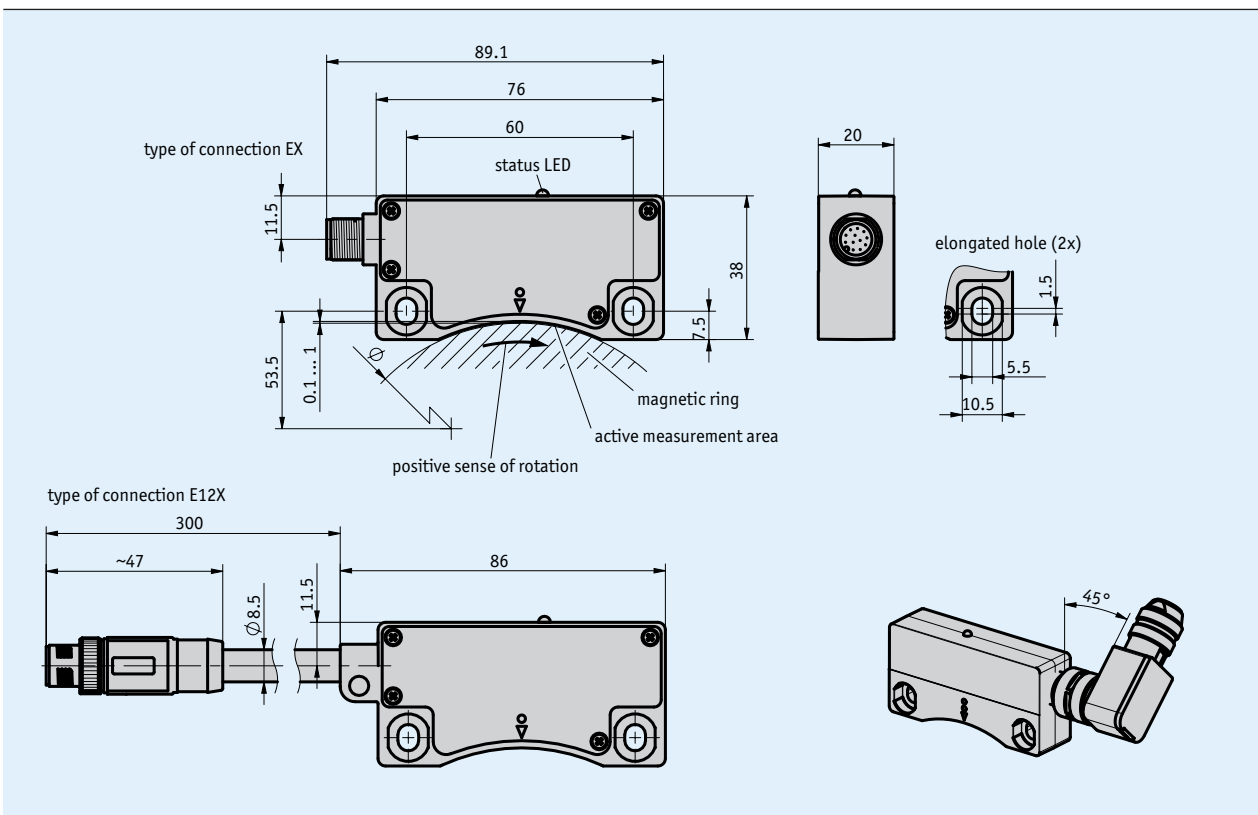


### Profile

- Magnetic absolute encoder single-turn
- Compact design
- Resolution 12 ... 16 bits
- Additional analog Sin/Cos 1 V<sub>SS</sub> signals
- Reading distance ≤ 1 mm



### Mechanical data

Feature	Technical data	Additional information
Housing	zinc die-cast	
Sensor/ring reading distance	0.1 ... 1 mm	over the whole sensor line

## Electrical data

Feature	Technical data	Additional information
Operating voltage	4.5 ... 30 V DC	reverse polarity protected
Power input	<1 W	
SSI clock speed input	50 ... 750 kHz	
Output circuit	1 V <sub>pp</sub> ±10 %	
Offset voltage	2.5 V DC ±100 mV	
Interface	SSI	service mode (RS485)
Cycle time	≤30 μs	
Type of connection	M12 plug-in connector (A-coded)	12-pole, 1x pin

## System data

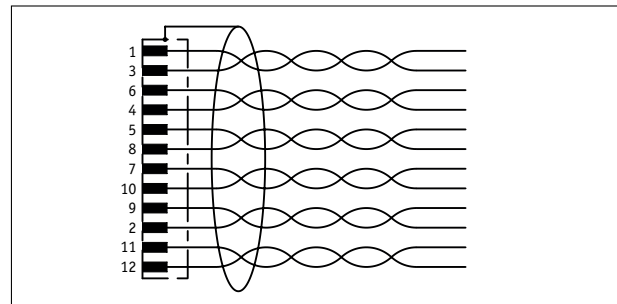
Feature	Technical data	Additional information
Pole length	5 mm	pole number 64
Resolution	12 ... 16 bit	~0.08° ... 0.005°
System accuracy	±0.1°	at TU = 20 °C, with run-out error of 50 μm
Repeat accuracy	0.01°	unidirectional
Circumferential speed	≤32 m/s	absolute value ≤3 m/s

## Ambient conditions

Feature	Technical data	Additional information
Ambient temperature	-20 ... 85 °C	
Storage temperature	-20 ... 85 °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/s <sup>2</sup> , 11 ms	EN 60068-2-27
Vibration resistance	≤100 m/s <sup>2</sup> , 50 ... 2000 Hz	EN 60068-2-6

## Pin assignment

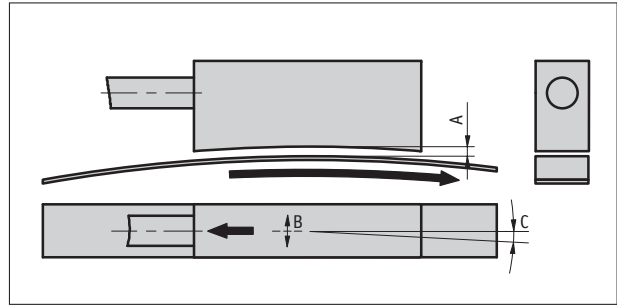
Signal	PIN
Sin	1
GND	2
/Sin	3
/Cos	4
T+	5
Cos	6
D+	7
T-	8
+Ub	9
D-	10
config	11
nc	12



**Hint for mounting**

Please ensure correct alignment of both system components to each other during mounting of sensor and magnetic ring.

A, Sensor/ring reading distance (active measurement area)	0.1 ... 1.0 mm
B, Lateral offset	±1.5 mm
C, Misalignment	<±0.5°



Symbolic sensor representation

**Order**

■ **Ordering table**

Feature	Ordering data	Specification	Additional information
Type of connection	EX	Plug outlet	
	E12X	Plug outlet with cable	
Resolution	12	12 bit	
	13	13 bit	
	14	14 bit	
	15	15 bit	
	16	16 bit	

■ **Order key**



*Scope of delivery: MSAC506, Quick Start Guide*