

# MAGNETIC SCALE



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## Series MXW21 and MXI21

### 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 MXW21	Sensor MXI21			
Measurement range	[m]	max. 99.99 (tape length -10 mm)				
Resolution	[µm]	theoretically unlimited	1	2	10	50
Signal period	[µm]	2000	-			
Sensor linearity max.		1 % of period length	±15 µm			±50 µm
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...1				
Travel speed max. (mechanical)	[m/s]	16				
Travel speed max. (electrical)	[m/s]	-	2.33	4.67	23.34	14.58

### Magnetic Tape WB20

Length	[m]	max. 100				
Protection class		IP67				
Operating temperature range	[°C]	-20...+70				
Storage temperature range	[°C]	-40...+100				
Thermal expansion coefficient	[K <sup>-1</sup> ]	16 * 10 <sup>-6</sup>				
Polar pitch	[mm]	2				
Accuracy class		±85 µm/m, ±35 µm/m (up to 30 m), ±8 µm/m (up to 10 m)				

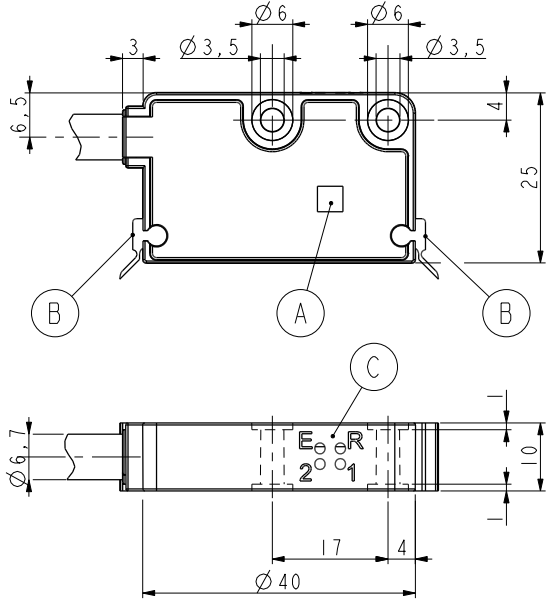
### Magnetic Tape WB20 Chemical Resistance Information

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

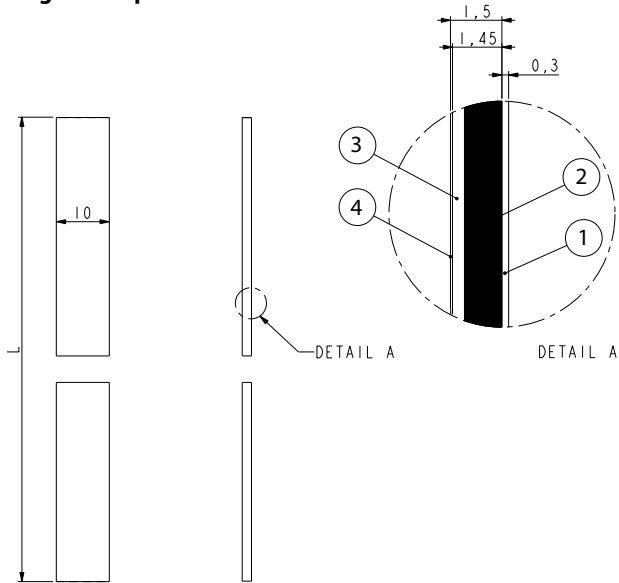
# TECHNICAL DRAWING

## Sensor MXW21 / MXI21



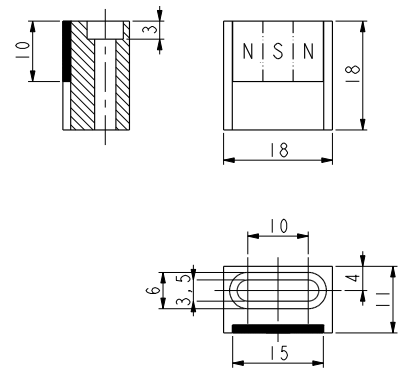
	MXW21	MXI21
A	Reference sensor „R“	
B	Dust wipers (not included in delivery)	
C	Diagnostic LEDs	Diagnostic LEDs
	E: Gap/Speed error (red) R: Reference detection (green) 1: Output A (green) 2: Output B (green)	E: Gap/Speed error (red) R: Reference detection (green) 1: LED 1 (not used) 2: LED 2 (not used)

## Magnetic Tape WB20

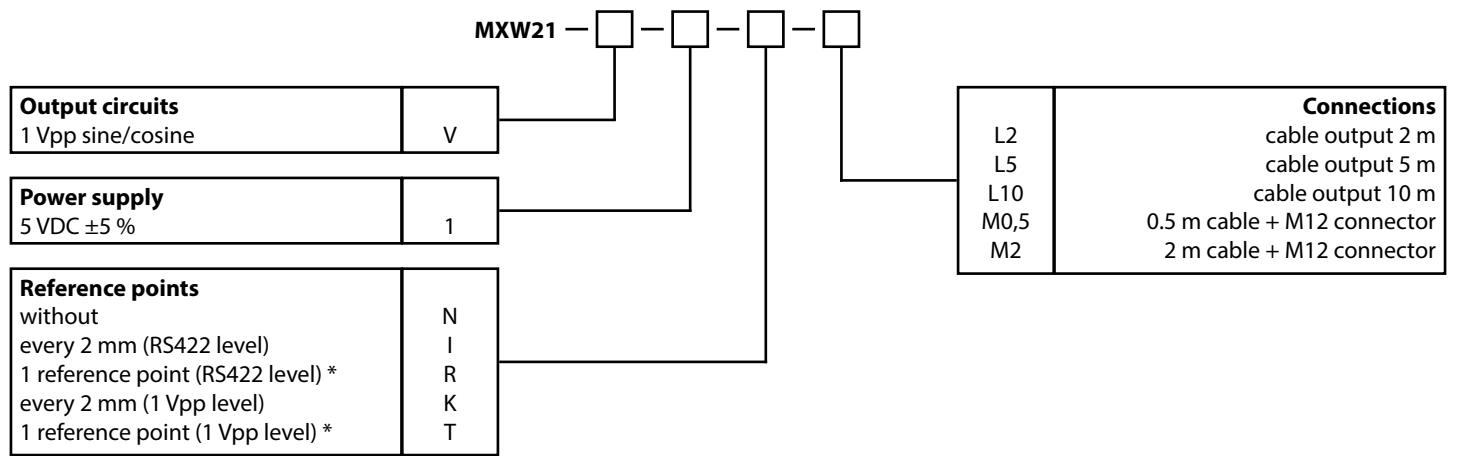


1	Cover strip
2	Plastoferrite tape
3	Carrier with adhesive strip
4	Adhesive tape
L	Magnetic tape length

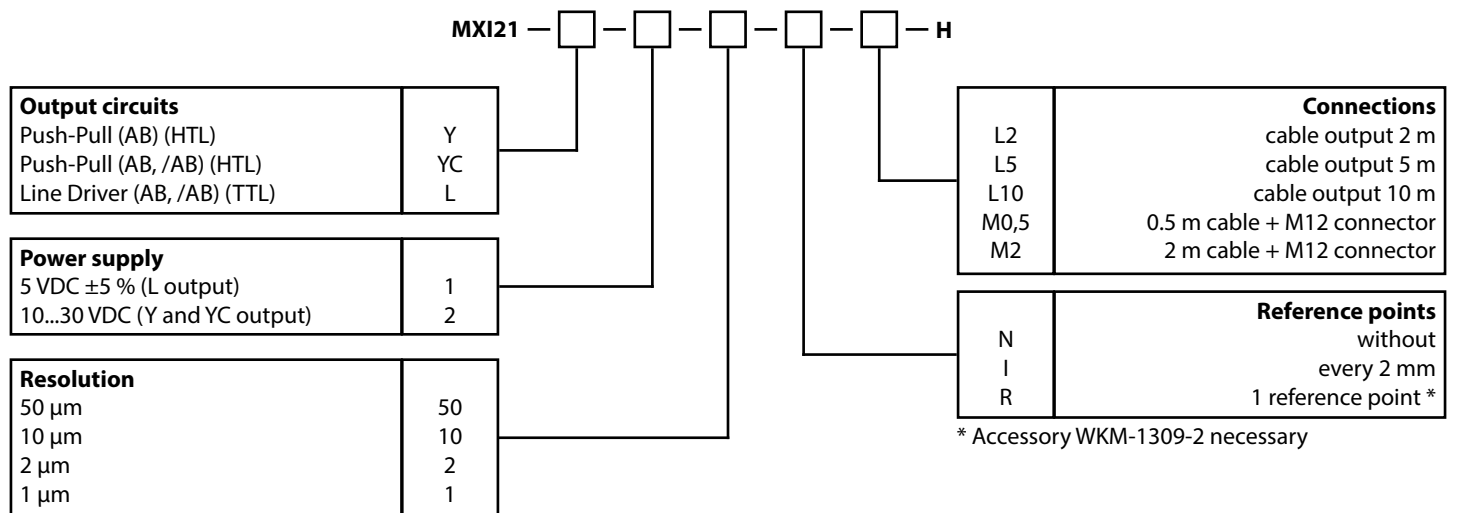
## Reference pole support WKM-1309-2



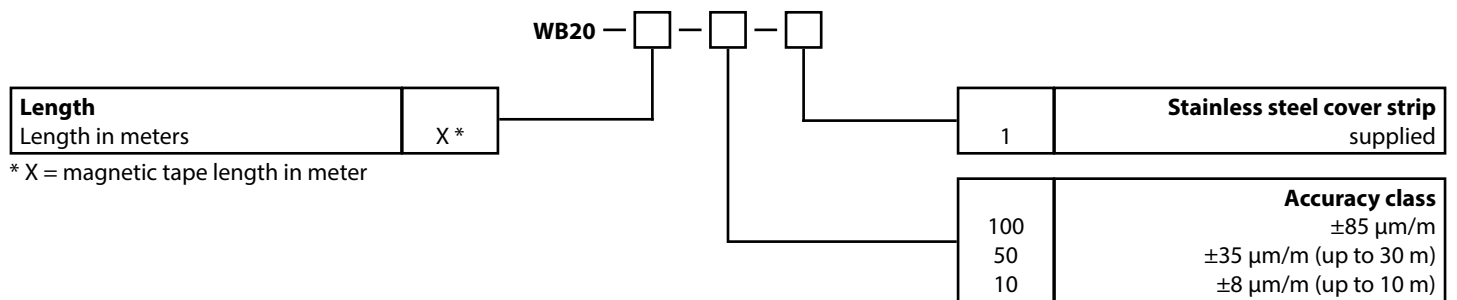
## ORDER CODE



\* Accessory WKM-1309-2 necessary



\* Accessory WKM-1309-2 necessary



\* 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-1309-2	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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