



# High Precision Measurement Product Catalog

- TS-C Series Chromatic Confocal Displacement Sensor
- TS-P Series Laser Displacement Sensor
- TS-M Series CMOS Laser Displacement Sensor
- TS-I Series Interferometric Thickness Sensor
- TS-R Series Reflective Film Thickness Sensor

# C Company Profile

## About US

Suzhou Tronsight Intelligent Technology Co., Ltd. (hereinafter referred to as "Tronsight") is a high-tech enterprise led by a top team of experts with advanced degrees, specializing in the research, development, production, and sales of precision measurement sensors.

Guided by the philosophy of "Technology-Driven, Demand-Oriented, and Service-First," Tronsight's products have been widely adopted by thousands of leading enterprises in industries such as semiconductors, new energy, and 3C manufacturing.

Since its founding, the company has been recognized with honors including "Dongwu Leading Talent," "Gusu Leading Talent," and "Jiangsu Entrepreneurship and Innovation Talent." It has also led key provincial and national R&D projects and filed nearly 100 intellectual property applications, striving to become a leading global brand in the precision measurement industry.



## Honors



Leading organization of China's National Key R&D Program



Jiangsu Provincial Innovation and Entrepreneurship Talent Enterprise



Leading organization of Jiangsu Province Key R&D Program



Suzhou Innovation and Entrepreneurship Leading Talent



High-tech Enterprise Certificate



Innovative and Entrepreneurial Leading Talent of Eastern Wu



Chinese Invisible Unicorns



ISO Quality Management System Certificate



CE&RoHS



Dozens of Patent Certificates

# CONTENTS

## Chromatic Confocal Displacement Sensor

|                  |    |
|------------------|----|
| Principle        | 05 |
| Specification    | 06 |
| Application      | 07 |
| Parameters       | 08 |
| Dimension Figure | 10 |



## CMOS Laser Displacement Sensor

|                  |    |
|------------------|----|
| Principle        | 23 |
| Specification    | 24 |
| Application      | 25 |
| Parameters       | 26 |
| Dimension Figure | 28 |



## Reflective Film Thickness Sensor

|                             |    |
|-----------------------------|----|
| Principle                   | 37 |
| Specification/Application   | 38 |
| Parameters/Dimension Figure | 39 |



## Laser Triangulation Displacement Sensor

|                  |    |
|------------------|----|
| Principle        | 15 |
| Specification    | 16 |
| Application      | 17 |
| Parameters       | 18 |
| Dimension Figure | 19 |



## Interferometric Thickness Sensor

|                             |    |
|-----------------------------|----|
| Principle                   | 33 |
| Specification/Application   | 34 |
| Parameters/Dimension Figure | 35 |



# | TS-C Series | Chromatic Confocal Displacement Sensor

**3**  
nm

Ultra-high  
Repeatability

**$\pm 0.02$**   
% of F.S

Ultra-high  
Linearity

**Max 30**  
kHz

Ultra-fast  
Sampling Rate

**$\pm 60^\circ$**

Ultra-large  
Measurement Angle



## ◆ Why choose TronSight?



Minimal Measurement  
Dead Zone



High Interference  
Immunity



Sub-micron  
Measurement Precision



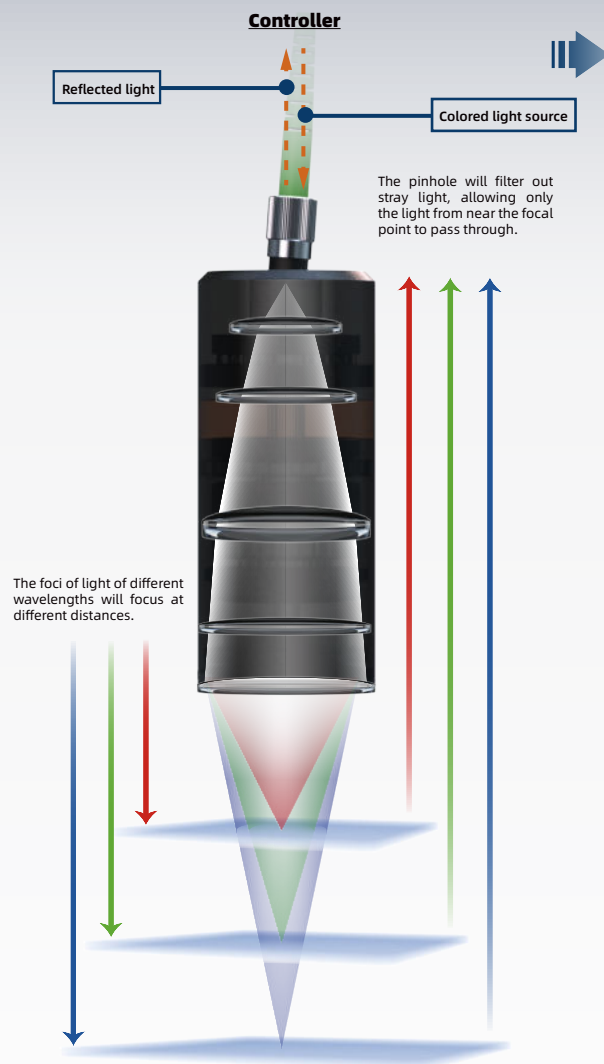
Ultra-Smooth Mirror  
Surface Measurement



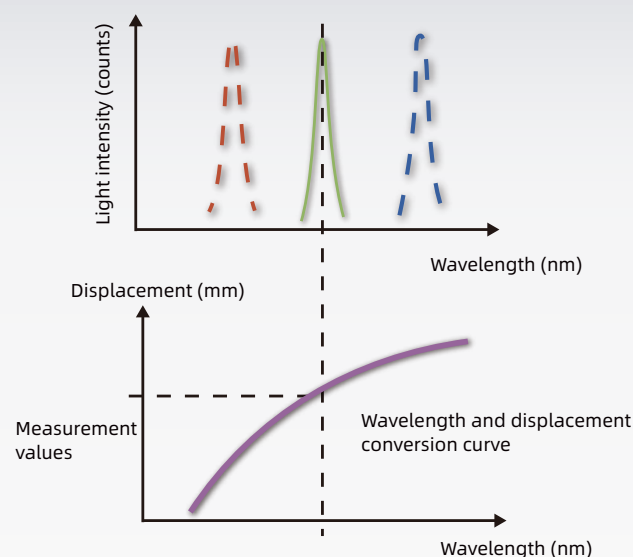
Multi-layer Transparent  
Material Thickness  
Measurement



Axial and Radial Light  
Emission Measurement



### Chromatic Confocal Receives Spectral Signals



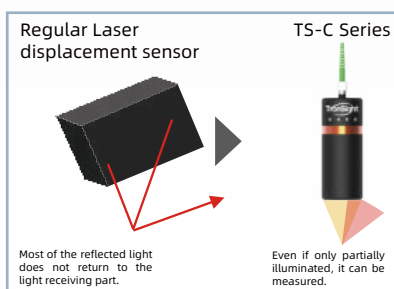
## Basic Principle

When white point light source passes through the dispersive confocal head and illuminates the target, different wavelength components of the light source form a longitudinal distribution; the light spot on the target returns through the coaxial optical path and then passes through a pinhole aperture, connecting to the spectrometer. When the distance to the target changes, the wavelength of the focused light also changes, resulting in different spectral distributions in the spectrometer.

## Accurately measure objects with different structural features

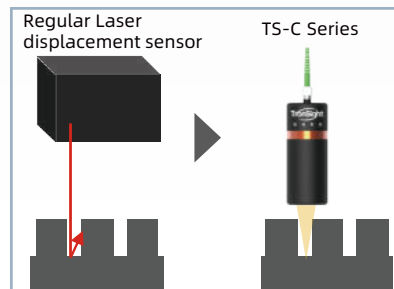
### Achieving high-precision measurement of transparent curved surfaces.

Even with only partial reflection, high-precision measurements can be achieved.



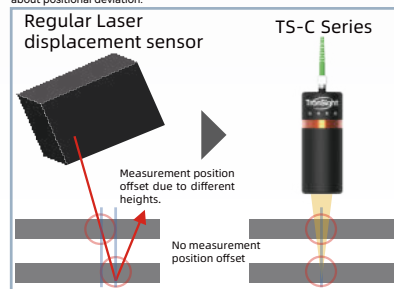
### Measure pits and steps without blind spots.

Using a confocal coaxial method, it can measure without affecting the installation direction and movement direction of the head.



### Accurate measurement of transparent and reflective objects.

Even if the measurement height of transparent or mirrored objects changes, it can accurately measure to the same measurement point without worrying about positional deviation.



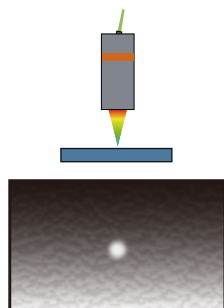
## Multiple input and output methods

The standard configuration of the controller includes six types of I/O channels: USB, RS485, Ethernet, analog, digital, and level/encoder trigger. It supports functions such as PC-based upper computer software control, PLC bus control, multi-channel data acquisition by data acquisition card, and external encoder synchronous trigger, which can meet various usage requirements.



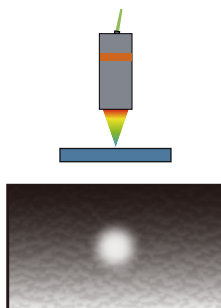
## Light Spot Specification Description

### ◆ Small spot



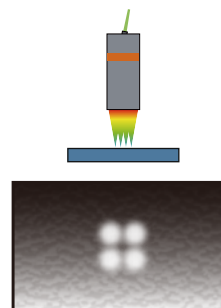
Detecting small targets accurately with a minimum spot size of  $\Phi 1.7\mu\text{m}$  is ideal for shape measurement.

### ◆ Wide spot



By increasing the measurement spot size, it is more suitable for measuring uneven surfaces, obtaining stable measurement values.

### ◆ Ultra-wide spot



Measuring with four independent spots and performing numerical calculations can eliminate the effects of surface irregularities and roughness.

## Product Specifications

| Reference distance (mm) | C100B                   | C400                    | C600                    | C1200                  |
|-------------------------|-------------------------|-------------------------|-------------------------|------------------------|
| 125                     |                         |                         |                         |                        |
| 100                     |                         |                         |                         |                        |
| 75                      |                         |                         |                         |                        |
| 50                      |                         |                         |                         |                        |
| 25                      |                         |                         |                         |                        |
| 0                       |                         |                         |                         |                        |
| Measure angle           | $\pm 46.5^\circ$        | $\pm 43^\circ$          | $\pm 32.5^\circ$        | $\pm 32^\circ$         |
| Repeatability           | 3nm                     | 12nm                    | 16nm                    | 30nm                   |
| Linear error            | $< \pm 0.03\mu\text{m}$ | $< \pm 0.12\mu\text{m}$ | $< \pm 0.18\mu\text{m}$ | $< \pm 0.3\mu\text{m}$ |

| Reference distance (mm) | C2000                  | C2400                   | C2600                  | C3000                  |
|-------------------------|------------------------|-------------------------|------------------------|------------------------|
| 125                     |                        |                         |                        |                        |
| 100                     |                        |                         |                        |                        |
| 75                      |                        |                         |                        |                        |
| 50                      |                        |                         |                        |                        |
| 25                      |                        |                         |                        |                        |
| 0                       |                        |                         |                        |                        |
| Measure angle           | $\pm 14^\circ$         | $\pm 60^\circ$          | $\pm 31^\circ$         | $\pm 12.5^\circ$       |
| Repeatability           | 85nm                   | 45nm                    | 50nm                   | 100nm                  |
| Linear error            | $< \pm 0.6\mu\text{m}$ | $< \pm 0.48\mu\text{m}$ | $< \pm 0.3\mu\text{m}$ | $< \pm 0.6\mu\text{m}$ |

| Reference distance (mm) | C4000N                 | C4000F                 | C6000                  | C7000                  |
|-------------------------|------------------------|------------------------|------------------------|------------------------|
| 125                     |                        |                        |                        |                        |
| 100                     |                        |                        |                        |                        |
| 75                      |                        |                        |                        |                        |
| 50                      |                        |                        |                        |                        |
| 25                      |                        |                        |                        |                        |
| 0                       |                        |                        |                        |                        |
| Measure angle           | $\pm 21^\circ$         | $\pm 21^\circ$         | $\pm 14^\circ$         | $\pm 15.5^\circ$       |
| Repeatability           | 100nm                  | 100nm                  | 140nm                  | 140nm                  |
| Linear error            | $< \pm 0.8\mu\text{m}$ | $< \pm 0.8\mu\text{m}$ | $< \pm 1.2\mu\text{m}$ | $< \pm 1.4\mu\text{m}$ |

| Reference distance (mm) | C7000L                 | C7000S                 | C8000                  | C8000(Bent)            |
|-------------------------|------------------------|------------------------|------------------------|------------------------|
| 125                     |                        |                        |                        |                        |
| 100                     |                        |                        |                        |                        |
| 75                      |                        |                        |                        |                        |
| 50                      |                        |                        |                        |                        |
| 25                      |                        |                        |                        |                        |
| 0                       |                        |                        |                        |                        |
| Measure angle           | $\pm 21^\circ$         | $\pm 10^\circ$         | $\pm 7.3^\circ$        | $\pm 7.3^\circ$        |
| Repeatability           | 140nm                  | 200nm                  | 250nm                  | 250nm                  |
| Linear error            | $< \pm 1.4\mu\text{m}$ | $< \pm 1.4\mu\text{m}$ | $< \pm 1.6\mu\text{m}$ | $< \pm 1.6\mu\text{m}$ |

| Reference distance (mm) | C10000               | C16000               | C20000               | C50000               |
|-------------------------|----------------------|----------------------|----------------------|----------------------|
| 125                     |                      |                      |                      |                      |
| 100                     |                      |                      |                      |                      |
| 75                      |                      |                      |                      |                      |
| 50                      |                      |                      |                      |                      |
| 25                      |                      |                      |                      |                      |
| 0                       |                      |                      |                      |                      |
| Measure angle           | $\pm 13^\circ$       | $\pm 15.3^\circ$     | $\pm 10.5^\circ$     | $\pm 9.5^\circ$      |
| Repeatability           | 250nm                | 300nm                | 290nm                | 850nm                |
| Linear error            | $< \pm 2\mu\text{m}$ | $< \pm 2\mu\text{m}$ | $< \pm 2\mu\text{m}$ | $< \pm 5\mu\text{m}$ |

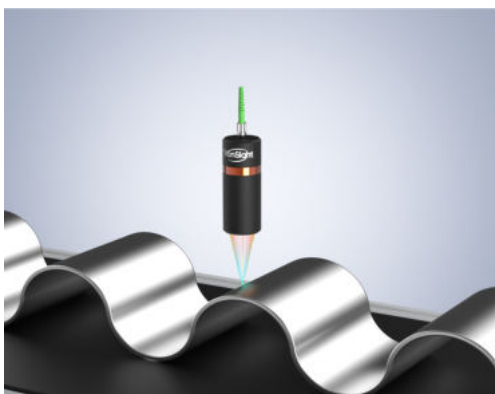
| Reference distance (mm) | CR1500                 | CR1500N                 | CR4000                 | CR5000               |
|-------------------------|------------------------|-------------------------|------------------------|----------------------|
| 50                      |                        |                         |                        |                      |
| 40                      |                        |                         |                        |                      |
| 30                      |                        |                         |                        |                      |
| 20                      |                        |                         |                        |                      |
| 10                      |                        |                         |                        |                      |
| 0                       |                        |                         |                        |                      |
| Measure angle           | $\pm 14^\circ$         | $\pm 12^\circ$          | $\pm 12.5^\circ$       | $\pm 13^\circ$       |
| Repeatability           | 80nm                   | 100nm                   | 100nm                  | 100nm                |
| Linear error            | $< \pm 0.3\mu\text{m}$ | $< \pm 0.75\mu\text{m}$ | $< \pm 1.2\mu\text{m}$ | $< \pm 2\mu\text{m}$ |

\* Only some models are displayed. For details, please refer to the parameters.

# Application



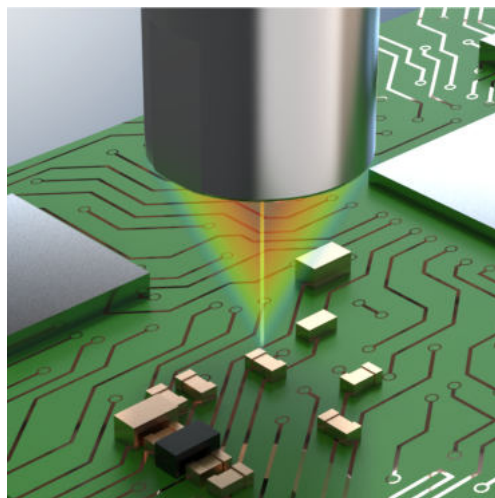
◆ Measurement of the R-curve angle of the mobile phone screen



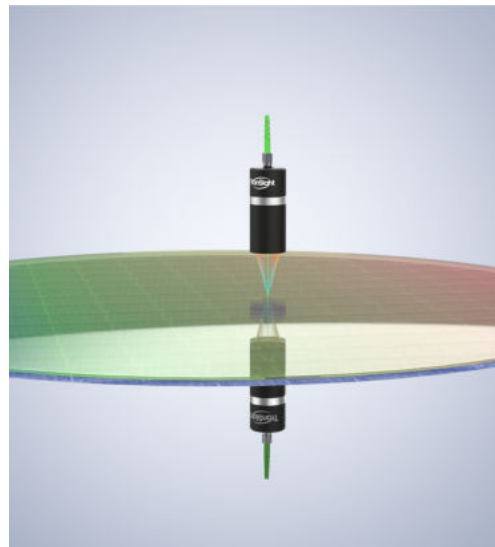
◆ Metal workpiece profile measurement



◆ Oil film thickness and liquid level height measurement



◆ PCB component height difference measurement



◆ Wafer Mapping Thickness Measurement



◆ Flatness measurement of structural components

Chromatic Confocal  
Displacement Sensor

Laser Triangulation  
Displacement Sensor

CMOS Laser  
Displacement Sensor

Interferometric  
Thickness Sensor

Reflective Film  
Thickness Sensor

## Parameters

### Sensor Head

| Model <sup>*7</sup> | Reference Distance <sup>*1</sup> | Measurement Range | Angle <sup>*2</sup> | Spot type <sup>*3</sup> | Repeat-ability <sup>*4</sup> | Linear Error <sup>*5</sup> | Outer Diameter *Length | Weight            | Minimum Measurabl e Thickness | Temperature Characteristics | IP Grade |
|---------------------|----------------------------------|-------------------|---------------------|-------------------------|------------------------------|----------------------------|------------------------|-------------------|-------------------------------|-----------------------------|----------|
| C100B               | 8mm                              | ±0.05mm           | ±46.5°              | Φ2.7μm/5.4μm/43.2μm     | 3nm                          | < ±0.03μm                  | Φ40*111.5mm            | 256g              | 5%ofF.S.                      | < 0.03% F.S./°C             | IP40     |
| C400                | 10mm                             | ±0.2mm            | ±43°                | Φ7μm/14μm/112μm         | 12nm                         | < ±0.12μm                  | Φ40*99.4mm             | 186g              |                               |                             |          |
| C600                | 6.5mm                            | ±0.3mm            | ±32.5°              | Φ8μm/16μm/128μm         | 16nm                         | < ±0.18μm                  | Φ20*110mm              | 73g               |                               |                             |          |
| C1200               | 20mm                             | ±0.6mm            | ±32°                | Φ9.5μm/19μm/152μm       | 30nm                         | < ±0.3μm                   | Φ36*106.3mm            | 182g              |                               |                             |          |
| C2000               | 50mm                             | ±1mm              | ±14°                | Φ20μm/40μm/320μm        | 85nm                         | < ±0.6μm                   | Φ34*90.7mm             | 162g              | 10%ofF.S.                     | ≈0.1% F.S./°C               | IP40     |
| C2400               | 9mm                              | ±1.2mm            | ±60°                | Φ5.5μm/11μm/88μm        | 45nm                         | < ±0.48μm                  | Φ94*267.5mm            | 2350g             | 5%ofF.S.                      | < 0.03% F.S./°C             |          |
| C2600               | 15mm                             | ±1.3mm            | ±31°                | Φ9μm/18μm/144μm         | 50nm                         | < ±0.3μm                   | Φ36*97.9mm             | 228g              |                               |                             |          |
| C2600H              | 15mm                             | ±1.3mm            | ±31°                | Φ9μm/18μm/144μm         | 50nm                         | < ±0.3μm                   | Φ36*97.9mm             | 228g              |                               |                             |          |
| C3000               | 7mm                              | ±1.5mm            | ±12.5°              | Φ20μm                   | 100nm                        | < ±0.6μm                   | Φ8*65.7mm              | 23g <sup>*6</sup> | 10%ofF.S.                     | ≈0.05% F.S./°C              | IP67     |
| C4000N              | 14.5mm                           | ±2mm              | ±21°                | Φ12μm/24μm/192μm        | 100nm                        | < ±0.8μm                   | Φ32*158.8mm            | 238g              | 5%ofF.S.                      | < 0.03% F.S./°C             | IP40     |
| C4000F              | 38mm                             | ±2mm              | ±21°                | Φ16μm/32μm/256μm        | 100nm                        | < ±0.8μm                   | Φ36*126.1mm            | 226g              |                               | ≈0.05% F.S./°C              |          |
| C6000               | 40mm                             | ±3mm              | ±14°                | Φ22μm/44μm/352μm        | 140nm                        | < ±1.2μm                   | Φ30*65.3mm             | 112g              |                               |                             |          |
| C7000               | 45mm                             | ±3.5mm            | ±15.5°              | Φ20μm/40μm/320μm        | 140nm                        | < ±1.4μm                   | Φ36*84.2mm             | 200g              |                               |                             |          |
| C7000L              | 47mm                             | ±3.5mm            | ±21°                | Φ16μm/32μm/256μm        | 140nm                        | < ±1.4μm                   | Φ52*207mm              | 784g              |                               |                             |          |
| C7000S              | 70mm                             | ±3.5mm            | ±10°                | Φ25μm/50μm/400μm        | 200nm                        | < ±1.4μm                   | Φ30*84.2mm             | 130g              |                               |                             |          |
| C8000               | 54.5mm                           | ±4mm              | ±7.3°               | Φ34μm / 68μm / 544μm    | 250nm                        | < ±1.6μm                   | Φ23*50mm               | 29g               |                               |                             |          |
| C8000(Bent)         | 54.5mm                           | ±4mm              | ±7.3°               | Φ34μm / 68μm / 544μm    | 250nm                        | < ±1.6μm                   | Φ23*48.5mm             |                   |                               |                             |          |
| C10000              | 50mm                             | ±5mm              | ±13°                | Φ20μm/40μm/320μm        | 250nm                        | < ±2μm                     | Φ36*84mm               | 203g              |                               |                             |          |
| C10000H             | 50mm                             | ±5mm              | ±13°                | Φ20μm/40μm/320μm        | 250nm                        | < ±2μm                     | Φ36*84mm               | /                 |                               |                             |          |
| C16000              | 55mm                             | ±8mm              | ±15.3°              | Φ15μm/30μm/240μm        | 300nm                        | < ±2μm                     | Φ60*211.1mm            | 1180g             |                               |                             |          |
| C20000              | 60mm                             | ±10mm             | ±10.5°              | Φ25μm/50μm/400μm        | 290nm                        | < ±2μm                     | Φ36*163mm              | 310g              |                               |                             |          |
| C20000H             | 60mm                             | ±10mm             | ±10.5°              | Φ25μm/50μm/400μm        | 290nm                        | < ±2μm                     | Φ36*163mm              | 670g              |                               |                             |          |
| C50000              | 100mm                            | ±25mm             | ±9.5°               | Φ25μm/50μm/400μm        | 850nm                        | < ±5μm                     | Φ60*217.3mm            | 1154g             |                               |                             |          |
| CR1500              | Axial:3.92mm<br>Radial:5.75mm    | ±0.75mm           | ±14°                | Φ20μm                   | 80nm                         | < ±0.3μm                   | Φ8*68.8mm<br>Φ8*70.2mm | 23g <sup>*6</sup> | 10%ofF.S.                     | < 0.02% F.S./°C             | IP40     |
| CR1500N             | Axial:1.7mm<br>Radial:3mm        | ±0.75mm           | ±12°                | Φ17μm                   | 100nm                        | < ±0.75μm                  | Φ3.8*85mm              | 23g <sup>*6</sup> |                               |                             |          |
| CR4000              | Axial:4.7mm<br>Radial:8mm        | ±2mm              | ±12.5°              | Φ20μm                   | 100nm                        | < ±1.2μm                   | Φ8*73.1mm              | 59g <sup>*6</sup> |                               |                             |          |
| CR5000              | Axial:6.75mm<br>Radial:12mm      | ±2.5mm            | ±13°                | Φ19μm                   | 100nm                        | < ±1μm                     | Φ12*94.6mm             | 37g <sup>*6</sup> |                               |                             |          |

\*1 Calculated from the center position of the measurement range;

\*2 Tilt test using standard flat mirror at 1kHz Sampling Rate;

\*3 Measurement of sharp glass edges, verified with a sub-micron positioning accuracy motion platform and laser interferometer as the displacement reference, the spot diameter values correspond to the diameters of small spot/large spot/four-spot pattern;

\*4 Measurement of standard silver-coated mirror, 1kHz without averaging, root mean square deviation of 10,000 continuous data sets;

\*5 Calibration verification using high-precision nanoscale laser interferometer;

\*6 This head model includes a 3m tail cable, and the weight in the table includes the weight of the cable;

\*7 The CR series is available in two configurations: axial and radial light emission. The different suffixes are distinguished as follows: N for near reference distance, F for far reference distance, S for small size, L for Large size, H for high-temperature version.

### Controller(CC-)

| Model                                     | CCS                                                                   | CCD                                                                                         | CCF |
|-------------------------------------------|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----|
| <b>Head Connection Capacity</b>           | 1                                                                     | 2                                                                                           | 4   |
| <b>Sampling Rate</b>                      | 1 channel: Max.10 kHz; 2 channels: Max.5 kHz; 4 channels: Max.2.5 kHz |                                                                                             |     |
| <b>Input Port</b>                         | Encoder Input                                                         | AB / ABZ encoder input, configurable for trigger                                            |     |
|                                           | Trigger Signal Input                                                  | Pulse / Level trigger                                                                       |     |
| <b>Output Port</b>                        | Digital Signal Output                                                 | Alarm output, comparator output (Configurable as comparator output or data invalid warning) |     |
|                                           | Analog Signal Output                                                  | Linear ±10 V analog voltage output / 4~20 mA analog current output (Optional)               |     |
| <b>Industrial Interface</b>               | Ethernet                                                              | 100BASE-TX                                                                                  |     |
|                                           | USB                                                                   | Complies with USB2.0 Full-speed standard                                                    |     |
|                                           | RS-485                                                                | Modbus protocol, 19200~115200 baud rate                                                     |     |
|                                           | EtherCAT                                                              | \                                                                                           |     |
| <b>Measurement &amp; Control Software</b> | Host Computer Software                                                | TSConfocalStudio measurement & control software                                             |     |
|                                           | SDK                                                                   | C++&C#SDK                                                                                   |     |

## Parameters

(Continued table)

|                                |                       |                               |
|--------------------------------|-----------------------|-------------------------------|
| <b>Rated Power</b>             | Supply Voltage        | 24VDC±10%                     |
|                                | Current Consumption   | 0.4A                          |
| <b>Environmental Tolerance</b> | Operating Temperature | 0 to +50°C                    |
|                                | Relative Humidity     | 20 to 85% RH(No condensation) |
| <b>Weight</b>                  |                       | 2000g                         |

## Controller(CCH)

| Model                                     |                        | CCH                                                                                                                                                                                                   |
|-------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Head Connection Capacity</b>           |                        | Supports up to 16 sensor heads connected simultaneously.                                                                                                                                              |
| <b>Sampling Rate</b>                      |                        | 1 Channel: Max. 20 kHz; 2 Channel:Max. 18 kHz; 4 Channel: Max. 12.5 kHz;<br>6 Channel: Max. 10 kHz; 6 Channel: Max. 10 kHz; 8 Channel: Max. 8 kHz;<br>12 Channels: Max. 6 kHz; 16 Channel: Max. 4 kHz |
| <b>Input Port</b>                         | Encoder Input          | AB / ABZ encoder input, configurable for trigger                                                                                                                                                      |
|                                           | Trigger Signal Input   | Pulse / Level trigger                                                                                                                                                                                 |
| <b>Output Port</b>                        | Digital Signal Output  | Alarm output, comparator output (configurable as comparator output or data invalid warning)                                                                                                           |
|                                           | Analog Signal Output   | Linear 0~5V/0~10V/±5V/±10V analog voltage output / 4~20mA analog current output (Optional)                                                                                                            |
| <b>Industrial Interface</b>               | Ethernet               | 1000/100Mbps                                                                                                                                                                                          |
|                                           | USB                    | USB2.0 High-speed (480Mbps)                                                                                                                                                                           |
|                                           | RS-485                 | Modbus protocol, 19200~115200 baud rate                                                                                                                                                               |
|                                           | EtherCAT               | 100Mbps(Optional)                                                                                                                                                                                     |
| <b>Measurement &amp; Control Software</b> | Host Computer Software | TSCConfocalStudio measurement & control software                                                                                                                                                      |
|                                           | SDK                    | C++&C#SDK                                                                                                                                                                                             |
| <b>Rated Power</b>                        | Supply Voltage         | 24 VDC±10%                                                                                                                                                                                            |
|                                           | Current Consumption    | 0.5A (1 channel), 4A (16 channels) ,recommended power supply 24V 6A or above                                                                                                                          |
| <b>Environmental Tolerance</b>            | Operating Temperature  | 0 to +50°C                                                                                                                                                                                            |
|                                           | Relative Humidity      | 20 to 85% RH(No condensation)                                                                                                                                                                         |
| <b>Weight</b>                             |                        | Approx.2800g(Related channel number & configuration)                                                                                                                                                  |

## Controller(CP-\*)

| Model                                     |                        | CPS / CPS-L                                                                                 | CPD / CPD-L | CPF |
|-------------------------------------------|------------------------|---------------------------------------------------------------------------------------------|-------------|-----|
| <b>Head Connection Capacity</b>           |                        | 1                                                                                           | 2           | 4   |
| <b>Sampling Rate</b>                      |                        | 1 channel: Max.32 kHz; 2 channels: Max.16 kHz; 4 channels: Max.8 kHz                        |             |     |
| <b>Input Port</b>                         | Encoder Input          | AB / ABZ encoder input, configurable for trigger                                            |             |     |
|                                           | Trigger Signal Input   | Pulse / Level trigger                                                                       |             |     |
| <b>Output Port</b>                        | Digital Signal Output  | Alarm output, comparator output (Configurable as comparator output or data invalid warning) |             |     |
|                                           | Analog Signal Output   | Linear ±10 V analog voltage output / 4~20 mA analog current output (Optional)               |             |     |
| <b>Industrial Interface</b>               | Ethernet               | 100BASE-TX                                                                                  |             |     |
|                                           | USB                    | USB2.0 High-speed (480Mbps)                                                                 |             |     |
|                                           | RS-485                 | Modbus protocol, 19200~115200 baud rate                                                     |             |     |
|                                           | EtherCAT               | 100Mbps(Optional)                                                                           |             |     |
| <b>Measurement &amp; Control Software</b> | Host Computer Software | TSCConfocalStudio measurement & control software                                            |             |     |
|                                           | SDK                    | C++&C#SDK                                                                                   |             |     |
| <b>Rated Power</b>                        | Supply Voltage         | 24 VDC±10%                                                                                  |             |     |
|                                           | Current Consumption    | 1.0 A                                                                                       |             |     |
| <b>Environmental Tolerance</b>            | Operating Temperature  | 0 to +50°C                                                                                  |             |     |
|                                           | Relative Humidity      | 20 to 85% RH(No condensation)                                                               |             |     |
| <b>Weight</b>                             |                        | 3200 g                                                                                      |             |     |

\* This model is a new product. The drawings are still being perfected, and the actual parameters may vary slightly. The contract shall prevail.

Chromatic Confocal  
Displacement Sensor

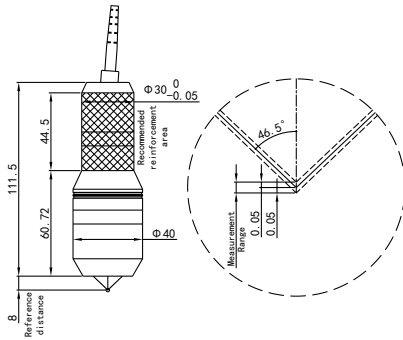
Laser Triangulation  
Displacement Sensor

CMOS Laser  
Displacement Sensor

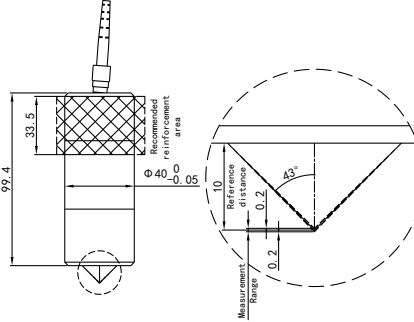
Interferometric  
Thickness Sensor

Reflective Film  
Thickness Sensor

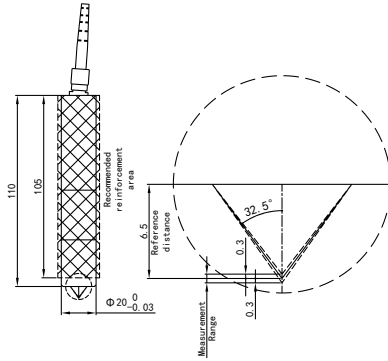
I C100B



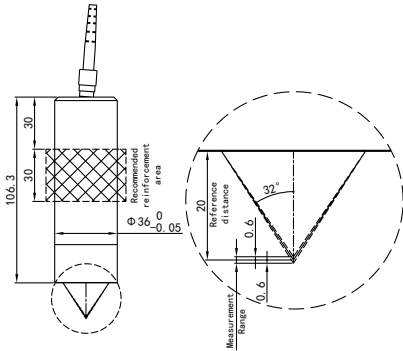
I C400



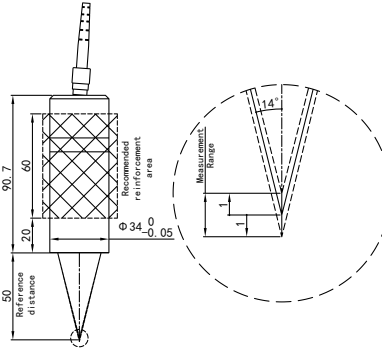
I C600



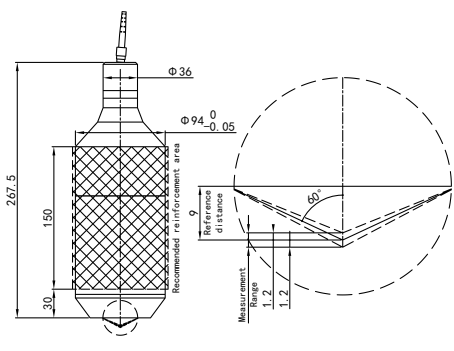
I C1200



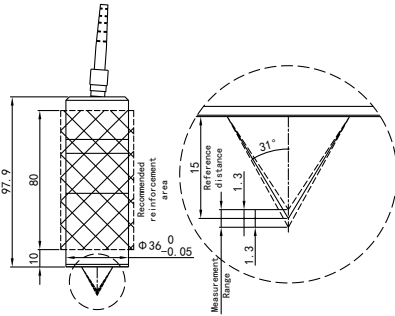
I C2000



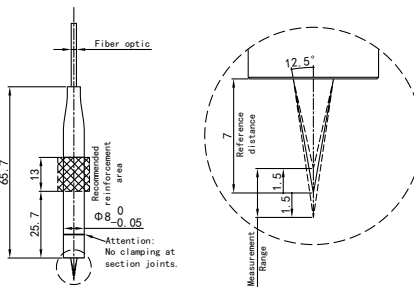
I C2400



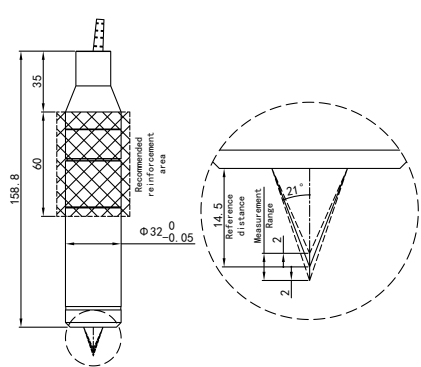
I C2600\_2600H



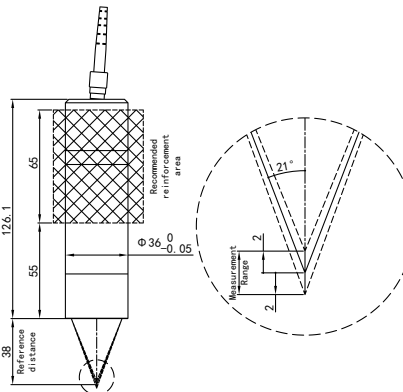
I C3000



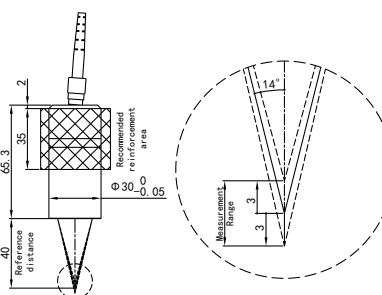
I C4000N



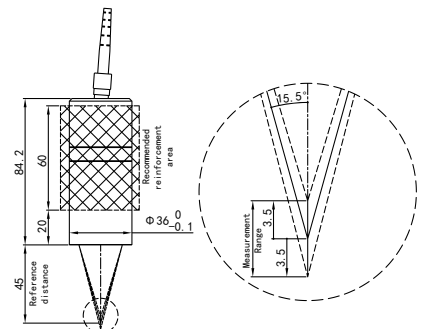
I C4000F



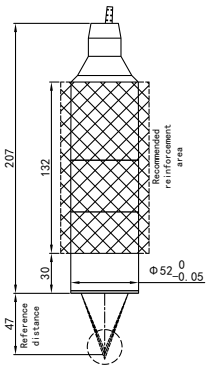
I C6000



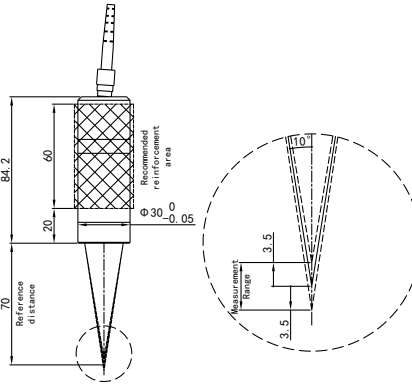
I C7000



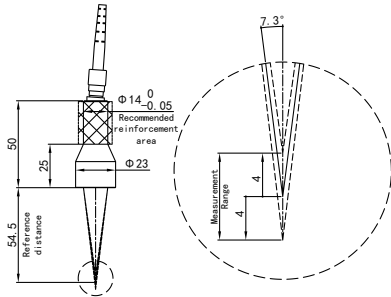
**| C7000L**



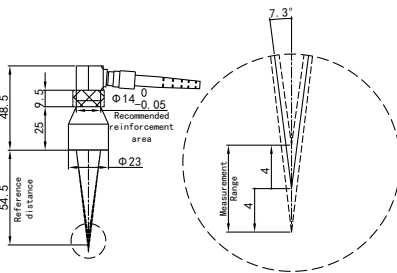
**| C7000S**



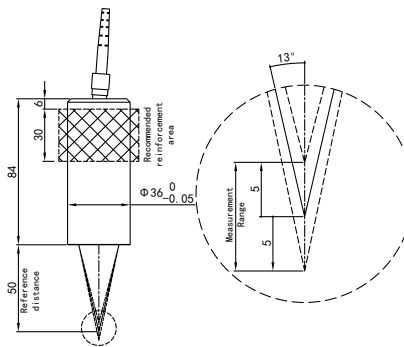
**| C8000**



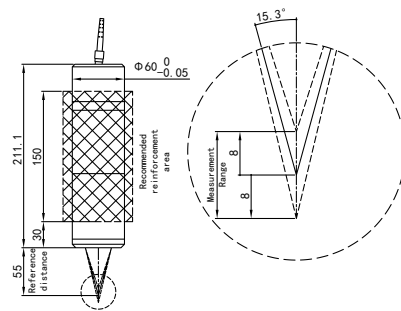
**| C8000(Bent)**



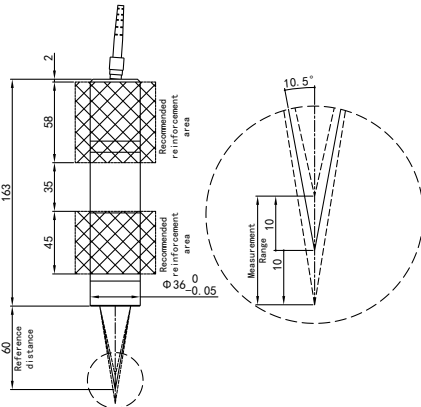
**| C10000\_C10000H**



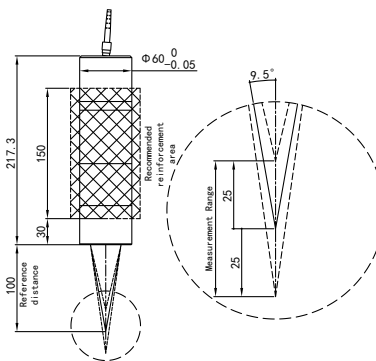
**| C16000**



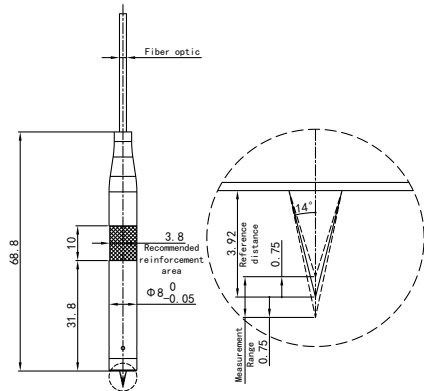
**| C20000\_20000H**



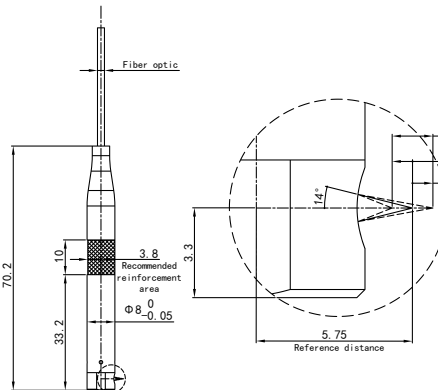
**| C50000**



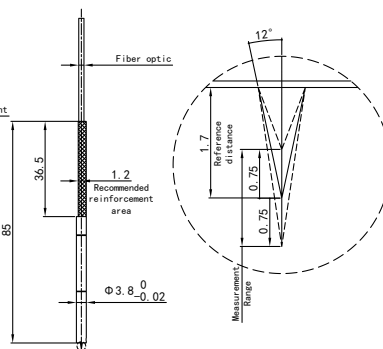
**| CR1500(Axial)**



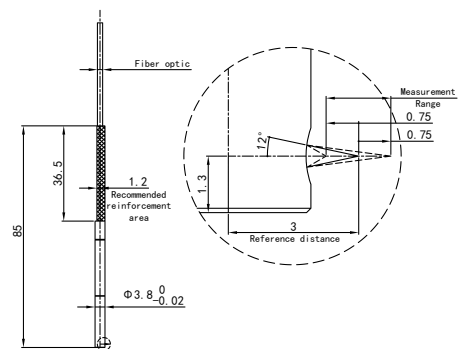
**| CR1500(Radial)**



**| CR1500N(Axial)**



**| CR1500N(Radial)**



Chromatic Confocal  
Displacement Sensor

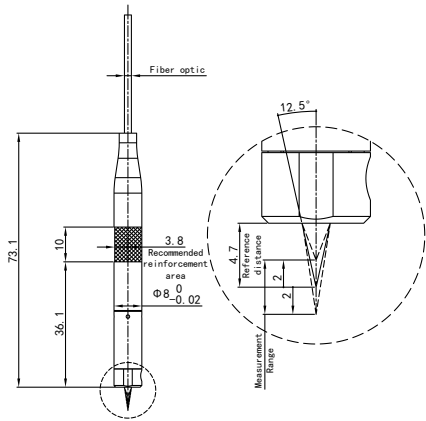
Laser Triangulation  
Displacement Sensor

CMOS Laser  
Displacement Sensor

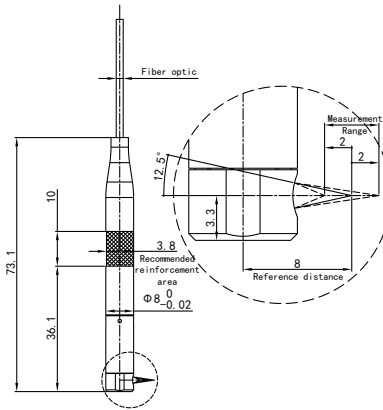
Interferometric  
Thickness Sensor

Reflective Film  
Thickness Sensor

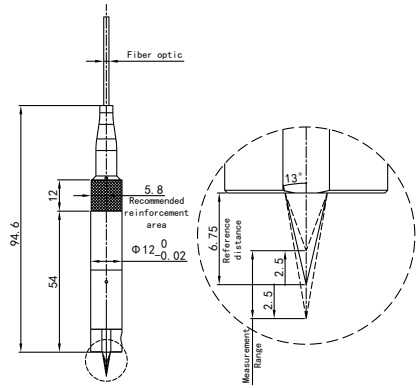
| CR4000(Axial)



| CR4000(Radial)

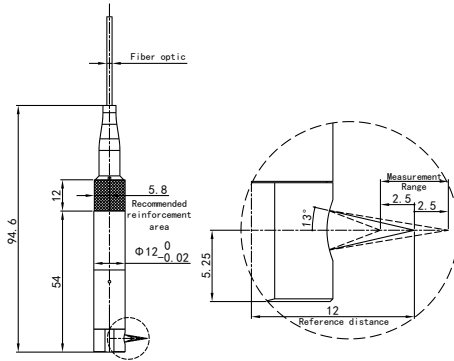


| CR5000(Axial)

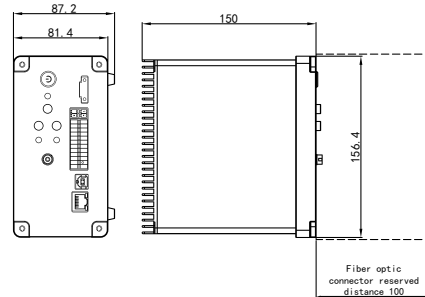


## Controller

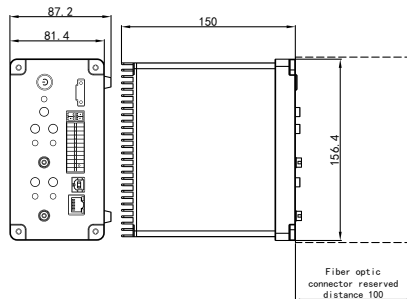
| CR5000(Radial)



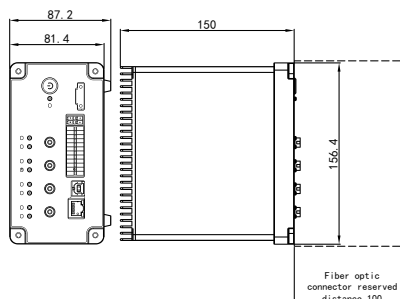
| CCS



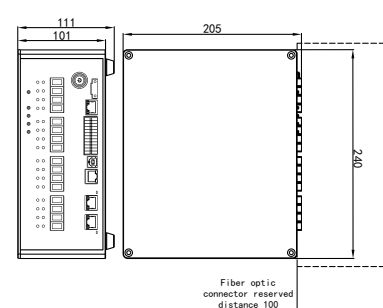
| CCD



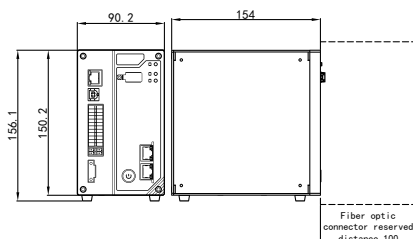
| CCF



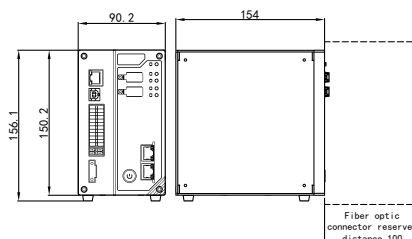
| CCH



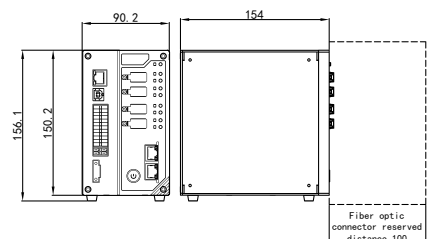
| CPS



| CPD

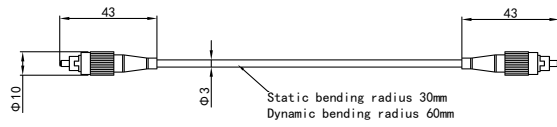


| CPF

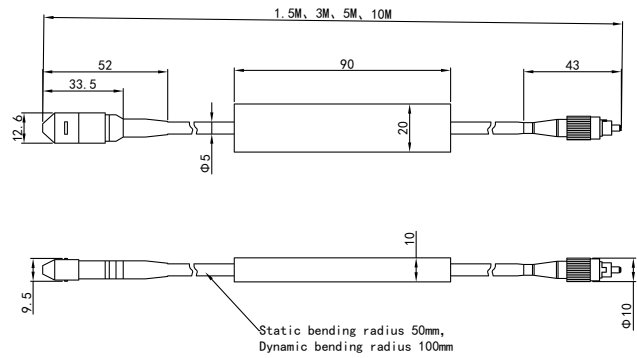


## Accessories Drawings

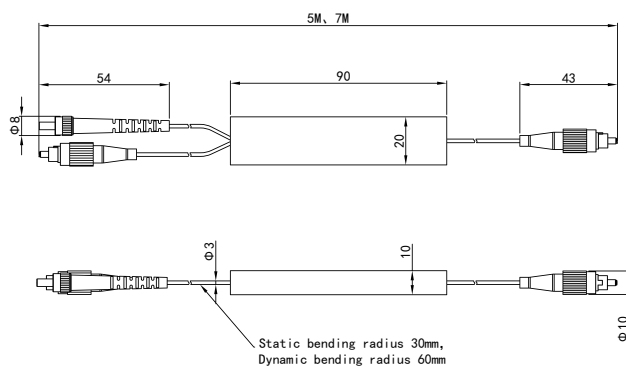
### FC-FC Optic Jumper



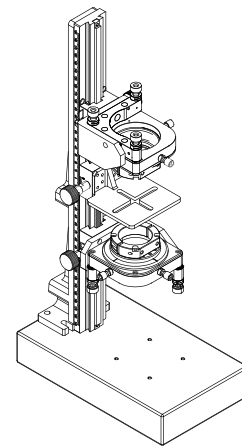
### MPO-FC Fiber Optic Coupler Jumper



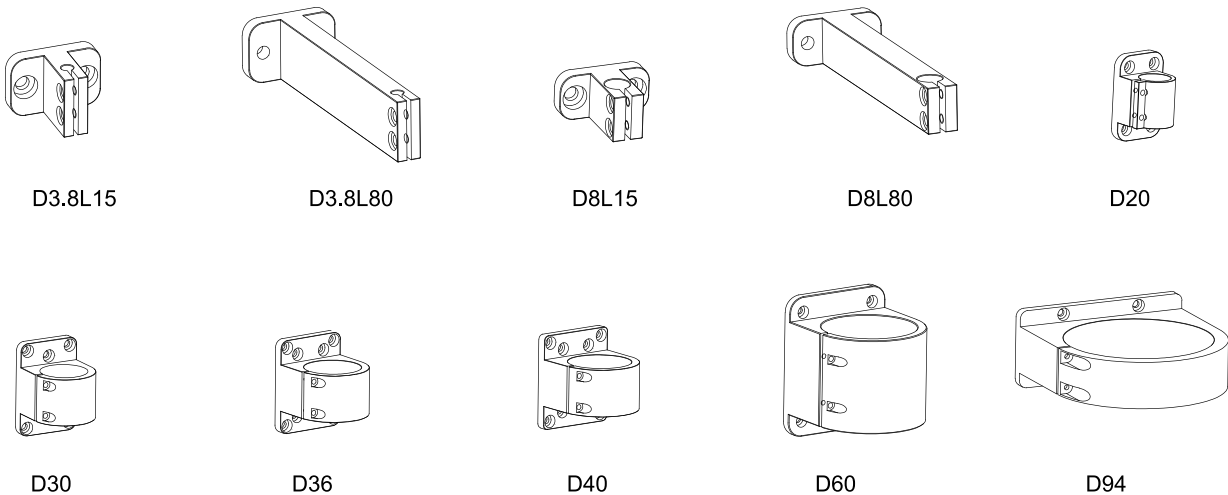
### Dual - interface External Coupler Jumper



### Vertical Jig and Fixture



### Clamp Piece



Chromatic Confocal  
Displacement Sensor

Laser Triangulation  
Displacement Sensor

CMOS Laser  
Displacement Sensor

Interferometric  
Thickness Sensor

Reflective Film  
Thickness Sensor

# | TS-P Series | Laser Triangulation Displacement Sensor

**0.02**  
μm

Ultra-high  
Repeatability

**±0.02**  
% of F.S

Ultra-high  
Linearity

Max **160**  
kHz

Ultra-fast  
Sampling Rate

Ethernet  
RS-485  
Analog Output

Simple Interface  
Configuration



## ◆ Why choose TronSight?



Full-frequency  
Industrial IO



Controller-Free



Ultra-fast Sampling Rate



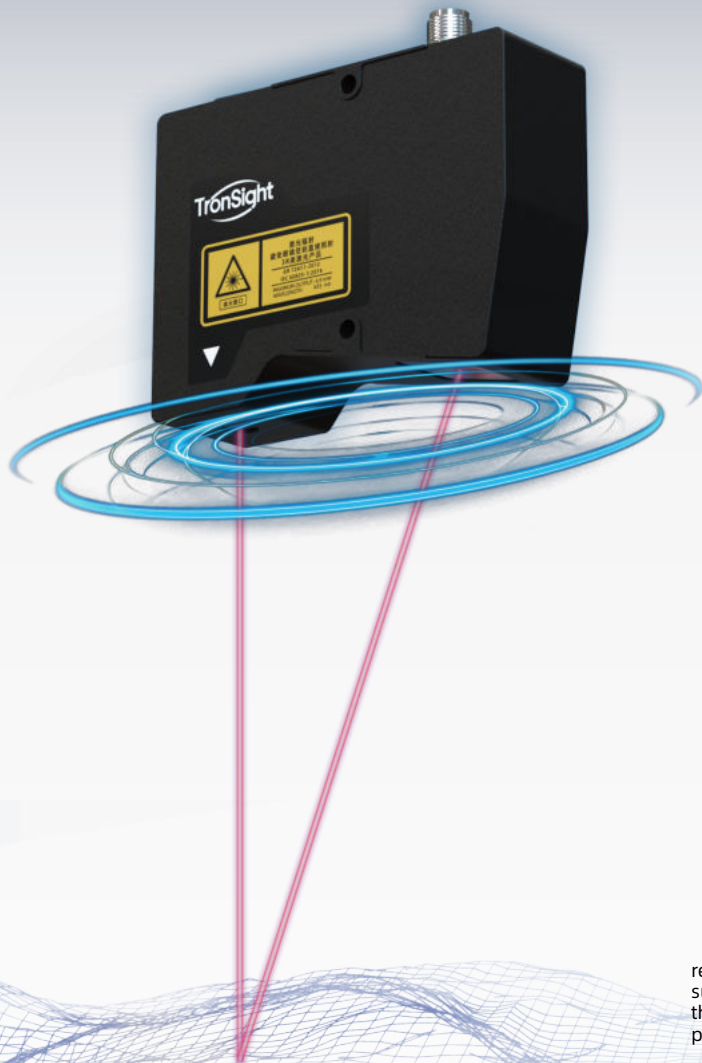
Ultra-long  
Measuring Distance



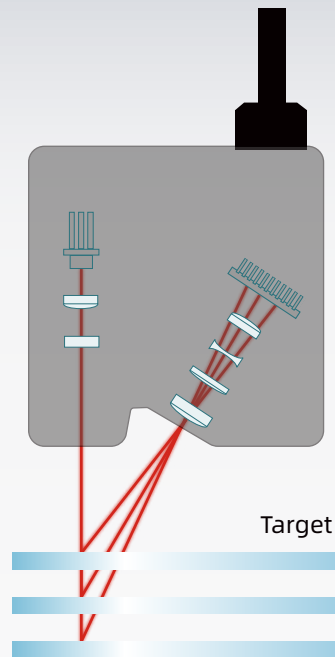
Self-Developed



Specular/Diffuse  
Reflection



#### Measurement Principle

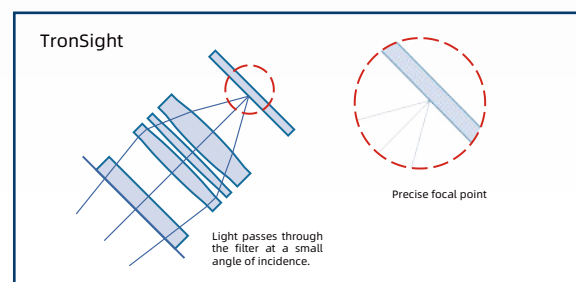
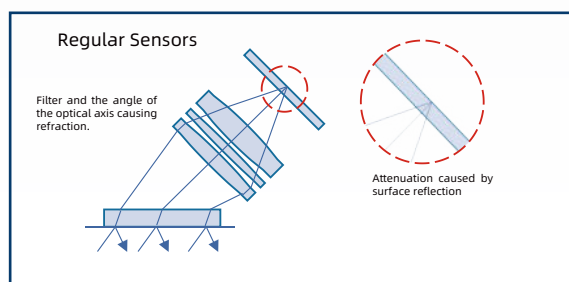


### Basic Principle

The beam of light emitted by the laser shines on the target; the receiving lens focuses the diffusely reflected / reflected light from the surface of the target and focuses it on the photosensitive element. When the distance to the target changes, the position of the light spot on the photosensitive element also changes.

### Optimization of the receiving lens module

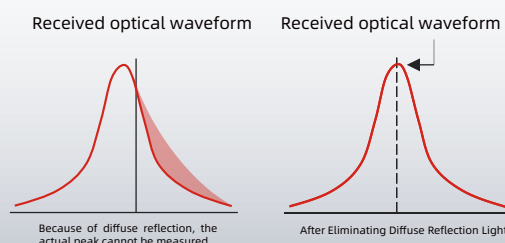
TronSight has improved the structure of the conventional laser triangulation sensor receiving lens module, which can maximize the avoidance of multiple spots caused by multiple reflections on the surface of the filter and the resulting misjudgment of the measurement position. At the same time, it improves the signal-to-noise ratio of the photoelectric data.



### Semi-transparent object measurement algorithm

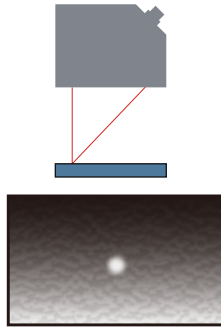
When the laser penetrates a semi-transparent object, it produces diffuse reflection from below the surface of the object, causing the received light waveform to slowly expand. The self-developed measurement algorithm for semi-transparent objects can eliminate the effect of the expanded waveform and detect the actual peak.

#### Semi-transparent object measurement algorithm



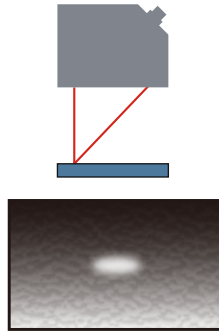
## Light Spot Specification Description

### ◆ Small Spot



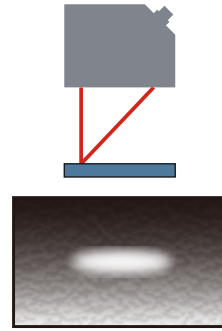
Correctly detect small targets through a minimum  $\phi 18 \mu\text{m}$  light spot, very suitable for shape measurement.

### ◆ Wide Spot



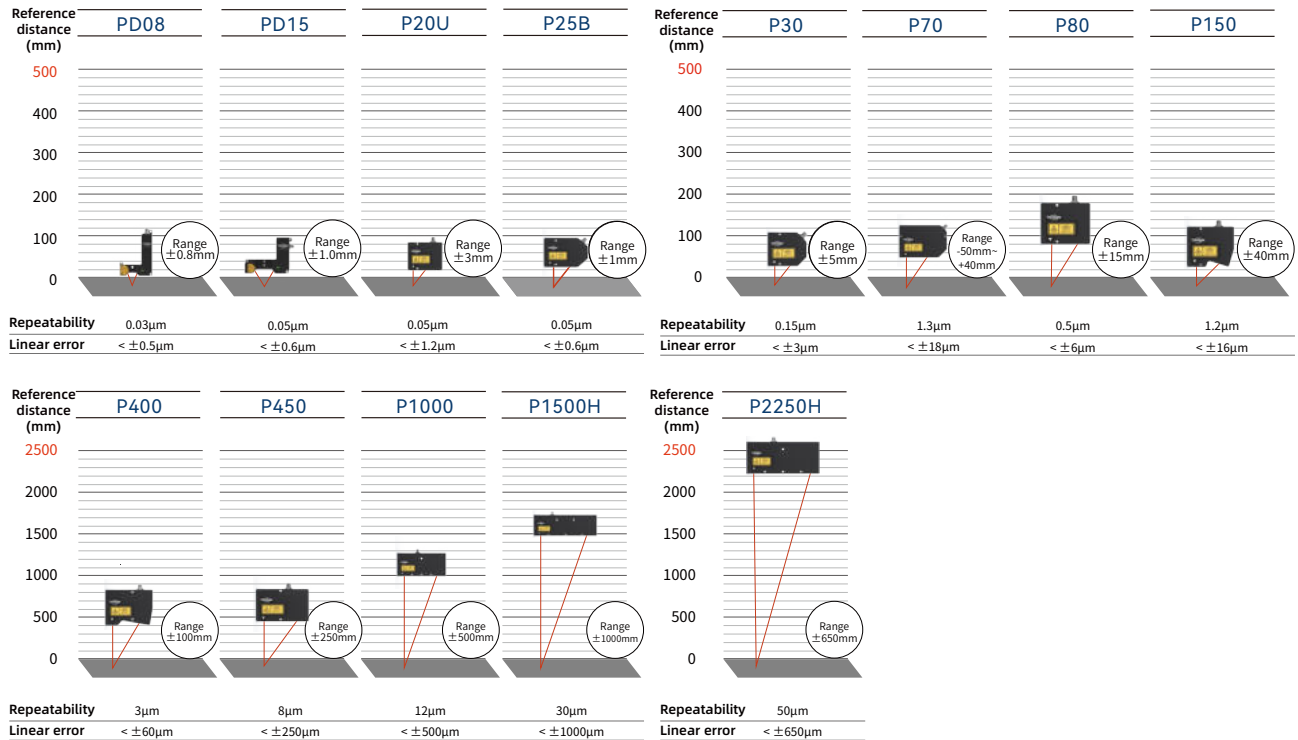
By increasing the measurement spot size, it is more suitable for measuring targets with uneven surfaces, obtaining stable measurement values.

### ◆ Ultra-wide Spot



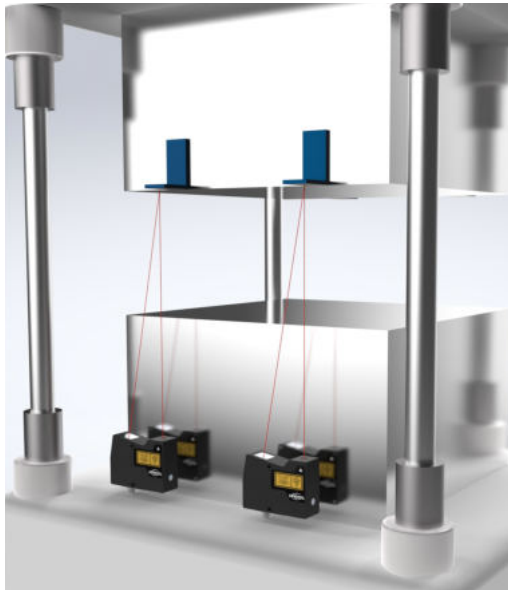
By further increasing the measurement spot size, it is suitable for accurate measurement of objects with greater surface roughness.

## Product Specifications

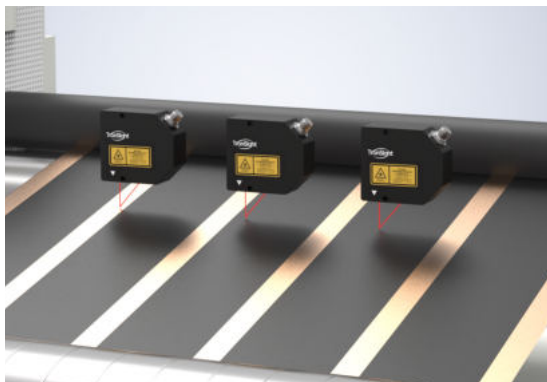


\* Only some models are displayed. For details, please refer to the parameters.

# Application



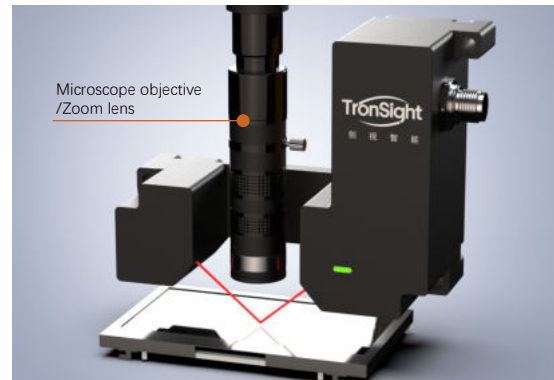
◆ Motion platform position measurement



◆ Online Thickness Measurement of Roller Pressed Plates



◆ Road surface smoothness measurement



◆ Coaxial height focus measurement



◆ High-frequency vibration measurement



◆ PCB component height, PCB board thickness measurement

Chromatic Confocal  
Displacement Sensor

Laser Triangulation  
Displacement Sensor

CMOS Laser  
Displacement Sensor

Interferometric  
Thickness Sensor

Reflective Film  
Thickness Sensor

## Parameters

| Model <sup>9</sup>                | Reference Distance <sup>1</sup>                                                                                                                                                                                                              | Measurement Range | Spot Diameter | Repeat-ability <sup>2</sup> | Repeat-ability <sup>3</sup> | Linear Error <sup>4</sup> | Outer Diameter *Length | Weight | Sampling Rate | Light Source <sup>5</sup> |                    |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------|-----------------------------|-----------------------------|---------------------------|------------------------|--------|---------------|---------------------------|--------------------|
| PD08                              | 8mm                                                                                                                                                                                                                                          | ±0.8mm            | Φ20μm         | 0.03μm                      | 0.01μm                      | < ±0.5μm                  | 82*115*38.5mm          | 213g   | Max.160kHz    | 655nm<br>Max.4.9mW        |                    |
| PD15                              | 15mm                                                                                                                                                                                                                                         | ±1.0mm            | Φ35μm         | 0.05μm                      | 0.01μm                      | < ±0.6μm                  | 102*137*55.5mm         | 475g   |               |                           |                    |
| PD15U                             | 15mm                                                                                                                                                                                                                                         | ±1.0mm            | 35*1000μm     | 0.05μm                      | 0.01μm                      | < ±0.6μm                  | 102*137*55.5mm         | 475g   | Max.25kHz     |                           |                    |
| P20U <sup>8</sup>                 | 20mm                                                                                                                                                                                                                                         | ±3mm              | 30*700μm      | 0.05μm                      | 0.01μm                      | < ±1.2μm                  | 76*96*31mm             | 303g   | Max.25kHz     | 405nm<br>Max.4.9mW        |                    |
| P25B                              | 25mm                                                                                                                                                                                                                                         | ±1mm              | Φ18μm         | 0.05μm                      | 0.01μm                      | < ±0.6μm                  | 120*80*31mm            | 372g   | Max.160kHz    |                           |                    |
| P30                               | 30mm                                                                                                                                                                                                                                         | ±5mm              | Φ35μm         | 0.15μm                      | 0.02μm                      | < ±3μm                    | 87*76*31mm             | 287g   |               |                           |                    |
| P30W                              | 30mm                                                                                                                                                                                                                                         | ±5mm              | 35*400μm      | 0.15μm                      | 0.02μm                      | < ±2μm                    | 87*76*31mm             | 287g   |               |                           |                    |
| P30U                              | 30mm                                                                                                                                                                                                                                         | ±5mm              | 35*1100μm     | 0.075μm                     | 0.02μm                      | < ±2μm                    | 87*76*31mm             | 287g   | Max.25kHz     |                           |                    |
| PM30U                             | 23.9mm                                                                                                                                                                                                                                       | ±4.5mm            | 35*1100μm     | 0.075μm                     | 0.02μm                      | < ±2μm                    | 87*76*31mm             | 287g   |               |                           |                    |
| P70                               | 70mm                                                                                                                                                                                                                                         | -50mm<br>+40mm    | Φ70μm         | 1.3μm                       | 0.3μm                       | < ±18μm                   | 130*90*31mm            | 408g   | Max.160kHz    |                           | 655nm<br>Max.4.9mW |
| P70W                              | 70mm                                                                                                                                                                                                                                         | -50mm<br>+40mm    | 70*500μm      | 1.3μm                       | 0.3μm                       | < ±18μm                   | 130*90*31mm            | 408g   |               |                           |                    |
| P80                               | 80mm                                                                                                                                                                                                                                         | ±15mm             | Φ70μm         | 0.5μm                       | 0.1μm                       | < ±6μm                    | 93*78*37mm             | 359g   |               |                           |                    |
| P80W                              | 80mm                                                                                                                                                                                                                                         | ±15mm             | 70*800μm      | 0.5μm                       | 0.1μm                       | < ±6μm                    | 93*78*37mm             | 359g   |               |                           |                    |
| P80U                              | 80mm                                                                                                                                                                                                                                         | ±15mm             | 70*2200μm     | 0.25μm                      | 0.1μm                       | < ±6μm                    | 93*78*37mm             | 359g   | Max.25kHz     |                           |                    |
| PM80U                             | 75.4mm                                                                                                                                                                                                                                       | ±15mm             | 70*2200μm     | 0.25μm                      | 0.1μm                       | < ±6μm                    | 93*78*37mm             | 359g   |               |                           |                    |
| P150                              | 150mm                                                                                                                                                                                                                                        | ±40mm             | Φ110μm        | 1.2μm                       | 0.25μm                      | < ±16μm                   | 95*80*37mm             | 374g   | Max.160kHz    |                           |                    |
| P150W                             | 150mm                                                                                                                                                                                                                                        | ±40mm             | 110*1400μm    | 1.2μm                       | 0.25μm                      | < ±16μm                   | 95*80*37mm             | 374g   |               |                           |                    |
| P400                              | 400mm                                                                                                                                                                                                                                        | ±100mm            | Φ300μm        | 3μm                         | 1.5μm                       | < ±60μm                   | 115*85*37mm            | 438g   |               |                           |                    |
| P400W                             | 400mm                                                                                                                                                                                                                                        | ±100mm            | 300*3400μm    | 3μm                         | 1.5μm                       | < ±60μm                   | 115*85*37mm            | 438g   |               |                           |                    |
| P450                              | 450mm                                                                                                                                                                                                                                        | ±250mm            | Φ320μm        | 8μm                         | 2μm                         | < ±250μm                  | 120*75*37mm            | 416g   |               |                           |                    |
| P450W                             | 450mm                                                                                                                                                                                                                                        | ±250mm            | 320*4200μm    | 8μm                         | 2μm                         | < ±250μm                  | 120*75*37mm            | 416g   |               |                           |                    |
| P1000                             | 1000mm                                                                                                                                                                                                                                       | ±500mm            | Φ320μm        | 12μm                        | /                           | < ±500μm                  | 180*85*40mm            | 785g   |               |                           |                    |
| P1000H                            | 1000mm                                                                                                                                                                                                                                       | ±500mm            | Φ320μm        | 12μm                        | /                           | < ±500μm                  | 180*85*40mm            | 785g   |               |                           |                    |
| P1500H                            | 1500mm                                                                                                                                                                                                                                       | ±1000mm           | Φ400μm        | 30μm                        | /                           | < ±1000μm                 | 260*85*45mm            | 1250g  |               | 660nm<br>Max.50mW         |                    |
| P2250H                            | 2250mm                                                                                                                                                                                                                                       | ±650mm            | Φ700μm        | 50μm                        | /                           | < ±650μm                  | 200*85*41mm            | 924g   |               |                           |                    |
| Temperature Characteristics       | 0.01% of F.S./°C                                                                                                                                                                                                                             |                   |               |                             |                             |                           |                        |        |               |                           |                    |
| Industrial Interface <sup>6</sup> | Ethernet, RS-485 serial port, analog signal output <sup>7</sup> (Max. ±10V, 4-20mA)                                                                                                                                                          |                   |               |                             |                             |                           |                        |        |               |                           |                    |
| Measurement & Control Software    | Comes with TSLaserStudio measurement & control software, C++&C# SDK                                                                                                                                                                          |                   |               |                             |                             |                           |                        |        |               |                           |                    |
| Operating Mode                    | Operates independently without a controller. The head can be configured as a master or slave, the master controls the slave to achieve functions such as synchronous thickness measurement, alternating exposure for interference resistance |                   |               |                             |                             |                           |                        |        |               |                           |                    |
| Supply Voltage                    | DC 9~36V, maximum allowable ±10% fluctuation                                                                                                                                                                                                 |                   |               |                             |                             |                           |                        |        |               |                           |                    |
| Power Consumption                 | 2.5W                                                                                                                                                                                                                                         |                   |               |                             |                             |                           |                        |        |               |                           |                    |
| IP Grade                          | IP67(IEC60529)                                                                                                                                                                                                                               |                   |               |                             |                             |                           |                        |        |               |                           |                    |
| Operating Temperature             | 0 to+50°C                                                                                                                                                                                                                                    |                   |               |                             |                             |                           |                        |        |               |                           |                    |

<sup>1</sup> Calculation based on the center position of the measurement range;

<sup>2</sup> Measurement of standard white ceramic sample, 50kHz without averaging, taking the root mean square deviation (1 σ) of 65536 sets of measurement data; U series probes, 8kHz without averaging, taking the root mean square deviation (1 σ) of 65536 sets of measurement data;

<sup>3</sup> Measurement of standard white ceramic sample, 50kHz with 1024 averaging times, taking the root mean square deviation (1 σ) of 65536 sets of measurement data; U series probes, 8kHz with 1024 averaging times, taking the root mean square deviation (1 σ) of 65536 sets of measurement data;

<sup>4</sup> Calibration and verification using nanometer-level high-precision laser interferometer;

<sup>5</sup> Laser power can be customized according to different application requirements, some models provide 405nm blue light version;

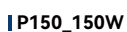
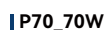
<sup>6</sup> The probe can independently provide voltage, current, and RS-485 output;

<sup>7</sup> Optional analog voltage/current output module;

<sup>8</sup> These models are new products, and the actual parameters may vary slightly. The contract shall prevail;

<sup>9</sup> For the sub-series, PD indicates a split-type structure, and PM indicates a mirror-reflection calibration type. The different suffixes are distinguished as follows: W for wide spot, U for ultra-wide spot, B for blue laser, and H for high-power laser.

## | PD08



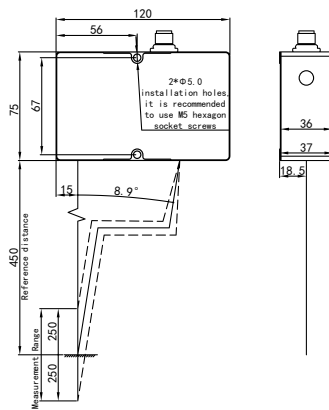
## Laser Triangulation Displacement Sensor

CMOS Laser  
Displacement Sensor

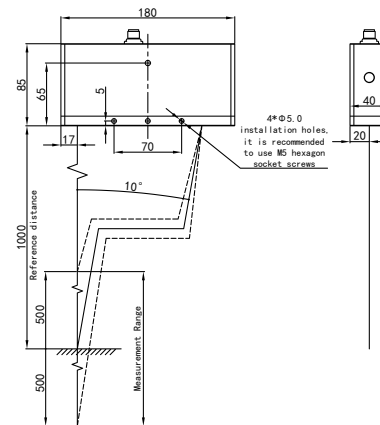
## Interferometric Thickness Sensor

## Reflective Film Thickness Sensor

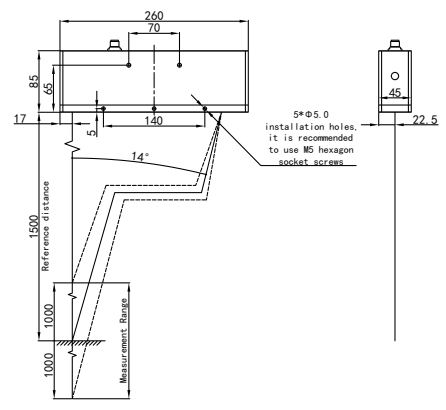
**P450\_P450W**



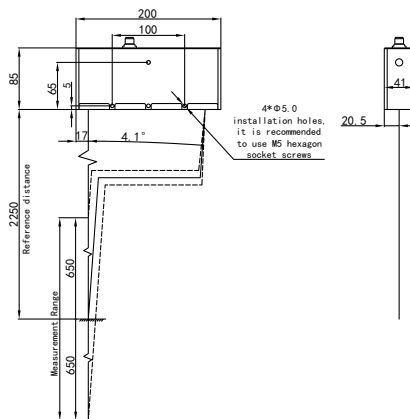
**P1000\_P1000H**



## P1500H

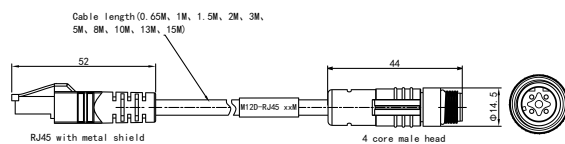


**P2250H**

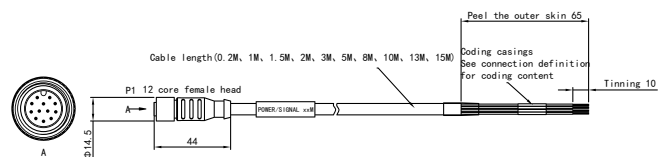


## Accessories Drawings

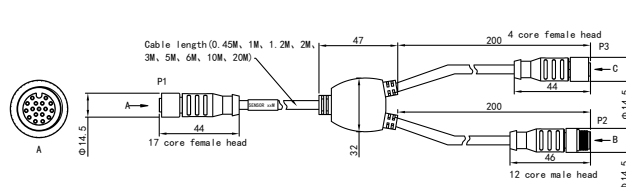
### ■ M12D Type Adapter To RJ45 Connector



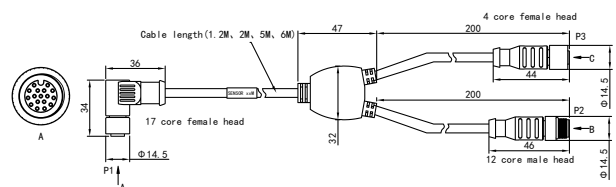
### M12-12 Core Shielded Female Connector Harness



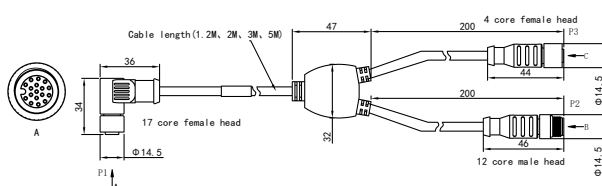
### Y-Type Splitter Cable



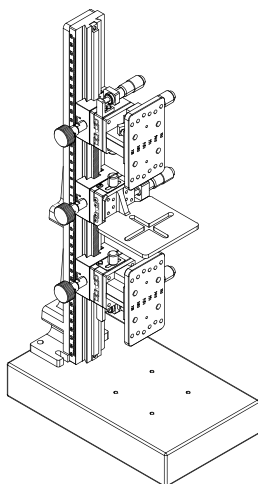
### Y-Type Splitter Cable(90°)



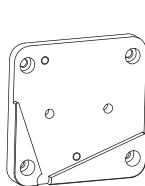
### Y-Type Splitter Cable(90°)(Vertical Gap)



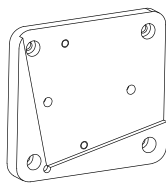
## Vertical Jig and Fixture



## Slanting Installation Board



P30



P80

## Connection Board



Chromatic Confocal  
Displacement Sensor

Laser Triangulation  
Displacement Sensor

CMOS Laser  
Displacement Sensor

Interferometric  
Thickness Sensor

Reflective Film  
Thickness Sensor

# | TS-M Series |

## CMOS Laser Displacement Sensor

**0.25**  
 $\mu\text{m}$

Ultra-high  
Repeatability

**$\pm 0.05$**   
% of F.S

Ultra-high  
Linearity

**Max 50**  
kHz

Ultra-fast  
Sampling Rate

**Ethernet  
RS-485  
Analog Output**

Simple Interface  
Configuration



### ◆ Why choose TronSight?



Full-Frequency  
Industrial IO



Controller-Free



Compact Size



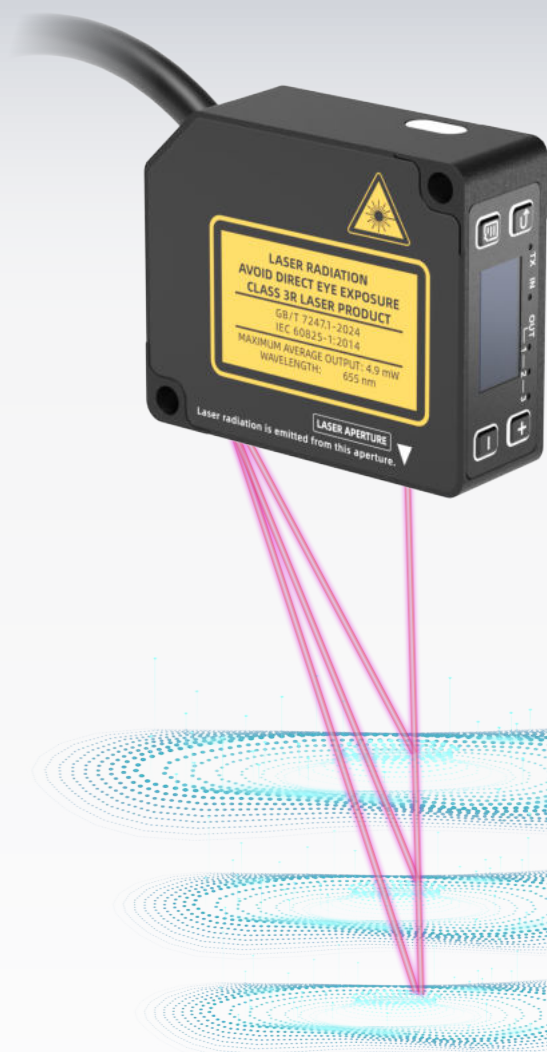
Cost-Effective



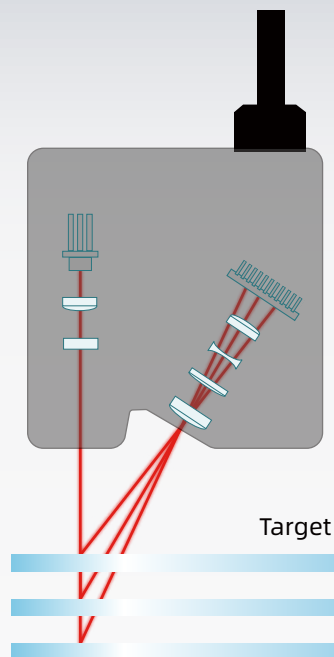
Self-Developed



Integrated Functionality



#### Measurement Principle



#### Basic Principle

The laser beam emitted from the laser source is projected onto the target. The receiving lens focuses the diffusely reflected/reflected light from the target surface onto the photosensitive element. When the distance to the target changes, the position of the light spot on the photosensitive element will also change.

#### Smaller Size for Easy Integration

The TronSight TS-M Series sensors, with a compact size of only 60 mm × 50 mm × 20.4 mm, can be easily installed in tight spaces and small equipment. They meet the requirements for installation and adjustment in confined areas without significantly affecting the overall structure and performance of the equipment. This makes them convenient for integration with other components and enables compact design of the equipment.



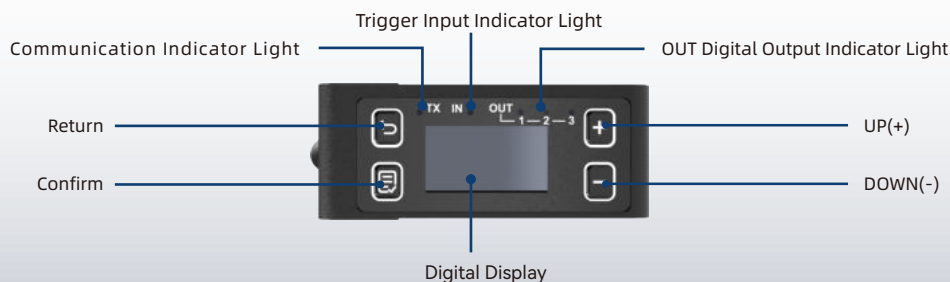
Other model



TronSight TS-M Series

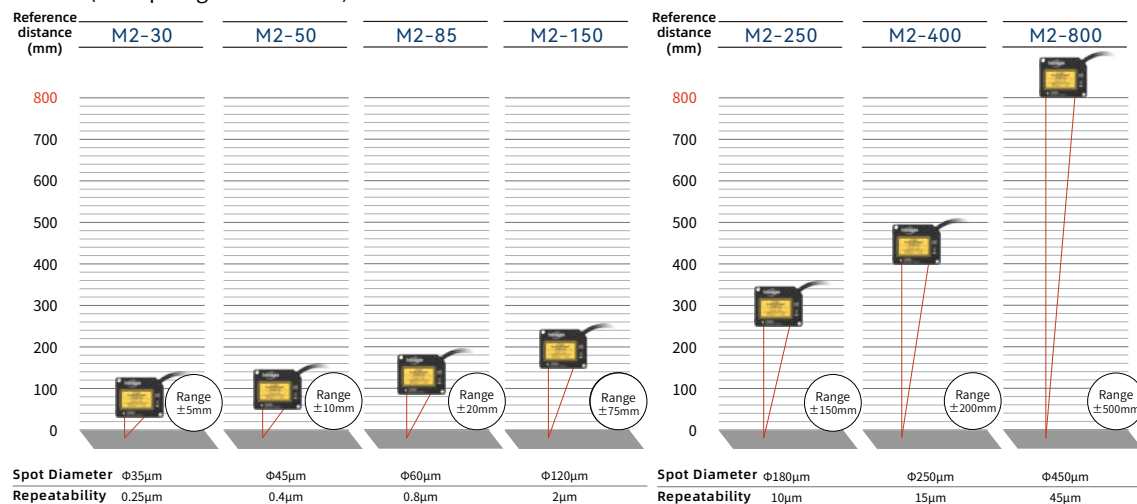
#### Human-Machine Interface (HMI) Functionality

Users can conveniently and quickly operate and configure the sensors through an intuitive button-based interaction method. The TS-M Series sensors are capable of providing real-time feedback of measurement data or device status to users via the display screen. Based on this feedback information, users can promptly make corresponding decisions and adjustments to achieve real-time monitoring and precise control of the system or process.

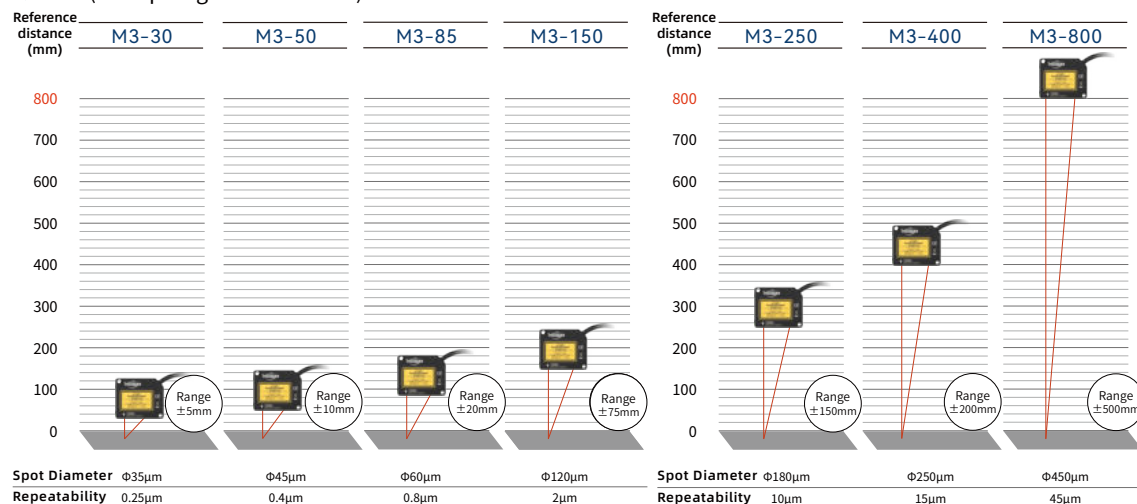


## Product Specifications

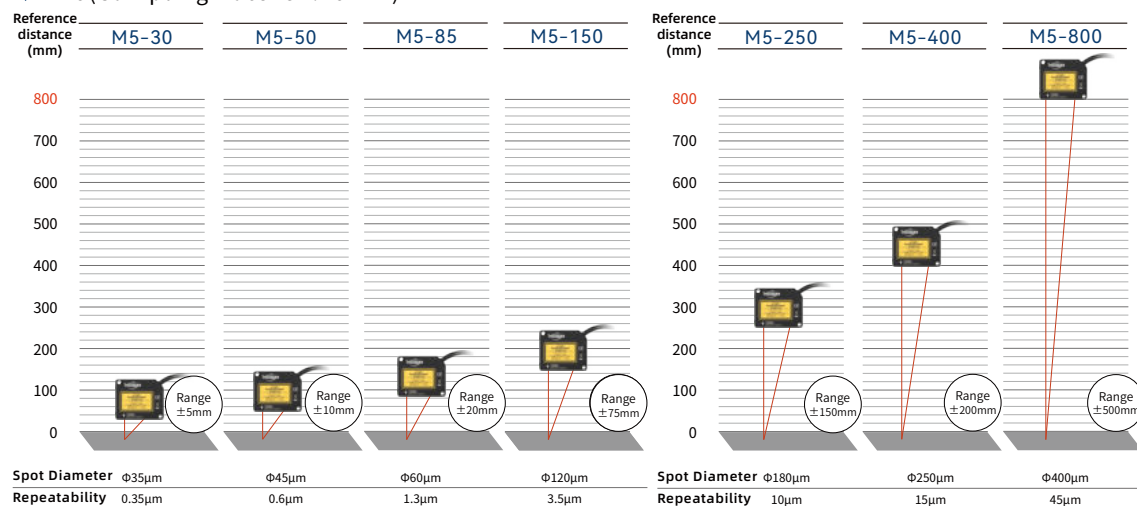
### ◆ M2(Sampling Rate=5kHz)



### ◆ M3(Sampling Rate=10kHz)



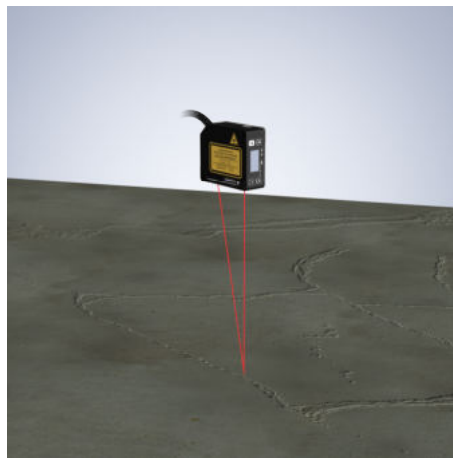
### ◆ M5(Sampling Rate=31.25kHz)



# Application



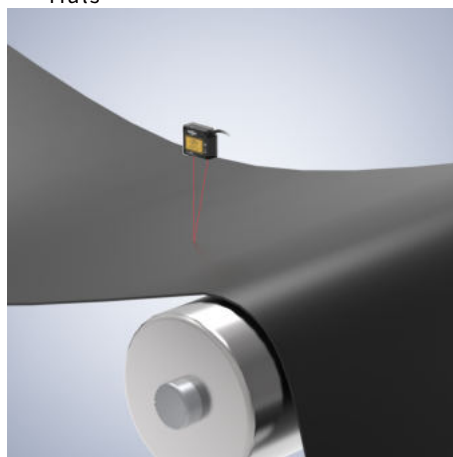
◆ Detection of Cap Height Variation



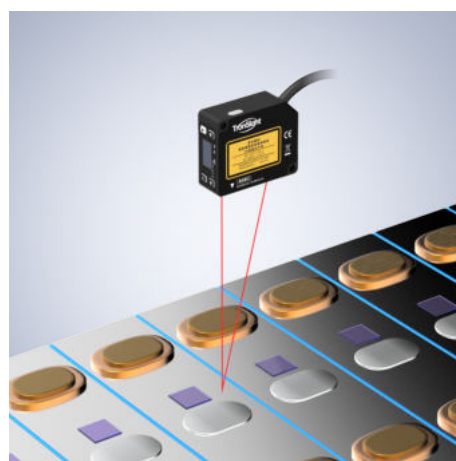
◆ Detection of Gaps in Building Materials



◆ Ceramic Thickness Measurement



◆ Tension Control of Rubber Sheets



◆ Seal Nail Welding Guidance



◆ Detection of Wafer Position in Wafer Cassette

Chromatic Confocal  
Displacement Sensor

Laser Triangulation  
Displacement Sensor

CMOS Laser  
Displacement Sensor

Interferometric  
Thickness Sensor

Reflective Film  
Thickness Sensor

## Parameters

### M2 系列

| Model <sup>*1</sup>                | Reference Distance <sup>*2</sup>                                           | Measurement Range | Spot Diameter | Repeat-ability <sup>*3</sup> | Linear Error <sup>*4</sup> | Outer Diameter *Length | Weight | Sampling Rate | Light Source          |
|------------------------------------|----------------------------------------------------------------------------|-------------------|---------------|------------------------------|----------------------------|------------------------|--------|---------------|-----------------------|
| M2-30                              | 30mm                                                                       | ±5mm              | Φ35μm         | 0.25μm                       | < ±8μm                     | 60*50*20.4mm           | 230g   | 5kHz          | 655 nm<br>Max. 4.9 mW |
| M2-30W                             | 30mm                                                                       | ±5mm              | 35*400μm      | 0.25μm                       | < ±5μm                     |                        |        |               |                       |
| M2-50                              | 50mm                                                                       | ±10mm             | Φ45μm         | 0.4μm                        | < ±15μm                    |                        |        |               |                       |
| M2-50W                             | 50mm                                                                       | ±10mm             | 45*550μm      | 0.4μm                        | < ±10μm                    |                        |        |               |                       |
| M2-85                              | 85mm                                                                       | ±20mm             | Φ60μm         | 0.8μm                        | < ±40μm                    |                        |        |               |                       |
| M2-85W                             | 85mm                                                                       | ±20mm             | 60*800μm      | 0.8μm                        | < ±30μm                    |                        |        |               |                       |
| M2-150                             | 150mm                                                                      | ±75mm             | Φ120μm        | 2μm                          | < ±150μm                   |                        |        |               |                       |
| M2-150W                            | 150mm                                                                      | ±75mm             | 120*1500μm    | 2μm                          | < ±113μm                   |                        |        |               |                       |
| M2-250                             | 250mm                                                                      | ±150mm            | Φ180μm        | 10μm                         | < ±450μm                   |                        |        |               |                       |
| M2-250W                            | 250mm                                                                      | ±150mm            | 180*2600μm    | 10μm                         | < ±300μm                   |                        |        |               |                       |
| M2-400                             | 400mm                                                                      | ±200mm            | Φ250μm        | 15μm                         | < ±600μm                   |                        |        |               |                       |
| M2-400W                            | 400mm                                                                      | ±200mm            | 250*4500μm    | 15μm                         | < ±400μm                   |                        |        |               |                       |
| M2-800                             | 800mm                                                                      | ±500mm            | Φ450μm        | 45μm                         | < ±2000μm                  |                        |        |               |                       |
| M2-800W                            | 800mm                                                                      | ±500mm            | 450*6000μm    | 45μm                         | < ±1000μm                  |                        |        |               |                       |
| M2-30R                             | 25.7mm                                                                     | ±5mm              | Φ35μm         | 0.25μm                       | < ±5μm                     |                        |        |               |                       |
| M2-50R                             | 46.4mm                                                                     | ±6mm              | Φ45μm         | 0.4μm                        | < ±6μm                     |                        |        |               |                       |
| M2-85R                             | 85mm                                                                       | ±10mm             | Φ60μm         | 0.8μm                        | < ±10μm                    |                        |        |               |                       |
| M2-30WR                            | 25.7mm                                                                     | ±5mm              | 35*400μm      | 0.25μm                       | < ±5μm                     |                        |        |               |                       |
| M2-50WR                            | 46.4mm                                                                     | ±6mm              | 45*550μm      | 0.4μm                        | < ±6μm                     |                        |        |               |                       |
| M2-85WR                            | 85mm                                                                       | ±10mm             | 60*800μm      | 0.8μm                        | < ±10μm                    |                        |        |               |                       |
| M2-150WR                           | 107.5mm                                                                    | ±10.5mm           | 120*1500μm    | 2μm                          | < ±16.8μm                  |                        |        |               |                       |
| Temperature Characteristics        | 0.03% F.S. /°C                                                             |                   |               |                              |                            |                        |        |               |                       |
| Industrial Interface <sup>*5</sup> | RS-485 serial port or analog signal output <sup>*6</sup> (Max.±10V,4-20mA) |                   |               |                              |                            |                        |        |               |                       |
| Measurement & Control Software     | Comes with TSLaserStudio measurement & control software, C++&C# SDK        |                   |               |                              |                            |                        |        |               |                       |
| Operating Mode                     | Operates independently without a controller                                |                   |               |                              |                            |                        |        |               |                       |
| Supply Voltage                     | DC 9~36V, maximum allowable ±10% fluctuation                               |                   |               |                              |                            |                        |        |               |                       |
| Power Consumption                  | 2.0W                                                                       |                   |               |                              |                            |                        |        |               |                       |
| IP Grade                           | IP67(IEC60529)                                                             |                   |               |                              |                            |                        |        |               |                       |
| Operating Temperature              | 0 to +50°C                                                                 |                   |               |                              |                            |                        |        |               |                       |

\*1 The M series is a new product, and the actual parameters may vary slightly. The contract shall prevail.

\*2 Calculated based on the center position of the measuring range.

\*3 Calibrated and verified using a nanoscale high-precision laser interferometer.

\*4 The sensor head can independently provide voltage, current, and RS-485 output.

\*5 Optional analog voltage/current output module is available.

### M3 系列

| Model <sup>*1</sup> | Reference Distance <sup>*2</sup> | Measurement Range | Spot Diameter | Repeat-ability <sup>*3</sup> | Linear Error <sup>*4</sup> | Outer Diameter *Length | Weight | Sampling Rate | Light Source          |
|---------------------|----------------------------------|-------------------|---------------|------------------------------|----------------------------|------------------------|--------|---------------|-----------------------|
| M3-30               | 30mm                             | ±5mm              | Φ35           | 0.25μm                       | < ±8μm                     | 60*50*20.4mm           | 150g   | 10kHz         | 655 nm<br>Max. 4.9 mW |
| M3-30U              | 30mm                             | ±5mm              | 35*1200μm     | 0.25μm                       | < ±5μm                     |                        |        |               |                       |
| M3-50               | 50mm                             | ±10mm             | Φ45μm         | 0.4μm                        | < ±15μm                    |                        |        |               |                       |
| M3-50U              | 50mm                             | ±10mm             | 45μm*1800μm   | 0.4μm                        | < ±10μm                    |                        |        |               |                       |
| M3-85               | 85mm                             | ±20mm             | Φ60μm         | 0.8μm                        | < ±40μm                    |                        |        |               |                       |
| M3-85U              | 85mm                             | ±20mm             | 60*2600μm     | 0.8μm                        | < ±30μm                    |                        |        |               |                       |
| M3-150              | 150mm                            | ±75mm             | Φ120μm        | 2μm                          | < ±150μm                   |                        |        |               | 660 nm<br>Max.50mW    |
| M3-150U             | 150mm                            | ±75mm             | 120*4600μm    | 2μm                          | < ±113μm                   |                        |        |               |                       |
| M3-250              | 250mm                            | ±150mm            | Φ180μm        | 10μm                         | < ±450μm                   |                        |        |               |                       |
| M3-250W             | 250mm                            | ±150mm            | 180*2600μm    | 10μm                         | < ±300μm                   |                        |        |               |                       |
| M3-400              | 400mm                            | ±200mm            | Φ250μm        | 15μm                         | < ±600μm                   |                        |        |               |                       |
| M3-400W             | 400mm                            | ±200mm            | 250*4500μm    | 15μm                         | < ±400μm                   |                        |        |               |                       |
| M3-800              | 800mm                            | ±500mm            | Φ450μm        | 45μm                         | < ±2000μm                  |                        |        |               | 655 nm<br>Max. 4.9 mW |
| M3-800W             | 800mm                            | ±500mm            | 450*6000μm    | 45μm                         | < ±1000μm                  |                        |        |               |                       |
| M3-30R              | 25.7mm                           | ±4.5mm            | Φ35μm         | 0.25μm                       | < ±7.2μm                   |                        |        |               |                       |

## Parameters

(Continued table)

|                                |                                                                           |        |           |        |           |              |      |       |                       |
|--------------------------------|---------------------------------------------------------------------------|--------|-----------|--------|-----------|--------------|------|-------|-----------------------|
| M3-30UR                        | 25.7mm                                                                    | ±4.5mm | 35x1200μm | 0.25μm | < ±4.5μm  | 60*50*20.4mm | 150g | 10kHz | 655 nm<br>Max. 4.9 mW |
| M3-50R                         | 46.9mm                                                                    | ±4.5mm | Φ45μm     | 0.4μm  | < ±7.2μm  |              |      |       |                       |
| M3-85UR                        | 77.5mm                                                                    | ±8mm   | 60x2600μm | 0.8μm  | < ±12.8μm |              |      |       |                       |
| Temperature Characteristics    | 0.03% F.S. /°C                                                            |        |           |        |           |              |      |       |                       |
| Industrial Interface*5         | Ethernet, RS-485 serial port, and analog signal output*6(Max.±10V,4-20mA) |        |           |        |           |              |      |       |                       |
| Measurement & Control Software | Comes with TSLaserStudio measurement & control software, C++&C# SDK       |        |           |        |           |              |      |       |                       |
| Operating Mode                 | Operates independently without a controller                               |        |           |        |           |              |      |       |                       |
| Supply Voltage                 | DC 9~36V, maximum allowable ±10% fluctuation                              |        |           |        |           |              |      |       |                       |
| Power Consumption              | 2.0W                                                                      |        |           |        |           |              |      |       |                       |
| IP Grade                       | IP67(IEC60529)                                                            |        |           |        |           |              |      |       |                       |
| Operating Temperature          | 0 to +50°C                                                                |        |           |        |           |              |      |       |                       |

\*1 The M series is a new product, and the actual parameters may vary slightly. The contract shall prevail.

\*2 Calculated based on the center position of the measuring range.

\*3 Calibrated and verified using a nanoscale high-precision laser interferometer.

\*4 The sensor head can independently provide voltage, current, and RS-485 output.

\*5 Optional analog voltage/current output module is available.

## M5 系列

| Model <sup>*1</sup>                | Reference Distance <sup>*2</sup>                                                       | Measurement Range | Spot Diameter | Repeat-ability <sup>*3</sup> | Linear Error <sup>*4</sup> | Outer Diameter *Length | Weight | Sampling Rate                       | Light Source          |
|------------------------------------|----------------------------------------------------------------------------------------|-------------------|---------------|------------------------------|----------------------------|------------------------|--------|-------------------------------------|-----------------------|
| M5-30                              | 30mm                                                                                   | ±5mm              | Φ35μm         | 0.35μm                       | < ±8μm                     | 60*50*20.4mm           | 150g   | Ethernet: 31.25kHz<br>Analog: 50kHz | 655 nm<br>Max. 4.9 mW |
| M5-30W                             | 30mm                                                                                   | ±5mm              | 35*400μm      | 0.35μm                       | < ±5μm                     |                        |        |                                     |                       |
| M5-50                              | 50mm                                                                                   | ±10mm             | Φ45μm         | 0.6μm                        | < ±15μm                    |                        |        |                                     |                       |
| M5-50W                             | 50mm                                                                                   | ±10mm             | 45*550μm      | 0.6μm                        | < ±10μm                    |                        |        |                                     |                       |
| M5-85                              | 85mm                                                                                   | ±20mm             | Φ60μm         | 1.3μm                        | < ±40μm                    |                        |        |                                     |                       |
| M5-85W                             | 85mm                                                                                   | ±20mm             | 60*800μm      | 1.3μm                        | < ±30μm                    |                        |        |                                     |                       |
| M5-150                             | 150mm                                                                                  | ±75mm             | Φ120μm        | 3.5μm                        | < ±150μm                   |                        |        |                                     |                       |
| M5-150W                            | 150mm                                                                                  | ±75mm             | 120*1500μm    | 3.5μm                        | < ±113μm                   |                        |        |                                     |                       |
| M5-250                             | 250mm                                                                                  | ±150mm            | Φ180μm        | 10μm                         | < ±450μm                   |                        |        |                                     |                       |
| M5-250W                            | 250mm                                                                                  | ±150mm            | 180*2600μm    | 10μm                         | < ±300μm                   |                        |        |                                     |                       |
| M5-400                             | 400mm                                                                                  | ±200mm            | Φ250μm        | 15μm                         | < ±600μm                   |                        |        |                                     |                       |
| M5-400W                            | 400mm                                                                                  | ±200mm            | 250*4500μm    | 15μm                         | < ±400μm                   |                        |        |                                     |                       |
| M5-800                             | 800mm                                                                                  | ±500mm            | Φ400μm        | 45μm                         | < ±2000μm                  |                        |        |                                     |                       |
| M5-800W                            | 800mm                                                                                  | ±500mm            | 450*6000μm    | 45μm                         | < ±1000μm                  |                        |        |                                     |                       |
| M5-30R                             | 25.7mm                                                                                 | ±4.5mm            | Φ35μm         | 0.35μm                       | < ±4.5μm                   |                        |        |                                     |                       |
| M5-50R                             | 44.4mm                                                                                 | ±5mm              | Φ45μm         | 0.6μm                        | < ±5μm                     |                        |        |                                     |                       |
| M5-85R                             | 76.5mm                                                                                 | ±5.5mm            | Φ60μm         | 1.3μm                        | < ±8.8μm                   |                        |        |                                     |                       |
| M5-30WR                            | 25.7mm                                                                                 | ±4.5mm            | 35*400μm      | 0.35μm                       | < ±4.5μm                   |                        |        |                                     |                       |
| M5-50WR                            | 44.4mm                                                                                 | ±5mm              | 45*550μm      | 0.6μm                        | < ±5μm                     |                        |        |                                     |                       |
| M5-85WR                            | 76.5mm                                                                                 | ±5.5mm            | 60*800μm      | 1.3μm                        | < ±8.8μm                   |                        |        |                                     |                       |
| M5-150WR                           | 107.5mm                                                                                | ±9mm              | 120*1500μm    | 3.5μm                        | < ±14.4μm                  |                        |        |                                     |                       |
| Temperature Characteristics        | 0.03% F.S. /°C                                                                         |                   |               |                              |                            |                        |        |                                     |                       |
| Industrial Interface <sup>*5</sup> | Ethernet, RS-485 serial port, and analog signal output <sup>*6</sup> (Max.±10V,4-20mA) |                   |               |                              |                            |                        |        |                                     |                       |
| Measurement & Control Software     | Comes with TSLaserStudio measurement & control software, C++&C# SDK                    |                   |               |                              |                            |                        |        |                                     |                       |
| Operating Mode                     | Operates independently without a controller                                            |                   |               |                              |                            |                        |        |                                     |                       |
| Supply Voltage                     | DC 9~36V, maximum allowable ±10% fluctuation                                           |                   |               |                              |                            |                        |        |                                     |                       |
| Power Consumption                  | 2.0W                                                                                   |                   |               |                              |                            |                        |        |                                     |                       |
| IP Grade                           | IP67(IEC60529)                                                                         |                   |               |                              |                            |                        |        |                                     |                       |
| Operating Temperature              | 0 to +50°C                                                                             |                   |               |                              |                            |                        |        |                                     |                       |

\*1 The M series is a new product, and the actual parameters may vary slightly. The contract shall prevail.

\*2 Calculated based on the center position of the measuring range.

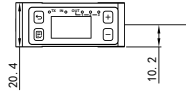
\*3 Calibrated and verified using a nanoscale high-precision laser interferometer.

\*4 The sensor head can independently provide voltage, current, and RS-485 output.

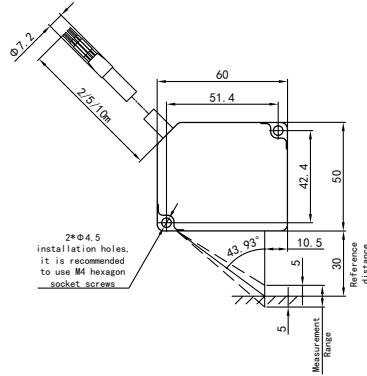
\*5 Optional analog voltage/current output module is available.

## Dimension Figure

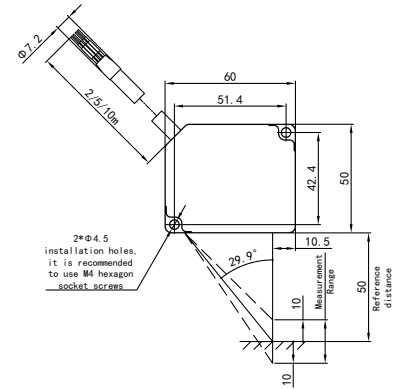
**M Series Panel**



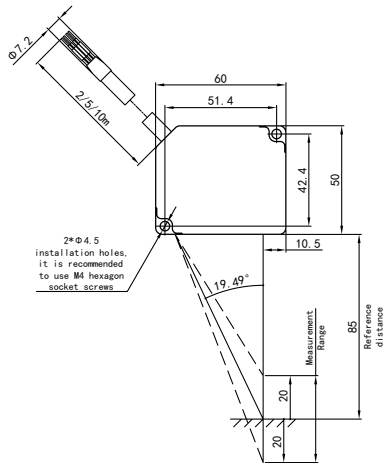
**M2-30\_30W**



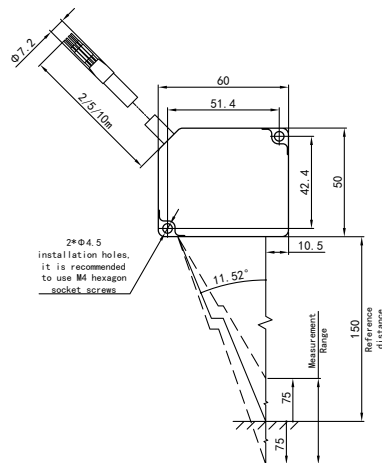
**M2-50\_50W**



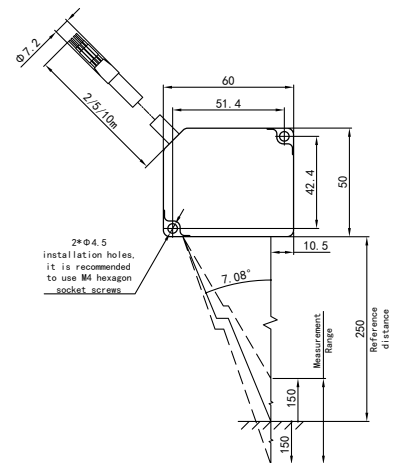
**M2-85\_85W**



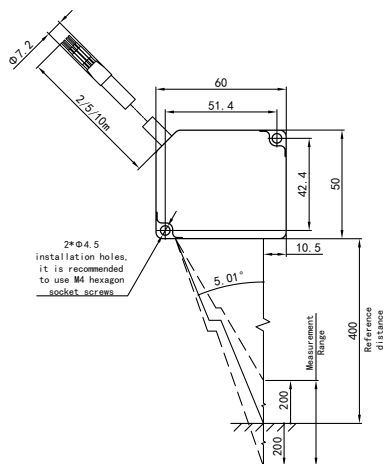
**M2-150\_150W**



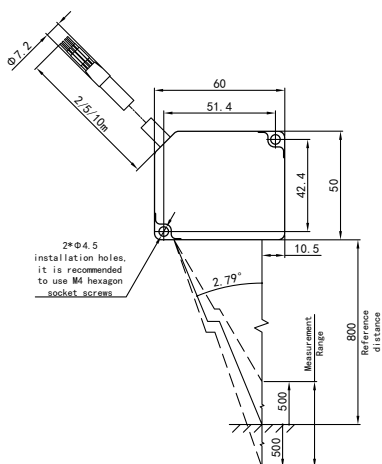
**M2-250\_250W**



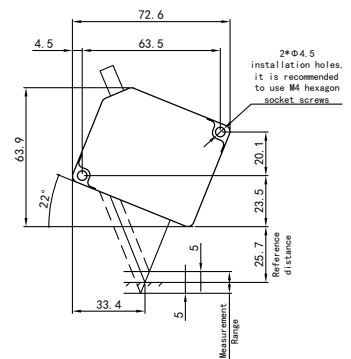
**M2-400\_400W**



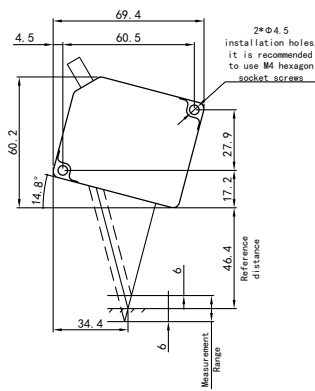
**M2-800\_800W**



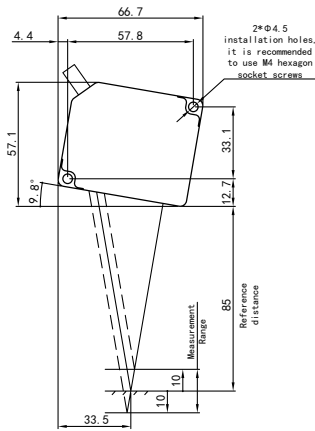
**M2-30R\_30WR**



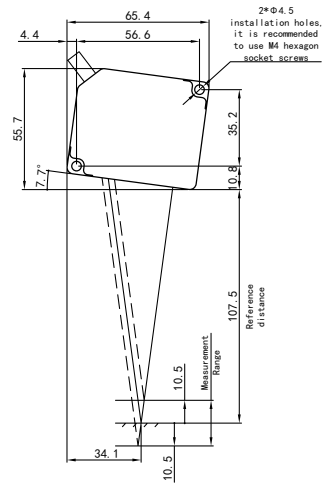
**M2-50R\_50WR**



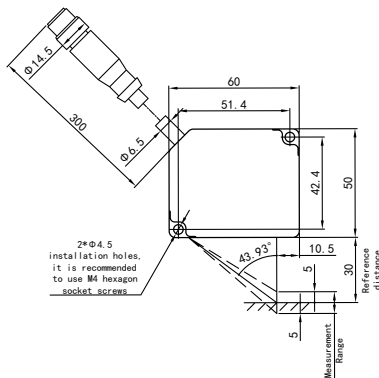
**M2-85R\_85WR**



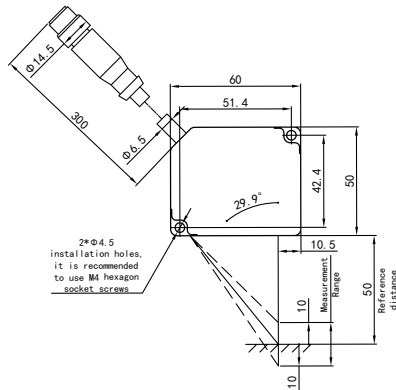
**M2-150WR**



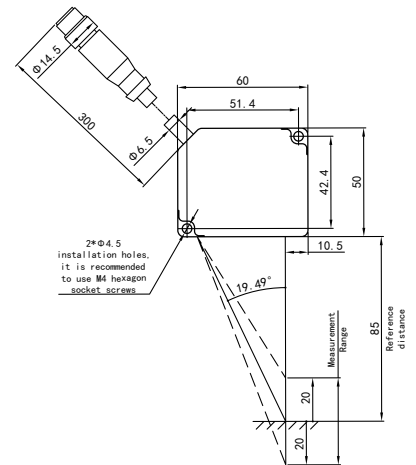
**M3-30\_30U**



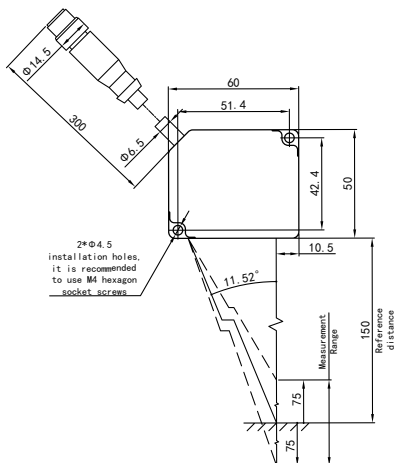
**M3-50\_50U**



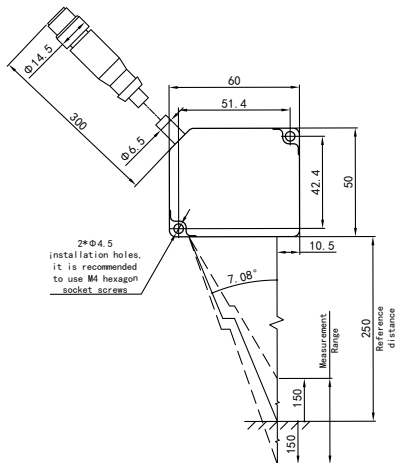
**M3-85\_85U**



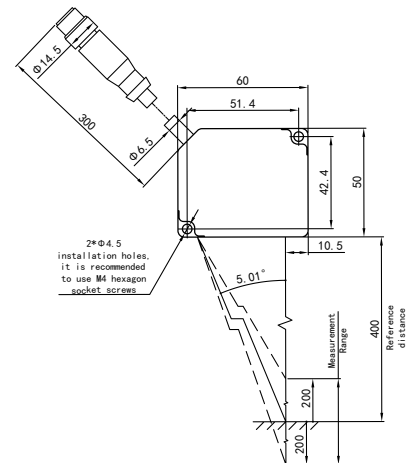
**M3-150\_150U**



**M3-250\_250W**



**M3-400\_400W**



Chromatic Confocal  
Displacement Sensor

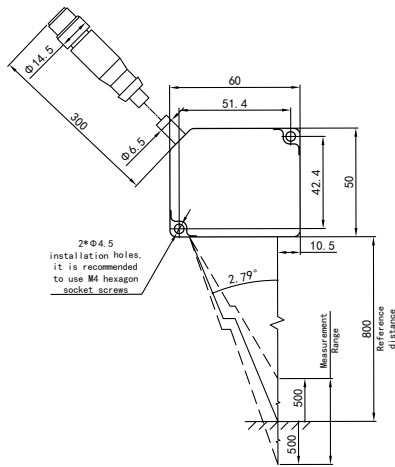
Laser Triangulation  
Displacement Sensor

CMOS Laser  
Displacement Sensor

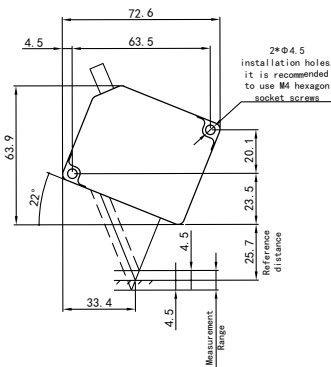
Interferometric  
Thickness Sensor

Reflective Film  
Thickness Sensor

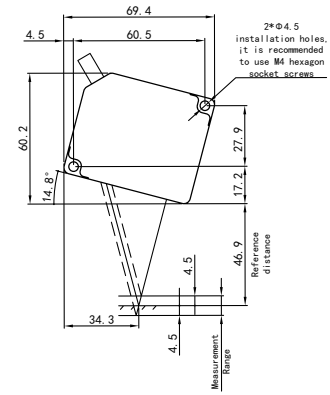
**M3-800\_800W**



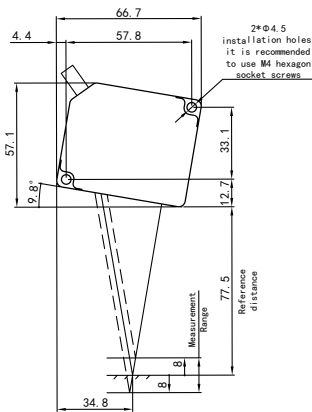
**M3-30R\_30UR**



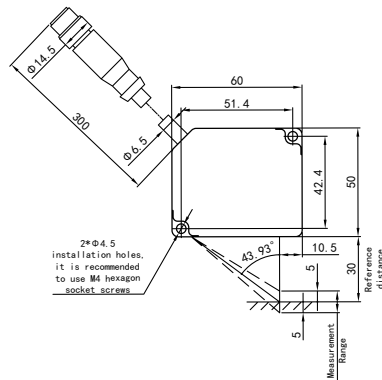
**M3-50R**



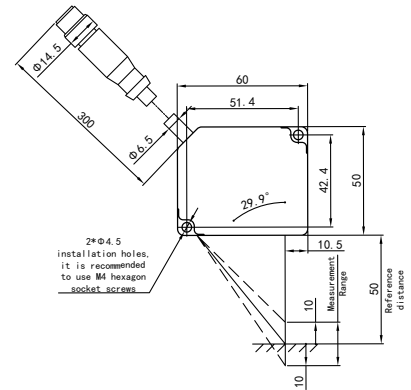
**M3-85UR**



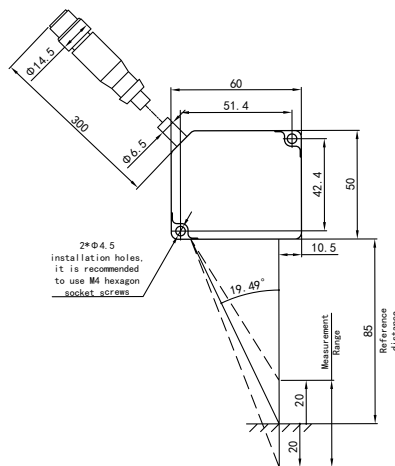
**M5-30\_30W**



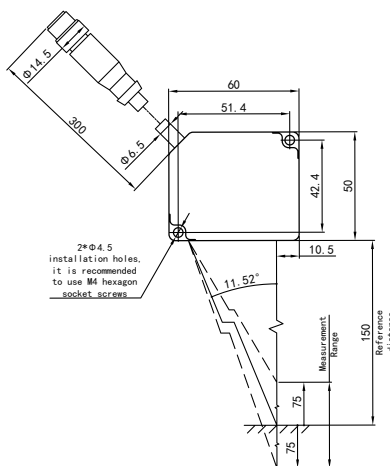
**M5-50\_50W**



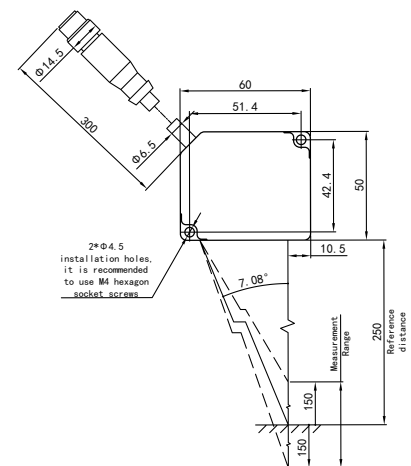
**M5-85\_85W**



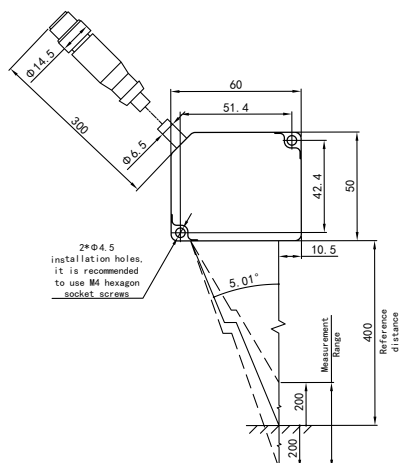
**M5-150\_150W**



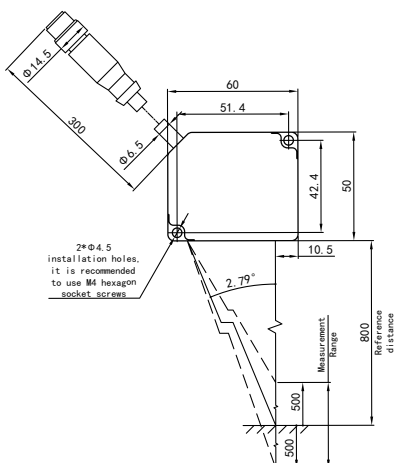
**M5-250\_250W**



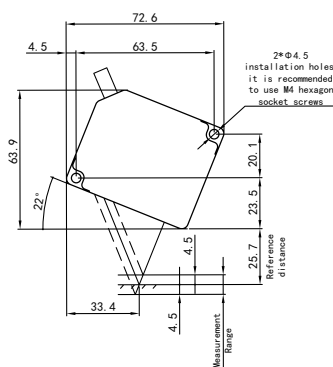
**■ M5-400\_400W**



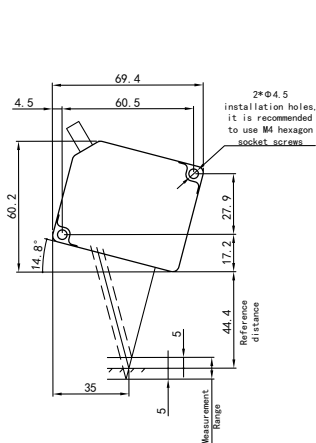
**I M5-800\_800W**



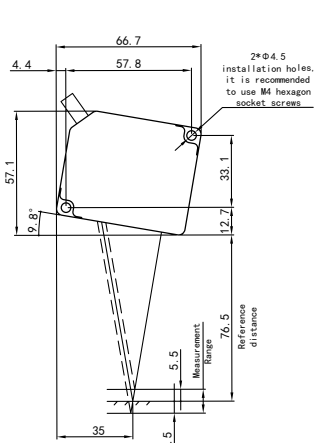
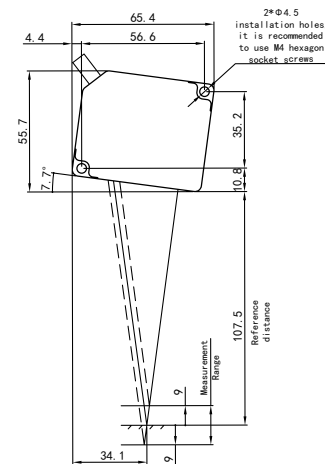
**I M5-30R\_30WR**



**M5-50R\_50WR**

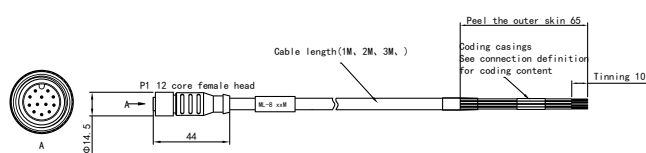


**I M5-85R\_85WR**

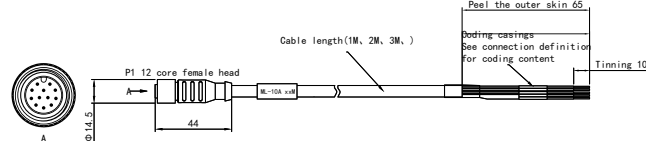
**M5-150WR**

## Accessories drawings

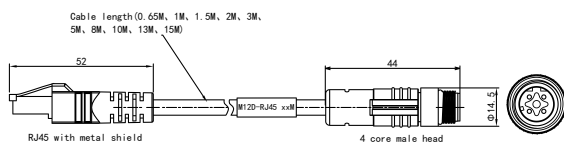
### 8 Core M12 - T202 Extension Cable



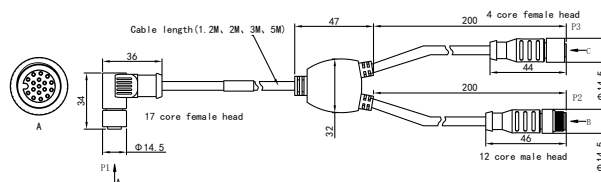
### 10 Core M12 - T202 Extension Cable



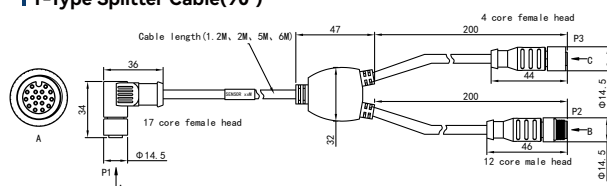
### ■ M12D Type Adapter To RJ45 Connector



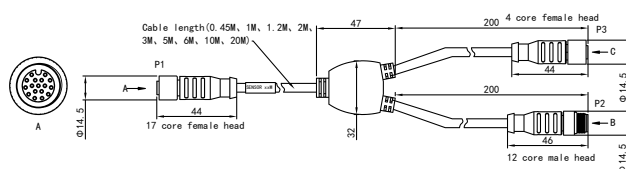
### Y-Type Splitter Cable(90°)(Vertical Gap)



### Y-Type Splitter Cable(90°)



### Y-Type Splitter Cable



## | *TS-I Series* |

# Interferometric Thickness Sensors

**1**  
*nm*

Ultra-high  
Repeatability

**±20**  
*nm*

Ultra-high  
Linearity

*Max* **10**  
*kHz*

Ultra-fast  
Sampling Rate

**1~2500**  
*μm*

Ultra-wide Thickness  
Measurement Range



### ◆ Why choose TronSight?



Minimal Measurement  
Dead Zone



High Interference  
Immunity



Nanometer-level  
Measurement Accuracy



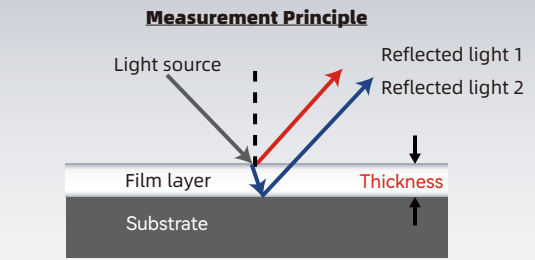
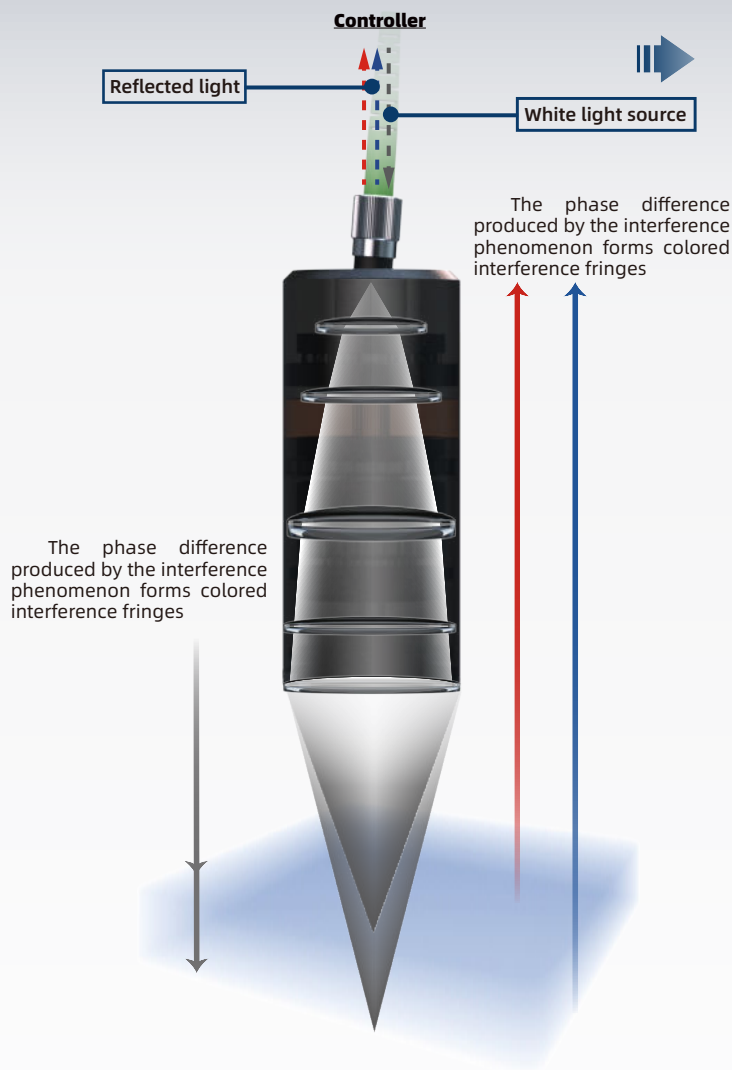
Non-contact  
Measurement



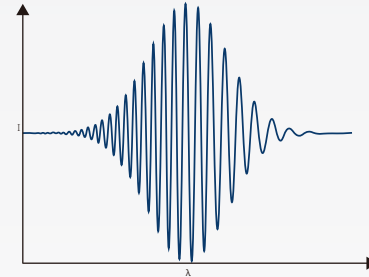
Film And Coating  
Thickness Measurement



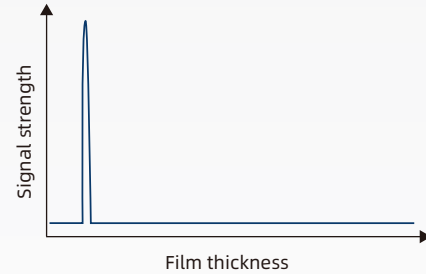
Wide Range  
Working Distance



#### White Light Interference Receives Spectral Signals



#### Interference Signal Analysis And Thickness Mapping



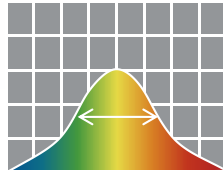
### Basic Principle

The white point light spectrum passes through the interferometric probe and illuminates the surface of the sample. The reflected light from the upper and lower surfaces of the sample is simultaneously received by the interferometric probe. The phase difference between the two reflected beams is related to the film thickness, thus allowing the calculation of the film thickness value by analyzing the interference fringes.

### High-brightness color laser light source

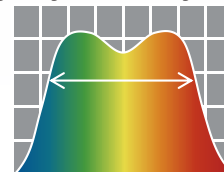
Blue laser light is shone on a phosphor that simultaneously emits red and green light, generating multi-color light. Compared to ordinary white LED light sources, it can achieve stable high-brightness emission over a wider range of wavelengths.

Regular white LED light sources



The wavelength range for high-brightness emission is relatively narrow.

High-brightness color light source

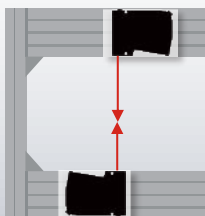


The wavelength range that can emit high-brightness light is relatively wide

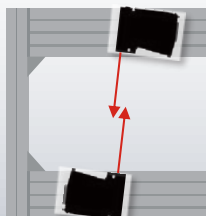
### Zero heat-generating probe design

Traditional laser displacement sensors can cause deformation of the fixture and optical axis misalignment due to their own emissions, leading to measurement errors. The probe of this sensor is designed with only lens structures internally. Since there are no electronic Accessories, it does not generate heat, thus preventing the deformation of the fixture where the probe is installed. This design allows for ideal high-precision measurements.

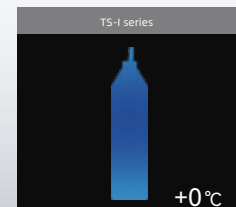
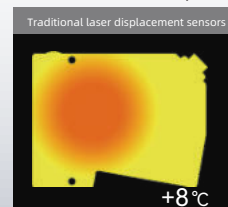
Before the probe heats up



After the probe heats up



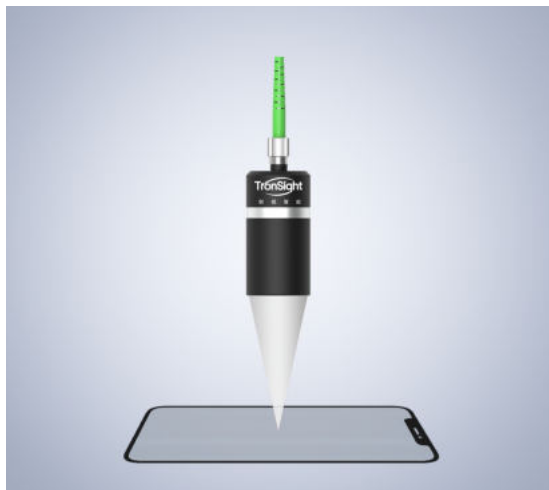
Traditional laser displacement sensors



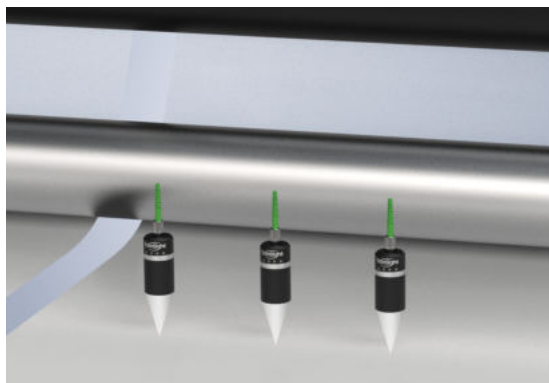
## Product Specifications

| Reference distance (mm) | T50                    | IVP-T10-UV-VIS                           |
|-------------------------|------------------------|------------------------------------------|
| 125                     |                        |                                          |
| 100                     |                        |                                          |
| 75                      |                        |                                          |
| 50                      |                        |                                          |
| 25                      |                        |                                          |
| 0                       |                        |                                          |
|                         | Range $\pm 2\text{mm}$ | Recommended installation distance 5-10mm |
| Measure angle           | $\pm 3^\circ$          | $\pm 10^\circ$                           |
| Repeatability           | 1nm                    | 1nm                                      |
| Linear error            | $< \pm 20\text{nm}$    | $< \pm 20\text{nm}$                      |

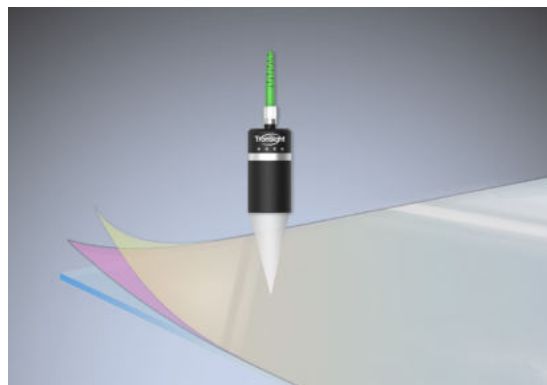
## Application



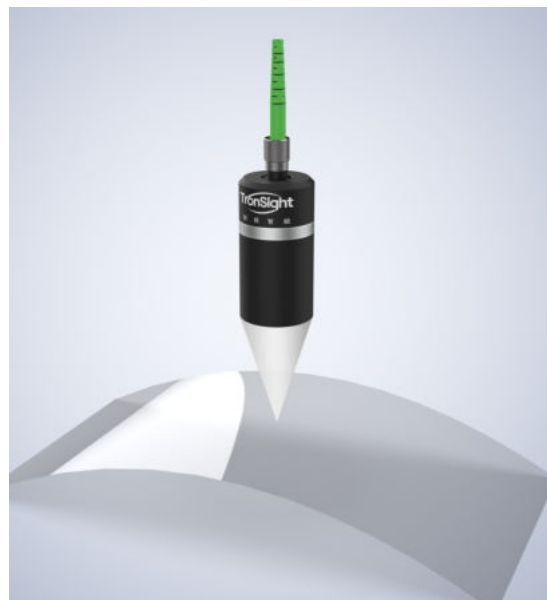
◆ Thickness measurement of ito film for touch screens



◆ Thickness measurement of lithium-ion battery separator



◆ Thickness measurement of multilayer pet films



◆ Thickness measurement of ultra-thin flexible glass (UTG)

## Parameters

| Series Name                                |                        | IVS-100                                                                      | IVS-100W                                            | IVS-50                                | IVS-50W                                             |
|--------------------------------------------|------------------------|------------------------------------------------------------------------------|-----------------------------------------------------|---------------------------------------|-----------------------------------------------------|
| Controller Model                           |                        | IVCS-100                                                                     | IVCS-100W                                           | IVCS-50                               | IVCS-50W                                            |
| Adapt Head Model                           |                        | IVP-T50                                                                      | IVP-T10-UV-VIS                                      | IVP-T50                               | IVP-T10-UV-VIS                                      |
| Recommended Working Distance <sup>*1</sup> |                        | 50mm±2mm                                                                     | Installation distance 5-10mm                        | 50mm±2mm                              | Installation distance 5-10mm                        |
| Range of Thickness Measurement             |                        | Approx.2μm~100μm (Refractive index=1.5)                                      |                                                     | Approx.1μm~50μm(Refractive index=1.5) |                                                     |
| Measurement Angle <sup>*2</sup>            |                        | ±3°                                                                          | ±10°                                                | ±3°                                   | ±10°                                                |
| Spot Type <sup>*3</sup>                    |                        | Focus spot,Φ100μm                                                            | Dispersive spot, Φ4mm (Installation distance =10mm) | Focus spot,Φ100μm                     | Dispersive spot, Φ4mm (Installation distance =10mm) |
| Repeatability <sup>*4</sup>                |                        | 1nm                                                                          | 1nm                                                 | 1nm                                   | 1nm                                                 |
| Linear Error <sup>*5</sup>                 |                        | <±20nm                                                                       | <±20nm                                              | <±20nm                                | <±20nm                                              |
| Outer Diameter*Length                      |                        | Φ30*58mm                                                                     | Φ6.35*3200mm <sup>*6</sup>                          | Φ30*58mm                              | Φ6.35*3200mm <sup>*6</sup>                          |
| Head Weight                                |                        | 90 g                                                                         | 190g                                                | 90 g                                  | 190g                                                |
| IP Grade                                   |                        | IP40                                                                         |                                                     |                                       |                                                     |
| Head Connection Capacity                   |                        | 1                                                                            |                                                     |                                       |                                                     |
| Sampling Rate                              |                        | Max.10kHz                                                                    |                                                     |                                       |                                                     |
| Input Port                                 | Encoder Input          | AB / ABZ encoder input, configurable for trigger                             |                                                     |                                       |                                                     |
|                                            | Trigger Signal Input   | Pulse / Level trigger                                                        |                                                     |                                       |                                                     |
| Output Port                                | Digital Signal Output  | Alarm output, comparator output                                              |                                                     |                                       |                                                     |
|                                            | Analog Signal Output   | Linear0~5V/0~10V/±5V/±10V analog voltage output;4~20mA analog current output |                                                     |                                       |                                                     |
| Industrial Interface                       | Ethernet               | 100 BASE-TX                                                                  |                                                     |                                       |                                                     |
|                                            | USB                    | Complies with USB2.0 Full-speed standard                                     |                                                     |                                       |                                                     |
|                                            | RS-485                 | Modbus protocol, 19200~115200 baud rate                                      |                                                     |                                       |                                                     |
| Measurement & Control Software             | Host Computer Software | TSConfocalStudio measurement & control software                              |                                                     |                                       |                                                     |
|                                            | SDK                    | C++&C#SDK                                                                    |                                                     |                                       |                                                     |
| Rated Power                                | Supply Voltage         | 24 VDC±10%                                                                   |                                                     |                                       |                                                     |
|                                            | Current Consumption    | Approx.0.4 A                                                                 |                                                     |                                       |                                                     |
| Environmental Tolerance                    | Operating Temperature  | 0 to +50℃                                                                    |                                                     |                                       |                                                     |
|                                            | Relative Humidity      | 20 to 85% RH(No condensation)                                                |                                                     |                                       |                                                     |
| Weight                                     |                        | 2000g                                                                        |                                                     |                                       |                                                     |

\*1 Focusing position, where the sensor has the strongest return light signal;

\*2 Using a standard plane mirror for tilt testing at a sampling rate of 1kHz;

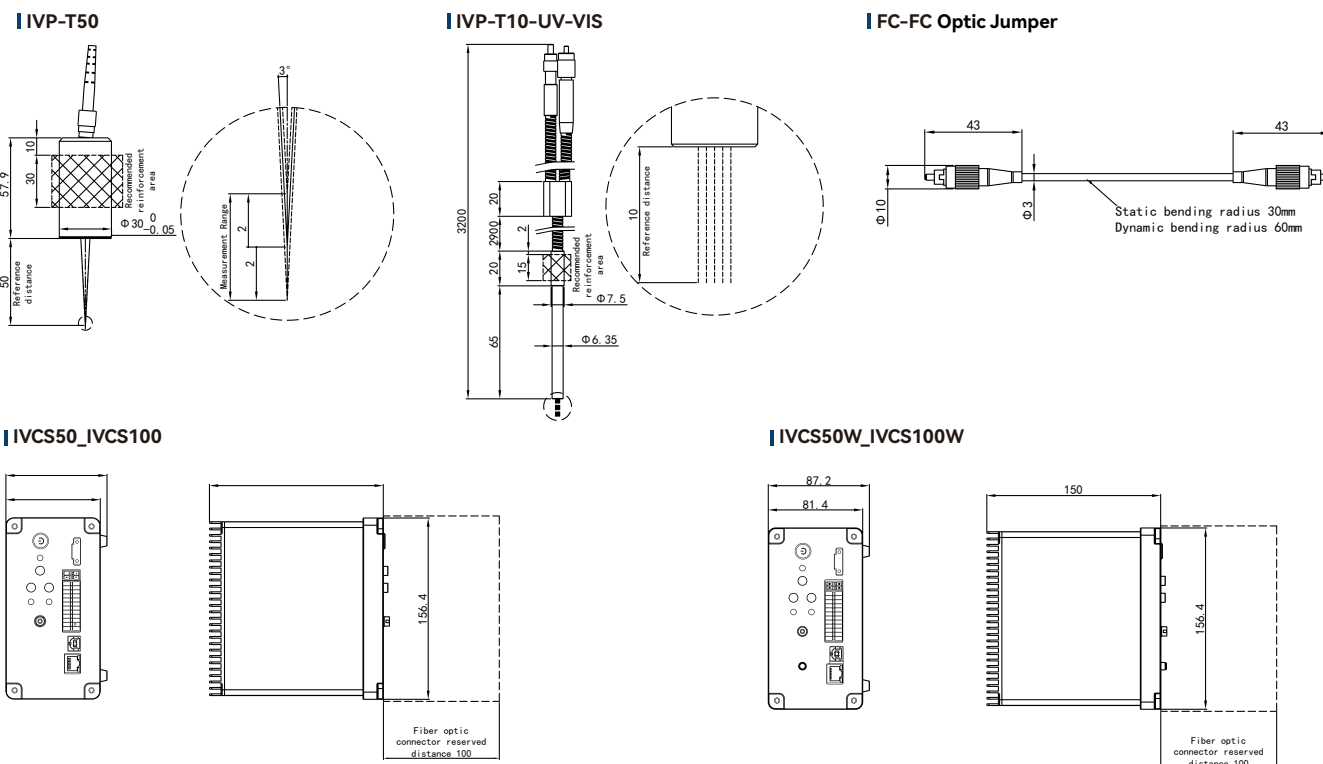
\*3 Measuring sharp glass edges, using a motion platform with sub-micron positioning accuracy and a laser interferometer as the displacement reference for verification;

\*4 Measuring standard thickness samples, the root mean square deviation of 10,000 sets of thickness data collected continuously at 1kHz without averaging;

\*5 Theoretical value;

\*6 The length of 3200mm refers to the total length of the probe including the cable.

## Product and Accessories Dimensions Drawing



## | TS-R Series | Reflective Film Thickness Sensor

**20**  
nm

Ultra-thin Thickness  
Measurement

**±1**  
nm

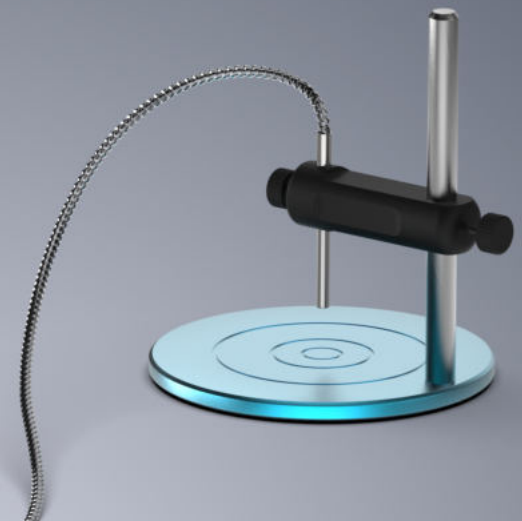
Ultra-high  
Accuracy

**Max 100**  
Hz

Ultra-fast  
Sampling Rate

**0.05**  
nm

Ultra-high  
Repeatability



### ◆ Why choose TronSight?



Customizable Film  
Structure Measurement



High Interference  
Immunity



Nanometer-level  
Measurement Accuracy



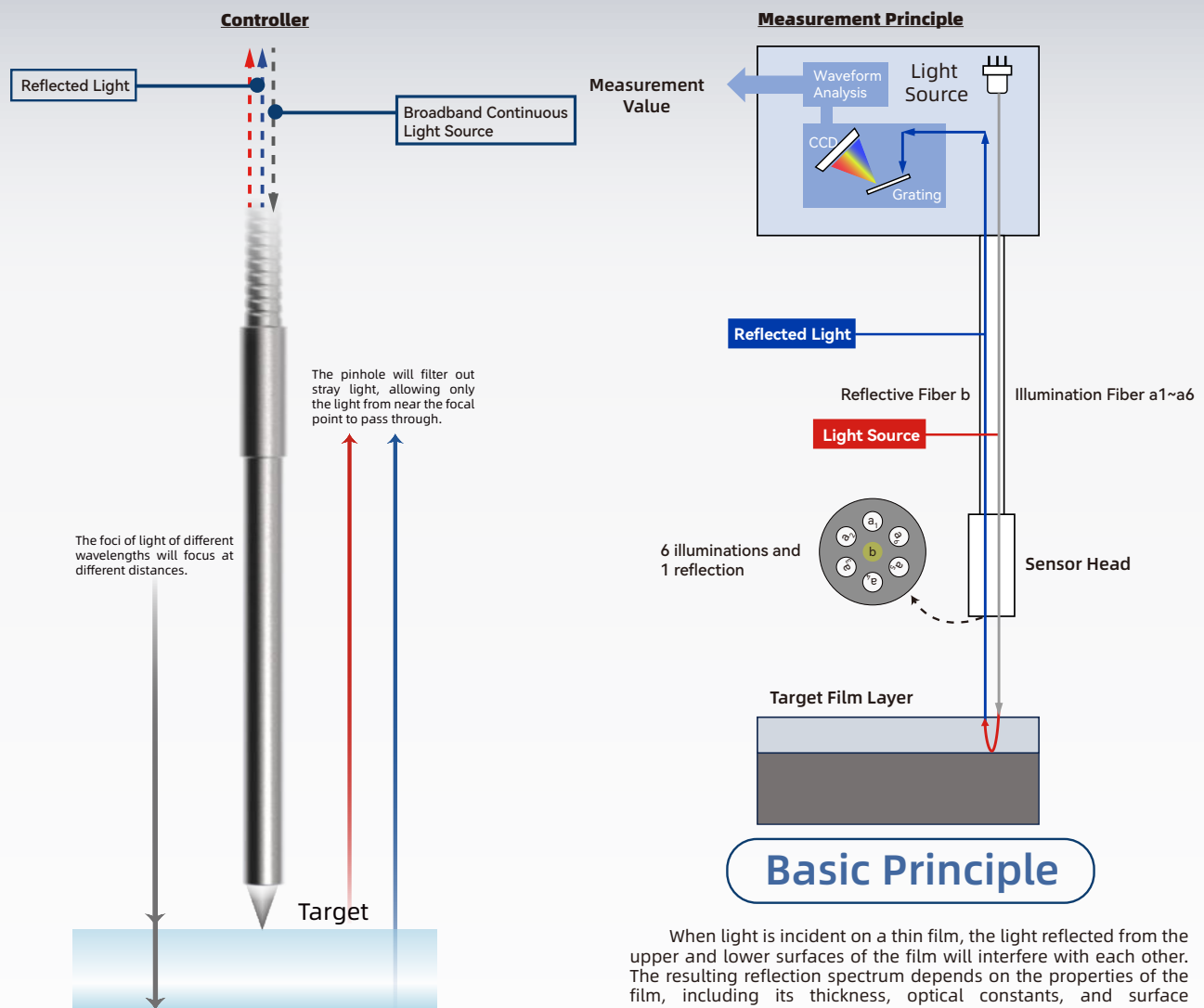
Multi-layer Transparent  
Thickness Measurement



Hard Film Measurement

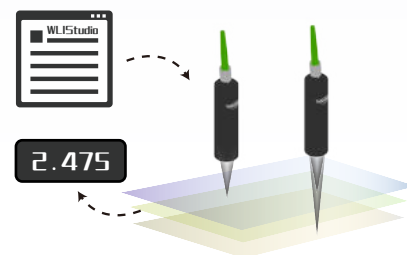
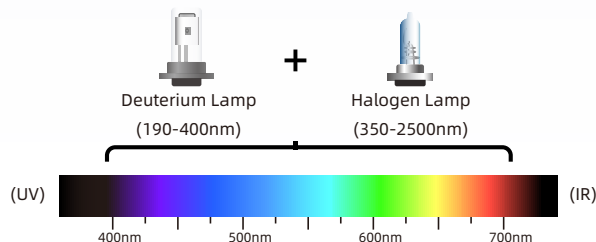


Compact Probe Design



## High-Intensity Composite Light Source

The Tronsight design employs a high-intensity composite light source, combining a deuterium lamp and a halogen lamp. The spectrum of this light source covers the ultraviolet, visible, and near-infrared regions. This significantly enhances the stability and sensitivity of the measurements. Combined with an efficient model-fitting analysis algorithm, it enables the characterization of single-layer films to multi-layer films.

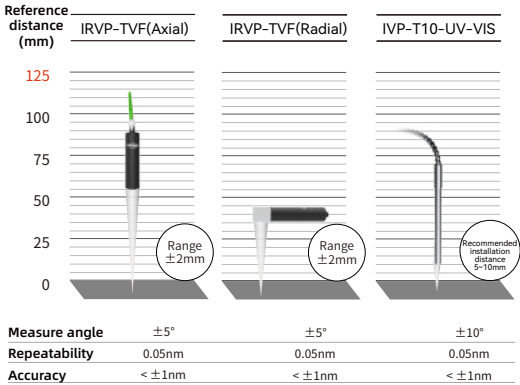


## Robust Anti-Interference System Design

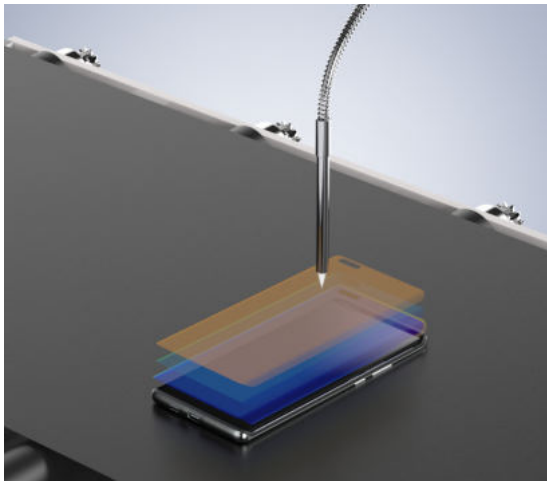
The Tronsight employs highly sensitive and high signal-to-noise ratio components, which significantly reduce noise interference. The unique model-based multiparameter inversion algorithm greatly enhances the ability to resist external disturbances. The innovative optical system design ensures stable measurements even in physically constrained or harsh environments.



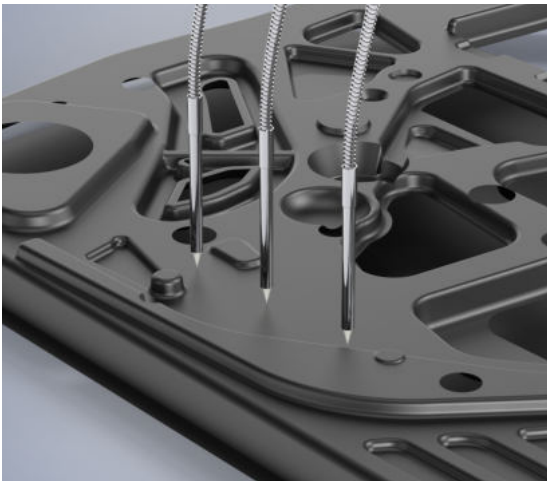
Product Specifications



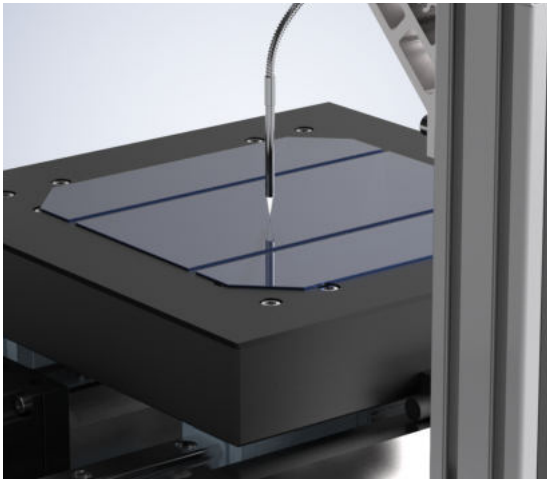
# Application



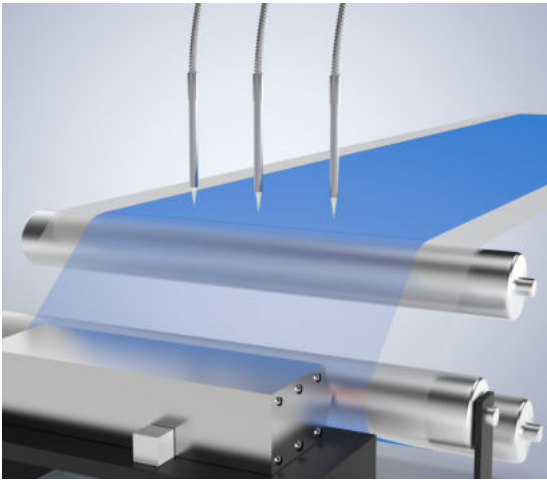
◆ LCD Film Thickness Measurement



◆ Spray Coating Thickness Measurement



◆ Photovoltaic Silicon Wafer Poly Layer Thickness Measurement



◆ Precision Coating Thickness Measurement

## Parameters

| Series Name                                    |                        | RUVVC                                                  |                                                                |
|------------------------------------------------|------------------------|--------------------------------------------------------|----------------------------------------------------------------|
| Controller Model                               |                        | RUVVC-100                                              |                                                                |
| Adapt Head Model                               |                        | IVP-T10-UV-VIS                                         | IRVP-TVF                                                       |
| Recommended Working Distance <sup>*1</sup>     |                        | Installation distance 5-10mm                           | Side-emitting lens: 34.5mm ± 2mm<br>Axial-emitting: 55mm ± 2mm |
| Range of Thickness Measurement                 |                        | 20nm~50μm (Refractive index=1.5)                       |                                                                |
| Measurement Angle <sup>*2</sup>                |                        | ±10°                                                   | ±5°                                                            |
| Spot Type                                      |                        | Dispersive spot, Φ4mm<br>(Installation distance =10mm) | Focus spot, 200μm                                              |
| Repeatability <sup>*3</sup>                    |                        | 0.05 nm                                                |                                                                |
| Accuracy (Take the Larger Value) <sup>*4</sup> |                        | < ±1 nm or ±0.3%                                       |                                                                |
| Outer Diameter*Length                          |                        | Φ6.35*3200mm <sup>*5</sup>                             | Φ20*73mm                                                       |
| Head Weight                                    |                        | 190g                                                   | 108g(Sensor Head)、49g(Auxiliary lens)                          |
| IP Grade                                       |                        | IP40                                                   |                                                                |
| Sampling Rate                                  |                        | Max.100 Hz(Depending on parameter complexity)          |                                                                |
| Measurement & Control Software                 | Host Computer Software | WLIStudio                                              |                                                                |
|                                                | SDK                    | WLI-SDK                                                |                                                                |
| Rated Power                                    | Supply Voltage         | 220V±20V 50Hz AC                                       |                                                                |
|                                                | Current Consumption    | 50W                                                    |                                                                |
| Environmental Tolerance                        | Operating Temperature  | -10 to +40°C                                           |                                                                |
|                                                | Relative Humidity      | 20 to 85% RH(No condensation)                          |                                                                |
| Weight                                         |                        | 5000g                                                  |                                                                |

<sup>\*1</sup> During the measurement process, it is recommended to keep the distance between the object under test and the probe relatively constant. The working distance of the T5-IRVP-TVF can vary between 35mm and 200mm. If there is a specific requirement for a customized working distance, please contact the sales manager to place a pre-order.

<sup>\*2</sup> During the measurement process, it is recommended to keep the angle between the object under test and the probe relatively constant.

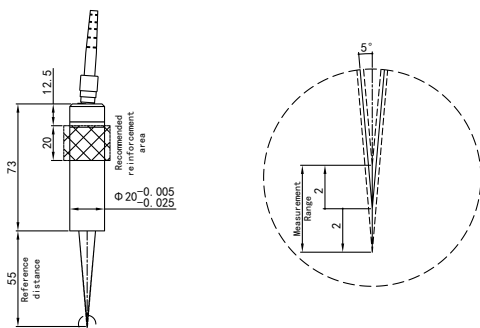
<sup>\*3</sup> Measuring a 100nm silica standard, the one-time standard deviation of 1000 sets of data collected continuously.

<sup>\*4</sup> Measuring silica standard, the deviation between the average value of 100 sets of data collected continuously and the nominal value.

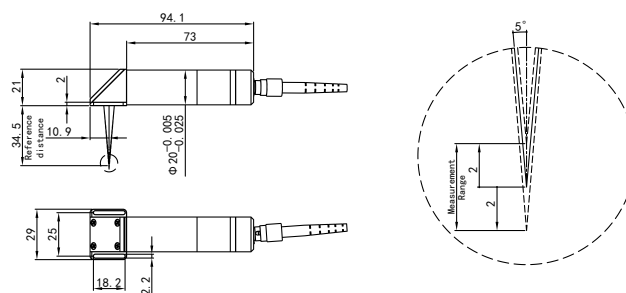
<sup>\*5</sup> The length of 3200mm refers to the total length of the probe including the cable.

## Product and Accessories Dimensions Drawing

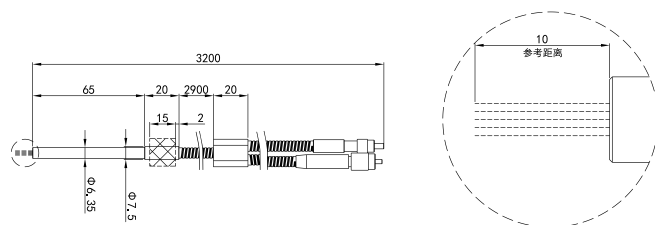
### IVP-IVF(Axial)



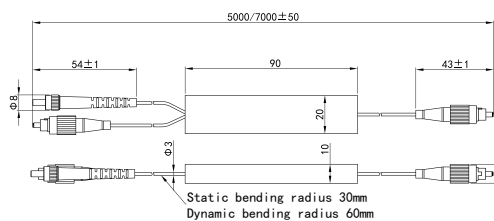
### IVP-IVF(Radial)



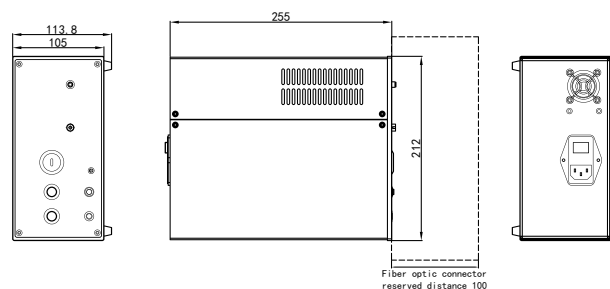
### IVP-T10-UV-VIS



### Dual - interface External Coupler Jumper



### RUVVC-100





TronSight, Precision Measurement Expert



[Sales@Tronsight.com](mailto:Sales@Tronsight.com)



No. 888, Zhujianan Road, Mudu Town, Wuzhong District,  
Suzhou, Jiangsu Province, China



<https://en.tronsight.com/>

**Suzhou Tronsight Intelligent Technology Co.,Ltd.**



Wechat Official Account



Company Website