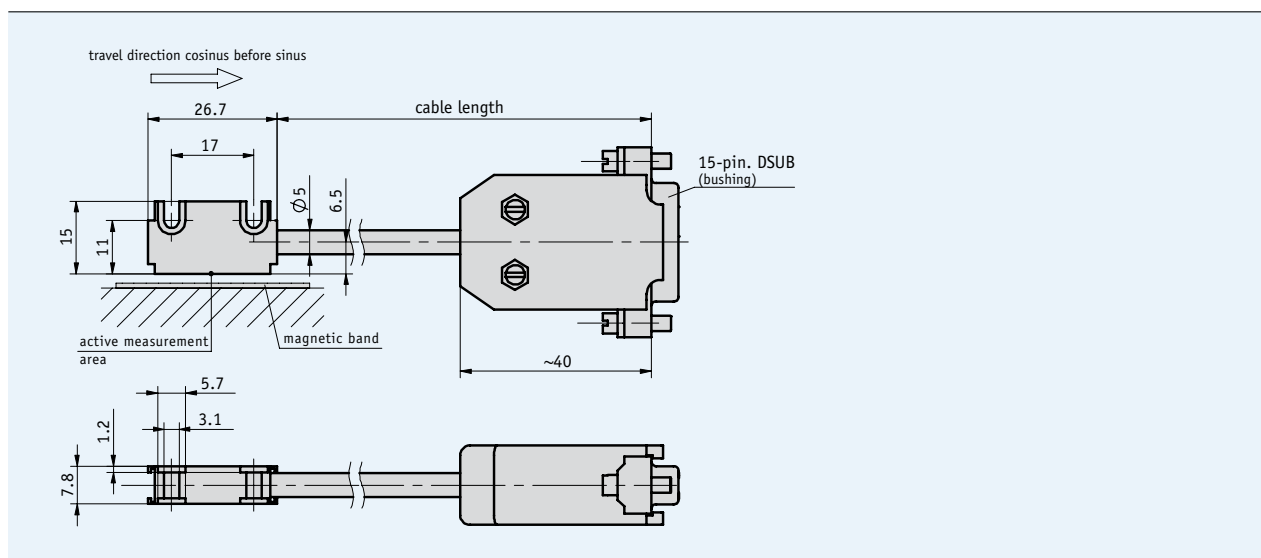


### Profile

- Repeat accuracy max.  $\pm 1 \mu\text{m}$
- Output circuit sin/cos 1 V<sub>SS</sub>
- Signal period 1000  $\mu\text{m}$  (analog)
- Real-time signal processing



5.1

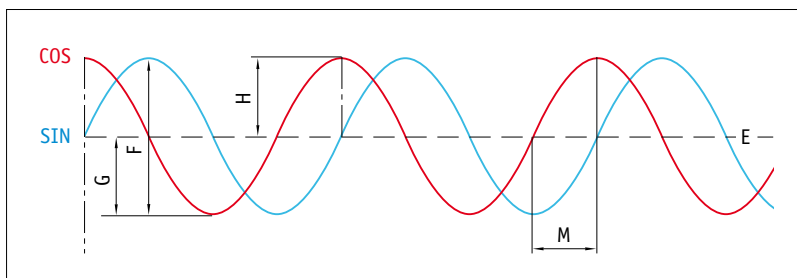
### Mechanical data

Feature	Technical data	Additional information
Scale embodiment	MB100	
System accuracy	$\pm 10 \mu\text{m}$	accuracy class 10 $\mu\text{m}$ only with MB100
Repeat accuracy	max. $\pm 1 \mu\text{m}$	unidirectional
Sensor/band reading distance	0.1 ... 0.4 mm reference signal RB <0.2 mm	over total measuring length, without cover strip
Travel speed	max. 20 m/s	
Housing	zinc die-cast	
Sensor cable	PUR	drag chain-compatible
Operating temperature	-10 ... +70°C	
Storage temperature	-30 ... +80°C	
Humidity	100 % rh	condensation permitted
Protection category	IP67	
Vibration resistance	<200 m/s <sup>2</sup> (50 ... 2000 Hz)	
Max. measuring length	infinite	

Electrical data

Feature	Technical data	Additional information
Operating voltage	24 V DC ±20 % 5 V DC ±5 %	reverse-polarity protection on UB no reverse-polarity protection on UB
Current consumption	approx. 30 mA	no load
Type of connection	D-SUB-connector 15 pins	
Output circuit	1 V <sub>SS</sub>	
Output signals	sin, cos, /sin, /cos	
Interference protection class	3	according to IEC 801
Real-time requirement	real-time signal processing	
Signal amplitude	1 V <sub>SS</sub> ±10 %	with R <sub>A</sub> = 120 Ohm up to 1 kOhm at 0 ... 20 °C
Output impedance	R <sub>load</sub> >75 Ohm	
Offset sine/cosine	2.5 V ±0.5 %	
Phasing sine/cosine	90° ±1°; < ±3° (20 kHz)	
Signal period	1000 µm	

Signal forms




E: 0 V ±5 mV (reference voltage 2.5 V)  
 F: 1 V<sub>SS</sub> ±10 %  
 Ratio of G and H: offset ±10 mV  
 M: 90° ±1.5° / < ±3° (20 kHz)

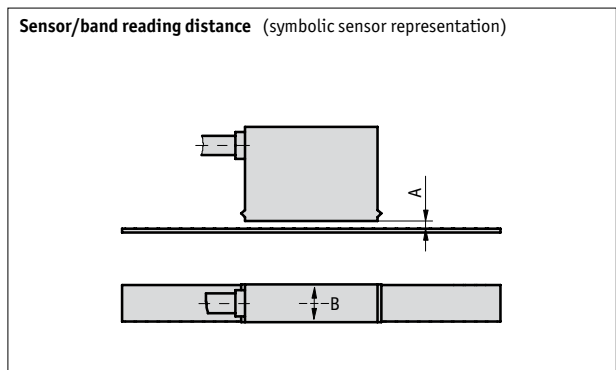
Pin assignment

Signal	PIN
GND (0V)	2, 10, 14
/B (cos-)	5
B (cos+)	6
A (sin+)	7
/A (sin-)	8
+UB	12
N.C.	1, 3, 4, 9, 11, 13, 15

Mounting instruction

Sensor/band reading distance A	max. 0.4 mm
Lateral offset B	max. ±2 mm

 The length of the cable between the sensor and connector cannot be subsequently increased or decreased.



## Order

### Order table

Feature	Order data	Specifications	Additional information
Operating voltage	4	24 V DC ±20 %	
	5	5 V DC ±5 %	
Cable sheath	PVC	oil-resistant	
	PUR		
Cable length L	...	1 ... 20 m, in steps of 1 m	

### Order code

LS100 -  -  -   
A B C

**Scope of delivery:** LS100, User information, Allen fastening screws M3 x 14 mm ISO 4762, lock washers M3 DIN 7980, strain relief for sensor cable, distance gage 0.2 mm

**Additional information:**

Short Description, Technical Details  
Product Overview

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Page 4 cont.