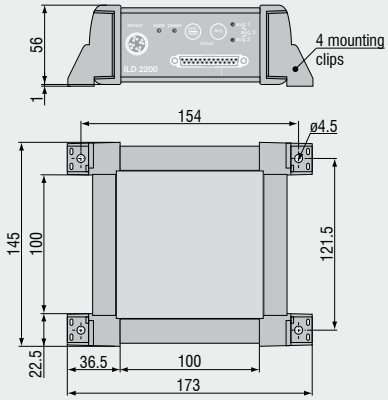
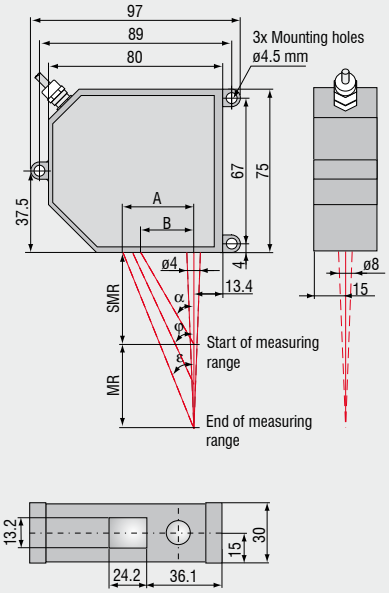
- **Six models with measuring ranges from 2mm to 200mm**
- **Sensor head and separate controller**
- **20kHz measurement rate over the full working range**
- **Real Time Surface Compensation**
- **Analogue and digital output**
- **Adjustable filter functions (firmware)**
- **Calibration certificate included**
- **Configuration via software www.micro-epsilon.com/download**

The optoNCDT 2220 provides a genuine 20kHz measurement rate for every measurement task. The series is ideally suited to superfast, complex applications and offers a high speed measurement with excellent resolution. In addition, the optoNCDT 2220 incorporates all the popular Micro-Epsilon benefits including the RTSC function for changing surfaces or the specific CCD-line for high resolution measurements.

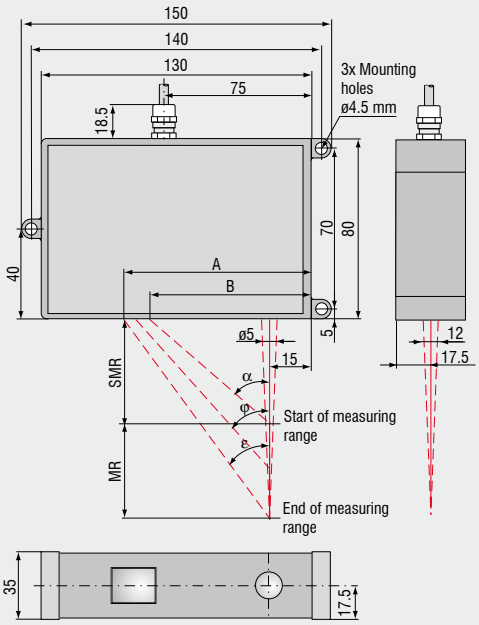
Controller



optoNCDT 2220 (2/10/20/50/100mm)



optoNCDT 2220 (200mm)



(Dimensions in mm, not to scale. All CAD files are available online.)

MR	SMR	α	φ	ε	A	B
2	24	35.0°	40.0°	44.8°	25.8	16.8
10	30	34.3°	35.2°	35.6°	28.7	20.5
20	40	28.8°	27.5°	26.7°	30.1	22
50	45	26.5°	23.0°	18.3°	31.5	22.5
100	70	19.0°	15.4°	10.9°	32.6	24.1
200	130	25.1°	16.7°	13.1°	91.6	76

Model	ILD 2220-2	ILD 2220-10	ILD 2220-20	ILD 2220-50	ILD 2220-100	ILD 2220-200
Measuring range	2mm	10mm	20mm	50mm	100mm	200mm
Start of measuring range	24mm	30mm	40mm	45mm	70mm	130mm
Midrange	25mm	35mm	50mm	70mm	120mm	230mm
End of measuring range	26mm	40mm	60mm	95mm	170mm	330mm
Linearity	1µm	3µm	6µm	15µm	30µm	60µm
	≤0.05% FSO	≤0.03% FSO				
Resolution [1] (at 20 kHz without averaging)	0.03µm	0.15µm	0.3µm	0.8µm	1.5µm	3µm
	0.0015% FSO					
Measuring rate	20kHz					
Permissable ambient light	30.000lx					
Spot diameter SMR	80µm	110µm	160µm	215µm	350µm	1300µm
Spot diameter MMR	35µm	50µm	60µm	80µm	130µm	1300µm
Spot diameter EMR	80µm	110µm	160µm	215µm	350µm	1300µm
Light source	semiconductor laser <1mW, 670nm (red)					
Laser safety class	class 2 acc. DIN EN 60825-1/A1 12.99 / IEC 825-1/A1 12.99 / FDA					
Protection class	sensor: IP 65 / controller: IP 50					
Temperature stability	0.025 % FSO/°C	0.01 % FSO/°C				
Operation temperature	0 ... +50°C					
Storage temperature	-20 ... +70°C					
Output	analogue: ±5V digital: RS 422 / 691.2kBaud					
Power supply	24VDC (±15%), max. 500mA					
Sensor cable length	standard: 2m - integrated option: 5m/10m					
Controller	functions: auto zero / signal averaging dimensions: 143mm x 145mm x 52mm - without mounting clips					
Electromagnetic compatibility (EMC)	EN 55011/12.1998 and EN 50082-2/ 02.1996					
Vibration	2g / 20 ... 500Hz					
Shock	15g / 6ms / 3 axis					
Weight sensor	~550g					~600g
Weight controller	~1000g					

FSO = Full Scale Output
All specifications apply for a diffusely reflecting matt white ceramic target
SMR = Start of measuring range MMR = Midrange EMR = End of measuring range
[1] resolution digital output 16bit

Custom Sensor Modifications

For applications where the above standard sensors do not meet your requirements, it may be possible to supply a sensor with modified specification. Please contact us for further information.

Options

- Non standard measuring range and stand off
- Custom housing or mounting geometry
- Measuring rate 2.5 / 5 / 10 / 20kHz
- Non standard signal interfaces
- Special cable length of electrical connector
- 90° beam deflection
- Vacuum suitability
- Reduced mass
- Increased shock and vibration resistance

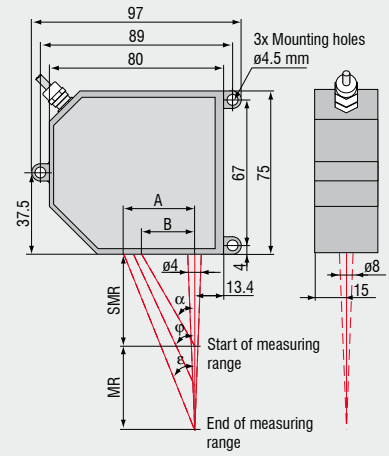
High speed laser sensor for shiny metallic or rough surfaces

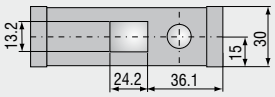
- Laser line averages across shiny metallic or structured surfaces
- Four models with measuring ranges from 2mm to 50mm
- Sensor head and separate controller
- 20kHz measurement rate over the full working range
- Real Time Surface Compensation
- Analogue and digital output
- Adjustable filter functions (firmware)
- Calibration certificate included
- Configuration via software www.micro-epsilon.com/download

The optoNCDT 2220LL series uses a small laser line, instead of a spot, to provide accurate measurement against shiny metallic surfaces all at high speed. The optoNCDT 2220LL provides a 20kHz measurement rate across its entire measurement range for any type of situation. The use of the laser line allows the sensor to perform an average across the line which makes it possible to measure rough surfaces with greater accuracy than before. The sensor can also be used for measuring directly reflecting surfaces without the need to angle the sensor. The high measurement rate and excellent resolution allow measurements to be taken on very fast applications with challenging or reflecting surfaces.

MR	SMR	α	φ	ε	A	B
2	24	35.0°	40.0°	44.8°	25.8	16.8
10	30	34.3°	35.2°	35.6°	28.7	20.5
20	40	28.8°	27.5°	26.7°	30.1	22
50	45	26.5°	23.0°	18.3°	31.5	22.5

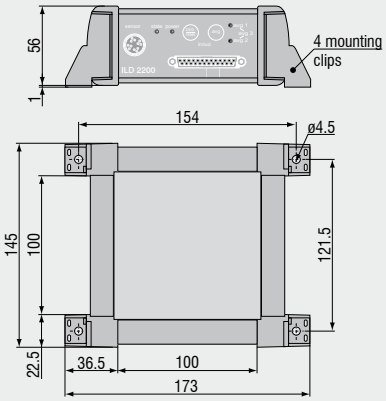
optoNCDT 2220LL (2/10/20/50mm)





(Dimensions in mm, not to scale. All CAD files are available online.)

Controller



Model		ILD 2220-2LL	ILD 2220-10LL	ILD 2220-20LL	ILD 2220-50LL
Measuring range		2mm	10mm	20mm	50mm
Start of measuring range		24mm	30mm	40mm	45mm
Midrange		25mm	35mm	50mm	70mm
End of measuring range		26mm	40mm	60mm	95mm
Linearity		1µm ≤0.05% FSO	3µm	6µm ≤0.03% FSO	15µm
Resolution [1) 2)] (at 20 kHz without averaging)		0.03µm	0.15µm	0.3µm	0.8µm
		0.0015% FSO			
Measuring rate		20kHz			
Permissable ambient light		30.000lx			
Spot diameter	SMR	85 x 240µm	120 x 405µm	185 x 485µm	350 x 320µm
	MMR	24 x 280µm	35 x 585µm	55 x 700µm	70 x 960µm
	EMR	64 x 400µm	125 x 835µm	195 x 1200µm	300 x 1940µm
Light source		semiconductor laser <1mW, 670nm (red)			
Laser safety class		class 2 acc. DIN EN 60825-1/A1 12.99 / IEC 825-1/A1 12.99 / FDA			
Protection class		sensor: IP 65 / controller: IP 50			
Temperature stability		0.025 % FSO/°C	0.01 % FSO/°C		
Operation temperature		0 ... +50°C			
Storage temperature		-20 ... +70°C			
Output		analogue: ±5V digital: RS 422 / 691.2kBaud			
Power supply		24VDC (±15%), max. 500mA			
Sensor cable length		standard: 2m - integrated option: 5m/10m			
Controller		functions: auto zero / signal averaging dimensions: 143mm x 145mm x 52mm - without mounting clips			
Electromagnetic compatibility (EMC)		EN 55011/12.1998 and EN 50082-2/ 02.1996			
Vibration		2g / 20 ... 500Hz			
Shock		15g / 6ms / 3 axis			
Weight		sensor: ~550g controller: ~1000g			

FSO = Full Scale Output
All specifications apply for a diffusely reflecting matt white ceramic target
SMR = Start of measuring range MMR = Midrange EMR = End of measuring range
[1)] for measurements against high glossy surfaces (targets), resolution depends on the material
[2)] resolution digital output 16bit

Custom Sensor Modifications

For applications where the above standard sensors do not meet your requirements, it may be possible to supply a sensor with modified specification. Please contact us for further information.

Options

- Non standard measuring range and stand off
- Custom housing or mounting geometry
- Measuring rate 2.5 / 5 / 10 / 20kHz
- Non standard signal interfaces
- Special cable length of electrical connector
- 90° beam deflection
- Vacuum suitability
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