL CHARACTERISTICS

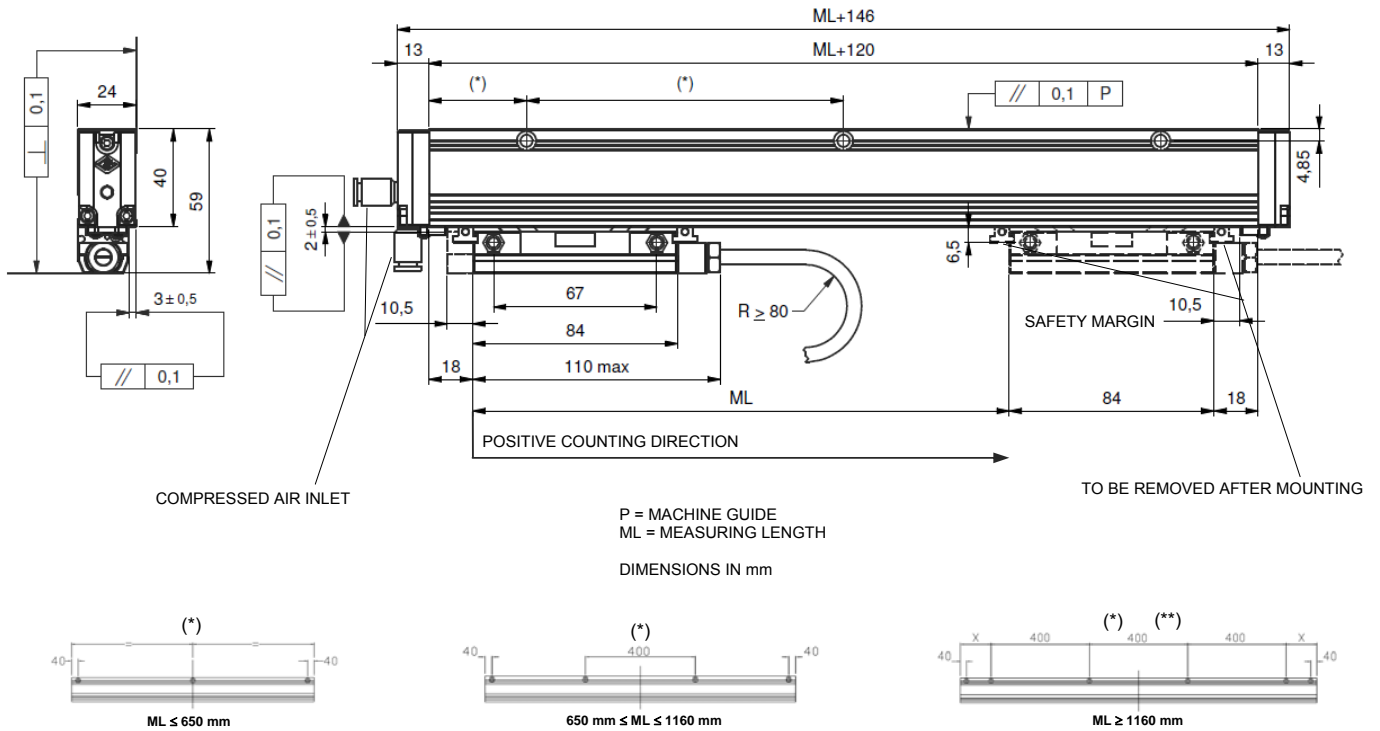
	Cod. GVS 608	F	
MECHANICAL <ul style="list-style-type: none"> • Rugged and heavy PROFILE made of anodized aluminium. Dimensions 40x24 mm. • Elastic COUPLING for misalignment compensation and self-correction of mechanical hysteresis. Backlash error <math><0.2 \mu\text{m}</math>. • Non-extendible SEALING LIPS along the sliding side of the reader head, fixed at the lateral ends. • 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. ELECTRICAL <ul style="list-style-type: none"> • 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. • <u>CABLE</u>: <ul style="list-style-type: none"> - 7-wire shielded cable $\varnothing = 7.4$ mm, PUR external sheath. - Conductors section: <ul style="list-style-type: none"> - power supply 0.50 mm²; - signals 0.18 mm². - Connector PCR 15 Pin (cod. A02B – 0120 – K303). - The cable is suitable for continuous movements. - The cable's bending radius should not be lower than 80 mm. 	Measuring support glass scale		
	Grating pitch	20 μ m	
	Linear thermal expansion coefficient	$8 \times 10^{-6} \text{ } ^\circ\text{C}^{-1}$	
	Serial interface	FANUC α i	
	Resolution absolute measure	1 μ m – 0.1 μ m	
	Accuracy grade	$\pm 3 \mu$ m * standard version $\pm 1 \mu$ m * high-accuracy version	
	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}	
	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 \div 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 $^\circ\text{C} \div 50 \text{ } ^\circ\text{C}$	
Storage temperature	-20 $^\circ\text{C} \div 70 \text{ } ^\circ\text{C}$		
Relative humidity	20% \div 80% (not condensed)		
Reading block sliding	by ball bearings \odot		
Power supply	5 Vdc $\pm 5\%$		
Current consumption	300 mA _{MAX}		
Max. cable length	50 m **		
Connector	inside the transducer		
Electrical protections	inversion of polarity and short circuits		
Weight	435 g + 1290 g/m		

* The declared accuracy grade of $\pm X \mu$ m 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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DIMENSIONS



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

ORDERING CODE

MODEL	SCALE TYPE, RESOLUTION	MEASURING LENGTH	POWER SUPPLY	OUTPUT SIGNALS	CABLE LENGTH, CABLE TYPE	CONNECTOR, WIRING	SPECIAL, PRESSURIZATION
GVS 608	F1A	03240	V	F1	M04 / F1	CU1	PR
	F1 = 1 μm F01 = 0.1 μm A = absolute	Length in mm 03240 = ML _{MAX}		F1 = FANUC αi	Mnn = length in m M04 = 4 m 50 = 50 m F1 = 7 wires	CU1 = connector FANUC αi	No cod. = standard SPnn = special nn PR = pressurized

Example  **ABSOLUTE OPTICAL SCALE GVS 608 F1A 03240 V F1 M04/F1 CU1 PR**