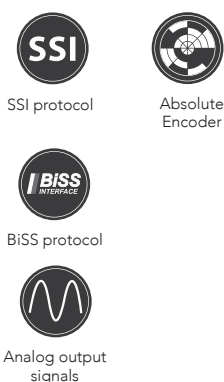


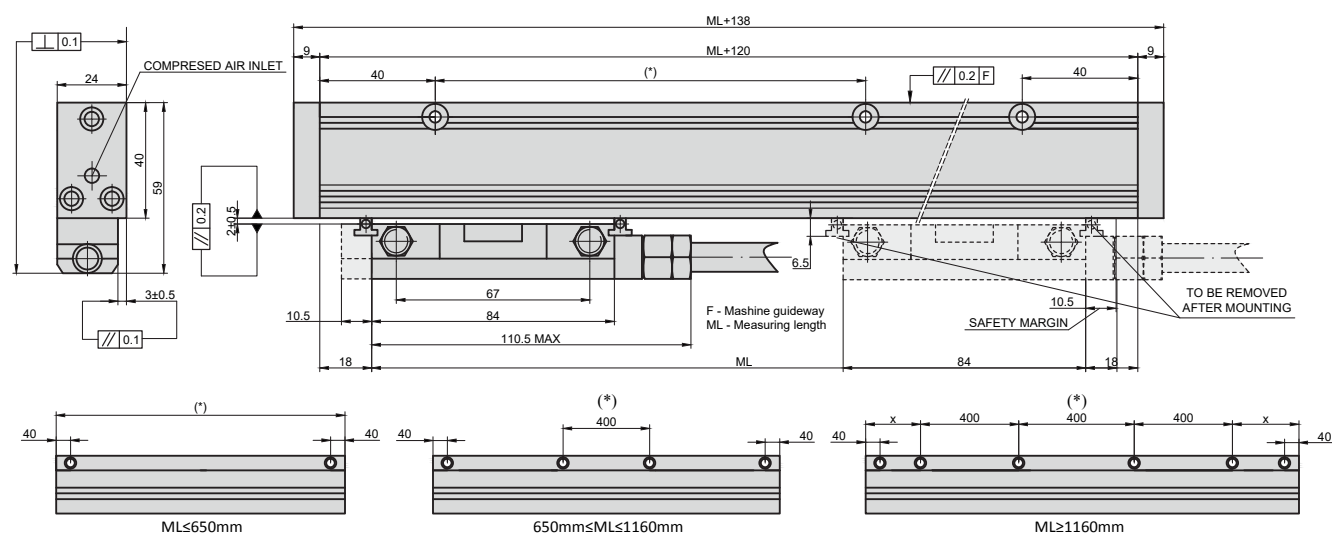
# LK24

PHOTOELECTRIC LINEAR ENCODER



Photoelectric absolute linear encoder LK24 has measuring length of up to 3.240 mm depending on customer demand, uses SSI or BiSS

serial interface and produces up to  $\pm 1 \mu\text{m}$  accuracy. The encoder can have an additional 1Vpp incremental track.



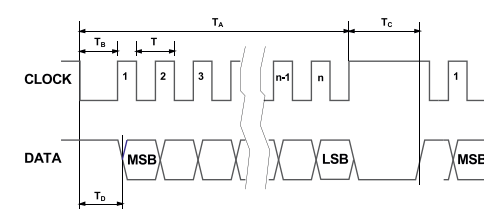
(\*) Add holes at 40mm from cut ends, when the first hole at constant step is at a distance X>175mm.

## MECHANICAL DATA

Measuring lengths (ML), mm	70, 120, 170, 220, 270, 320, 370, 420, 470, 520, 570, 620, 720, 770, 820, 920, 1024, 1140, 1240, 1340, 1440, 1540, 1640, 1740, 1840, 2040, 2240, 2440, 2640, 2840, 3040, 3240	Power supply	+5V $\pm$ 5%
Incremental signal	sine wave 1 Vpp (optional)	Current consumption with load	max 340 mA (with R=120 $\Omega$ )
Resolution 1Vpp	up to 0.1 $\mu\text{m}$ (depending on CNC division factor)	Protection (EN 60529) -without compressed air -with compressed air	IP54 IP64
Serial interface	SSI or BiSS	Operating temperature	0...+50°C
Resolution absolute measure	1 $\mu\text{m}$ , 0.1 $\mu\text{m}$	Storage temperature	-20...+70°C
Accuracy grades to any metre within the ML (at 20°C) - standard version	$\pm 3 \mu\text{m}$	Permissible humidity (non condensed)	20...80 %
Grating period (T)	20 $\mu\text{m}$	Permissible vibration (55...2000 Hz)	$\leq 100 \text{ m/s}^2$
Max. traversing speed:	2 m/s	Permissible shock (11 ms)	$\leq 150 \text{ m/s}^2$
Max. acceleration	30 m/s	Weight	0.42 kg +1,32kg/m
Required moving force	<4N; $\leq 2.5\text{N}$ on request	Standard cable length/max. cable length	2.0/25.0 (100 m if power supply is min. 5V)
		Electrical protections	from inversion of power supply polarity; from short circuit on output port

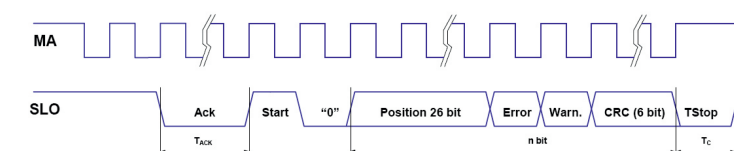
## OUTPUT SIGNALS

### SSI VERSION



Interface	SSI Binary – Gray
Signals level	EIA RS 485
Clock frequency	0.1 $\phi$ 1.2 MHz
n	Position bit
Tc	10 $\phi$ 20 $\mu\text{s}$

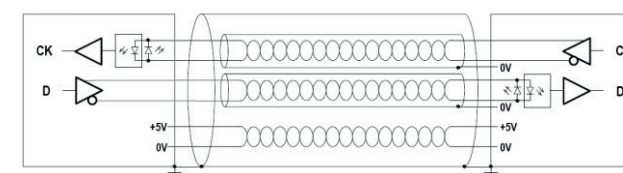
### BISS C VERSION



Interface	BiSS C unidirectional
Signals level	EIA RS 485
Clock frequency	0.1 $\phi$ 4 MHz
n	26 + 2 + 6 bit
Tc	12 $\phi$ 20 $\mu\text{s}$

## CABLE

### SERIAL OUTPUT



Encoder is supplied with flexible cable, which is consisted of shielded twisted pairs of wires (for informational signals SSI-BiSS).

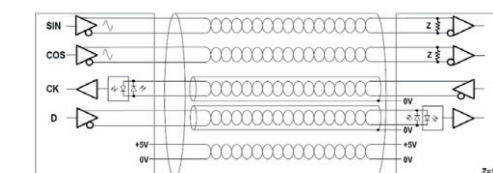
### Cable for serial output:

- 6-wire shielded cable,  $\phi=7 \text{ mm}$ , PVC external sheath, with low friction coefficient, oil-resistant, suitable for continuous movements
- conductors section: power supply 0.25 mm<sup>2</sup>, signals 0.25 mm<sup>2</sup>
- cable's bending radius should not be lower than 35 mm.

### In case of cable extension, it is necessary to guarantee:

- electrical connection between the body of the connectors and the cables shield;

### ANALOG OUTPUT + SERIAL OUTPUT



- minimum power supply voltage of 5 V to the head.

### Cable for analog output + serial output:

- 10-wire shielded cable,  $\phi=7.1 \text{ mm}$ , PUR external sheath.
- conductors section: power supply 0.35 mm<sup>2</sup>, signals 0.10 mm<sup>2</sup>
- cable's bending radius should not be lower than 45 mm.

## 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
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## ORDER FORM

LK24 - XX - XXXX - X / XXX - XX - XX - XXX

RESOLUTION:	MEASURING LENGTH:	OUTPUT SIGNALS:	INCREMENTAL SIGNALS:	CABLE LENGTH:	CONNECTOR TYPE:
F01 - 0.1 $\mu\text{m}$ F10 - 1.0 $\mu\text{m}$	0070 - 70 mm 0520 - 520 mm ... 3240 - 3240 mm	S1 - SSI binary S2 - SSI binary+even parity S3 - SSI binary+odd parity ... S4 - SSI binary+error S5 - SSI binary+even+parity+error S6 - SSI binary+odd parity+error S7 - SSI Gray B1 - BiSS binary	W - without incremental signals V - 1Vpp	01 - 1m 02 - 2m 03 - 3m ...	W - without connector B12 - round, 12 pins C12 - round, 12 pins C9 - round, 9 pins D9 - flat, 9 pins D15 - flat, 15 pins
ORDER EXAMPLE:	1) LK24-F01-0070-S1-W-01-W-0				