

ConoPoint-10

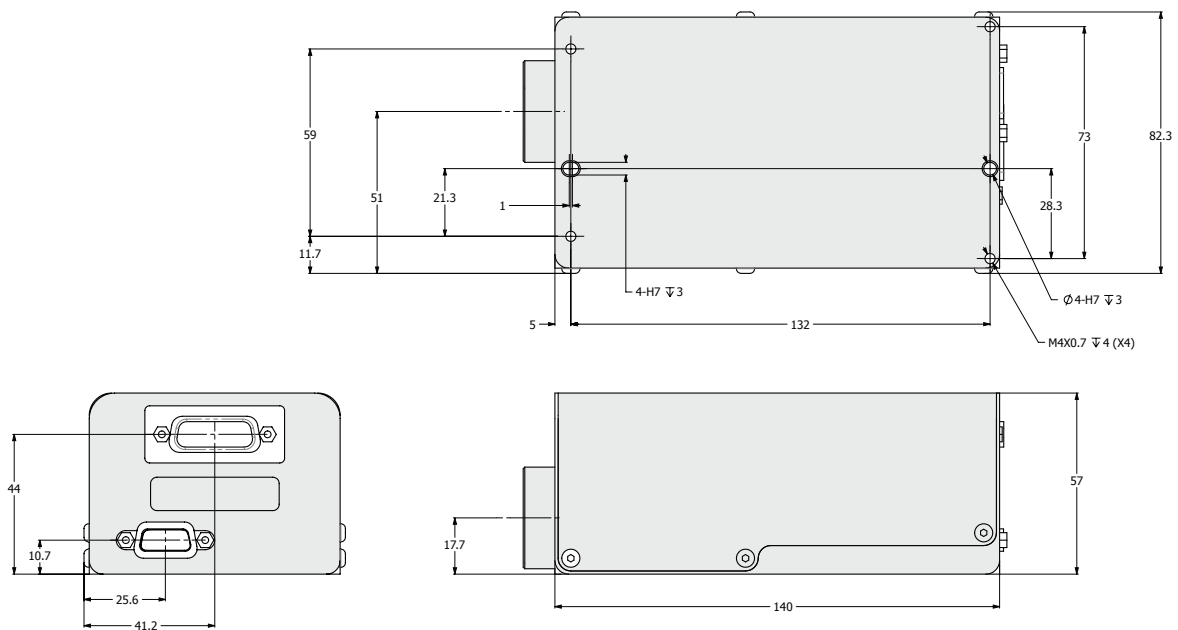
Laser displacement sensor

The ConoPoint-10 is a sensor for high precision 2D profiles and 3D measurements, working at up to 10,000 Hz. The ConoPoint-10 includes an auto-exposure feature enabling real time adjustment for changing surface reflectivity (black, white and absorbent).



Features:

- Measurement of complex geometries with angular coverage up to $\pm 85^\circ$
- Collinear technology for measuring blind holes
- Automatically compensates for material variations using auto-exposure
- Interchangeable objective lenses from 16 to 250 mm
- Measures at 10,000 points/second, no averaging needed



Technical specification

Standard lenses

Objective lens type		16	25	25G	40	50	75	100	150	200	250
P/N		3Z83016	3Z83025	3Z81030	3Z83040	3Z81050	3Z81075	3Z81100	3Z82006	3Z82007	3Z82008
Measurement range ⁽¹⁾	mm	0.6	1.8	1.8	4	8	18	35	70	125	180
Standoff ⁽²⁾	mm	9.5	14	18	43.5	44	70	95	145	200	250
Accuracy ⁽³⁾	µm	2	3	3	4	6	10	15	35	70	100
Linearity ⁽⁴⁾	±%	0.33	0.17	0.17	0.1	0.08	0.06	0.05	0.05	0.06	0.06
Reproducibility (dynamic) ⁽⁵⁾	µm	0.15	0.4	0.4	0.6	1	2	4	15	25	35
X laser spot size ⁽⁷⁾	µm	20	27	27	34	37	47	63	85	105	126
Angular coverage ⁽⁸⁾	°	150	150	150	150	170	170	170	170	170	170

Special lenses

Objective lens type		High power sensitivity				Extended		
		100S	150S	200S	250S	50E	75E	125E
P/N		3Z84100	3Z84150	3Z84200	3Z84250	3Z83050E	3Z83075E	3Z83125E
Measurement range ⁽¹⁾	mm	35	70	125	180	8	18	45
Standoff ⁽²⁾	mm	92	142	197	247	85	145	240
Accuracy ⁽³⁾	µm	15	35	70	100	6	10	24
Linearity ⁽⁴⁾	±%	0.04	0.05	0.06	0.06	0.08	0.06	0.064
Reproducibility (dynamic) ⁽⁵⁾	±µm	4	15	25	35	1	2	6.4
X laser spot size ⁽⁷⁾	µm	63	85	105	126	63	85	126
Angular coverage ⁽⁸⁾	°	170	170	170	170	170	170	170

Sensor general specifications

Measurement frequency	Hz	Up to 10,000
Dimensions (without lens)	mm	140x79x57
Weight	gr	700

Interface

Communication	Ethernet 10/100 UDP
Software development kit	C, C++, C#, Labview

Analog signal (optional)

Boundary ranging	V	±4.5 ± 0.004
Analog linearity ⁽⁹⁾	%	±0.1

Light source

Type	Red laser
Laser safety class	Class 2, IEC 60825-1:2007 complies with 21CFR 1040.10 and 1040.11 Laser Notice No.50

Electrical specification

Power supply voltage	12 VDC±10% 65-265 VAC 50/60Hz
----------------------	-------------------------------

Environmental resistance

Operational temperature	°C	18 to 45
Temperature dependency ⁽¹⁰⁾	F.S./°C	≤0.03%
Permissible ambient light ⁽¹¹⁾	lx	Up to 15,000

Synchronization

Trigger input	TTL/LVTTL	5/3.3V
Strobe output	TTL	5V