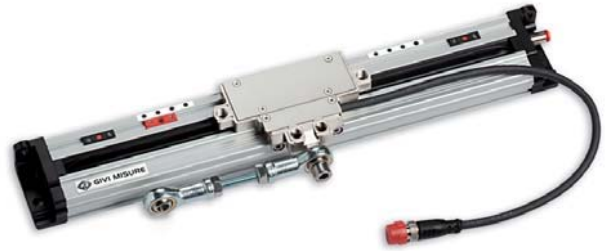


Code ST02	Project A50-A	Release C	TECHNICAL DATASHEET
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INCREMENTAL OPTICAL SCALE GVS 200

GENERAL FEATURES

- Optical scale with glass measuring support (grating pitch 20 µm). Particularly suitable for synchronized press brakes.
- Reader head guided by a self-aligned and self-cleaning sliding carriage with spring system.
- Resolutions up to 0,1 µm. Accuracy grade up to ± 1 µm.
- Adjustable cable output.
- Reference indexes at coded distance or selectable every 10 mm along the entire measuring length, with Zero Magneto Set device.
- The adjustable cable output and the selectable zero references make the scale **SYMMETRIC** and applicable, in the same version, to both columns of the press brake.
- Various possibilities of application, with double-effect joint or steel wire.
- Option: safety limit switches, positionable at both ends.



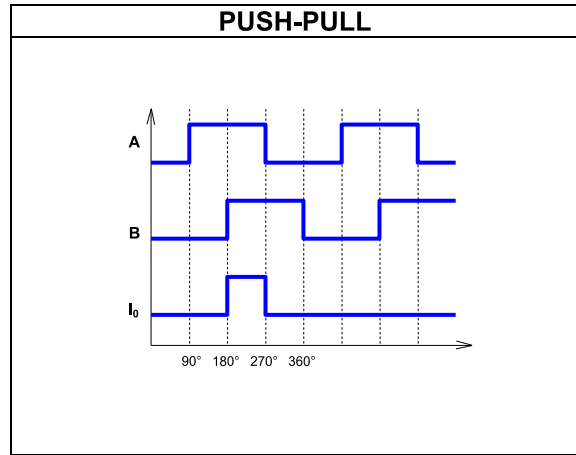
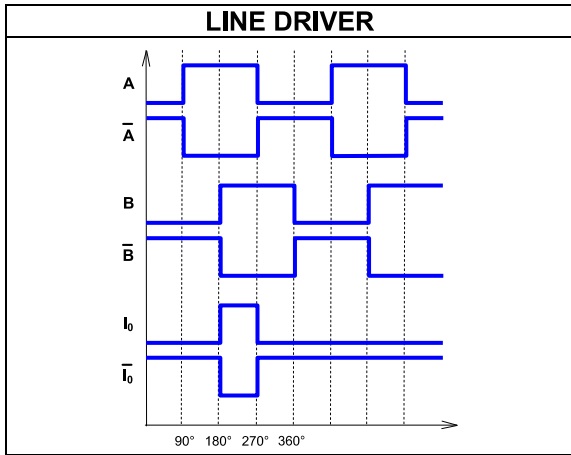
MECHANICAL AND ELECTRICAL CHARACTERISTICS

MECHANICAL <ul style="list-style-type: none"> • Rugged and heavy PROFILE, made of anodized aluminium. Dimensions 55x28 mm. • Elastic COUPLING for misalignment compensation and self-correction of mechanical hysteresis. Backlash error <0.2 µm. • SEALING LIPS for the protection of the grating, made of special elastomer resistant to oil and wearing. Special self-blocking profile. • READER HEAD, consisting of tie rod and reading block, with fully protected place for electronic boards. • CARRIAGE guided by ball bearings with gothic arch profile sliding on tempered and grinded guides, to guarantee the system accuracy and the absence of wearing. • Die-cast TIE ROD, with nickel-plating surface treatment. • GLASS SCALE placed in the scale housing. • Elastomeric GASKETS which allow to reproduce the full protection in mechanical joints (in case of disassembling). • Adjustable CABLE output. • Various possibilities of application, with double-effect joint or steel wire. GV-PB adapter guarantees the compatibility with scale mod. PBS-HR. • Full possibility to disassemble and reassemble the scale. • Possibility of direct service. ELECTRICAL <ul style="list-style-type: none"> • Reading device with an infra-red light emitter and receiving photodiodes. • A and B output signals with phase displacement of 90° (electrical). • Reference indexes at coded distance or selectable every 10 mm. • CABLE: <ul style="list-style-type: none"> - 8-wire shielded cable Ø = 6.1 mm, PUR external sheath. - Conductors section: power supply 0,35 mm²; signals 0,14 mm². <p>The cable's bending radius should not be lower than 80 mm. The cable is suitable for continuous movements.</p>	Cod. GVS	200
	Measuring support glass scale Grating pitch 20 µm  Thermal expansion coefficient 8 x 10 ⁻⁶ °C ⁻¹	
Reference indexes (I₀)		E = selectable (every 10 mm) C = coded distance
Resolution		5 - 1 - 0.5 - 0.1 µm
Accuracy grade		± 2.5 µm standard version ± 1 µm high-accuracy version
Measuring length ML in mm		170, 220, 270, 320, 370, 420, 470, 520, 570, 620, 720, ...
Max. traversing speed		120 m/min *
Max. acceleration		30 m/s ²
Required moving force		≤ 1.5 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)
Carriage sliding		by ball bearings ⊗
Power supply		5 Vdc ± 5% or 10 ÷ 28 Vdc ± 5%
Current consumption		140 mA _{MAX} (with R = 120 Ω) 5 Vdc 100 mA _{MAX} (with R = 1200 Ω) 10 ÷ 28 Vdc
A, B and I₀ output signals		LINE DRIVER  PUSH-PULL
Max. cable length		25 m ***
Electrical connections		see related table
Electrical protections		inversion of polarity and short circuits
Weight		900 g + 1850 g/m

* With a 0.5 µm resolution, the maximum traversing speed becomes 80 m/min.
 With a 0.1 µm resolution, the maximum traversing speed becomes 40 m/min.
 ** Pressurization set up on request.
 *** Ensuring the required power supply voltage to the transducer, the maximum cable length can be extended to 100 m.

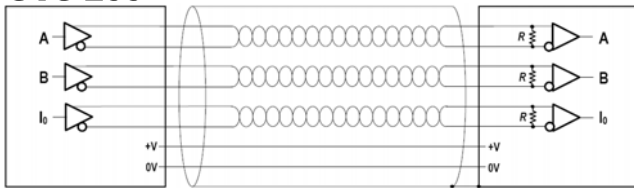
Code ST02	Project A50-A	Release C	TECHNICAL DATASHEET
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OUTPUT SIGNALS



CABLE

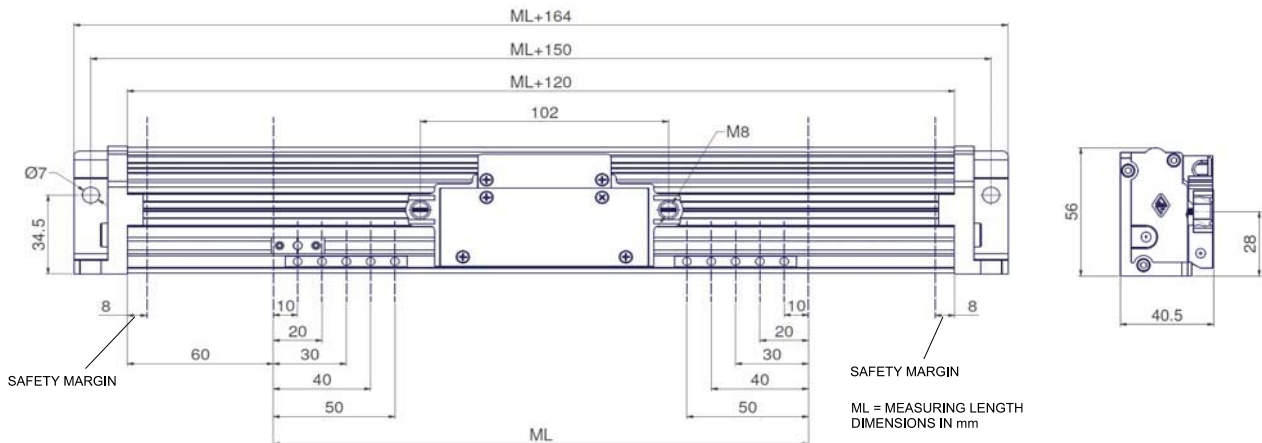
GVS 200



In case of cable extension, it is necessary to guarantee:

- the electrical connection between the body of the connectors and the cables shield;
- the required power supply to the transducer.

DIMENSIONS



GV-PB adapter provided for the interchangeability with scale mod. PBS-HR.

ORDERING CODE

MODEL	SCALE TYPE, RESOLUTION, INDEX	MEASURING LENGTH	POWER SUPPLY, OUTPUT SIGNALS	CABLE LENGTH, CABLE TYPE	CONNECTOR WIRING	LIMIT SWITCH OPTION	SPECIAL PRESSURIZATION
GVS 200	T 5 E	0270	05V L	M0.5 / S	CG1	A	PR

T = TTL
 5 = 5 µm
 1 = 1 µm
 05 = 0.5 µm
 01 = 0.1 µm
 C = indexes at coded distance
 E = selectable indexes

Length in mm
 0270 = 270 mm

05V = 5 Vdc
 1028V = 10 + 28 Vdc
 L = LINE DRIVER
 Q = PUSH-PULL

Mnn = length in m
 M0.5 = 0.5 m (standard)
 100 = 100 m
 S = PUR cable for continuous movements

Cnn = progressive

No cod. = standard
 A = OC NPN NC
 B = OC NPN NO
 C = OC PNP NC
 D = OC PNP NO
 E = TTL active low
 F = TTL active high

No cod. = standard
 SPnn = special nn
 PR = pressurized

Example **INCREMENTAL OPTICAL SCALE GVS200 T5E 0270 05VL M0.5/S CG1 A PR**