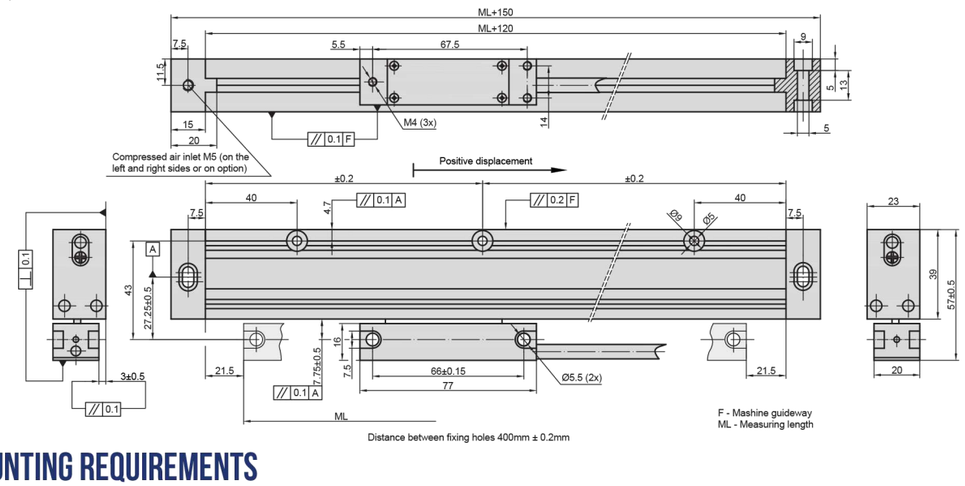
PHOTOELECTRIC LINEAR ENCODER

L23

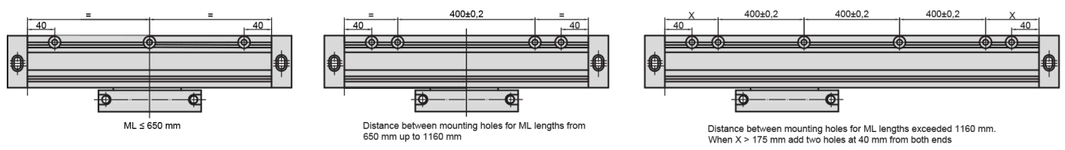
Distance Coded reference mark

Modular

Photoelectric modular linear encoder L23 can have up to 20.000 mm measuring length or even more on special order and is able reach up to ±5 µm accuracy.



MOUNTING REQUIREMENTS

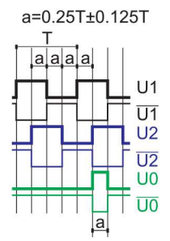


MECHANICAL DATA

Measuring lengths (ML), mm	250, 300, 350, 400, 450, 500...20000 (in modular version for ML over 6500 mm or for lower ML on request)
Accuracy grades to any metre within the ML (at 20°C)	±5
Max. traversing speed: - when resolution is 100, 50, 10, 5, 2, 1 µm - when resolution is 0.2 µm - when resolution is 0.1 µm	 120 m/min 60 m/min 30 m/min
Reference marks (RI): - N - M - P	 without reference mark; every 30 mm; RI number and place on option
Coefficient of thermal expansion	$10.6x10^{-6}$ °C
Required moving force	< 4 N

Protection (IEC 529) -without compressed air -with compressed air	 IP54 IP64
Weight	0.4 kg + 1.3 kg/m
Operating temperature	0...+50°C
Storage temperature	-20...+70°C
Permissible vibration (10...2000 Hz)	≤ 100 m/s^2
Permissible shock (11 ms)	≤ 150 m/s^2
Coefficient of thermal expansion	$10.6x10^{-6}$ °C
Max. acceleration	30 m/s^2
Relative humidity	20...80% (not condensed)

ELECTRICAL DATA

Version	L23-F ⊓⊔ TTL
Supply voltage (U_p)	+5V±5%/ 140 mA; +(10...28V)±5%
Light source	LED
Resolution	100, 50; 10; 5; 1; 0.5 µm (after 4-fold in subsequent electronics)
Incremental signals	Differential square-wave U1/U1 and U2/U2
Reference signal	Differential square-wave U0/U0
Signal levels at load current 20 mA:	- low (logic "0") < 0.5 V at Up=+5V - high (logic "1") > 2.4 V at Up=+5V - low (logic "0") < 1.5 V at Up=+12V (HTL) - high (logic "1")>(Up-2) V at Up=+12V (HTL)
Direction of signals	U2 lags U1 (displacement from left to right and head position down)
Standard cable length	4 m armoured, without connector
Maximum cable length	100 m
Output signals	

Note: If cable extension is used the power supply conductor section should not be smaller than 0.35 mm^2.

ACCESSORIES

CONNECTORS FOR CABLE	B12 12-pin round connector	C9 9-pin round connector	C12 12-pin round connector	D9 9-pin flat connector	D15 15-pin flat connector	RS10 10-pin round connector	ONC 10-pin round connector
DIGITAL READOUT DEVICES	CS3000				CS5500		

ORDER FORM

L23 - X1 - X2 - X3 - X4 - X5 - X6/X7

Resolution (X1):	Measuring length (X2):	Reference marks (X3):	Supply Voltage (X4):	Compressed air (X5):	Cable (armoured) length (X6):	Connector type (X7):
F01 - TTL 0.1µm **F02** - TTL 0.2µm **F05** - TTL 0.5µm **F10** - TTL 1µm **F50** - TTL 5µm **F100** - TTL 10µm **F500** - TTL 50µm **F1000** - TTL 100µm	**0250** - 250mm **0500** - 500mm ... **20000** - 20000mm ... - (on request)	**N** - none RI **M** - every 30mm **P** - RI number and place on option	**05V** - +5V **28V** - +(10...28)V	**0** - without compressed air **1** - with compressed air	**01** - 1m **02** - 2m **03** - 3m **04** - 4m (standard) ...	**W** - without connector **B12** - round, 12 pins **C9** -round, 9 pins **C12** - round, 12 pins **D9** - flat, 9 pins **D15** - flat, 15 pins **RS10** - round, 10 pins **ONC** - round, 10 pins

ORDER EXAMPLE: 1) L23-F100-16000-N-05V-0-04/C12