

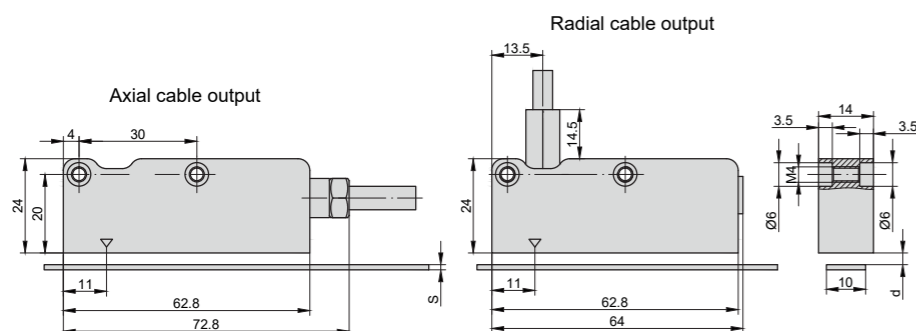
# MK

## MAGNETIC LINEAR ENCODER



Magnetic absolute linear encoder MK has measuring length of up to 50.000 mm, accuracy can reach up to  $\pm 35 \mu\text{m}$ . The encoder has two versions of serial interface - SSI or BiSS C, but optionally it can have 2 analog sinusoidal signals with phase shift  $90^\circ\text{C}$  and amplitude approx. 1Vpp.

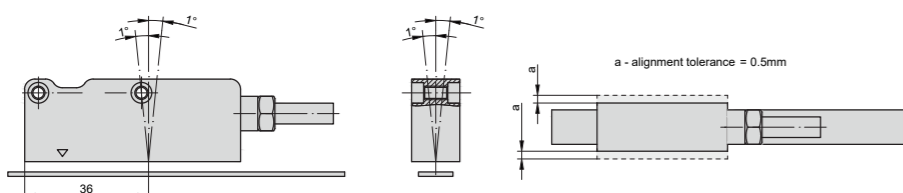
### MECHANICAL DATA



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

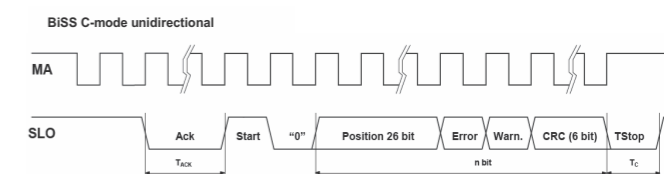
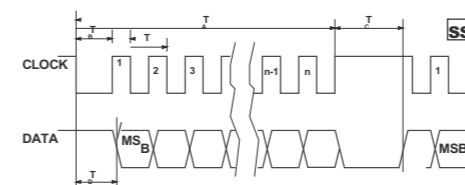


### MK PARAMETERS

Pole pitch	2+2 mm	Protection (EN 60529)	IP67
Measuring length (ML)	up to 30 m	Operating temperature	0...+50 °C
Incremental signal	since wave 1Vpp (optional)	Storage temperature	-20...+70 °C
Resolution 1Vpp	up to 1 $\mu\text{m}$ (depending on CNC division factor)	Permissible humidity	100%
Repeatability	$\pm 1$ increment	Permissible vibration (55...2000 Hz)	200 m/s <sup>2</sup>
Signal period	2 mm	Permissible shock (11 ms)	1000 m/s <sup>2</sup>
Serial interface	SSI or BiSS	Weight of reading head	80 g
Resolution absolute position	500, 100, 50, 10, 5, 1 $\mu\text{m}$	Electrical protections	from inversion of power supply polarity and from short circuit on output port
Accuracy	$\pm 15 \mu\text{m}$	Standard cable length / max. cable length	2.0 / 25.0 m (100 m if power supply is 5V)
Max. traversing speed	300 m/min		
Power supply	(5 ... 28 V) DC $\pm 5\%$		
Current consumption with load	150 mA max. (with R=120 $\Omega$ )		

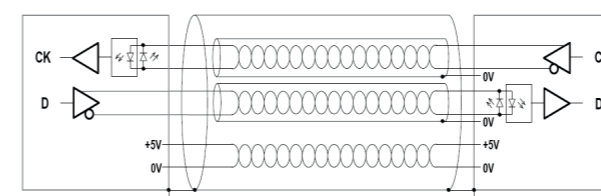
### OUTPUT SIGNALS

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 $\mu\text{s}$	12 ÷ 20 $\mu\text{s}$



### CABLE

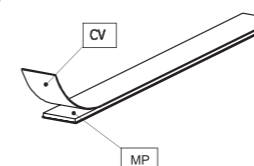
Cable for serial output:  
- 6-wire shielded cable,  $\varnothing=7$  mm, PVC external sheath, with low friction coefficient, oil-resistant, suitable for continuous movements  
- conductors section: supply 0.25 mm<sup>2</sup>, signals 0.25 mm<sup>2</sup>  
- cable's bending radius should not be lower than 35 mm.



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

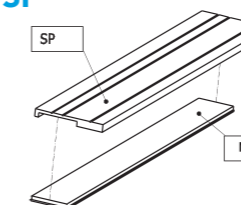
### PROTECTIVE BAND CV

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.



### MAGNETIC BAND MP200A

Pole pitch	2+ 2 mm
Accuracy (at 20 °C)	$\pm 20; \pm 80 \mu\text{m/m}$
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	CS5500	

### ORDER FORM

MK - XXXX - XX - X - XX / XX - XX / XX - XX / XX

ABSOLUTE RESOLUTION:	OUTPUT SIGNALS:	INCREMENTAL SIGNALS:	MAGNETIC BAND LENGTH:	PROTECTIVE STEEL COVER LENGTH:	OR ALUMINIUM PROTECTIVE SUPPORT:	CABLE LENGTH AND OUTPUT:	CONNECTOR TYPE:
F10 - 1 $\mu\text{m}$ F50 - 5 $\mu\text{m}$ F100 - 10 $\mu\text{m}$ F500 - 50 $\mu\text{m}$ F1000 - 100 $\mu\text{m}$ F5000 - 500 $\mu\text{m}$	S1 - SSI binary S2 - SSI binary+even parity S3 - SSI binary+odd parity S4 - SSI binary+error S5 - SSI binary+even parity+error S6 - SSI binary+odd parity+error S7 - SSI Gray B1 - BiSS binary	W - without incremental signals V - 1Vpp	MP200A/O1 - 1m MP200A/O2 - 2m MP200A/O3 - 3m ... MP200A/20 - 20m	CV/O1 - 1m CV/O2 - 2m CV/O3 - 3m ...	SP/O1 - 1m SP/O2 - 2m SP/O3 - 3m ...	A01-1m axial A02-2m ... R01-1m radial R02-2m ...	W - without connector B12 - round, 12 pins C12 - round, 12 pins D9 - flat, 9 pins D15 - flat, 15 pins

ORDER EXAMPLE: 1) MK-F10-S2-V-MP200A/O2- SP/O2-A02/C12