












Laser Triangulation Displacement Sensors





-  **Eleven models with measuring ranges from 2mm to 1000mm**
-  **Compact design with integrated controller**
-  **Real Time Surface Compensation**
-  **Adjustable measuring rate up to 2.5kHz**
-  **Analogue (U/I) and digital output**
-  **Adjustable filter functions (firmware)**
-  **High flex cables for dragchain or robot use**
-  **Calibration certificate included**
-  **Configuration via software www.micro-epsilon.com/download**

The benchmark in laser triangulation sensors

The optoNCDT 1700 series is truly a world leading laser displacement sensor. Featuring Real Time Surface Compensation (RTSC), remote software programming and excellent linearity & resolution the optoNCDT 1700 is difficult to match at this price level. Integrated conditioning electronics allows the sensor to have a very unique and compact design.

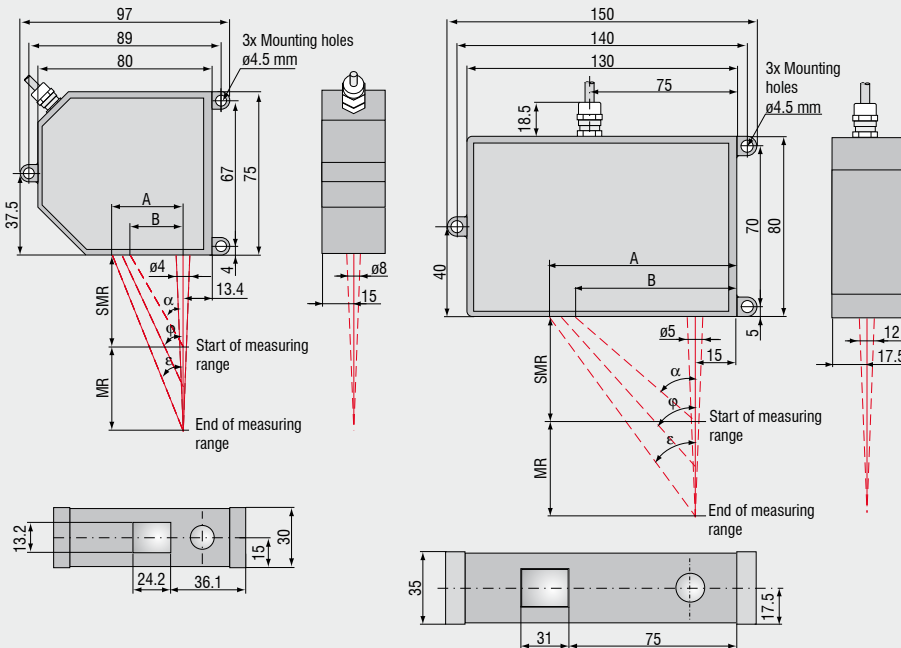
Adjustable limit switches

As well as for precise measurement, the optoNCDT 1700 sensors are also used for tolerance or limit monitoring. Two switching points are available which can be configured and adjusted via the remote software (USB connection). The switching hysteresis can also be individually adjusted for each limit point.

Adjustable exposure time/measuring rate

For poor reflecting targets, the measuring rate can be reduced to enable a longer exposure time. The set measurement rate always remains constant so that with closed-loop control the system response time is always the same.

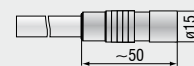
optoNCDT 1700 (2/10/20/50/100/200/250VTmm) optoNCDT 1700 (40/500/750mm)



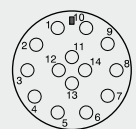
(Dimensions in mm, not to scale. All CAD files are available online.)

MR	SMR	α	φ	ϵ	A	B
2	24	35°	40°	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	22.0
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	70	19.0°	9.78°	6.97°	33.1	24.1
250VT	70	19.0°	8.4°	6.0°	33.5	24.1
40	175	22.1°	21.9°	21.8°	101	86
500	200	19.3°	9.8°	7.0°	101	85
750	200	19.3°	7.7°	5.0°	101	85

Connector (sensor side)
Article Number: 0323243



Connector (sensor cable)
Article Number: 0323272



14-pin-connector
(Pin side female cable connector or solder-pin side male cable connector)

Model	ILD 1700-2	ILD 1700-10	ILD 1700-20	ILD 1700-40	ILD 1700-50	ILD 1700-100	ILD 1700-200	ILD 1700-250VT	ILD 1700-500	ILD 1700-750	
Measuring range	2mm	10mm	20mm	40mm	50mm	100mm	200mm	250mm	500mm	750mm	
Start of measuring range	24mm	30mm	40mm	175mm	45mm	70mm	70mm	70mm	200mm	200mm	
Midrange	25mm	35mm	50mm	195mm	70mm	120mm	170mm	195mm	450mm	575mm	
End of measuring range	26mm	40mm	60mm	215mm	95mm	170mm	270mm	320mm	700mm	950mm	
Linearity	2µm	8µm	16µm	32µm	40µm	80µm	200µm	630µm	400µm	750µm	
FSO	≤0.1%			≤0.08%			≤0.1%	≤0.25%	≤0.08%	≤0.1%	
Resolution (at 2.5kHz without averaging)	0.1µm	0.5µm	1.5µm	4µm	3µm	6µm	12µm	50µm	30µm	50µm	
Measuring rate	2.5kHz / 1.25kHz / 625Hz / 312.5Hz (adjustable)										
Light source	semiconductor laser <1mW, 670nm (red)										
Permissible ambient light (at 2.5kHz)	10,000lx							15,000lx	10,000lx		
Laser safety class	class 2 acc. DIN EN 60825-1 : 2001-11										
Spot diameter	SMR	80µm	110µm	320µm	230µm	570µm	740µm	1300µm	1500µm	1500µm	1500µm
	MMR	35µm	50µm	45µm	210µm	55µm	60µm	1300µm	1500µm	1500µm	1500µm
	EMR	80µm	110µm	320µm	230µm	570µm	700µm	1300µm	1500µm	1500µm	1500µm
Temperature stability*	0.025% FSO/°C	0.01 % FSO/°C						0.025% FSO/°C	0.01 % FSO/°C		
Operation temperature	0 ... +50°C							0 ... +55°C	0 ... +50°C		
Storage temperature	-20 ... +70°C										
Output	measurements	selectable: 4 ... 20mA / 0 ... 10V / RS 422 / USB (optional with cable PC1700-3/USB)									
	switching outputs	1 x error or 2 x limit (each programmable)									
Switch Input	laser ON-OFF / zero										
Operation	via touch screen on sensor or via PC with ILD 1700 tool										
Power supply	24VDC (11 ... 30VDC), max. 150mA										
Electromagnetic compatibility (EMC)	EN 61000-6-3 EN 61000-6-2										
Sensor cable length (with connector)	0.25m (integrated cable with connector) option: 3m or 10m										
Synchronisation	possible for simultaneous or alternating measurements										
Protection class	IP 65										
Vibration	2g / 20 ... 500Hz										
Shock	15g / 6ms										
Weight (with 0.25m cable)	~ 550g		~ 600g		~ 550g			~ 600g			

FSO = Full Scale Output All specifications apply for a diffusely reflecting white ceramic target

* based on digital output

SMR = Start of measuring range MMR = Midrange EMR = End of measuring range

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
- Non standard signal interfaces
- Special cable length of electrical connector
- 90° beam deflection
- Vacuum suitability
- Reduced mass
- Increased shock and vibration resistance

High performance sensors made by Micro-Epsilon



Sensors and systems for displacement, position and dimension

Eddy current sensors
Optical and laser sensors
Capacitive sensors
Inductive sensors
Draw-wire sensors
Optical micrometers
2D/3D profile sensors
Image processing



Sensors and measurement devices for non-contact temperature sensors

Online instruments
Handheld devices



Measuring systems for quality control

for plastic and film
for tire and rubber
for web material
for automotive components
for glass