INCREMENTAL EXPOSED LINEAR ENCODER

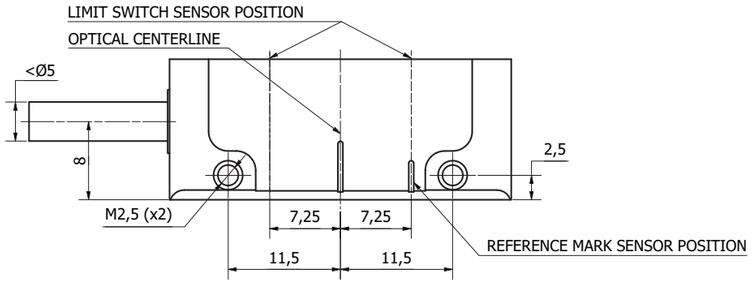


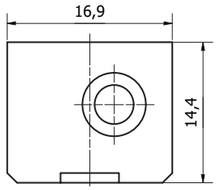
This new LEER-I exposed linear encoder features 20 nanometer resolution and is particularly suitable for high-velocity applications that require high accuracy.

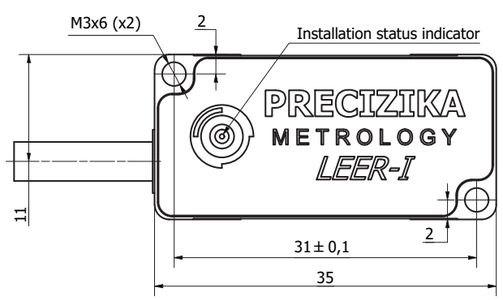
FEATURES

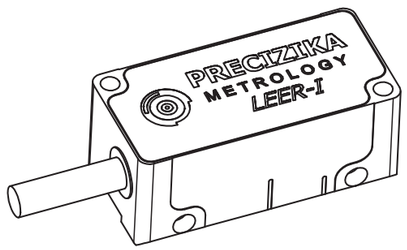
- Compact size
- Incremental technology
- High accuracy
- 20 nanometer resolution

LEER-I









TECHNICAL SPECIFICATIONS

Output signal	TTL
Traversing speed	Depends on resolution: 1 µm - < 600 m/min, 0.5 µm - < 600m/min, 0.1 µm - < 240m/min, 0.05 µm - < 120 m/min, 0.02 µm - <42 m/min
Sub-divisional error	<40nm
Reference mark	Selectable with magnets every 50 mm
Operating temperature	-5 - 70°C
Storage temperature	-20 - 70°C
Protection (EN 60529)	IP40
Vibration (55...2000 Hz)	100 m/s²
Shock (11 ms)	500 m/s²
Humidity	< 95% (non condensing)
Mass (without cable)	0.17 kg

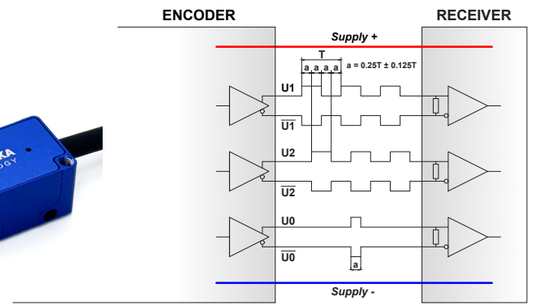
1) select when ordering

ELECTRICAL DATA

Power supply	5V ±5%, <150 mA
Light source	LED
Resolution	1 µm, 0.5 µm, 0.1 µm, 0.05 µm, 0.02 µm
Maximum operating frequency	10 MHz
Direction of signals (displacement from left to right)	U_2 lags U_1
Standard cable length	3 m, without connector
Maximum cable length	50 m

ENCODER ELECTRICAL CONNECTION





U2 lags U1 with clockwise rotation (viewed from shaft side). Other reference signal widths (90°C, 180°C, 360°C) available on request.

ORDER FORM (READING HEAD ONLY)

LEER-I - **X1** - **X2** - **X3**

Resolution (X1):	Cable length (X2):	Connector (X3):
F1 - 1 µm (1000 nm) **F05** - 0.5 µm (500 nm) **F01** - 0.1 µm (100 nm) **F005** - 0.05 µm (50 nm) **F0025** - 0.02 µm (20 nm)	**01** - 1 m **02** - 2 m **03** - 3 m ...	**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: LEER-I-F01-03-D15

PRECIZIKA METROLOGY

STAINLESS STEEL LINEAR SCALE

LEER SERIES

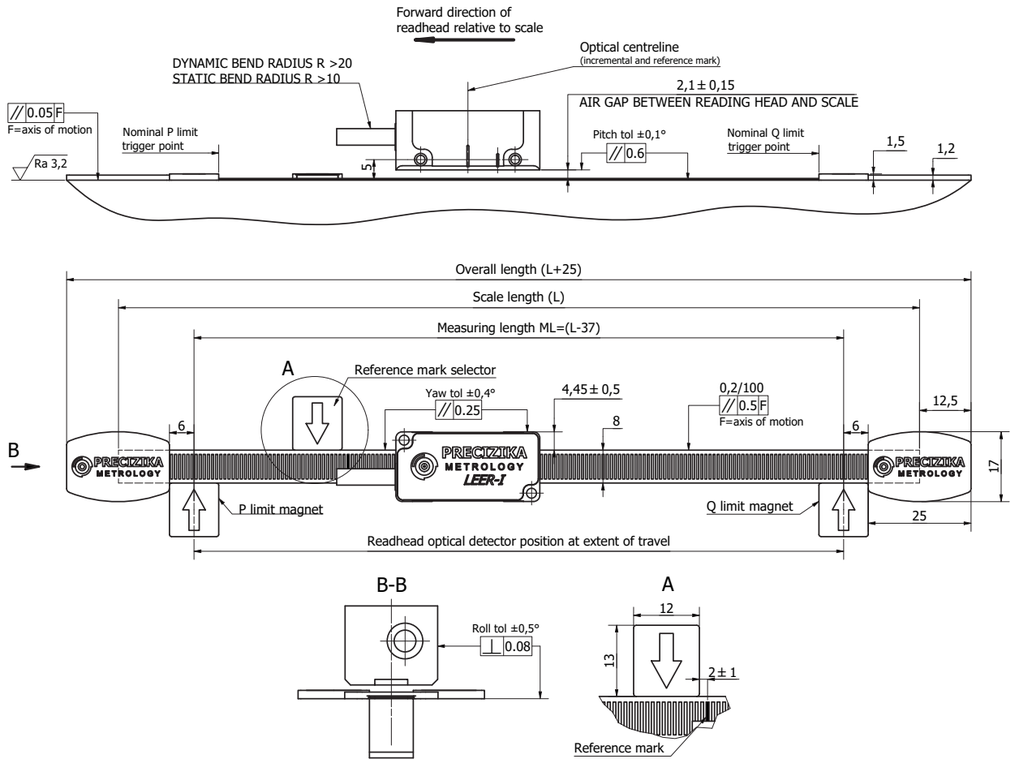


Stainless-steel linear scale has incremental track engraved on its surface by a laser. Reliable and rigid framework of the measuring standard carrier ensures easy handling and installation procedures. Self-adhesive (double-sided adhesive tape) mounting type method allows to glue the stainless-steel tape directly onto the application surface. Small cross-section of the tape is especially suitable for limited space applications. Recommended to use scale under stable thermal conditions.

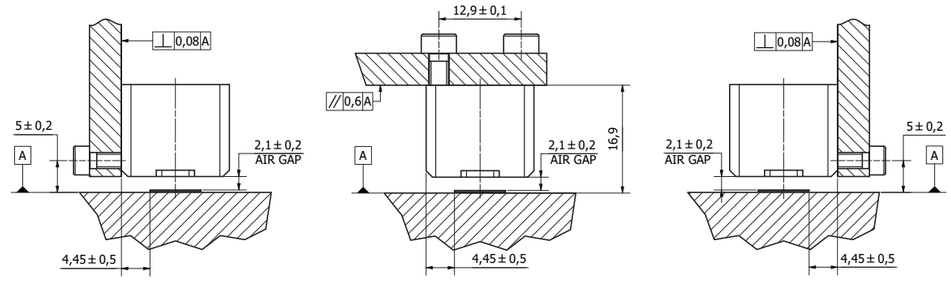
FEATURES

- Stainless-steel scales for measuring lengths up to 10 m
- Small cross-section for limited spaces
- Sefl-adhesive mounting
- Compatible kit tool for easy installation
- Possible various custom size and lengths

LEER-I



MOUNTING DIMENSIONS



Graduation Carrier	Stainless Steel Tape
Coeficient of linear thermal expansion	$a_{therm} = 10x10^{-6}K^{-1}$
Accuracy grade	±10 µm/m
Measuring length (ML) [1]	Up to 10 000 mm
Standard Size [2]	8 mm x 0.203 ± 0.013 mm
Mass	~0.013 kg / m

1) select when ordering
2) other size steel tapes on request

ORDER FORM (READING HEAD WITH STAINLESS STEEL SCALE)

	Reading Head				Scale	
LEER-I	- X1	- X2	- X3	/ SS	- X4	

Resolution (X1):	Cable length (X2):	Connector (X3):	Measuring length (X4):
F1 - 1 µm (1000 nm) **F05** - 0.5 µm (500 nm) **F01** - 0.1 µm (100 nm) **F005** - 0.05 µm (50 nm) **F0025** - 0.02 µm (20 nm)	**01** - 1 m **02** - 2 m **03** - 3 m ...	**W** - without connector **B12** - round, 12 pins **C12** - round, 12 pins **C9** - round, 9 pins **D9** - flat, 9 pins **D15** - flat, 15 pins	**120** - 120 mm **...** **10000** - 10000 mm

Order example: LEER-I-F01-03-D15/SS-120