

L23

PHOTOELECTRIC MODULAR LINEAR ENCODER



Modular sealed photoelectric linear encoder L23 has measuring length up to 20 meters and more on special order.

The encoder is used to convert linear displacements of machine key components into electrical signals containing information about the value and direction of the displacement.

The encoder operates in reflected from metal band light beam. Metal band with made on its surface grating scale is fixed in rigid aluminium housing with double protection lips.



The encoder consists of several separate modules with length up to 3,0 m, which are jointed together, and reading head.

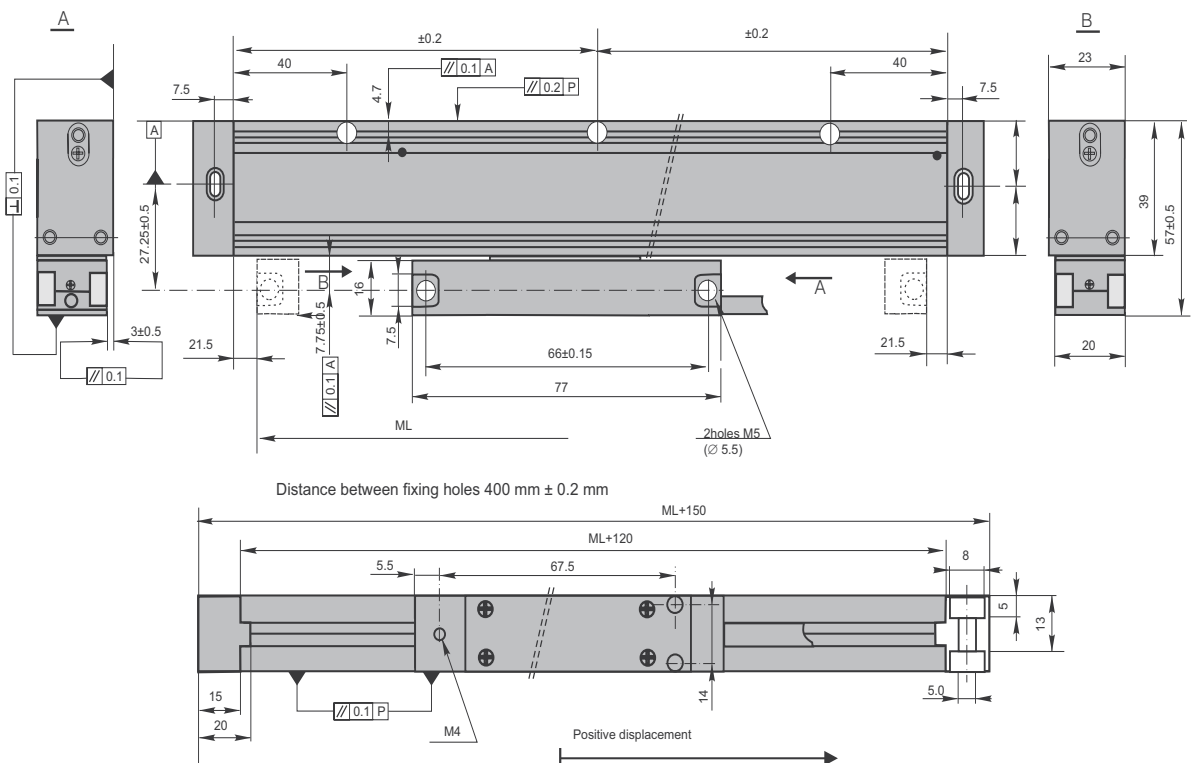
The standard encoder has three square-wave TTL output signals: 2 main signals, shifted by 90 degrees and one reference signal.

MECHANICAL DATA

Measuring lengths (ML), mm	250, 300, 350, 400, 450, 500...20000 (more on option)	Reference marks (RI):	
Accuracy grades to any metre within the ML (at 20°C)	±10; ±5; ±3 µm	- N	without reference mark
Grating period (T)	400; 40; 20 µm	- M	every 50 mm
		- P (optional)	RI number and place
		Required moving force	< 4 N
		Protection (IEC 529)	
		-without compressed air	IP54
		-with compressed air	IP64
		Weight	0.4 kg + 2.8 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

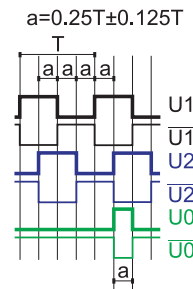
Max. traversing speed:

- when T=400 µm and resolution 100, 50, 10 µm	120 m/min
- when T=40 µm and:	
- resolution 10, 5 µm	80 m/min
- resolution 1 µm	25 m/min
- when T=20 µm and:	
- resolution 5 µm	60 m/min
- resolution 0,5 µm	12 m/min



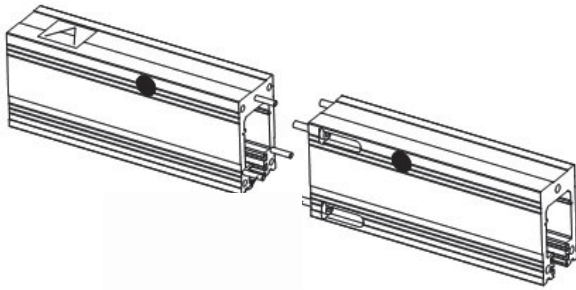
ELECTRICAL DATA

VERSION	L23-F TTL
Supply voltage (U _p)	+5V±5%/ 65 mA; +12V±5%/ 65mA
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 U _p =+5V - high (logic "1") > 2.4 V at U _p =+5V - low (logic "0") < 1.5 V at U _p =+12V (HTL) - high (logic "1") > (U _p -2) V at U _p =+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	25 m
Output signals	



Note: If cable extension is used the power supply conductor section should not be smaller than 0.5 mm².

MODULE CONNECTION PRINCIPLE



ACCESSORIES

CONNECTORS FOR CABLE	B12 12-pin round connector	C9 12-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	- XXX -	XXXX -	X / XXX -	XX - XX -	X -	XX / X	
RESOLUTION:	MEASURING LENGTH:	REFERENCE MARKS:	ACCURACY:	SUPPLY VOLTAGE:	COMPRESSED AIR:	CABLE LENGTH:	CONNECTOR TYPE:
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 50mm P - RI number and place on option	10 - ±10μm 05 - ±5μm 03 - ±3μm	05V - +5V 12V - +12V	0 - without compressed air 1 - with compressed air	01 - 1m armoured 02 - 2m armoured 03 - 3m armoured ...	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-10-05V-0-04/C12						