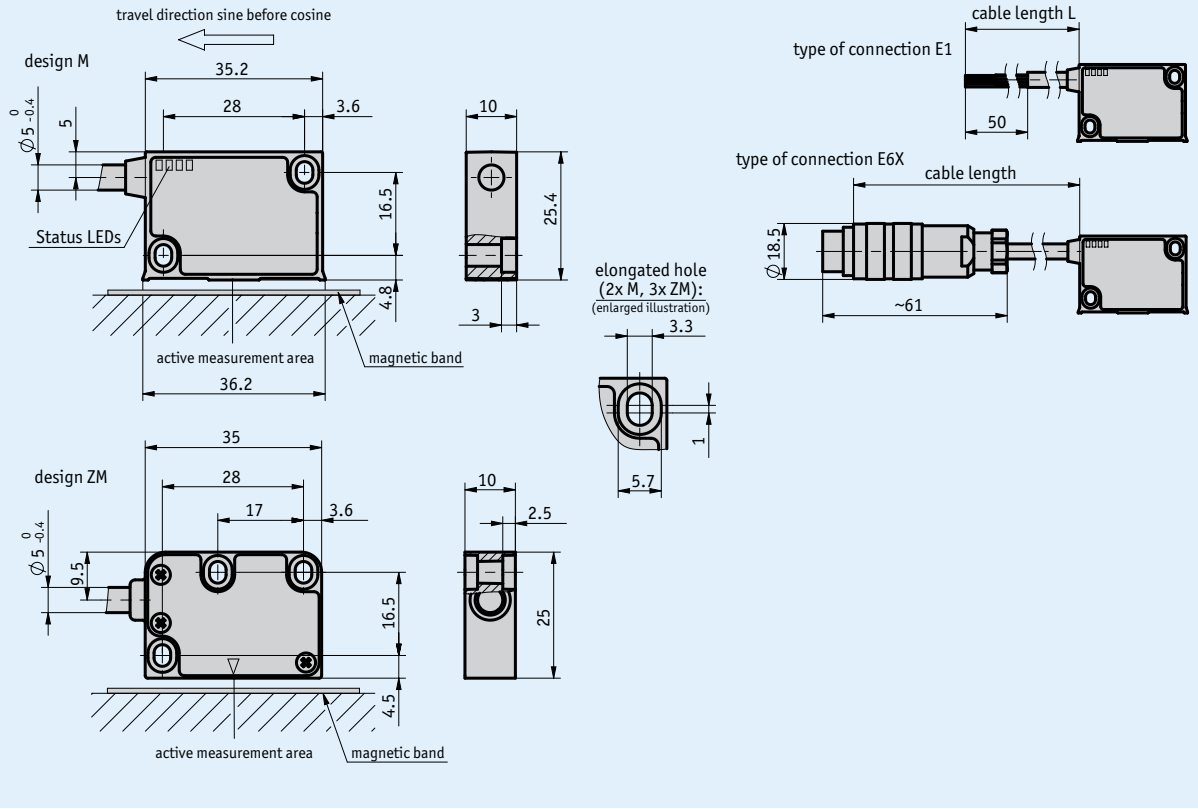
Magnetic sensor LE100/1 rotativ
Incremental, analog interface 1 V_{SS}

Profile

- Accuracy class ±0.1°
- Status LED display
- Works with MBR100 magnetic tape ring
- Reading distance ≤0.4 mm
- Signal period 1000 µm
- Output circuit sin/cos 1 V_{SS}
- Robust metal housing



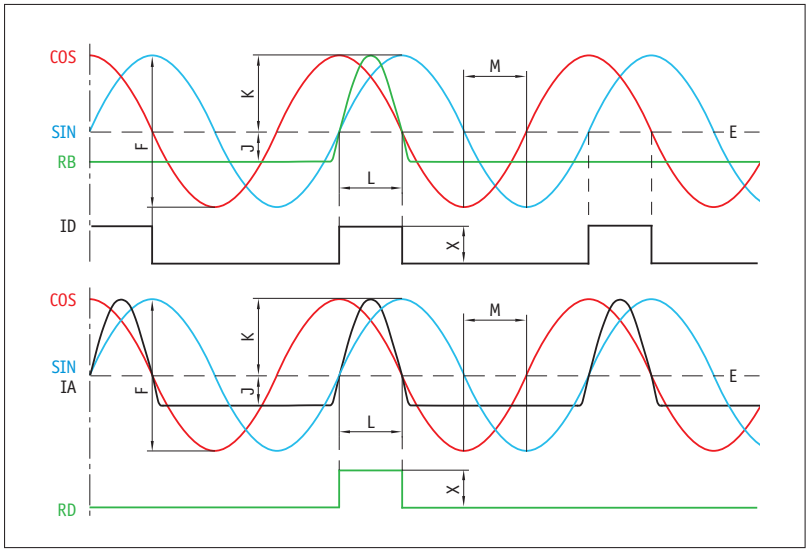
Mechanical data

Feature	Technical data	Additional information
Housing	zinc die-cast/aluminum	M design
	zinc die-cast	ZM design
Sensor/ring reading distance	0.1 ... 0.4 mm	reference signal 0, IA, ID
	0.1 ... 0.2 mm	reference signal RB, RD
Cable sheath	PUR, suitable for drag-chain use	6, 8-wire ø$5_{-0.4}$ mm

Electrical data

Feature	Technical data	Additional information
Operating voltage	10.5 ... 30 V DC	reverse polarity protected
	5 V DC ±5 %	no reverse polarity protection
Current consumption	<25 mA	at 24 V DC
	<50 mA	at 5 V DC
Output signals	sin, /sin, cos, /cos, index, /index	
Output voltage	1 V_{PP} ±10 %	at 0 ... 70 °C, 120 Ω teminal resistance
Output impedance	0 Ω (R_{Load} >75 Ω)	short-circuit proof
Signal period	1000 µm	
Offset voltage	2.5 V, ±100 mV	sine/cosine mean to GND (10.5 ... 30 V DC)
	UB/2 ±100 mV	sine/cosine mean to GND (5 V DC)
Phasing	90°±1°, ±3° (20 kHz)	sin/cos
	45° sin/cos	Reference signal is symmetric around the positive intersection point of the sin/cos signals (phase 45°)
Real-time requirement	speed-proportional signal output	
Type of connection	open cable end	
	plug connector	7/8-pole

Signal pattern



E: Reference voltage 2.5 V
F: 1 V_{SS} ±10 %
J: ≥0.2 V
K: ≥0.3 V
L: 100° ±20 %
M: 90° ±1.0° / ±3° (25 kHz)
X: 1 V_{SS}

System data

Feature	Technical data	Additional information
System accuracy	≤1 %	at TU = 20 °C; based on graduation period
Repeat accuracy	1 µm	
Measuring range	∞	
Circumferential speed	≤20 m/s	sin/cos

Ambient conditions

Feature	Technical data	Additional information
Ambient temperature	-10 ... 70 °C	
Storage temperature	-30 ... 80 °C	
Relative humidity	100 %	condensation admissible
EMC	EN 61000-6-2	interference resistance / immission
	EN 61000-6-4	emitted interference / emission
Protection category	IP67	EN 60529
Shock resistance	500 m/s², 11 ms	EN 60068-2-27
Vibration resistance	200 m/s², 50 Hz ... 2 kHz	EN 60068-2-6

Pin assignment

Without reference signal

Signal	E1	E6X
GND	black	1
sin	red	2
/sin	orange	3
cos	yellow	4
/cos	green	5
+UB	brown	6
nc		7

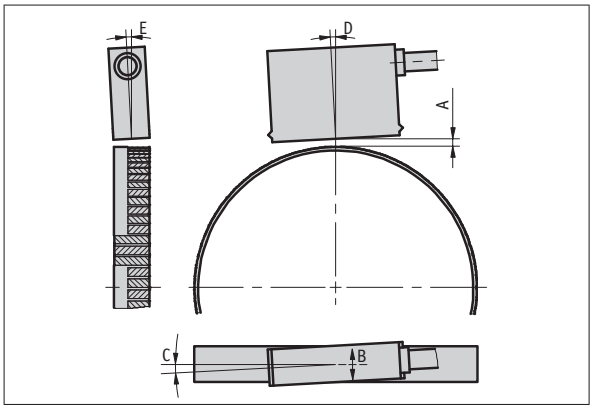
With reference signal

Signal	E1	E6X
sin	red	1
cos	yellow	2
index	blue	3
+UB	brown	4
GND	black	5
/sin	orange	6
/cos	green	7
/index	violet	8

Hint for mounting

For systems with reference points on the magnetic ring please take care that sensor and ring are aligned correctly (see picture).

Reference signal	O, I	R
A, Sensor/ring reading distance	≤0.4 mm	≤0.2 mm
B, Lateral offset	±2 mm	±0.5 mm
C, Alignment error	±3°	±1°
D, Longitudinal inclination	±1°	±1°
E, Lateral inclination	±3°	±3°



(symbolic sensor representation)

Order

Ordering information

One or more system components are required:

Magnetic band ring MBR100	www.siko-global.com
Magnetic ring MRS100	www.siko-global.com

Ordering table

Feature	Ordering data		Specification	Additional information
Operating voltage	10	A	10.5 ... 30 V DC	
	5		5 V DC ±5 %	
Design	M	B	metal housing with status LEDs	
	ZM		metal housing without status LEDs	
Type of connection	E1	C	open cable end	
	E6X		bullet connector without mating connector	
			cable extension on request	
Cable length	...	D	1 ... 20 m, in steps of 1 m	
			others on request	
Reference signal	0	E	without	
	IA		periodic index (analog)	index signal every 1 mm
	ID		periodic index (digital)	index signal every 1 mm
	RB		fixed, tape side (analog)	
	RD		fixed, tape side (digital)	

Order key

LE100/1 rotativ - [ ] - [ ] - [ ] - [ ] - [ ]
A B C D E

Scope of delivery: *LE100/1 rotativ, Mounting instructions, Fastening set*