

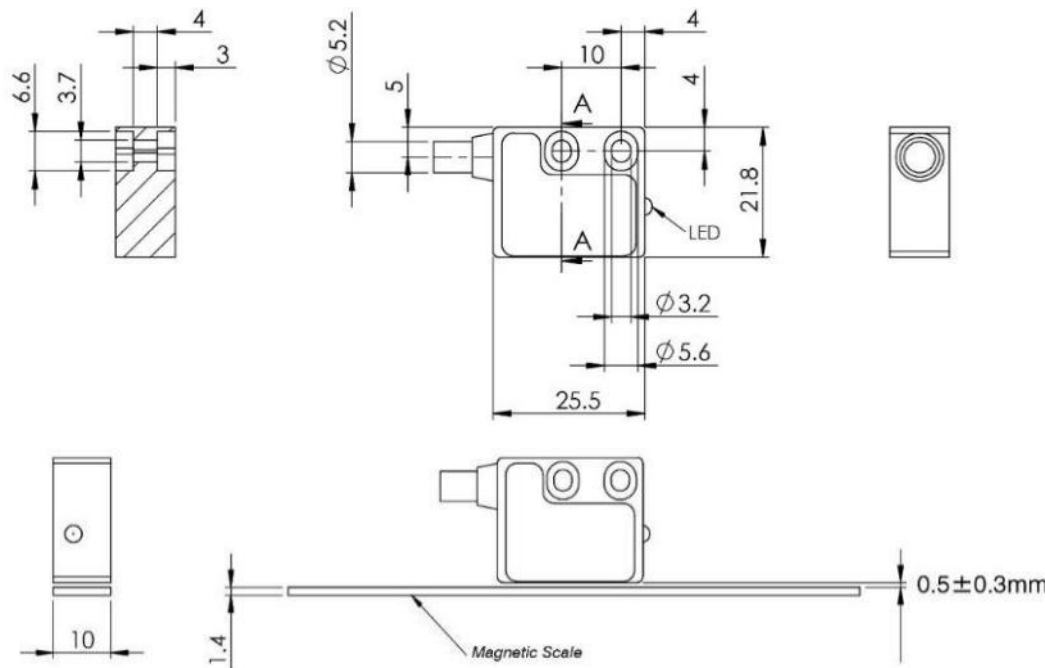
- High reliability non- contact sensing technology
- Industry standard digital and analogue output options
- Customer selectable resolutions from 0.5um to 100μm
- Axis lengths of up to 50 m
- Excellent dirt immunity
- High speed operation



System data:

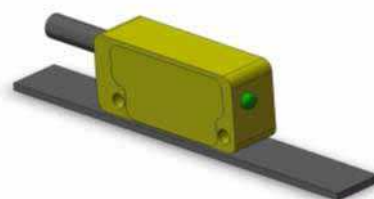
Feature	Technical Data	Additional information
Measuring Principle	Incremental	
Scale embodiment	TR20	Pole pitch: 2mm
Resolution	Max.0.5um	
System accuracy	$\pm (0.002+0.03 \times L)$ mm	L in m
Repeat accuracy	± 0.002 mm	
Sensor/band reading distance	0.5 ± 0.3 mm	
Travel speed	≤ 5 m/s	
Operating voltage	5VDC $\pm 5\%$	
Current consumption	Max.35mA	
Output Signals	A+, A-, B+, B-, Z+, Z- (Index pulse)	Digital Signal
Output Levels	digital output 5V-TTL differential	
LED Logic	Green/Red	Red: reading distance isn't ok, or magnetic tape was damaged; Green: reading distance is ok
Housing	Alloy	
Operating temperature	$-10 \sim +70^{\circ}\text{C}$	
Storage temperature	$-30 \sim +80^{\circ}\text{C}$	
Protection category	IP67	
Humidity	max. 95%, non-condensing	same with TR20

Dimension (Unit: mm)



Installation (Unit: mm)

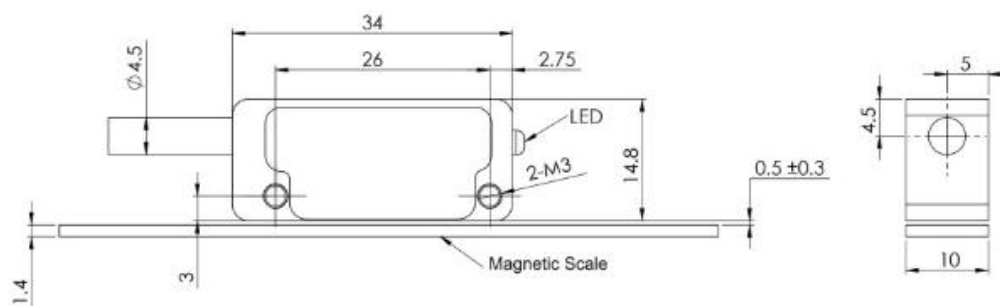
- High reliability non- contact sensing technology
- Industry standard digital and analogue output options
- Customer selectable resolutions from 0.5um to 100μm
- Axis lengths of up to 50 m
- Excellent dirt immunity
- High speed operation



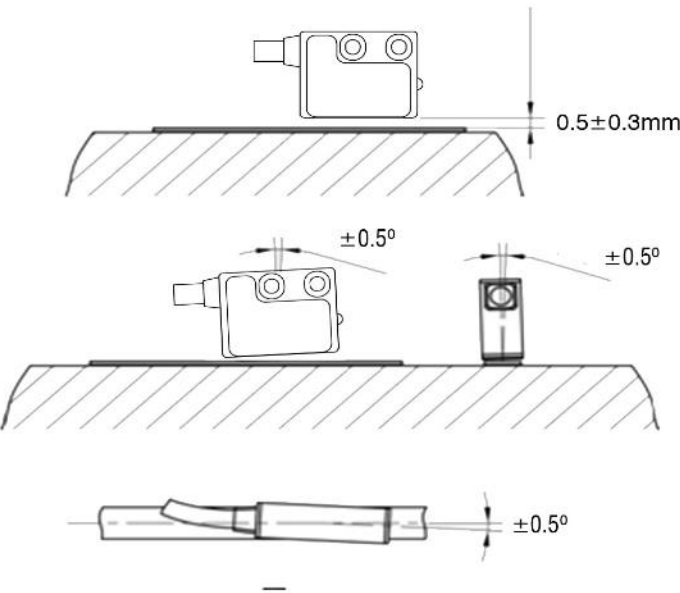
System data:

Feature	Technical Data	Additional information
Measuring Principle	Incremental	
Scale embodiment	TR20	Pole pitch: 2mm
Resolution	Max.0.5um	
System accuracy	$\pm (0.002+0.03 \times L)$ mm	L in m
Repeat accuracy	± 0.002 mm	
Sensor/band reading distance	0.5 $\pm$ 0.3mm	
Travel speed	≤ 5 m/s	
Operating voltage	5VDC $\pm$ 5%	
Current consumption	Max.35mA	
Output Signals	A+, A-, B+, B-, Z+, Z- (Index pulse)	Digital Signal
Output Levels	digital output 5V-TTL differential	
LED Logic	Green/Red	Red: reading distance isn't ok, or magnetic tape was damaged; Green: reading distance is ok
Housing	Alloy	
Operating temperature	-10 $\sim$ +70 $^{\circ}$ C	
Storage temperature	-30 $\sim$ +80 $^{\circ}$ C	
Protection category	IP67	
Humidity	max. 95%, non-condensing	same with TR20

Dimension and Installation (Unit: mm)

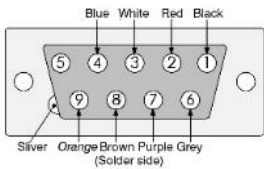
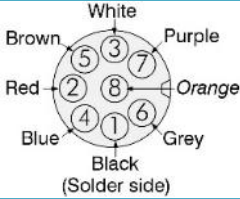


Installation (Unit: mm)



Order table:

Feature	Order data		Specifications	Additional information
Resolution	Z	A	0.0005mm	Standard
	X		0.001mm	
	C		0.002mm	
	D		0.005mm	
	E		0.01mm	
	F		0.02mm	
	G		0.025mm	
	K		0.05mm	
Cable length	1	B	1m	Standard
	4		4m	
			Max. 10m	
Connections		C	= Open cable ends	
			D1 = Connection by 9 pin D-SUB	
			D3 = Connection by 8 pin round connector	

Connection Type	Colour	Function	Description
Open cable ends	Red	VCC	5V
	Black	GND	0V
	White	A+	Channel A
	Grey	A-	Channel A inverted
	Blue	B+	Channel B
	Purple	B-	Channel B inverted
	Brown	Z+	Channel Z
	Orange	Z-	Channel Z inverted
	Screen	PE	Shield / Earth
			
Connection Type	PIN	Function	Description
9 pin D-USB connector	1	GND	0V
	2	VCC	5V
	3	A+	Channel A
	4	B+	Channel B
	6	A-	Channel A inverted
	7	B-	Channel B inverted
	8	Z+	Channel Z
	9	Z-	Channel Z inverted
	Screen	PE	Connected to housing
			
Connection Type	PIN	Function	Description
8 pin round connector	1	GND	0V
	2	VCC	5V
	3	A+	Channel A
	4	B+	Channel B
	6	A-	Channel A inverted
	7	B-	Channel B inverted
	5	Z+	Channel Z
	8	Z-	Channel Z inverted
	Screen	PE	Connected to housing
			

Order code: MR20/MRS20

A

 -

B

 -

C