

SFS Series Spectral Confocal Displacement Sensor*6

SFS-D1503L Product Parameters



Reference Distance*1	3 mm
Measuring Range	± 0.75 mm
Measuring Angle*2	$\pm 12^\circ$
Spot Diameter*3	$\Phi 17 \mu\text{m}$
Repeatability*4	100 nm
Linearity Error*5	$< \pm 0.75 \mu\text{m}$
Outer Diameter*Length	$\Phi 3.8 \times 85$ mm
Weight	23 g
Minimum Measurable Thickness	10% of F. S.
Temperature Characteristics	$< 0.03\%$ F. S. / $^\circ\text{C}$
Protection Rating	IP40

*1 Calculated at the center of the measuring range.

*2 Tested by tilting a standard flat mirror at a 1 kHz sampling rate.

*3 Measured on a sharp glass edge; verified by a sub-micron positioning stage using a laser interferometer as the displacement reference. Spot diameter values correspond to the small spot / large spot / four-point spot diameters respectively.

*4 RMS deviation of 10,000 consecutive measurements on a standard silver-coated mirror at 1 kHz without averaging.

*5 Calibrated and verified with a nano-level high-precision laser interferometer.

*6 Suffix meanings: N - near reference distance, F - far reference distance, S - small size, L - large size, H - high-temperature version (operating temperature: -10°C to 150°C). To optimize the product experience, the identification color ring of this series, except C2000, has been upgraded to orange-gold. Products may have new or old color rings; appearance is subject to the actual product received, while performance and quality are unaffected.

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SFS-D1503L Product Outline Drawing

