MAIN EXPORT COUNTRIES:

PRECIZIKA METROLOGY

*The company under the name **JSC "Precizika Metrology"** began work after the change of name of the Lithuanian - American Joint Venture "Brown & Sharpe - Precizika". The company has a proud history of old traditions in the leadership of design and production of metrological equipment. Its workforce has been involved for over fifty years in the supply of measuring technology and systems to automate factories as well as in the development of optical scale manufacturing technology.*

In 2000, the production process was certified to fully meeting the requirements of EN ISO 9002:1994, in 2003 – EN ISO 9001:2000.

The company's goal is to consistently supply high quality products and services to meet customer demands on a timely basis. The company's main products are linear and angular glass scale gratings, and the linear and rotary displacement measuring systems.

***JSC "Precizika Metrology"** represents worldwide known companies and suppliers of measuring equipment, CNC centers, executes installation and services of them, trains the users, and executes upgrading of used CMM and manual cutting machine-tools.*

L18C

PHOTOELECTRIC LINEAR ENCODER

The sealed linear encoder L18C is used to convert linear displacements of key machine components into electrical signals containing information about the value and direction of the displacement. The encoder consists of a glass scale installed into a rigid hollow housing and a ball-bearing-guided reading head. To be able to work in harsh environments (lubricants and chips), the encoder has sealing lips. Filtered air can be supplied into the housing of the encoder for extra protection. The photoelectric unit of the reading head generates sinusoidal micro-current or TTL square-wave (standard RS422) output signals. Two versions of output signals are available:

- L18C-A sinusoidal signals, with amplitude not smaller than 15 µApp, require an external subdividing electronics.
- L18C-F square-wave signals (TTL), with integrated subdividing electronics for interpolation x1, x2, x5, x10, x25, x50.

50 YEARS OF EXPERIENCE

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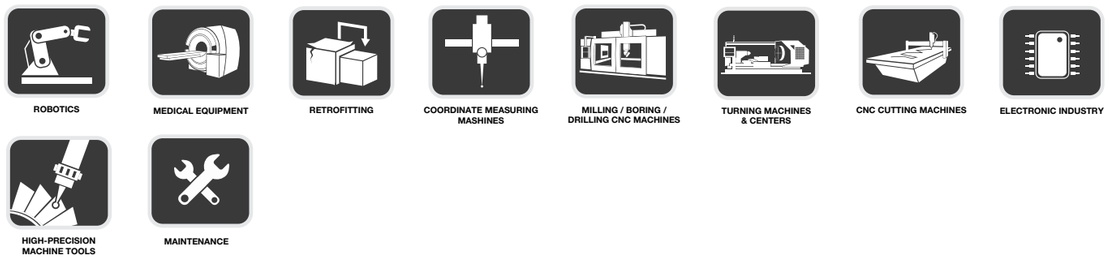
L18C

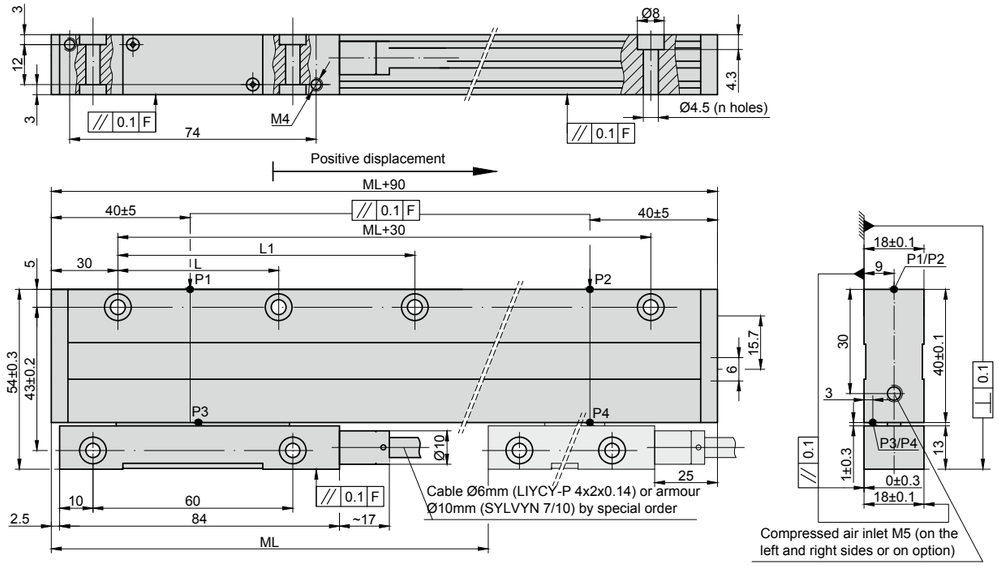
RECOMMENDED APPLICATIONS



MECHANICAL DATA

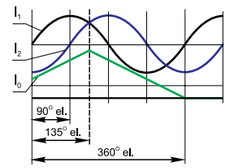
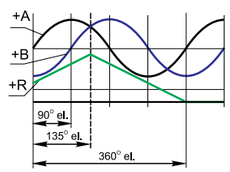
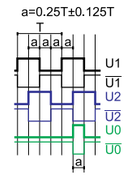
Measuring lengths (ML), mm	70; 120; 170; 220; 270; 320; 370; 420; 470; 520; 620; 720; 820; 920; 1020; 1140; 1240; 1340; 1440; 1540; 1640; 1740; 1840; 1940; 2040; 2140; 2240; 2340; 2440; 2540; 2640; 2740; 2840; 2940; 3040; 3140; 3240 (other intermediate lengths on request)
Accuracy grades to any metre within the ML (at 20°C): - for ML 70 to 2040 - for ML 2040 to 3240	 ±10; ±5 µm ±10 µm
Grating period	20 µm; 40 µm (optional)
Reference marks (RI): -standard S1 -standard S2 -optional	 middle of ML±2 mm 40±2 mm from left end of ML 40±2 mm from right end of ML one RI at any location, or two or more RI's separated by distances of n x 50 mm

Max. traversing speed: -when interpolation factor is 1,2,5,10 -when interpolation factor is 25 -when interpolation factor is 50	 1 m/s 0.5 m/s 0.4 m/s
Required moving force with sealing lips	< 3 N
Protection (IEC 529) -without compressed air -with compressed air (optional)	 IP53 IP64
Weight	0.4 kg + 1.0 kg/m
Operating temperature	0...+50°C
Storage temperature	-20...+70°C
Permissible vibration (40 to 2000 Hz)	≤ 30 m/s²
Permissible shock (11 ms)	≤ 100 m/s²



F - Machine guideway
ML - Measuring length
P - Gauging points for alignment

ELECTRICAL DATA

VERSION	L18C-A ∿ 11 µApp	L18C-AV ∿ 1 Vpp	L18C-F ⊓⊔ TTL
Power supply	+5 V ± 5% / < 90 mA	+5 V ± 5% < 120 mA	+5 V ± 5% / < 120 mA
Light source	LED	LED	LED
Resolution	Depends on external subdividing electronics	Depends on external subdividing electronics	5; 1; 2.5; 0.5; 0.2; 0.1 µm (after 4-fold dividing in subsequent electronics)
Incremental signals	Two sinusoidal I_1 and I_2 Amplitude at 1 kΩ load: - I1 = 7-16 µA - I2 = 7-16 µA	Differential sine +A/-A and +B/-B Amplitude at 120 Ω load: - A = 0.6-1.2 V - B = 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 I_0. Signal magnitude at 1 kΩ load: - I_0 = 2-8 µA	Quasi-triangular +R and its complementary -R. Signals magnitude at 120Ω load - R = 0.2-0.8 V	One differential square-wave U0/U0 per revolution. Signal levels at 20 mA load current: - low (logic "0") < 0.5 V - high (logic "1") > 2.4 V
Maximum operating frequency	50 kHz	50 kHz	50xk kHz, when interpolation factor is 1, 2, 5, 10 1000 kHz when interpolation factor is 25, 50
Direction of signals	I_2 lags I_1 at reading head displacement from left to right	B+ lags A+at reading head displacement from left to right	U2 lags U1 at reading head displacement from left to right
Standard cable length	3 m, without connector	3 m, without connector	3 m, without connector
Maximum cable length	5 m	25 m	25 m
Output signals			

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

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			
EXTERNAL INTERPOLATOR	NK						

ORDER FORM

L18C - XXX - XXXX - X / XXX - XX - X - XX / X

OUTPUT SIGNALS AND RESOLUTION:	MEASURING LENGTH:	REFERENCE MARKS:	ACCURACY:	COMPRESSED AIR:	CABLE LENGTH:	CONNECTOR TYPE:
A - Sinusoidal AV - Sinusoidal F01 - TTL 0.1µm F02 - TTL 0.2µm F05 - TTL 0.5µm F10 - TTL 1.0µm F25 - TTL 2.5µm F50 - TTL 5.0µm	0070 - 70mm 0520 - 520mm ... 3240 - 3240mm	N - none RI S1 - middle of ML ± 2 S2 - 40±2 mm from left end of ML S3 - 40±2 mm from right end of ML Ln/XXX - n is number of RI with step 50 mm including the first, /XXX-distance of the first RI from the beginning of ML, mm	05 - ±5µm 10 - ±10µm	0 - without compressed air 1 - with compressed air	01 - 1m 02 - 2m 03 - 3m ... CP01- 1m armoured CP02 - 2m armoured CP03 - 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) L18C-F50-0520-N-05-0-03/O						