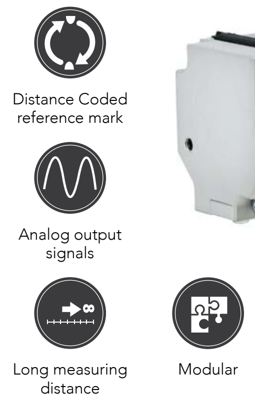
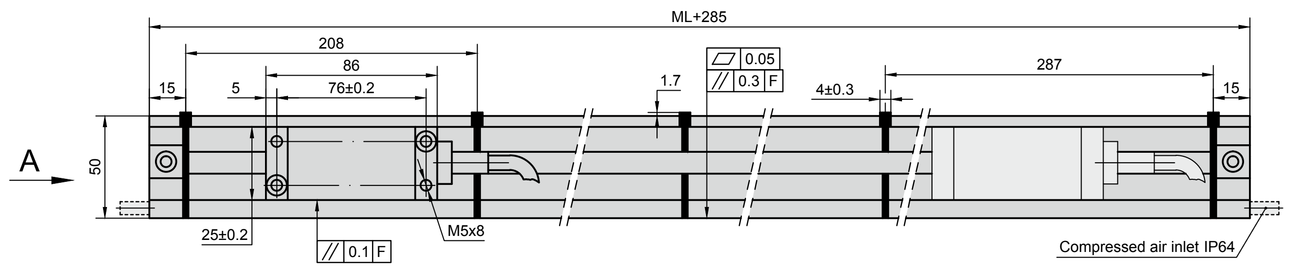
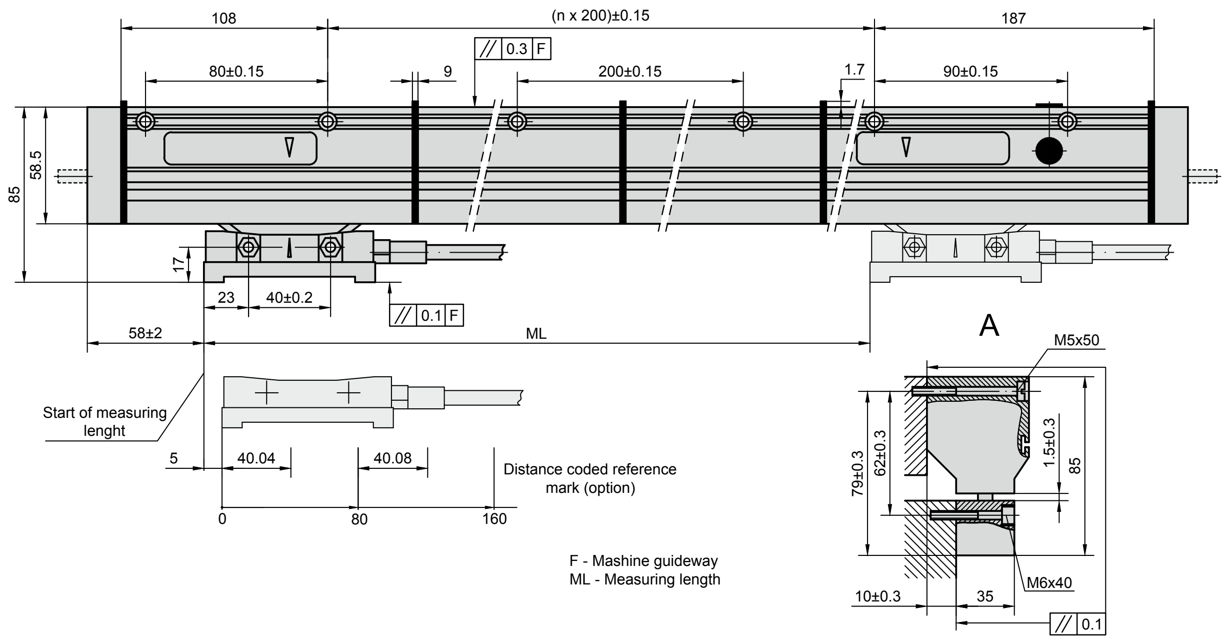
L50

PHOTOELECTRIC LINEAR ENCODER



Photoelectric modular linear encoder L50 is an incremental encoder and has the measuring length from 3.240 up to 30.040 mm, grating period of 40 µm and accuracy of any meter within the ML of up to ±10 µm.



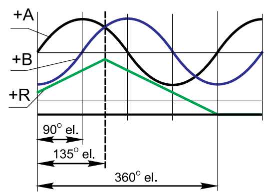
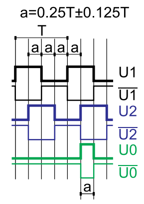


MECHANICAL DATA

Measuring lengths (ML), mm	from 3240 up to 30040 (length of each module with steps 200 mm)
Accuracy grades to any metre within the ML (at 20°C)	±10 µm/m
Grating period	40 µm
Reference marks (RI): - C - P - E	at coded distance 80 mm at constant step 50 mm selectable through magnet
Max. traversing speed	1 m/s
Required moving force	< 6 N

Protection (IEC 529): -without compressed air -with compressed air	IP53 IP64
Weight	1.8 kg + 3.3 kg/m
Operating temperature	0...+50°C
Storage temperature	-20...+70°C
Permissible vibration (10...2000 Hz)	≤ 100 m/s²
Permissible shock (11 ms)	≤ 300 m/s²
Coefficient of thermal expansion	10.6 x 10^{-6} °C

ELECTRICAL DATA

VERSION	L50-AV ∿ 1Vpp	L50-F ⎍ TTL
Power supply	+5 V ±5% /100 mA (120Ω)	+5 V ±5% /150 mA (120Ω)
Light source	LED	LED
Resolution	Up to 0.1 µm depending on external subdividing electronics	10; 5; 1; 0.5 µm (after 4-fold dividing on subsequent electronics)
Incremental signals	Differential sine +A/-A and +B/-B Amplitude at 120 Ω load: - I_1 = 0.6...1.2 V - I_2 = 0.6...1.2 V	Differential square-wave U1/$\overline{U1}$ and U2/$\overline{U2}$. Signal levels at 20 mA load current: - low (logic "0") ≤ 0.5 V - high (logic "1") ≥ 2.4 V
Reference signal	Quasi-triangular R Magnitude at 120 Ω load: - R = 0.25-0.8V (usable part)	One differential square-wave U0/$\overline{U0}$ per revolution. Signal levels at 20 mA load current: - low (logic "0") ≤ 0.5 V - high (logic "1") ≥ 2.4 V
Direction of signals	B lags A at reading head displacement from left to right	U2 lags U1 at reading head displacement from left to right
Electrical protection	inversion of power supply polarity and short circuit on output port	
Cable length (standard)	3 m	3 m
Maximum cable length (total with extension cable)	150 m	50 m
Output signals		

ACCESSORIES

CONNECTORS FOR CABLE	B12 12-pin round connector	C12 12-pin round connector	D9 9-pin flat con-nector	D15 15-pin flat con-nector	RS10 10-pin round connector	ONC 10-pin round connector

DIGITAL READOUT DEVICES	CS3000	CS5500

ORDER FORM

L50 - XX - XXX - X - X - XX / X

OUTPUT SIGNALS AND RESOLUTION:	MEASURING LENGTH:	REFERENCE MARKS:	COMPRESSED AIR:	CABLE LENGTH:	CONNECTOR TYPE:
AV - Sinusoidal F10 - TTL 1µm F20 - TTL 2µm F50 - TTL 5µm F100 -TTL 10µm	3240 - 3240mm 5240 - 5240mm ... 30400 - 30400mm	C - at coded distance (80mm) P - at constant step (50mm) E - selectable through magnet	0 - without compressed air 1 - with compressed air	01 - 1m 02 - 2m 03 - 3m ...	W - without connector B12 - round, 12 pins C12 - round, 12 pins D9 - flat, 9 pins D15 - flat, 15 pins RS10 - round, 10 pins ONC - round, 10 pins

ORDER EXAMPLE:	1) L50-AV-30400-C-0-04/C12