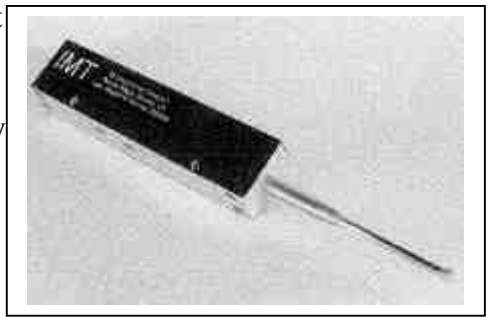
Type MS50PB Measuring Gauge

Precision Made
High Resolution
TTL/RS422 Outputs
Plain Bearing
Low Cost



The Measuring Gauge MS50PB is a precision instrument for measurements within the range of 0 – 50mm.
It is used for single length measurement of components, or within multi-gauge measurement fixtures in metrology applications on the shop floor and measurement centres. MS50PB is also used on NC machines for position read-out with X-Y tables. In addition, MS50 serves as a position encoder for use in various applications such as automated production machinery and high precision test stations. It also has uses in robotic applications.

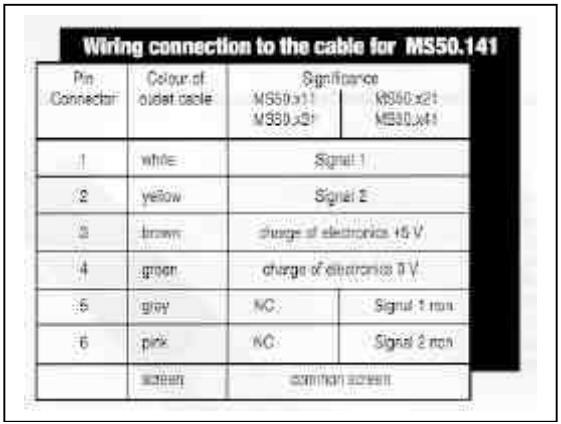
These encoders have a scale period of 40 µm with integrated interpolation electronics to give an output resolution of 10 µm with an accuracy of +/-1 measuring step. High resolution is the result of precise manufacture using mechanical components engineered to very high accuracy with all moving parts running in precision machined bearings.

MS50.x11 - output TTL – cable 1m, 4 core
MS50.x21 - output by line driver, cable 1m 6 core.
MS50.x31 - output TTL - connector 4 pins
negation
MS50.x41 – output by line driver, connector 7 pins
negation

OUTPUT SIGNALS
MS50.x11 - 2 signals (1,2) displaced phase 90°
MS50.x31 " "
MS50.x21 - " " +
MS50.x41 - " " +

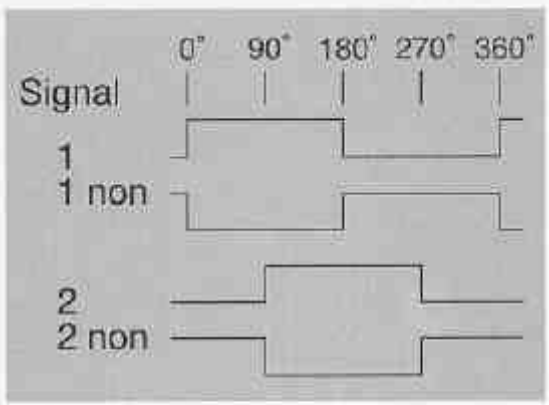
Mechanical Data

Measuring range	50 mm min.
Measuring step	10 µm
Measuring tip	Carbide ball 2.5m dia
Measuring position	Fully extended
Gauging force	0.3 ÷ 0.8N
Measuring speed	2 m/s max. 8N +/-2N
Weight of moving parts	20g
Maximum radial force	0.2N
Weight	0.2 kg



Wiring connection to the cable for MS50.141

Pin Connector	Colour of outlet cable	Significance MS50.x11 MS50.x31	Significance MS50.x21 MS50.x41
1	white	Signal 1	
2	yellow	Signal 2	
3	brown	charge of electronics +5 V	
4	green	charge of electronics 0 V	
5	grey	NC	Signal 1 non
6	pink	NC	Signal 2 non
	screen	common screen	

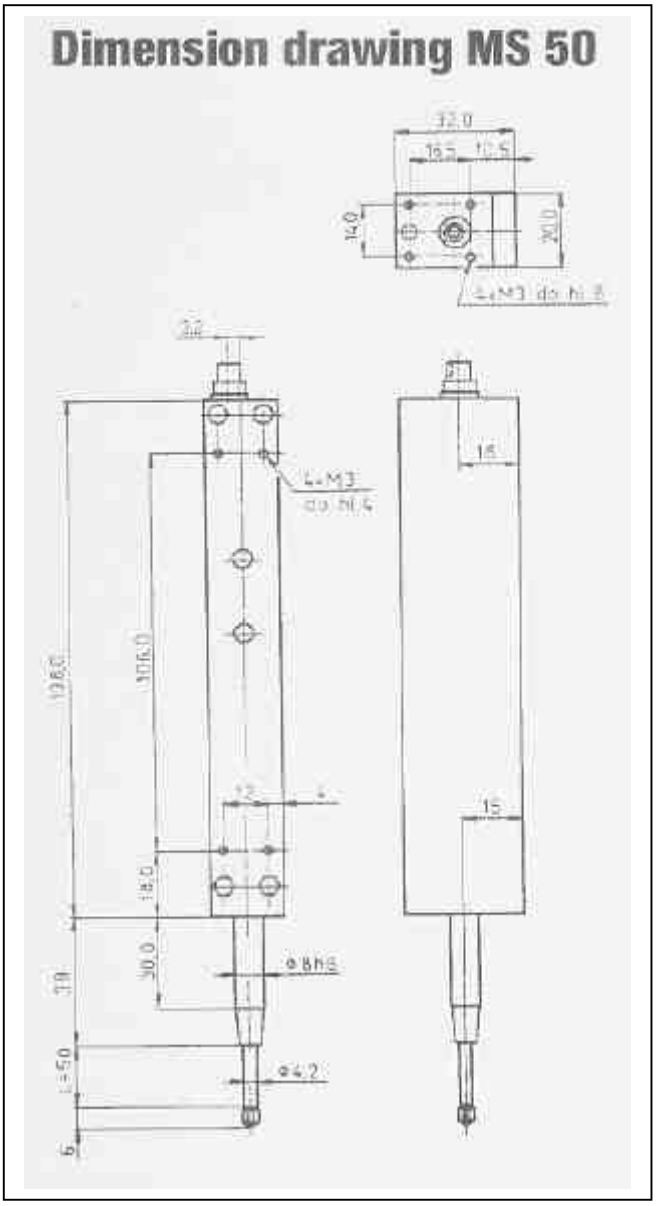


Maximum phase/angle electrical signal motion tolerance 1 and 2

Speed	Phase tolerance
up to 1 m/s	±30 %
up to 2 m/s	±60 %

Type identification MS xx x xx

Type MS50----------xx|
Restoring spring – yes = 1, no = 2----------x
Output 11, 21, 31, 41 ----------x x



Working conditions

Operating temperature	0 - +60 ° C
Humidity - relative	95% max.
- absolute	40 g.m ¨³ max.

Atmosphere without aggressive gases.

Optical rasters

Period of raster	40 µm
Tolerance	+/-5 µm/50mm

Mounting

Mounting as for standard dial indicator by 8h6 or by four screws M3 located on the head and side of the gauge. Alternative ball tips can be fitted by screw thread M2.5

Technical data

Type	Supply voltage	Frequency max.	Supply current	Output signals level	Protec-tion	Cable lenght to sub-sequent electronics	Output circuit
x 11, x 31	+5 V_{dc} ±5 %	100 kHz	max. 50 mA	High = min. 2,5 V (+3 mA) Low = max. 0,4 (-20 mA)	IP 40	3 m	TTL
x 21, x 41				High = min. 2,5 V (+20 mA) Low = max. 0,4V (-20 mA)		20 m	LB

(Recommended line receiver for MS50 x 21 and MS50 x 41 – AM26LS32, MC3486)