confocalDT IFS2404-1 / -3 / -6
Confocal chromatic sensors

- Precise distance measurement
- Compact sensor design
- Excellent price-performance ratio

Model		IFS2404-1	IFS2404-3	IFS2404-6
Measuring range		1 mm	3 mm	6 mm
Start of measuring range	approx.	15 mm	25 mm	35 mm
Resolution	Static [1]	< 12 nm	< 40 nm	< 80 nm
	Dynamic [2]	< 50 nm	< 125 nm	< 250 nm
Linearity [3]	Displacement and distance	< ±0.3 µm	< ±0.9 µm	< ±1.8 µm
	Thickness	< ±0.6 µm	< ±1.8 µm	< ±3.6 µm
Light spot diameter		12 µm	18 µm	24 µm
Maximum measuring angle [4]		±25°	±19°	±10°
Numerical aperture (NA)		0.45	0.35	0.18
Min. target thickness [5]		0.05 mm	0.15 mm	0.3 mm
Target material		reflective, diffuse as well as transparent surfaces (e.g. glass)		
Connection		Pluggable fiber optic cable via FC socket; cable type see accessories; standard length 3 m; extension up to 50 m; bending radius: static 30 mm, dynamic 40 mm		
Mounting		Radial clamping (mounting adapter see accessories)		
Temperature range	Storage	-20 ... +70 °C		
	Operation	5 ... 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 on XY axis, 10 cycles each		
Protection class (DIN EN 60529)		IP64		
Material		Aluminum housing, glass lenses		
Weight [6]		approx. 100 g	approx. 100 g	approx. 100 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). Measurement on plane-parallel test glass. Acceptance report is enclosed with delivery
[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] 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.
[6] Sensor weight without optical fiber

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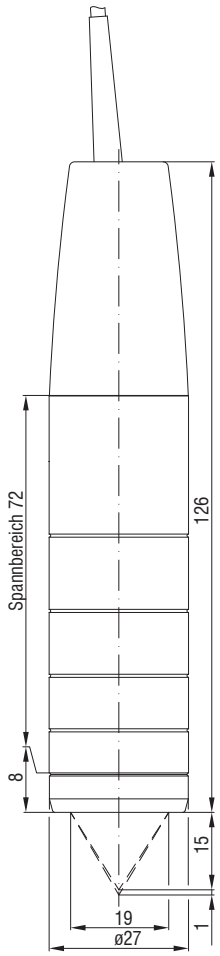
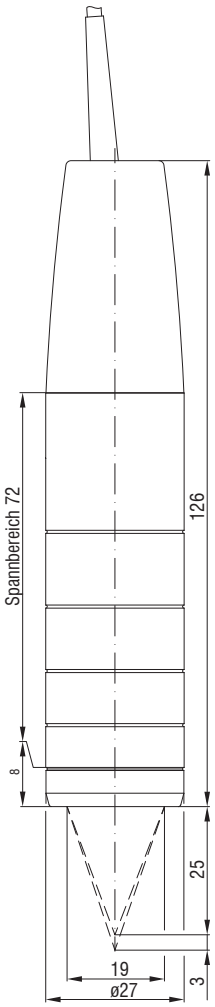
MICRO-EPSILON

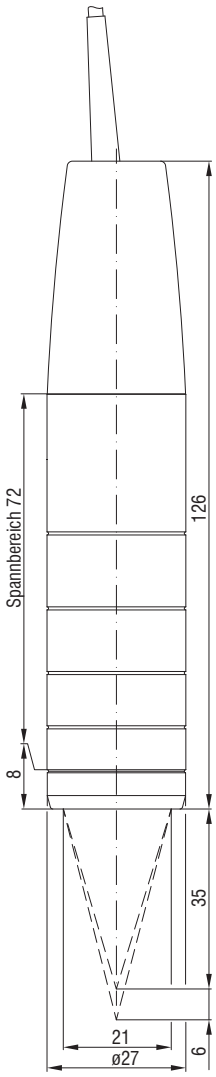
confocalDT IFS2404-1



confocalDT IFS2404-3



confocalDT IFS2404-6



(dimensions in mm, not to scale)