# Single-axis inclinometer ±10°, 4–20 mA output

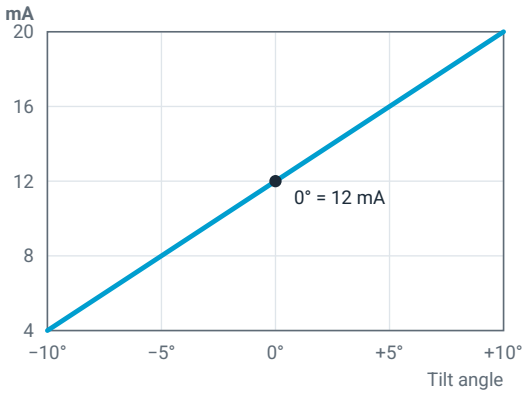
IMA-1-010-CL · MEMS capacitive · IP67 · 9…36 V DC




## FEATURES

- MEMS capacitive inclinometer, single axis, range ±10°
- Output: 4–20 mA analog · resolution 0.1°
- Accuracy ±0.2° at 25 °C · IP67
- Supply 9…36 V DC · operating temperature −40…85 °C

## OUTPUT CHARACTERISTIC




**Angle = (I − 12 mA) / 0.800 mA/°**
4 mA = −10° · 12 mA = 0° · 20 mA = +10°

## PERFORMANCE

| | |
|---|---|
| Measuring range | ±10° |
| Number of axes | 1 |
| Resolution | 0.1° |
| Accuracy at 25 °C | ±0.2° |
| Temperature drift | ±0.5° (−40…85 °C) |
| Response time | 0.05 s |
| Sensor technology | MEMS capacitive |

## INTERFACE

| | |
|---|---|
| Output signal | 4–20 mA analog |
| Sensitivity | 0.800 mA/° |
| Zero point | 12 mA at 0° |
| Zero setting | Gray wire to GND for > 3 s; the LED flashes and the current position is stored as 0° |

## ELECTRICAL

| | |
|---|---|
| Supply voltage DC | 9…36 V |
| Protection functions | Overcurrent, overheat and overvoltage protection |
| Insulation resistance | > 100 MΩ |
| Connection | 1 m cable, Ø5.5 mm |
| Cable | Ø5.5 mm, 5 cores Ø1.3 mm |

## MECHANICAL & AMBIENT

| | |
|---|---|
| Housing material | Electroplated metal |
| Dimensions (L × W × H) | 61 × 35 × 21 mm |
| Weight | ≤ 200 g |
| Mounting and zero setting | Six mounting orientations, 3 × M4 screws, zero point settable on site |
| Mounting holes | 3 × Ø4.2 mm, spacing 52 × 17 mm |
| Protection class | IP67 |
| Operating temperature | −40…85 °C |
| Vibration resistance | 10 grms, 10…1000 Hz |
| Shock resistance | 100 g / 11 ms, 3 axes, half-sine |


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## RELIABILITY & COMPLIANCE

| | |
|---|---|
| MTBF | 50 000 h |
| Service life | Up to 10 years |
| Manufacturer quality system | IATF 16949:2016 |

## ORDERING INFORMATION

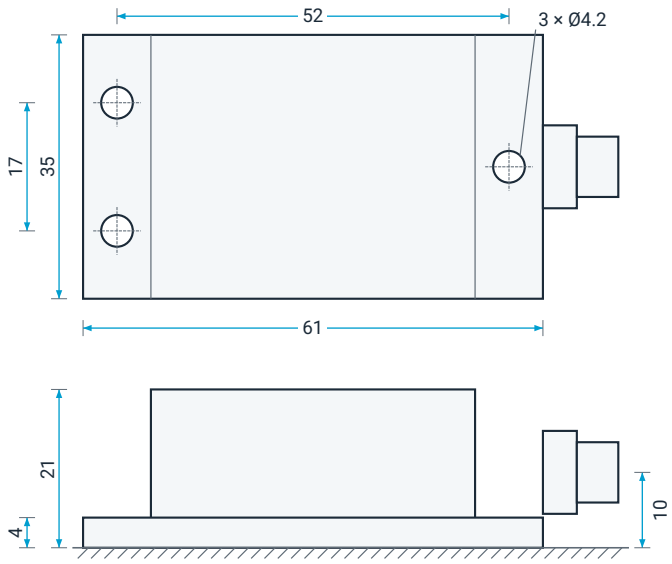
| | |
|---|---|
| Article | IMA-1-010-CL |
| Series | IMA-1-CL – Single-axis inclinometer, 4–20 mA output |

## WIRING

| | |
|---|---|
| **Red** | Supply + (9…36 V DC) |
| **Black** | GND / signal – |
| **White** | X output (4–20 mA) |
| **Green** | Y output (4–20 mA, dual-axis) |
| **Gray** | Zero set (leave open in operation) |

Signal – and supply – share the black wire: connect the input – of your PLC to the sensor GND. Never connect the gray wire to supply +.

## DIMENSIONS




Dimensions in mm · 3 mounting holes Ø4.2 mm

## RANGE VARIANTS – SAME HOUSING AND OUTPUT

| Article | Measuring range | Sensitivity |
|---|---|---|
| **IMA-1-010-CL** | **±10°** | **0.800 mA/°** |
| IMA-1-015-CL | ±15° | 0.533 mA/° |
| IMA-1-030-CL | ±30° | 0.267 mA/° |
| IMA-1-045-CL | ±45° | 0.178 mA/° |
| IMA-1-060-CL | ±60° | 0.133 mA/° |
| IMA-1-090-CL | ±90° | 0.0889 mA/° |
| IMA-1-093-CL | −3…93° | 0.167 mA/° |
| IMA-1-180-CL | ±180° | 0.0444 mA/° |
| IMA-1-360-CL | 0…360° | 0.0444 mA/° |

Also available with 0–5 V and RS485 Modbus output.

Need another range or a special version? Talk to an engineer: info@mekelson.com


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