

# LA12 Absolute Magnetic Encoder

## with Mitsubishi, Yaskawa and Fanuc Serial Communications

LA12 is a true absolute magnetic encoder system designed for motion control applications as a position and velocity control loop feedback element. The encoder readhead is sealed to IP67 providing reliable and robust operation with high resolution.

TRUE  
ABSOLUTE  
SYSTEM

ROBUST  
DESIGN

LOW  
LATENCY



## Why choose LA12?

### FEATURES:

- ✓ True absolute system
- ✓ Fanuc, Mitsubishi and Yaskawa serial communication protocols (Half-Duplex, RS-485)
- ✓ Robust design

### BENEFITS:

- ✓ Great EMC compatibility
- ✓ IP67 sealing
- ✓ Speeds up to 7 m/s
- ✓ Resolutions up to ~0.244  $\mu\text{m}$
- ✓ Built-in LED



MACHINE TOOL



LINEAR MOTOR



ASSEMBLY LINES



INDUSTRIAL  
AUTOMATION



IN SMALL SIZE

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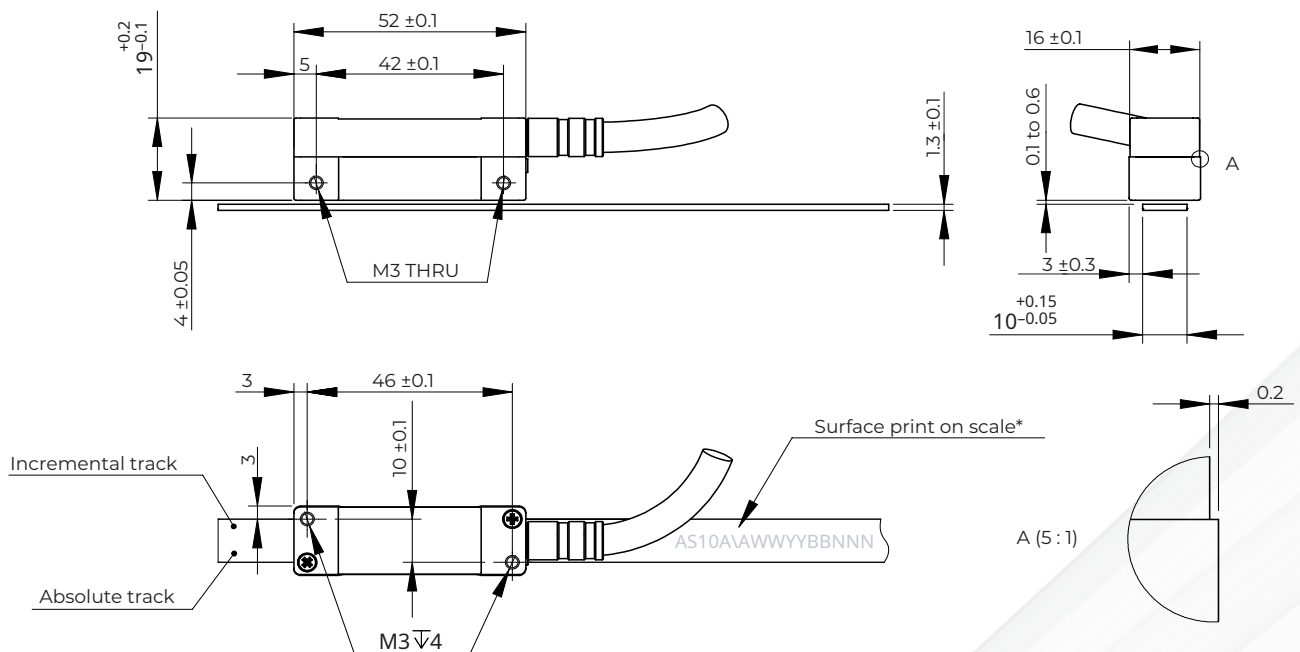
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# LA12 technical specifications

| SYSTEM DATA                      |  |
|----------------------------------|--|
| Maximum length                   | 16.3 m   |
| Incremental pole length          | 2 mm   |
| System accuracy                  | $\pm 25 \mu\text{m/m}$ at 0.2 mm ride height   |
| Hysteresis                       | $< 2 \mu\text{m}$ at 0.2 mm ride height  |
| Coefficient of thermal expansion | $\sim 17 \times 10^{-6} [\text{m/mK}]$ (scale carrier)   |
| Unidirectional repeatability     | $< 1 \mu\text{m}$  |
| Available resolutions            | Up to 0.244140625 $\mu\text{m}$  |
| Maximum speed                    | Up to 2 m/s  |
| ELECTRICAL DATA                  |  |
| Supply voltage                   | From 4.75 V to 5.5 V (on the connector), reverse polarity protection   |
| Reverse polarity protection      | Yes  |
| Set-up time after power-on       | $< 1 \text{ s}$ (the encoder will start responding according to the communication protocol after set-up time has passed) |
| Current consumption              | $< 250 \text{ mA}$ (at 5 V power supply and 15 m cable length, without load)   |
| MECHANICAL DATA                  |  |
| Cable                            | Green colour, PUR high flex cable, UL AWM recognised, drag-chain compatible, tinned braided shield. RoHS approved.       |
| ENVIRONMENTAL DATA               |  |
| Readhead temperature             | Operating 0 °C to +55 °C   |
|                                  | Storage -20 °C to +85 °C   |

## LA12 dimensions



\* Scale surface print does not represent the actual ordering code. For orientation purpose only.

All dimensions in mm.  
General tolerances: ISO 2768 m K

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