

MAGNETIC ABSOLUTE LINEAR ENCODER



Non contact absolute magnetic linear encoder MK has measuring length up to 30 m.

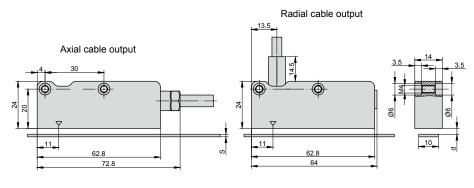
The encoder is used to convert linear displacements of key machine components into electrical signals containing information about components absolute position.

Encoder consists of metal based magnetic band MP, reading head and protective steel cover CV. Encoder

also could be supplied with protective aluminium support SP (instead protective cover CV), which is mounted on machine for magnetic band protection.

The encoder has two versions of serial interface SSI or BiSS C. On option third encoder version is available: with 2 analog sinusoidal signals with phase shift 90° C and amplitude approx. 1Vpp.

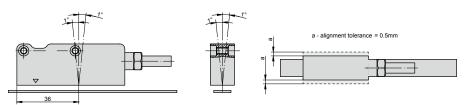
MECHANICAL DATA



Value, mm	MP200A	MP200A +CV	MP200A +SP	
S	1.3	1.6	2.1	
d	0.3 ÷ 1.0	0.7 MAX	0.2 MAX	

- s thickness
- d distance between reading head and magnetic band MP or protective cover CV (protective support SP)

Permissible tolerances for reading head mounting



MK PARAMETERS

Pole pitch	2+2 mm		
Measuring length (ML)	up to 30 m		
Incremental signal	since wave 1Vpp (optional)		
Resolution 1Vpp	up to 1µm (depending on CNC division factor)		
Repeatability	± 1 increment		
Signal period	2 mm		
Serial interface	SSI or BiSS		
Resolution absolute position	500, 100, 50, 10, 5, 1 μm		
Accuracy	± 15 μm		
Max. traversing speed	300 m/min		
Power supply	(5 28 V) DC ± 5%		
Current consumption with load	150 mA max. (with R=120 Ω)		

Protection (EN 60529)	IP67		
Operating temperature	0+50 °C		
Storage temperature	-20+70 °C		
Permissible humidity	100%		
Permissible vibration (552000 Hz)	200 m/s ²		
Permissible shock (11 ms)	1000 m/s ²		
Weight of reading head	80 g		
Electrical protections	from inversion of power supply polarity and from short circuit on output port		
Standard cable length / max. cable length	2.0 / 25.0 m (100 m if power supply is 5V)		

OUTPUT SIGNALS

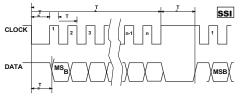
 Interface
 SSI Binary - Gray
 BISS C unidirectional

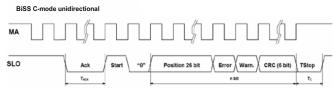
 Signals level
 EIA RS 485
 EIA RS 485

 Clock frequency
 0.1 ÷ 1.2 MHz
 0.1 ÷ 4 MHz

 n
 Position bit
 26 + 2 + bit

 Tc
 12 ÷ 65 μs
 12 ÷ 20 μs

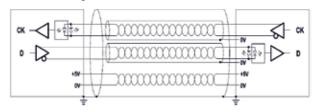




CABLE

Cable for serial output:

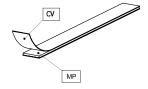
- 6-wire shielded cable, \varnothing =7 mm, PVC external sheath, with low friction coefficient, oil-resistant, suitable for continuous movements
- conductors section: supply 0.25 mm2, signals 0.25 mm2
- cable's bending radius should not be lower than 35 mm.



NOTE: Encoder is supplied with flexible cable, that consists of twisted pair of wires (for informational signals SSI-BiSS).

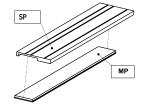
PROTECTIVE BAND CV

Stainless steel cover CV (width 10 mm, thickness 0,3 mm) for magnetic band MP protection is glued on magnetic band.



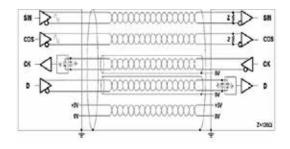
PROTECTIVE SUPPORT SP

Aluminium protective support SP for magnetic band MP protection. Fixed on machine surface and holds magnetic band. It is not possible to use the support SP if the magnetic band is already covered by stainless steel band CV.



Cable for analog output + serial output:

- 10-wire shielded cable, $\varnothing=7.1$ mm, PUR external sheath. Inside the cable, a further shield for the twisted pair of the digital signals (SSI-BiSS) is presented.
- -conductors section: supply 0.35 mm2, signals 0.10 mm2 cable's bending radius should not be lower than 45 mm.
- In case of cable extension, it is necessary to guarantee:
- electrical connection between the body of the connectors and the cables shield:
- minimum power supply voltage of 5 V to the head.



MAGNETIC BAND MP200A

Pole pitch	2+ 2 mm		
Accuracy (at 20 °C)	±20; ±80 μm/m		
Width	10 mm		
Thickness	1,3 mm		
Length	30 m max.		
Bend radius	80 mm min.		
Weight of magnetic band	65 g/m		
Weight of protective cover	25 g/m		
Operating temperature	0+70 °C		
Storage temperature	20+80 °C		

ACCESSORIES

CONNECTORS FOR CABLE	B12 12-pin round connector	C12 12-pin round connector	D9 9-pin flat connector	D15 15-pin flat connector	RS10 10-pin round connector	ONC 10-pin round connector
DIGITAL READOUT DEVICES	CS3000			CS5000		

ORDER FORM

