

MAGNETIC SCALE



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Series MXW11 and MXI11

Key-Features:

- Measurement ranges up to 100 m
- Sine-Cosine 1Vpp real-time output (MXW)
- HTL or TTL output (MXI)
- Unaffected by dust, debris or liquids, IP67
- Hi-flex cable
- High performance encoder for linear motors
- Operating temperature range from -25 °C to +85 °C

TECHNICAL DATA

| | | Sensor MXW11 | Sensor MXI11 | | | | |
|---|-------------------|--|--|------|------|-------|----|
| Measurement range | [m] | max. 99.99 (tape length - 10 mm) | | | | | |
| Resolution | [μm] | theoretically unlimited | 0.5 | 1 | 2 | 5 | 10 |
| Signal period | [μm] | 1000 | - | | | | |
| Sensor linearity max. | | 1 % of period length | ±15 | | | | |
| Repeat linearity | | ±1 increment | | | | | |
| Output circuits | | 1 Vpp | Line Driver, Push-Pull | | | | |
| Output signals | | sine/cosine, AB0, /AB0 | AB0, /AB0 | | | | |
| Edge distance | [μs] | - | 0.3 | | | | |
| Counting frequency max. | [kHz] | 8 | 3333 | | | | |
| Power supply | [VDC] | +5 ±5 % | +5 ±5 %, 10...30 | | | | |
| Power consumption | [mA] | 70 | max. 70 | | | | |
| Protection electrical | | against short-circuit | against inversion of polarity (except 5 VDC version) and short-circuit | | | | |
| EMC | | according to EN 61000-6-2 level 3 | | | | | |
| Shock | | 250 g, 6 ms according to CEI EN 60068-2-27 | | | | | |
| Vibrations | | 10 g, 5-2000 Hz according to CEI EN 60068-2-6 | | | | | |
| Protection class | | IP67 | | | | | |
| Operating temperature range | [°C] | -25...+85 | | | | | |
| Storage temperature range | [°C] | -40...+100 | | | | | |
| Housing material | | die cast aluminium, UNI EN AC-46100 | | | | | |
| Electrical connection | | Hi-flex cable with open wires or cable with connector M12 8 pins | | | | | |
| Gap between sensor/tape (without cover strip) | [mm] | 0.1...0.5 | | | | | |
| Travel speed max. (mechanical) | [m/s] | 16 | | | | | |
| Travel speed max. (electrical) | [m/s] | - | 1.17 | 2.33 | 4.67 | 11.67 | |

Magnetic Tape WB10

| | | | | | | |
|-------------------------------|--------------------|--|--|--|--|--|
| Length | [m] | max. 100 | | | | |
| Protection class | | IP67 | | | | |
| Operating temperature range | [°C] | -20...+70 | | | | |
| Storage temperature range | [°C] | -40...+100 | | | | |
| Thermal expansion coefficient | [K ⁻¹] | 16 * 10 ⁻⁶ | | | | |
| Polar pitch | [mm] | 1 | | | | |
| Accuracy class | | ±85 $\mu\text{m}/\text{m}$, ±35 $\mu\text{m}/\text{m}$ (up to 30 m), ±8 $\mu\text{m}/\text{m}$ (up to 10 m) | | | | |

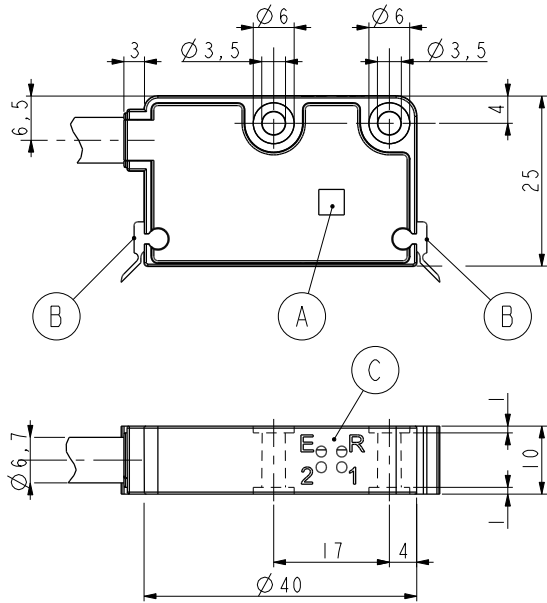
Magnetic Tape WB10 Chemical Resistance Information

| | | | | | |
|----------------------------------|-----|---------------------|-----|------------|-----|
| Acetone | •• | Kerosene | • | Seawater | •• |
| Acetylene | •• | Ketone | ••• | Steam heat | • |
| Antifreeze (Glacial acetic acid) | • | Mineral / Motor oil | • | Thinner | ••• |
| Benzene | ••• | Petrol | •• | Turpentine | •• |
| Heptane | ••• | | | | |

• No effect or low effect •• Low to Medium effect ••• Strong effect

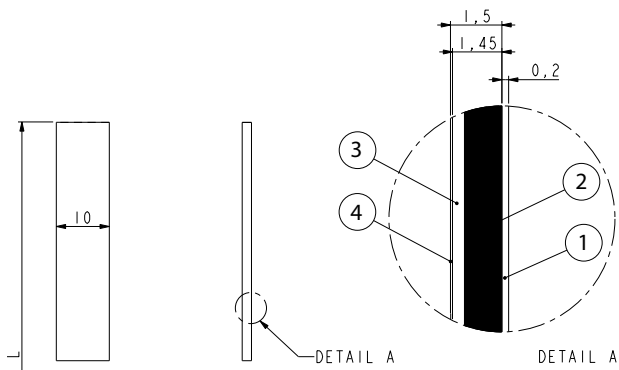
TECHNICAL DRAWING

Sensor MXW11 / MXI11



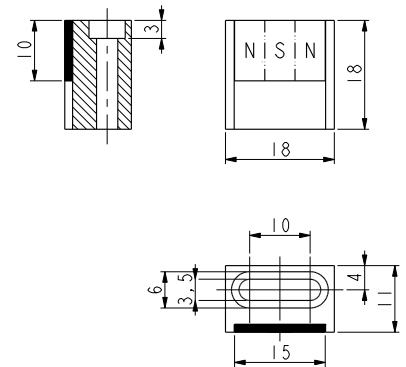
| | MXW11 | MXI11 |
|---|--|--|
| A | Reference sensor „R“ | |
| B | Dust wipers (not included in delivery) | |
| C | Diagnostic LEDS | Diagnostic LEDS |
| | E: Gap/Speed error (red) R: Reference detection (green) 1: Output A (green) 2: Output B (green) | E: Gap/Speed error (red) R: Reference detection (green) 1: LED 1 (not used) 2: LED 2 (not used) |

Magnetic Tape WB10

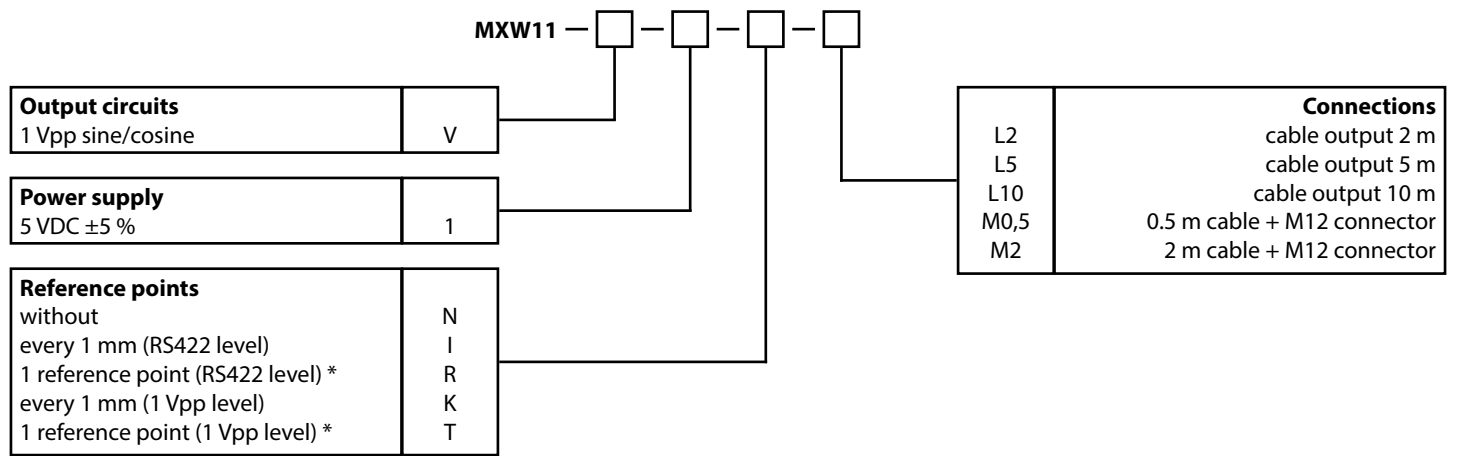


- 1 Cover strip
- 2 Plastoferrite tape
- 3 Carrier with adhesive strip
- 4 Adhesive tape
- L Magnetic tape length

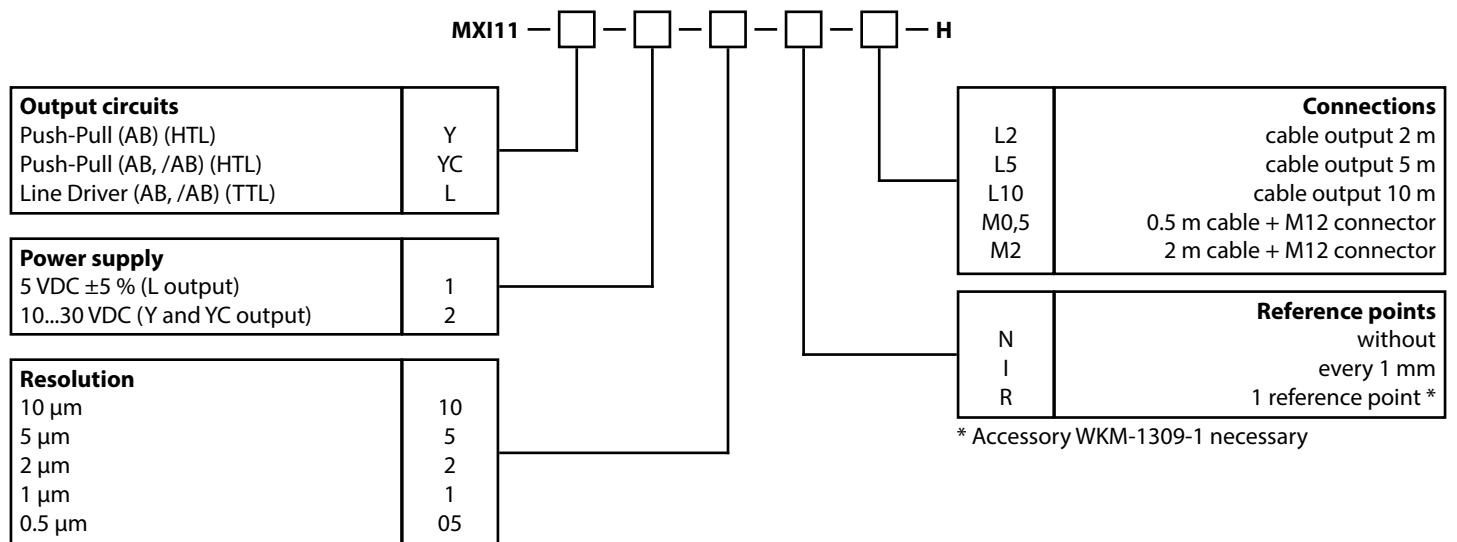
Reference pole support WKM-1309-1



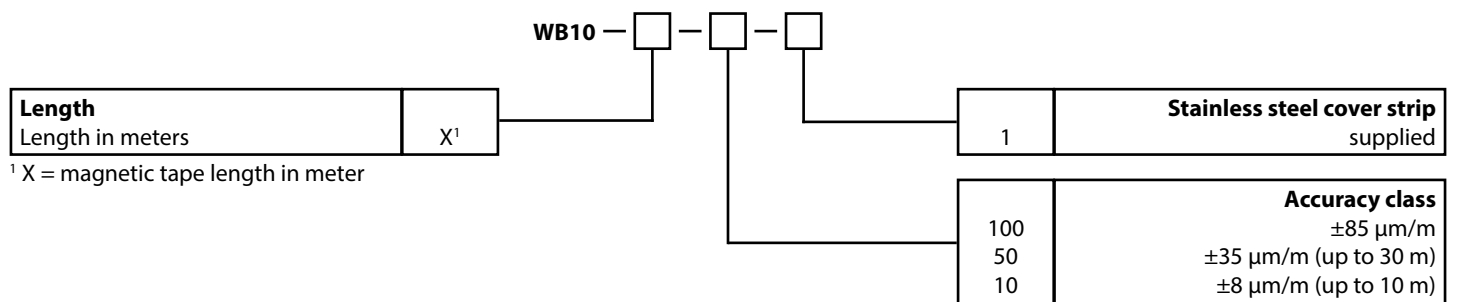
ORDER CODE



* Accessory WKM-1309-1 necessary



* Accessory WKM-1309-1 necessary



¹ X = magnetic tape length in meter

ACCESSORIES

| Cables and connectors | |
|-----------------------|---------------------------------------|
| D8-G-M12-S | M12, 8 pin mating connector, straight |
| D8-W-M12-S | M12, 8 pin mating connector, angular |
| K8P2M-S-M12 | 2 m, connector straight, M12, IP67 |
| K8P5M-S-M12 | 5 m, connector straight, M12, IP67 |
| K8P10M-S-M12 | 10 m, connector straight, M12, IP67 |

| Other accessories | |
|-------------------|-------------------------------------|
| WKM-1309-1 | Reference pole for option R and T * |
| KIT WIPERS | Wipers (10 pcs) * |

* not included in delivery

Subject to change without prior notice.

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