

Laser Displacement sensor
DISP - 33 Series

Resolution: 2 micron
Linearity: +/- 0.1 % F. S.



Measurement distance & range: from 30 +/- 4 mm to 250 +/- 150 mm

Center		30mm	50mm	85mm	120mm	250mm
Measuring range		±4mm	±10mm	±20mm	±60mm	±150mm
Light source	Red laser Diode (wave length 655nm)					
Peak power	Max. output 1mW					
Laser Class	IEC/JIS	CLASS2				
	FDA	CLASS II				
Spot size (approx. volume) *1	Near	0.15 × 0.15mm	0.6 × 1.2mm	0.9 × 1.5mm	1.2 × 1.8mm	1.5 × 2.5mm
	Middle	0.1 × 0.1mm	0.5 × 1.0mm	0.75 × 1.25mm	1.0 × 1.5mm	1.75 × 3.5mm
	Far	0.15 × 0.15mm	0.4 × 0.9mm	0.6 × 1.0mm	0.5 × 0.8mm	2.0 × 4.5mm
Linearity *2		±0.1% F.S. (F.S.=8mm)	±0.1% F.S. (F.S.=20mm)	±0.1% F.S. (F.S.=40mm)	±0.1% F.S. (F.S.=120mm)	±0.3% F.S. (F.S.=300mm)
Resolution *3		2 μm (Fast: 4 μm)	5 μm (Fast: 8 μm)	10 μm (Fast: 15 μm)	30 μm (Fast: 45 μm)	75 μm (Fast: 150 μm)
Response time	Fast	averaging: 1 time 5ms max.				7.5ms max.
	Standard	averaging: 16 times 12.5ms max.				18ms max.
	High resolution	averaging: 64 times 36.5ms max.				54ms max.
Sampling period	500 ,750(250mm type) /1000 /1500 /2000 μs					
Temperature Drift	±0.08% F.S./°C					
Indicators	Distance Indicator	Bar graph LED				
	Output Indicator	ON status : Orange				
MF (multi functional) input	Laser off, Remote teaching, Sample Hold (choose one function) Response time : 3ms max.					
Circuit protection	Reverse polarity, Over current					
Protection Category	IP67					
Operating temp./humidity	-10~+45°C/35~85%RH (No condensation or freezing)					
Storage temp./humidity	-20~+60°C/35~95%RH (No condensation or freezing)					
Ambient Light	Sun light: 10,000 lx max. / Incandescent lamp: 3,000 lx max.					
Vibration resistance	10 to 55 Hz, Double amplitude 1.5 mm, 2 h for XYZ axes					
Shock resistance	50G (500m/s ²)					
Warm up period	15min max.					
Material	PBT (Case) PMMA (Front window)					
Weight	Cable type	Approx. 65g (without cable)				
	Connector type	Approx. 70g				

Lineup (new products)

5 series High resolution and linearity



Resolution: 0.02 μ m~
Linearity: +/-0.05%F.S.~

33 series High cost performance



Resolution: 2 μ m~
Linearity: +/-0.1%F.S.~

Lineup (conventional products)

4 series High resolution



Resolution: 0.1 μ m~
Linearity: +/-0.1%F.S.~

3 series Easy setup



Resolution: 4 μ m~
Linearity: +/-1%F.S.~

1 series Easy setup and high cost performance



Resolution: 1 μ m~
Linearity: +/-2%F.S.~

DISP-33 Feature

**Linearity:
0.1~0.3%F.S.**

High spec and Wide variation line-up

33-250



Range: 250+/-150mm
Resolution: 75um

33-120



Range: 120+/-60mm
Resolution: 30um

33-85



Range: 85+/-20mm
Resolution: 10um

33-50



Range: 50+/-10mm
Resolution: 5um

33-30



Range: 30+/-4mm
Resolution: 2um

NPN control output, PNP control output, Analog Voltage output,
Analog Current output.

DISP-33 Feature

All in one in compact body

No controller is needed



Separated type

Function of controller is built in the water resistant (IP67) compact sensor head. Light (65g) enough to install on moving part of equipment.