metal linear scales

software & hardware

ROM 50

Up to 6 m.

ROM 300

Modular ... up to 30 m.

Resolution (mm) 0.1 0.01 0.05 0.001

- metal linear scales
- easy mounting
- double lip protection
- wide range of accessories

METALLIC OPTICAL SCALES

The philosophy of using metal in the field of optical scales gives the following advantages:

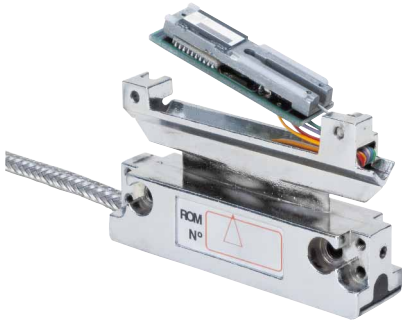
- Unbreakable inner metallic scale
- Highly resistant to vibrations
- High precision, similar to glass scales
- No joints within the inner scale for any length
- More mounting systems thanks to the reflection reading method of the inner scale
- Same temperature coefficient as machine tool
- The standard version has the zero point engraved every 100mm on the scale for a faster and more precise relocation. On request, the zero point car be marked in the middle, at both edges, and by indicating a measure, anywhere on the scale.

ROM50

ROM 50

universal

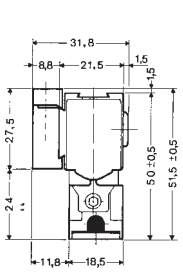
It's the universal model for applications on machine tools and automation. Different mounting solutions, small size, large mounting tolerances make ROM50 the ideal product for retrofit of lathes, milling machines, grinding machines, X-Y tables, etc...

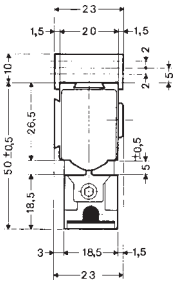


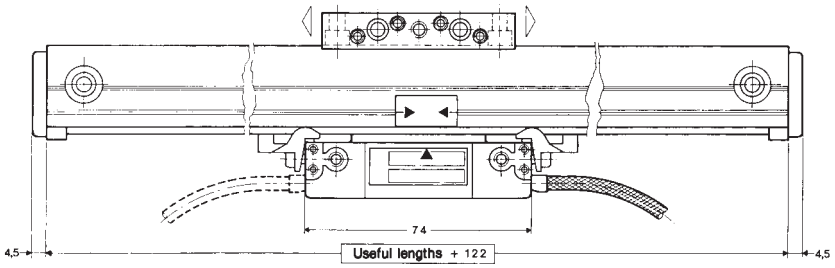
ROM 50 G

guided

It's a special version of ROM50 model: the head is guided internally and it is connected to the carriage by a joint in such a way that relative movements between the machine and the head are possible: this situation is typical for instance on the press brake machines.

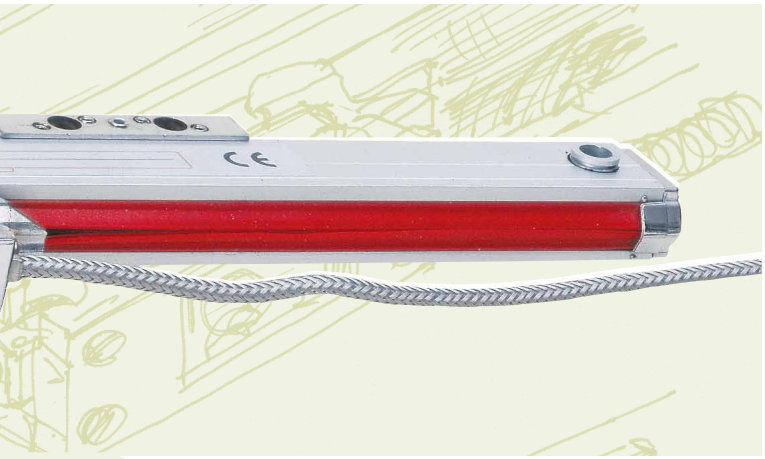






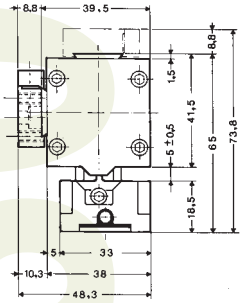
TECHNICAL FEATURES

Linear scale	Inox steel with high precision grid created by means of chemical etching
Scale holder	anodized aluminum alloy
Reading elements	fototransistor
Lighting elements	Infra-red LEDs
Zero signal	Standard- every 100 mm Optional: at the center or at the edges
Output signals	Two square wave signals or sinusoidal
Temp. Coefficient	$90^{o} \pm 10^{o}$ 11.5 o / m ^{o}C
Power supply	+5V ±5 % (standard) +12V ±10 % (optional)
Power consumption	60 mA (standard) - 120 mA (line driver-sinus)
Weight	0.6 Kg/m (ROM 50) 2,2 Kg/m (ROM 300)
Max channels' reading speed	resolution mm 0.1 | 0.01 | 0.005 | 0.001 speed m/min 120 | 90 | 60 | 60
Zero ref reading speed	15 m/min
Cable	Protected against hot chips, 4 m long (standard) or more (optional)
Resolution	mm 0.1 | 0.01 | 0.005 | 0.001 um/m ±5 | ±5 | ±5 | ±5 (global precision 20^{o}/C)
Protection	IP 53(standard) or better (optional)

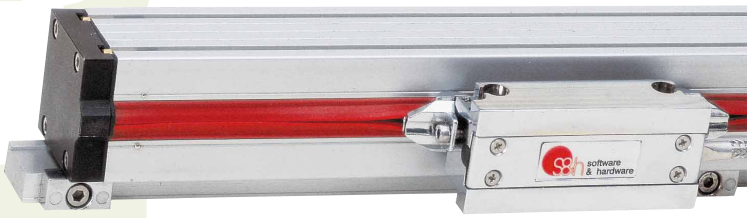


ROM 300

modular



This is the ideal solution for longer lengths; the modularity of sections means that the max length of sections is 3.5 m. No more trans-partition problems! The internal graduated band for any length is supplied in a unique section without joints for maximum precision. ROM300 can be supplied in any length on request up to 30 m. The individual length of the modules to be assembled are 250/500/1000/3000 mm



THE KIT CONSISTS OF:

- slide guide band
- lip seals
- guide band seals
- screened and armored cable
- headers complete with seals, set screws, grab screws
- guide band seal
- fast mounting tool
- torque wrench
- transducer complete with extension connector (plug and socket)
- scale section in 250/500/1000/3000 mm length complete with dovetail, set screws, connection screws, intermediate seal; assortment of various lengths at user's choice
- graduated band with 0.1, 0.01, 0.005 mm resolution
- videocassette with mounting instructions

ENVIRONMENTAL SPECIFICATIONS

Temperature	0 ... +50 °C
Storage temperature	-20 ... +70 °C
Humidity	95 %
Error report certificate	on request

OUTPUT STAGES

RC	Standard	NPN Transistor with internal pull-up resistor (3.3 K ohm)
OC	Option	open collector
LTD	Option	line driver 26 LS 31
SIN	Option	sinusoidal signal 1V PP

ROM: SPECIAL FEATURES

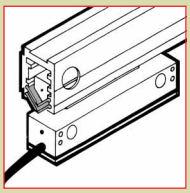


Fig.1
Double gasket with differentiated fastening:
the scale is more protected from entry of external substances. It is designed so that during the head movements one of the two gaskets is always closed.

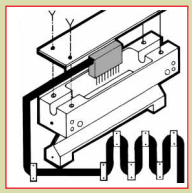


Fig.2
Removable connector within the head:
it is not required to remove the cables, already fastened to the machine, when taking down

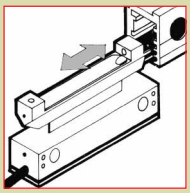


Fig. 3
Removable head:
in every mounting system it is always possible to remove the head from one of the ends without having to take down the scale.

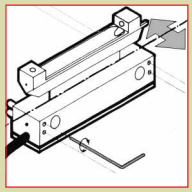


Fig. 4
Head control:
in order to get perfect alignment with the scale the head can be adjusted both at the front and from behind.

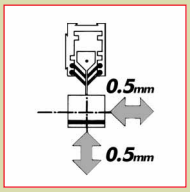


Fig. 5
Mounting tolerance:
The head has a mounting tolerance of 0.5 mm.

ROM: MOUNTING SYSTEM

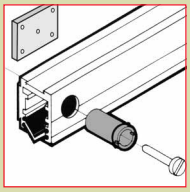


Fig.6
Fixing at the edges
For useful lengths up to 1 m, the support wall can be drilled and threaded through the scale when this has been already positioned because it is perfectly protected and waterproof.

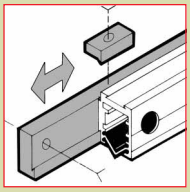


Fig.7
Fixing by means of a dovetail support
A relevant dovetail bar is aligned (by means of the appropriate dowels which adjust the defects of the support plane) and locks on the support wall. The scale is fixed on the dovetail support at its front, and the alignment is done automatically.

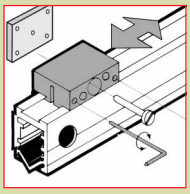


Fig.8
Fixing the gliding supports
The scale is locked on the support wall by means of relevant blocks which can be fastened at any point along the top side of the scale. The wall imperfections can be adjusted by means of relevant dowels on the blocks.

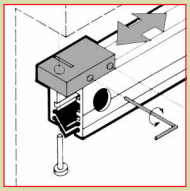


Fig.9
Fixing the hanging scale
In this case two blocks, which protrude laterally from the scale, are used to produce a vertical fixing.

For an easier mounting, some useful aids are provided (see on the back)

ROM

ORDER CODE

ROM [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

MODEL
ROM 50
ROM 50G
ROM 300

RESOLUTION
10 Resolution 0.1 mm
100 resolution 0.01 mm
200 resolution 0.05 mm
1000 resolution 0.001 mm

USEFUL LENGTH
Length in mm

CABLE LENGTH
S Standard length (4 m)
XX length on request (xx m)

CONNECTOR
U not ended cable (standard)
C ended cable with connector
DIN 09 0325 00 07 (standard)
DIN 09 03 10012 (option LTD)
V D SUB 9 pin connector
H 9 pin Heid. type circular connector

ZERO-REF SIGNAL
Z1 Every 100 mm (standard)
Z2 in the middle (option)
Z3 2 zeros: at xx mm distance from the end of each side (option)
Z4 1 zero at xx distance from the left end (option)
S without zero (option)

POWER SUPPLY
5V Power supply = 5V
12V power supply = 12V

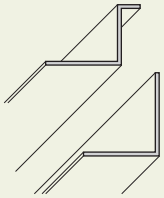
OUTPUT STAGE
RC NPN transistor (standard)
OC open collector (option)
LTD 26LS31 (option output with 12 pin connector (DIN 09 03 10012 model)
SIN sinus signal 1V PP (optional)

ROM

ACCESSORIES

VISOSIN/3
3 channel converter from sinus signals to square waves; multiply factor- x1, x2, x5
Input: 11pA or IV PP - connector: Heid. type
Output: 5V squared, Line Driver - connector D SUB 9 pins

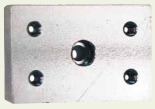
VISOSIN/1
single channel converter from sine signals to square waves;
multiply factor: x1, x2, x5



Al guards

Interface Cables
between VISOSIN and the most common standard equipment (CNQ DROs, PLC)

Chasing tools
for holding holes positioning



Universal mounting /aligning plate

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