

# PHOTOELECTRIC LINEAR ENCODER

# LK18B



Absolute Encoder



Analog output signals



Fanuc interface



BiSS interface



SSI interface

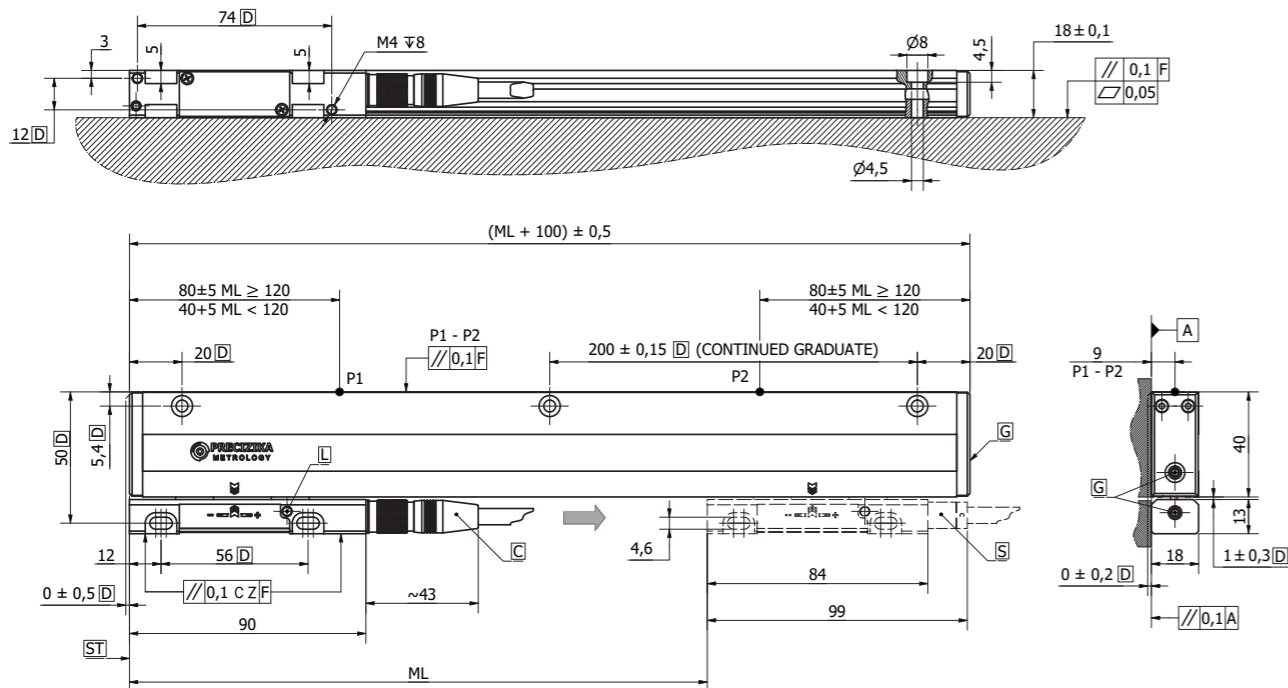


Photoelectric absolute linear encoder LK18B has measuring length of up to 3 240 mm depending on customer demand, uses SSI, BiSS or FANUC® α-ai serial interface and produces up to ±5 μm accuracy. The encoder can have an additional 1Vpp (20 μm) incremental output.

## MECHANICAL DATA

|  |  |  |                  |
|--|--|--|------------------|
| Measuring lengths (ML), mm                           | 70, 120, 170, 220, 270, 320, 370, 420, 470, 520, 570, 620, 720, 770, 820, 920, 1020, 1140, 1240, 1340, 1440, 1540, 1640, 1740, 1840, 2040, 2140, 2240, 2340, 2440, 2540, 2640, 2740, 2840, 2940, 3040, 3140, 3240. (other intermediate lengths on request) | Protection (EN 60529)<br>-without compressed air<br>-with compressed air | IP53<br>IP64     |
| Accuracy grades to any metre within the ML (at 20°C) | ± 5 μm   | Operating temperature  | 0...+50°C        |
| Max. traversing speed:                               | 2 m/s  | Storage temperature  | -20...+70°C      |
| Max. acceleration                                    | 30 m/s²  | Permissible humidity (non condensed)                                     | 20...80 %        |
| Required moving force                                | ≤ 5 N  | Permissible vibration (55...2000 Hz)                                     | ≤ 100 m/s²       |
|  |  | Permissible shock (11 ms)  | ≤ 150 m/s²       |
|  |  | Weight   | 0.4 kg +0.8 kg/m |

## ELECTRICAL DATA



- F = Machine guideway/axis datum
- P = Gauging points for alignment
- ML = Measuring length
- D = Required mounting dimensions
- G = Compressed air inlet
- L = LED illumination
- E = Mounting plates for encoder fixing on the mounting spar (attached with M4 screws)
- S = Detachable mini connector HR25 outlet (version C)
- C = Cable outlet (standard version S)
- ST = Beginning of measuring length ML (=20mm)
- = Direction of motion for ascending position values



| Version <sup>1)</sup>              | SSI           | BISS-C        | FANUC® α-ai |
|------------------------------------|---------------|---------------|-------------|
| Power supply                       | +5 V ± 5%     | +5 V ± 5%     | +5 V ± 5%   |
| Current consumption                | max 250 mA    | max 250 mA    | max 250 mA  |
| Measuring step <sup>1)</sup>       | 0.1 / 0.05 μm | 0.1 / 0.05 μm | 1 / 0.1 μm  |
| Clock frequency                    | 0.1...2 MHz   | 0.5...10 MHz  | -           |
| Incremental signals <sup>1)</sup>  | 1 Vpp (20 μm) | optional      | -           |
| Cutoff frequency -3 dB             | ≤ 150 kHz     | ≤ 150 kHz     | -           |
| Maximum cable length <sup>2)</sup> | 25 m          | 50 m          | 25 m        |

1) select when ordering.

2) for other lengths, please contact the manufacturer.

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

## ACCESSORIES

| CONNECTORS FOR CABLE | B12                    | C9                    | C12                    | D9                   | D15                   | F20                                   | F20.1  |
|----------------------|------------------------|-----------------------|------------------------|----------------------|-----------------------|---------------------------------------|--|
|                      | 12-pin round connector | 9-pin round connector | 12-pin round connector | 9-pin flat connector | 15-pin flat connector | 20-pin half pitch interface connector | 20-pin half pitch 90 DEG interface connector |

## ORDER FORM

LK18B - X1 - X2 - X3 - X4 - X5/X6

| Resolution (X1):                              | Measuring length (X2):                          | Output signals (X3):   | Incremental signals (X4):                   | Cable length (X5):                   | Connector type (X6):  |
|---|---|--|---|--------------------------------------|---|
| F05 - 0.05 μm<br>F01 - 0.1 μm<br>F10 - 1.0 μm | 0070 - 70 mm<br>0520 - 520 mm<br>3240 - 3240 mm | S1 - SSI binary<br>S2 - SSI binary+error+warning<br>S3 - SSI Gray<br>B1 - BiSS binary<br>F1 - Fanuc binary α<br>F2 - Fanuc binary ai | W - without incremental signals<br>V - 1Vpp | 01 - 1m<br>02 - 2m<br>03 - 3m<br>... | W - without connector<br>B12 - round, 12 pins<br>C12 - round, 12 pins<br>C9 - round, 9 pins<br>D9 - flat, 9 pins<br>D15 - flat, 15 pins<br>F20 - half pitch, 20 pins<br>F20.1 - half pitch, 20 pins, 90 DEG |

ORDER EXAMPLE: 1) LK18B-F01-0070-F1-W-02/F20