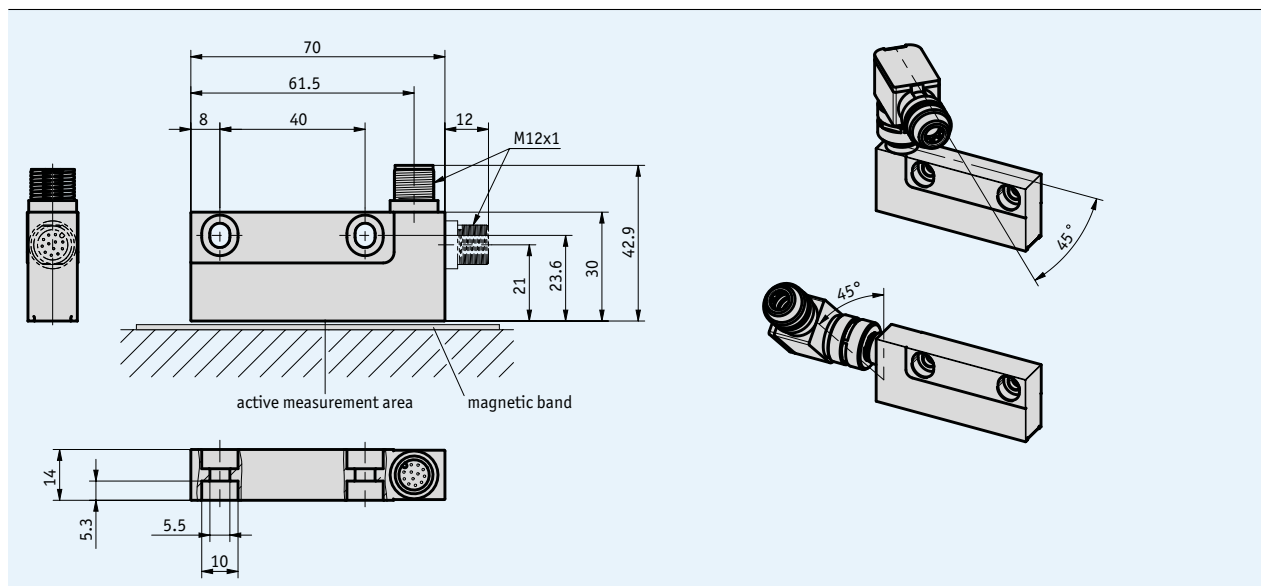


Magnetic Sensor MSA111C

Absolute, high-resolution position tracking

Profile

- Max. resolution 1 μm
- Repeat accuracy 10 μm
- output circuit SSI, RS485
- Additional analog real time output Sin/Cos 1 Vss for high-dynamic control
- Signal period 1 mm



Mechanical data

Feature	Technical data	Additional information
Scale embodiment	MBA111	
Resolution	1 μm	
System accuracy	$\pm 10 \mu\text{m}$	
Repeat accuracy	max. $\pm 2 \mu\text{m}$	
Pole length	1 mm	
Period length Sin/Cos output	1000 μm	
Sensor/band reading distance	max. 0.3 mm	(with cover strip on magnetic band)
Travel speed	<2 m/s (SSI) <10 m/s (sin/cos)	static operation dynamic operation
Housing	zinc die casting	
Connector	M12, 12-pin	
Operating temperature	-10 ... +60 $^{\circ}\text{C}$	
Storage temperature	-30 ... +80 $^{\circ}\text{C}$	
Humidity	100 % rh	condensation permitted
Protection category	IP67	only with mating plug
Max. measuring length	max. 4000 mm	

Electrical data

Feature	Technical data	Additional information
Operating voltage	4.5 ... 30 V DC	
Power input	max. 1.2 W	
Type of connection	round connector	
Output circuitv	SSI, RS485, 1 V _{SS}	
EMV	EN-61000-6-2, EN-61000-6-4	
Real-time requirement	real-time signal processing via AEA111/1	sin/cos output
Signal amplitude	1 V _{SS}	

Pin assignment

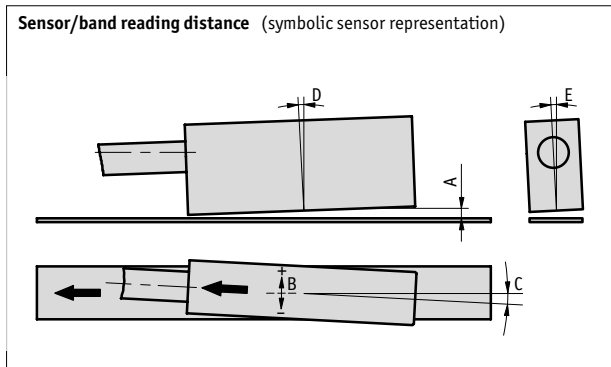
SSI	RS485	PIN
adjust	adjust	1
D+	D+	2
D-	D-	3
T-	N.C.	4
+UB	+UB	5
/sin	/sin	6
sin	sin	7
/cos	/cos	8
cos	cos	9
config	config	10
T+	N.C.	11
0V	0V	12

5.1

Mounting instruction

When installing the sensor and magnetic band, always ensure that both system components are correctly aligned. The arrows marked on the band and sensor must point in the same direction during installation.

A , Sensor/band reading distance	max. 0.3 mm
B , Lateral offset	max. +0.4 mm, -0.2 mm
C , Misalignment	<±1°
D , Longitudinal tilt	Max. reading distance sensor/ band A must nowhere be exceeded.
E , Lateral tilt	Max. reading distance sensor/ band A must nowhere be exceeded.



Order

- **Order note**
This sensor is sold in Switzerland and Austria under the product name “AMSA111C”.

- **Order table**

Feature	Order data	Specifications	Additional information
Output circuit	RS485	SIKONETZ3	
	SSI	RS422	
Connector position	H	horizontal	
	V	vertical	

- **Order code**

MSA111C -

A

 -

B

 -

S

5.1

Scope of delivery: MSA111C, User information, distance gage

Accessories:

Mating plug Page 176
Cable extension KV12S2 Page 180

Additional information:

Short Description, Technical Details Page 14 cont.
Product Overview Page 4 cont.