

# ConoPoint-3R

## Laser displacement sensor

The ConoPoint-3R is one of Optimet's family of point sensors for non-contact high precision measurements of distance, 2D profile and 3D surface scanning. The ConoPoint-3R is used for scanning transparent materials such as glass or liquids, and specular materials like mirrors and wafers.

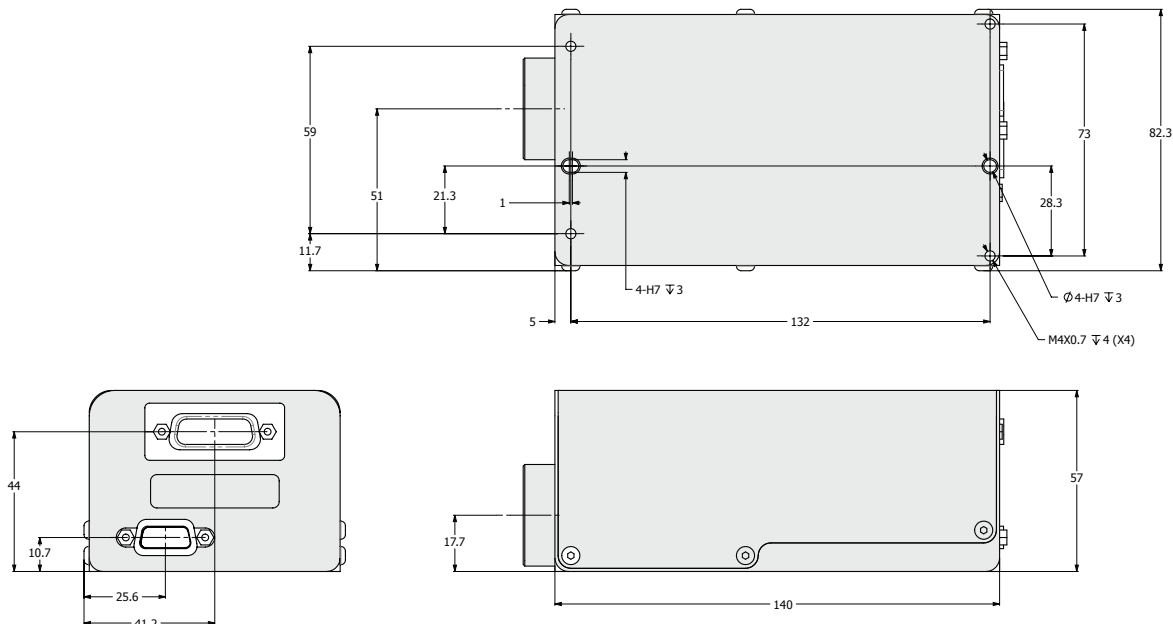
The ConoPoint-3R can also measure glass thickness and transparent coating layers by simultaneous reading of both top and bottom surface reflections.

The ConoPoint-3R reaches sub-micron depth resolution using interchangeable objective lenses with lateral resolution of below  $1\mu\text{m}$ .



### Features:

- High precision and repeatability
- Small spot size less than  $5\mu\text{m}$
- Collinear in-process inspection point sensor
- Flexible measurement ranges and standoffs due to interchangeable objective lenses
- True measurement rate of up to 3,000 point/second, with no averaging needed
- Optional synchronization with up to 3 axis system
- Robust product for industrial environment and production floor
- Detailed API manual and SDK with hardware emulator



# Technical specification

## Standard lenses

Objective lens type		25N	50N	75N
P/N		3Z79030	3Z79050	3Z79075
Measurement range <sup>(1)</sup>	mm	1	5	9
Standoff <sup>(2)</sup>	mm	16	40	65
Accuracy <sup>(3)</sup>	µm	1	2.5	4.5
Physical thickness range	mm	0.3-1	1.5-5	2.7-9
Linearity <sup>(4)</sup>	±%	0.1	0.05	0.05
X laser spot size <sup>(7)</sup>	µm	5	16	25
Angular coverage <sup>(8)</sup>	°	5	3	1.5

## Sensor general specifications

Measurement frequency	Hz	Up to 3,000
Dimensions (without lens)	mm	140 x 79 x 57
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 <sup>(9)</sup>	%	±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
----------------------	-------------------------------

## Synchronization

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

## Environmental resistance

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

## Measurement range

