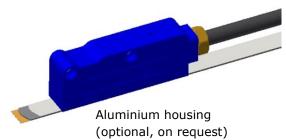
General features

- Linear magnetic sensor, with direct reading of the absolute position.
- Resolutions up to 1 µm.
- Measuring length up to 30.000 mm.
- High-speed SSI BiSS C (unidirectional) serial interface.
- Contactless reading through positioning sensor based on magneto resistance, with AMR effect (Magnetic Anisotropy).
- Warning indication through LED.
- Extremely easy and fast mounting of the sensor and application of the magnetic scale, with wide alignment tolerances.
- Possibility to fix the magnetic sensor with M4 screws or with through M3 screws.
- Small size, to allow installation in narrow spaces.
- Axial or radial robust sealed cable output.
- Cable suitable for continuous movements.







Mechanical characteristics

Material housing	Zinc-die-cast (standard) or aluminium (optional)			
Cable type	6-wire shielded cable $\emptyset = 7$ mm, PVC external sheath			
10-wire shielded cable $\varnothing = 7.1$ mm, PUR externa				
Weight	80 g			
Measuring length ML	up to 30.000 mm			
Warning indication through LED	LED lights up: operational			
Warning indication through LLD	LED does not light up: check distance			
Traversing Speed	< 300 m/min			
Traversing Speed	< 90 m/min -> with a resolution of 1 μm			
Operating Temperature	0 °C to +50 °C (-20 °C to +80 °C on request)			
Storage Temperature	-20 °C to +70 °C (-45 °C to +90 °C on request)			
Relative Humidity	100%			
Vibration Resistance (EN 60068-2-6)	200 m/s ² [55 to 2.000 Hz]			
IP-Rating (EN60529)	IP67			

Electrical characteristics

Pole pitch	2+2 mm
Signal period	2 mm
Resolution	
Absolute	500; 100; 50; 10; 5; 1 μm
1 Vpp	< 1 µm (depending on CNC division factor)
Incremental Cianal	Sinus/Cosinus 1 Vpp
Incremental Signal	(A and B output signals, with phase displacement of 90°)
Accuracy	$\pm 15 \mu \text{m} (at T_{U} = 20 ^{\circ}\text{C})$
Repeatability	±1 increment
Interface	SSI
Interrace	BiSS unidirectional
Supply Power	5 to 28 VDC ±5 %
Consumption Dower	150 mA (with R = 120 Ω) – 5 VDC
Consumption Power	100 mA (with R = 1200 Ω) – 24 VDC
Max. Cable length	20 m ¹⁾

Ensuring a minimum power supply of 5 V to the sensor, the maximum cable length can be extended to 50 m.

Indicate

AMS2-SSI_DB_2023-01-18_EN

Wesstechnik

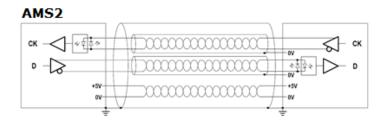
Datasheet

Serial output

- Shielded twisted pair for analog signals (SIN, COS)
- The cable is suitable for continuous movement
- 6-wire shielded cable, $\emptyset = 7$ mm, PVC external sheath, with low friction coefficient, oil-resistant
- Conductors section:
 - Power supply 0,25 mm²
 - Signals 0,25 mm²



The cable's bending radius should not be lower than 70 mm.



Signal	Colour
+V	brown
0V	white
CK	green
CK/	yellow
Data	pink
Data/	grey
SCH	shield

Wiring assignment: 6-wire shielded cable, opposite open cable end (according to DIN 47100)

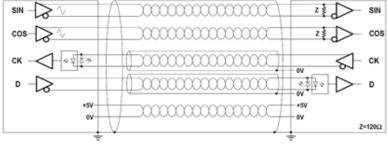
Analog + Serial output

- Shielded twisted pair for analog signals (SIN, COS)
- The cable is suitable for continuous movement
- 10-wire shielded cable, $\emptyset = 7.1$ mm, PUR external sheath
- Conductors section:
 - Power supply 0.35 mm²
 - Signals 0.15 mm²



The cable's bending radius should not be lower than 80 mm.

AMS2



Signal	Colour
+V	red
0V	blue
Α	green
A/	orange
В	white
B/	bright blue
CK	brown
CK/	yellow
Data	pink
Data/	grey
SCH	shield

Wiring assignment: 10-wire shielded cable, opposite open cable end (according to DIN 47100)

Willtec Messtechnik GmbH & Co. KG, Eschenweg 4, 79232 March-Hugstetten, Phone: 07665/93465-0 Fax: 07665/93465-22

info@willtec.de www.willtec.de

Measure Indicate Control Sensors Mechanics Accessory

lilltec Messtechnik

Datasheet

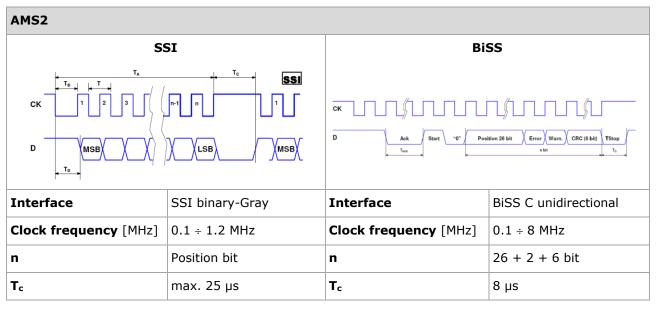


In case of cable extension, it is necessary to guarantee:

- the electrical connection between the body of the connectors and the cables shield
- a minimum power supply voltage of 5 V to the sensor

Avoid locating the cable next to any device that may cause electromagnetic interferences (motors, solenoid valves, inverters). If interferences are detected, act directly on the source of disturb using EMC filters.

Output signals



Connector M12 plug straight, 8-pin, type CI9

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Connector type **CI9**: M12 plug straight, 8-pin, view on plug side.

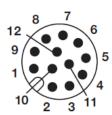
Shield = connected to plug housing

Wiring and Pin Assignment: M12 plug straight, 8-pin (according to DIN 47100)



Connector M23 plug straight, 8-pin type CG4

PIN	Signal	Colour
1	Data	pink
2	Data/	grey
3		
4		
5		
6		
7	CK	green
8	CK/	yellow
9		
10	GND	white
11	+V	brown
12	Shield	



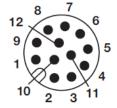
Connector type CG4: M23 plug straight, 8-pin, view on plug side.

Shield = connected to plug housing

Wiring and Pin Assignment: M23 plug straight, 8-pin (according to DIN 47100)

Connector M23 plug straight, 12-pin type CG4

PIN	Signal	Colour
1	Data	pink
2	Data/	grey
3	Α	green
4	A/	orange
5	В	white
6	B/	bright blue
7	CK	brown
8	CK/	yellow
9		
10	GND	blue
11	+V	red
12	Shield	



Connector type CG4: M23 plug straight, 12-pin, view on plug side.

Shield = connected to plug housing

Wiring and Pin Assignment: M23 plug straight, 8-pin (according to DIN 47100)



Connector M12 plug straight, 8-pin, type CO8

PIN	Signal	Colour
1		
2		
3	CK	green
4	CK/	yellow
5	Data/	grey
6	Data	pink
7	0V	white
8	+V	brown

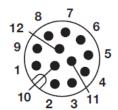


Connector type **CO8**: M12 plug straight, 8-pin, view on plug side.

Wiring and Pin Assignment: M12 plug straight, 8-pin (according to DIN 47100)

Connector M12 plug straight, 12-pin, type C12

PIN	Signal	Colour
1	В	white
2	B/	bright blue
3	CK	brown
4	CK/	yellow
5	Data/	grey
6	Data	rosa
7	0V	blue
8	+V	red
9	A/	orange
10	Α	green
11		
12		



Connector type **C12**: M12 plug straight, 12-pin, view on plug side.

Wiring and Pin Assignment: M12 plug straight, 12-pin (according to DIN 47100)



Extension cables

Extension cable type **VLK-8** with M12 **socket**, 8-pin, straight, opposite open cable end.

Conductors section: 8 x 0.25 mm² for power supply and signals, PUR/PVC external sheath

PIN	Signal	Colour
1		white
2		brown
3	CK	green
4	CK/	yellow
5	Data/	grey
6	Data	pink
7	0V	blue
8	+V	red



Connector type **CO8**: M12 socket straight, 8-pin, view on socket side.

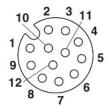
Wiring and Pin Assignment: M12 socket straight, 8-pin (according to DIN 47100)

Connection extension cable type VLK-8 only in combination with M12 plug, 8-pin type CO8 (standard).

Extension cable type VLK-12 with M12 socket, 12-pin, straight, opposite open cable end.

Conductors section: 12 x 0.14 mm² for power supply and signals, PUR/PVC external sheath

PIN	Signal	Colour
1	В	brown
2	B/	blue
3	CK	white
4	CK/	green
5	Data/	pink
6	Data	yellow
7	0V	black
8	+V	grey
9	A/	red
10	Α	violet
11		grey/pink
12		red/blue



Connector type **C12**: M12 socket straight, 12-pin, view on socket side.

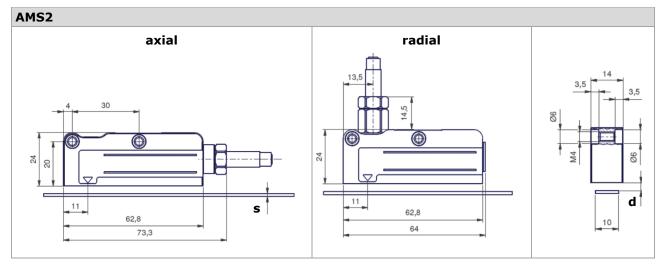
Wiring and Pin Assignment: M12 socket straight, 12-pin (according to DIN 47100)

Connection extension cable type VLK-12 only in combination with M12 plug, 12-pin type C12 (standard).

Messtechnik

Datasheet

Dimensions



All dimensions in mm

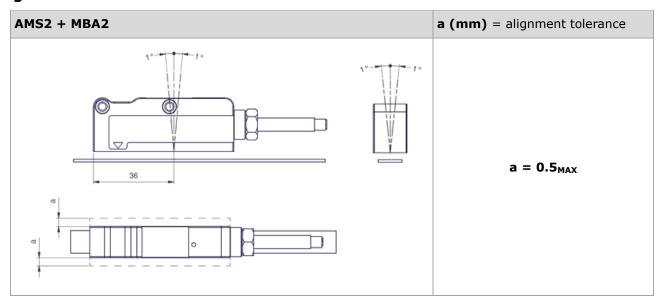
s (mm) = thickness magnetic scale			
thickness without double-sided adhesive tape		1.3	
MBAZ	thickness with double-sided adhesive tape	1.5	
MBA2 + DB01 ²⁾ thickness with double-sided adhesive tape and cover tape DB01		1.7	

d (mm) = distance to be maintained between sensor and surface		
MBA2 ¹⁾	distance to be maintained between sensor and surface of the magnetic scale (without cover tape)	0.3 1.0
MBA2+ DB01 ²⁾	distance to be maintained between sensor and surface of the cover tape	max. 0.7

- Absolute magnetic scale MBA2, composed by a magnetized plastoferrite tape, with pole pitch 2+2 mm. The plastoferrite is supported by a stainless steel tape, already provided with an adhesive tape.
- Non-magnetic stainless steel cover tape DB01 on which a double-sided adhesive tape is pre-mounted for a quick sticking and an easy fixing on the magnetic scale.



Alignment tolerances



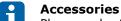
NOTICE

- Avoid the direct contact with magnetized objects or tools that could damage the surface.
- **Do not touch** the contacts of the cable's connector to avoid electrostatic discharges (ESD) on the device.



Ordering example **Type** AMS2 1 Α 528 S₀ M02/S -Pole pitch = 2+2 mmResolution [µm] 500; 100; 50; 10; 5; 1 **Cable output** = axial = radial **Power supply** 528 = 5-28 V**Output signals** = SSI programmable 1) S1 = SSI binary = SSI binary+even parity S2 S3 = SSI binary+odd parity = SSI binary+error S5 = SSI binary+even parity+error = SSI binary+odd parity+error S7 = SSI Gray В1 = BiSS binary **Incremental signal** = +1 Vpp (10-wire cable)= without incremental signal (6-wire cable) Cable length/type = 0,3 m (only in combination with connector M12 plug) M0.3 M02 = 2 m (standard) M20 = 20 m= 6-wire cable (only serial) S = 10-wire cable (serial + analog) Connector/wiring = without connector, open cable end SC CI9 = connector M12 plug straight, 8-pin CG4 = connector M23 plug straight, 8-pin or 12-pin = connector M12 plug straight, 8-pin (only in combination with extension cable type VLK-8) CO8

1) Programming device available separately.



C12

Please order the magnetic scale, and extension cable for connectors type CO8 and type C12 separately. For ordering information, please refer to the corresponding data sheet. You can configure the enclosure according to your requirements from the technical information and enter it into the ordering code.

= connector M12 plug straight, 12-pin (only in combination with extension cable type VLK-12)

Variants that cannot be configured from the ordering code are available on request as a special version.

Without prior notice, the products may be subject to modifications that the Manufacturer reserves to introduce as deemed necessary for their improvement.