confocalDT IFS2407-1,5
High-precision confocal chromatic sensor

- Finest structure detection
- Measurement of precision parts
- Measurement of lens profiles
- Reliable measurement on steep edges

Model		IFS2407-1,5
Measuring range		1.5 mm
Start of measuring range	approx.	17 mm
Resolution	static [1]	6 nm
	dynamic [2]	36 nm
Linearity [3]	Displacement and distance	$< \pm 0.3\,\mu m$
	Thickness	$< \pm 0.6\,\mu m$
Light spot diameter		$5.5\,\mu m$
Maximum measuring angle [4]		$\pm 43°$ ($\pm 70°$) [5]
Numerical aperture (NA)		0.70
Min. target thickness [6]		0.075 mm
Target material		reflective, diffuse as well as transparent surfaces (e.g. glass)
Connection		pluggable optical fiber via FC socket, standard length 3 m; extension up to 50 m; bending radius: static 30 mm, dynamic 40 mm
Installation		Clamping, mounting adapter (see accessories)
Temperature range	Storage	-20 °C... +70 °C
	Operation	+5 °C... +70 °C
Shock (DIN EN 60068-2-27)		15 g / 6 ms in XY axis, 1000 shocks each
Vibration (DIN EN 60068-2-6)		2g/ 20 ... 500 Hz in XY axis, 10 cycles each
Protection class (DIN EN 60529)		IP65 (front)
Material		Aluminum housing, glass lenses
Weight [7]		approx. 800 g

[1] Average from 512 values at 1 kHz, in the mid of the measuring range onto optical flat
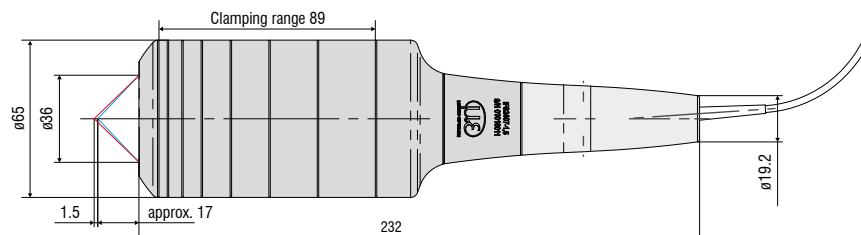[2] RMS noise relates to mid of measuring range (1 kHz)
[3] All data at constant ambient temperature (25 ±1 °C) against optical flat; specifications can change when measuring different materials.
[4] Maximum sensor measuring angle up to which a usable signal can be achieved on reflective surfaces, with accuracy decreasing toward the limit values
[5] Maximum measuring angle of the sensor up to which a usable signal can be obtained on diffusely reflecting metallic surfaces, whereby the accuracy decreases towards the limit values
[6] Glass sheet with refractive index n = 1.5 throughout the entire measuring range. In the mid of the measuring range, also thinner layers can be measured.
[7] Sensor weight without optical fiber

(Dimensions in mm, not to scale.)