

Data Sheet for Linear Sensors

Potentiometric Linear Transducer (Conductive Plastic)

Series MLR10



Miniaturised and economical MLR10 displacement sensor.

- Linear potentiometer (conductive plastic) with almost infinite resolution
- Very compact housing 32 x 7.3 x 8.2 mm (LxWxH)
- Double bearing push rod
- Internal return spring device
- Three connection variants

The very compact displacement sensor with high-quality sintered bearings characterized by the long service life of over 20 million movements. Three electrical connection variants with Hirose plug included cable harness enable convenient installation. Thanks to the internal spring return device, the displacement sensor is suitable as a measuring probe.

Electrical Data

Effective electrical travel 1.)	11 ±0,5 mm
Total resistance 1.)	1, 2, 5, 10 kOhm
Resistance tolerance	±15%
Independent linearity (best straight line) 1.)	±2%
Theoretical resolution 1.)	Almost infinite
Backlash (Hysteresis) 1.)	≤ 0,1 mm
Max. / recommended wiper current1.)	1 mA (@ 40°C, 1 min in case of failure) / 2 µA
Power rating @ 70°C (0W @ 105°C)	≤ 0,2 W
Isolation voltage 1.)	500 VAC, 1min
Isolation resistance 1.)	1000 MOhm @ 500 VDC

Mechanical Data, Environmental Conditions, Miscellaneous

Mechanical stroke 1.)	12 +1 mm
Lifetime (90% effective electrical travel) 2.)	20 Mio. movements
Max. operational speed	< 2 m/s
Operational force @ RT 1.) 2.)	< 3 N
End stop force in case of failure	< 10 N
Operational temperature	-30..+105°C
Storage temperature	-30..+105°C
Protection grade (IEC60529)	IP40
Vibration (IEC 68-2-6, Test Fc)	15 g (10..2000 Hz, 0,75mm, 12h)
Shock (IEC 68-2-27, Test Ea)	50 g, halfsine, 11 ms (18x)
Housing length	32 ±0,5 mm

1.) According IEC 60393

2.) Determined by climatic conditions according to IEC 68-1, para. 5.3.1 without load collectives

Please note: Max. permissible supply voltage <75 VDC respectively <50 VAC in addition the max. power rating must be observed

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Mass	ca. 5 g
Mounting parts (included in delivery)	None
Material housing	Plastic
Material pushrod	Stainless steel
Connection type	3 single strands AWG28: Ø0.8 x 150±5 mm

Order Code

Description

Selection: standard=black/bold, possible options=grey/cursive

Series: With spring return	MLR10					
Effective electrical travel: 11 mm (spring return internally)		11				
Electrical connection: With assembled strands variant 1 <i>Alignment plug connector variant 2</i> <i>Alignment plug connector variant 3</i>			W S R			
Total resistance: <i>1 kOhm</i> <i>2 kOhm</i> <i>5 kOhm</i> 10 kOhm				<i>R1K</i> <i>R2K</i> <i>R5K</i> R10K		
Resistance tolerance: ±15%					W15%	
Independent linearity: ±2%						L2%

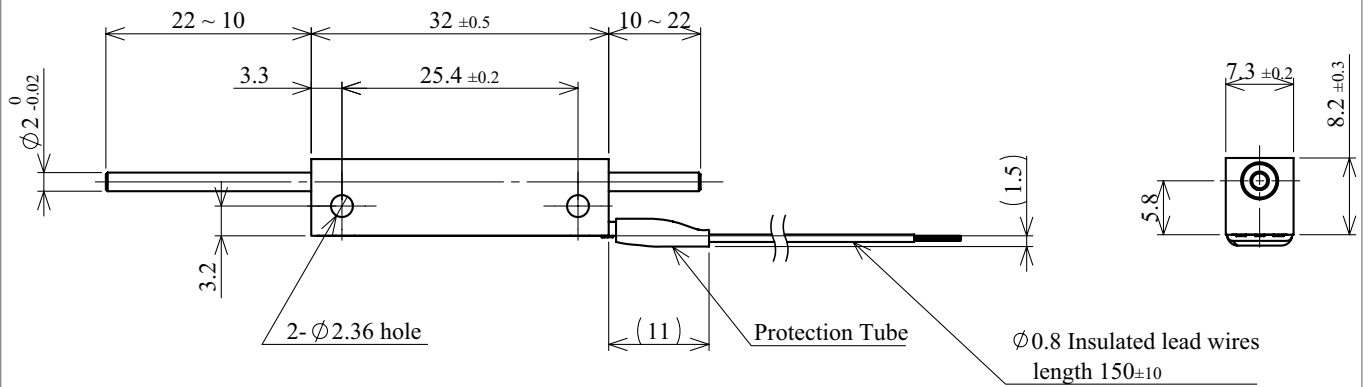
For higher quantities or on-going demand, additional options are available as described below on request

For example:

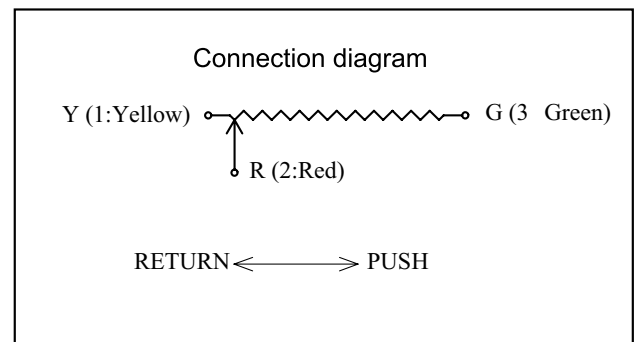
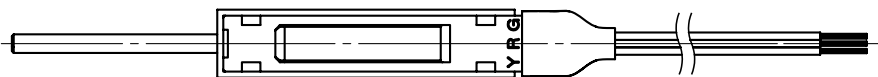
- Assembled leads and cables with / without connector, special axis length and much more

Drawing

Connector version 1 (assembled single strands) - Code W

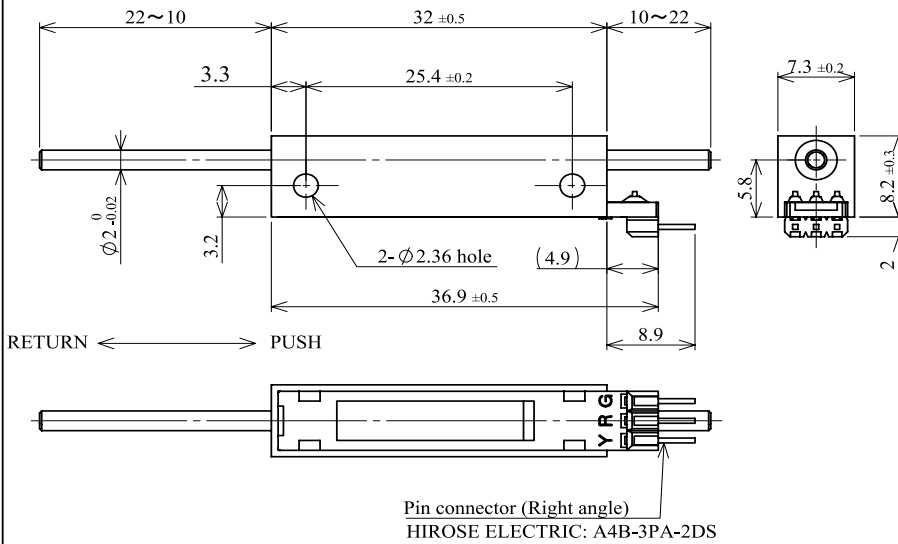


Dimensions in mm

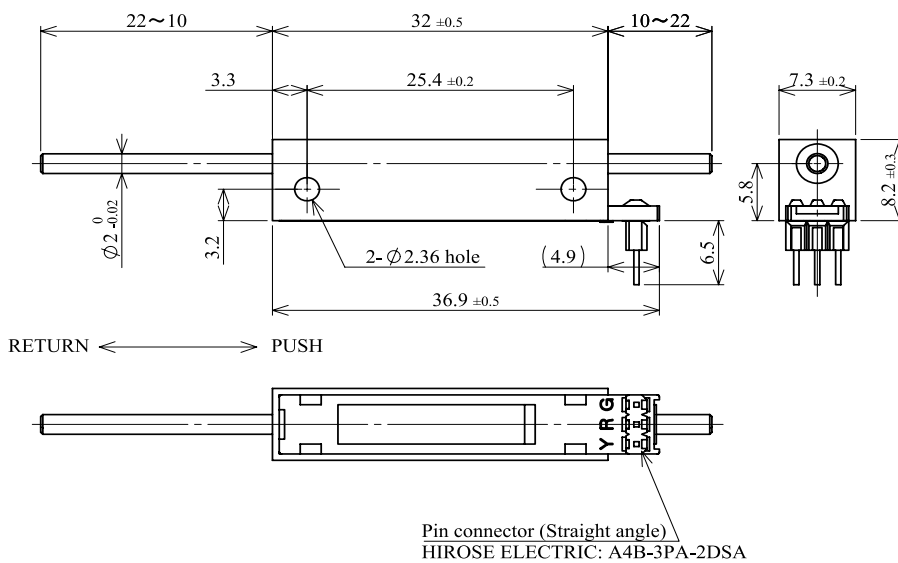


Drawing

Connector version 2 (straight from board) - Code S

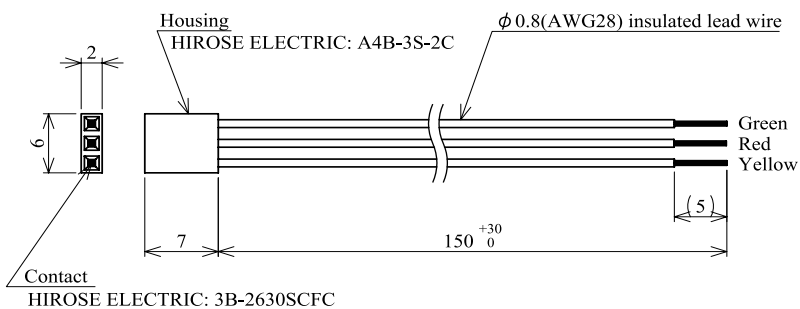


Connector version 3 (right angle from board) - Code R



Dimensions in mm

Wire harness (supplied)



Connection diagram

