

# Datasheet

The incremental measuring system MSR12 is a simple measuring system with integrated interpolation chip (interpolation factor 128) which is based on magnetic scanning. The design is round - thread M12. The measuring system can be operated in connection with magnetic scales or magnetic rings with a pole pitch of 2,5 mm.



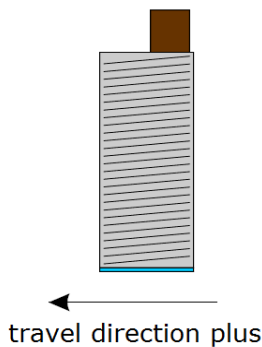
## Mechanical Data

Mounting position	optional
Dimensions	Ø12 x 32,5 mm (WxD)
Connection	M12x1 thread
Position of Sensor	eccentric
Resolution	~ 10 µm, 128 impulses/ 10mm (= 512 Flanken/ 10mm)
Pole Pitch	2,5 mm
Accuracy	± 100 µm
Distance between magnetic tape / sensor	max. 1 mm
Operating Temperature	0 - + 40 °C
Storage Temperature	-20 - +65°C
Humidity	max. 90%
IP-Rating	IP65

## Electrical Data

Power Supply	5 VDC ±5% 10-30 VDC ± 5%
Power Consumption	max. 20 mA plus outputs
Output Signals	Line Driver A; B; Z; $\bar{A}$ ; $\bar{B}$ ; $\bar{Z}$ : 5V max. 20 mA* <small>*Z-signal linked</small>
	Push-Pull A, B, Z: 10V - 30V max. 20 mA A,B: 5V max. 4mA
Frequency	max. 200 kHz
Z-impulse	polperiodic

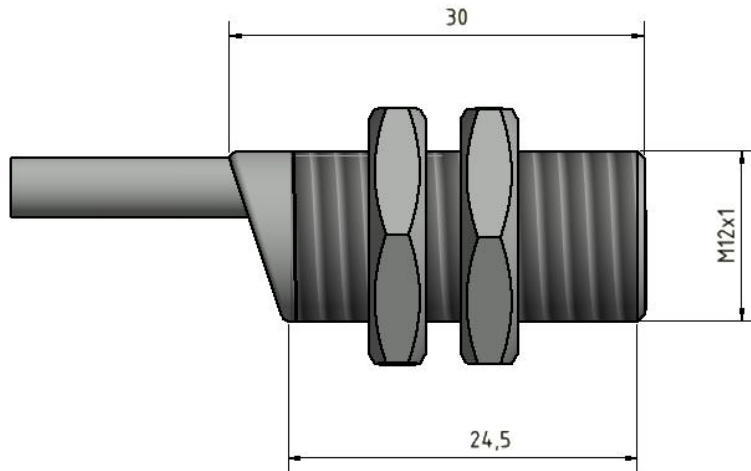
## Installation



The sensor is screwed into a M12 thread or mounted in a through bore with two lock nuts. The distance to the magnetic scale or the magnetic ring must not exceed 1 mm. Therefore, the sensor is screwed into the thread until it rests on the magnetic scale. Then turn it back until the cable outlet is perpendicular to the traverse direction.

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## Dimension



## Connection

The sensor is either operated at 5V DC voltage  $\pm 5\%$  (Line Driver), or at 10 - 30V DC voltage  $\pm 5\%$  (Push-Pull).

Electrical wires have to be installed according to the respective national regulations (e.g. VDE) Measuring, signal and power lines must be installed separately.

The shield of the cable has to be attached to the ground of the connected device.

Depending on the version, the wire colour can vary.

Wire colour	Measuring system (Line Driver)	Measuring system (Push-Pull)
	Connection	Connection
red	$+U_B$	-
blue	GND	-
pink	A	-
grey	$\bar{A}$	Z
green	B	B
yellow	$\bar{B}$	A
white	Z	$+U_B$
brown	$\bar{Z}$	GND

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## Ordering example

**Type** MSR12 - 128 - TTL - 5 - 1,0

### Version

**12** = M12x1

### Interpolation

**128**

### Output

**TTL** = Line Driver

**Y** = Push-Pull

### Power Supply

**5** = 5 VDC

**24** = 10 - 30 VDC

**5/24** = 5-24 VDC\*

### Cable Length

**1,0** = 1 m

**2,0** = 2m

**5,0** = 5m

\*only with REF

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