

MAGNETIC SCALE



Content:

Technical Data2
Technical Drawing3
Electrical Connection3
Order Code4

Series MXS2

Key-Features:

- Measurement ranges up to 8165 mm
- BiSS & SSI interface
- Resolution up to 1 μm
- Unaffected by dust, debris or liquids, IP67
- Operating temperature range from -25°C to +85°C
- Error bit output
- Large mounting tolerances
- Additional incremental output for speed feedback

TECHNICAL DATA

Sensor MXS2

Measurement range	up to 8165 mm (Tape length - 55 mm)
Resolution	50, 10, 5, 2 or 1 μm
Sensor linearity	max. $\pm 2 \mu\text{m}$
Repeat linearity	± 1 increment
Output circuits	absolute: SSI, BiSS-C incremental: NPN (AB)
Position refresh (absolute)	33 μs
Counting frequency (incremental)	see table below
Power supply	+5 VDC $\pm 5\%$
Power consumption	max. 1 W
Protection electrical	against 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	-25...+85 $^{\circ}\text{C}$
Storage temperature range	-40...+100 $^{\circ}\text{C}$
Housing material	anticorodal, UNI EN AW-6082
Electrical connection	Hi-flex cable with open wires or cable with connector M12 8 pins
Gap between sensor/tape	0.1... 0.6 mm
Travel speed (mechanical)	max. 10 m/s

Counting frequency (incremental)

Resolution	Max. travel speed (m/s)*	Max. counting frequency
50	7	73
10	7	350
5	7	580
2	1.8	580
1	1.4	580

* min. edge distance = 0.25 μs (4 MHz). Double speed possible with reduced sensor linearity ($\pm 4 \mu\text{m}$)

Magnetic Tape WBA2

Length	max. 8220 mm
Protection class	IP67
Operating temperature range	-40...+120 $^{\circ}\text{C}$
Storage temperature range	-40...+120 $^{\circ}\text{C}$
Thermal expansion coefficient	16 * 10 ⁻⁶ / K
Pol pitch	2 mm
Accuracy class	$\pm 40 \mu\text{m/m}$

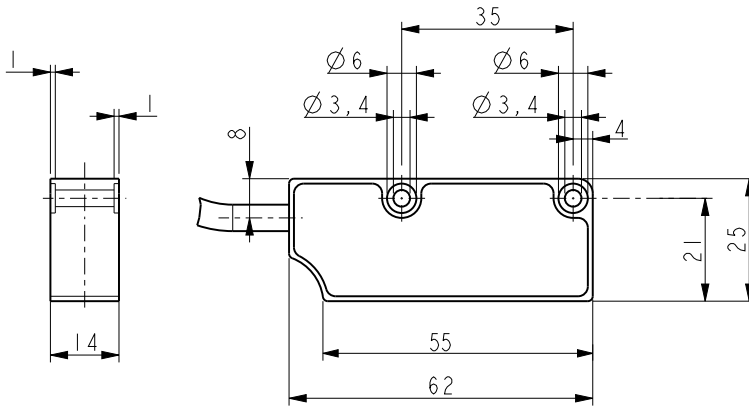
Magnetic Tape WBA2 Chemical Resistance Information

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

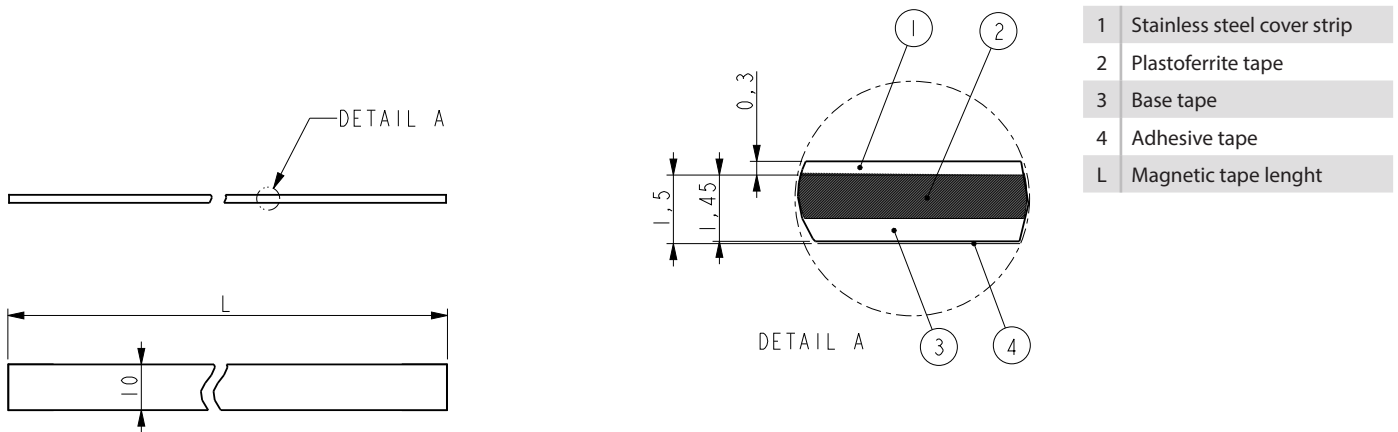
• No effect or low effect •• Low to Medium effect ••• Strong effect

TECHNICAL DRAWING

Sensor MXS2



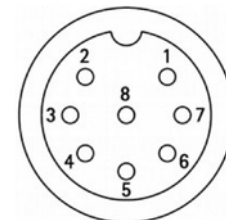
Magnetic Tape WBA2



ELECTRICAL CONNECTION

Signals	cable output	connector output	K8PXM-S-M12 ¹ cable colour
0 VDC	Black	1	White
+5 VDC $\pm 5\%$	Red	2	Brown
Clock IN + / MA +	Yellow	3	Green
Clock IN - / MA -	Blue	4	Yellow
Data OUT + / SLO +	Green	5	Grey
Data OUT - / SLO -	Orange	6	Pink
A ²	White	7	Blue
B ²	Grey	8	Red
Shielding	Shield	Case	Shield

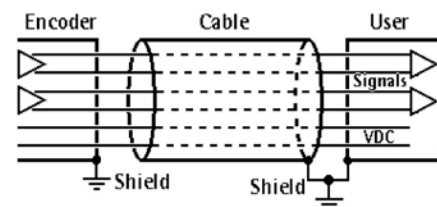
connector output, M12, male



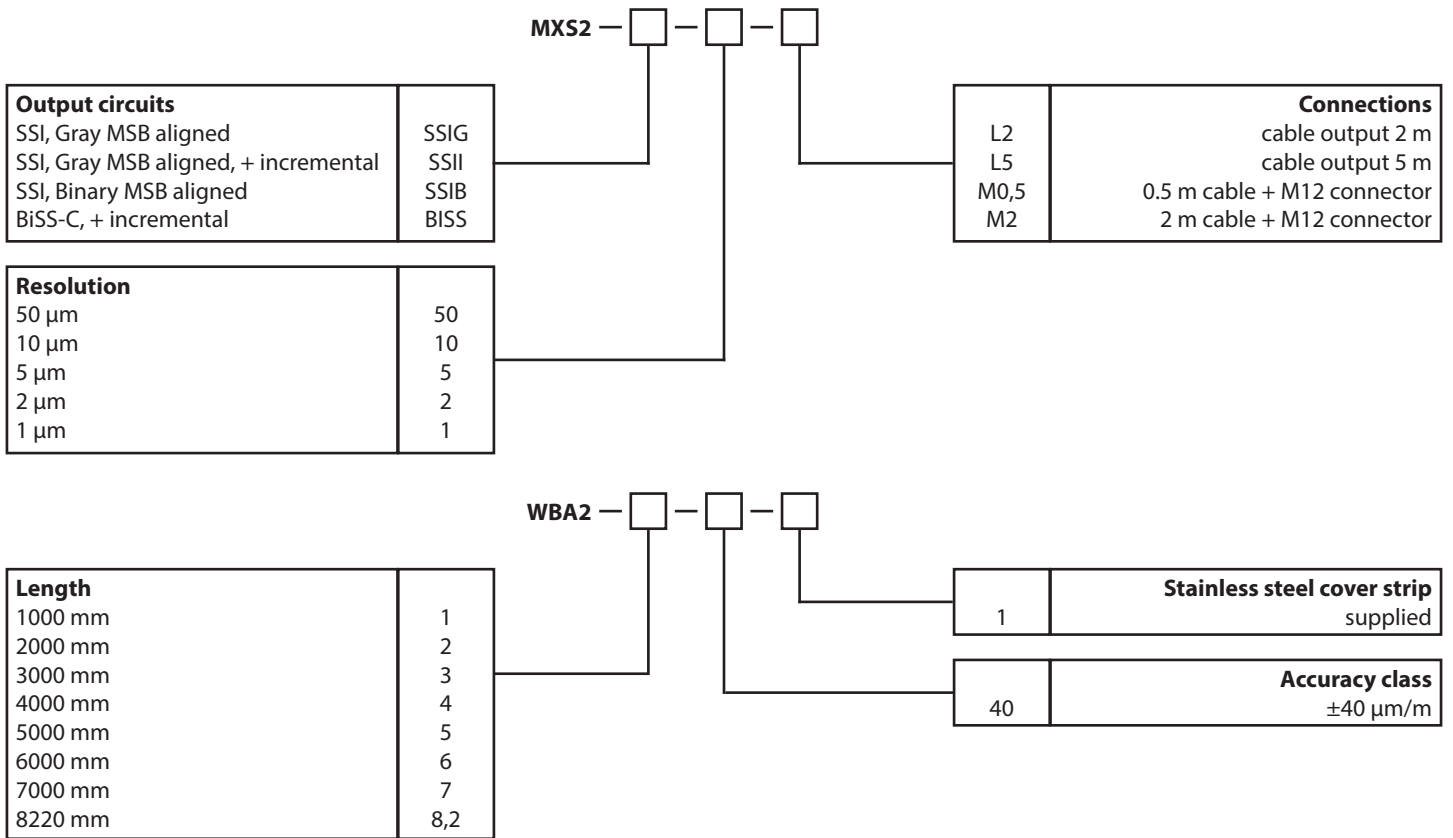
¹ See "accessories" page 4. X is cable length in m, e.g. cable length 2 m = K8P2M-S-M12.

² Incremental signals provided in specific versions only, see order code.

NPN o.c., +5Vdc $\pm 5\%$, max. $I_{out} = 40$ mA



ORDER CODE



ACCESSORIES

Cables and connetors

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

Subject to change without prior notice.

WayCon Positionsmesstechnik GmbH
email: info@waycon.de
internet: www.waycon.biz

WayCon

Positionsmesstechnik

Head Office
Mehlbeerenstr. 4
82024 Taufkirchen
Tel. +49 (0)89 67 97 13-0
Fax +49 (0)89 67 97 13-250

Office Köln
Auf der Pehle 1
50321 Brühl
Tel. +49 (0)2232 56 79 44
Fax +49 (0)2232 56 79 45