POMEAS®
Vision Technology

New Product

PMS-8000 SERIES Product Introduction

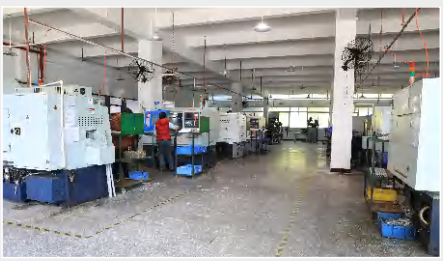
Spectral Confocal Displacement Sensor

Available for all materials - More accurate and stable measurements - Full range of application solutions.

Mirror - Glass - Stainless steel - White Ceramic - Substrate - All Measurements Available

Our Dream

USE VISUAL TECHNOLOGY TO FREE PEOPLE FROM BORING INDUSTRIAL ACTIVITIE



—— Profession • Focus • Dedication ——

We Are Committed To Supporting Our Users And Helping Them Become The Leaders In Their Industries

Pomeas technology is a national high-tech enterprise with deep experience in optical design, structural design, electronic design, image processing, software algorithms, motion control and other fields, integrating product development, system integration, marketing and technical support, rooted in the field of machine vision and industrial automation for more than 10 years, dedicated to providing customers with excellent automation core devices and solutions to help customers around the world to enhance the automation process.

Various Products Of Pomeas

Confocal Displacement Sensors Released Simultaneously

Suitable For All Materials

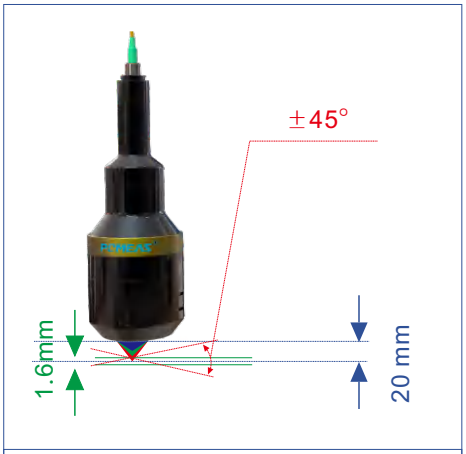
More Accurate And Stable Measurement

Complete Application Solutions

PMS-8000 SERIES

Introduction Of Spectral Confocal Displacement Sensor Head

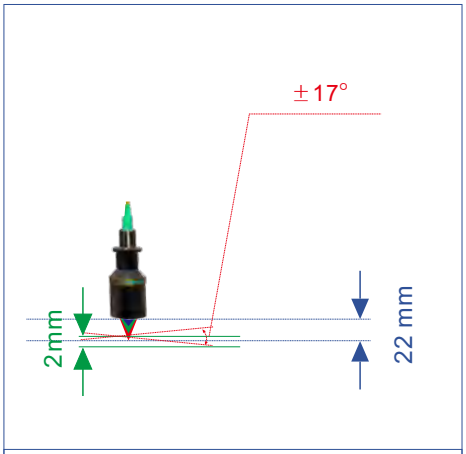
8020 Sensor Head Accuracy Comparison



Different fiber diameters corresponding to the min. spot diameters

ϕ20μm ϕ2.9μm	ϕ50μm ϕ7.3μm	ϕ110μm ϕ16μm

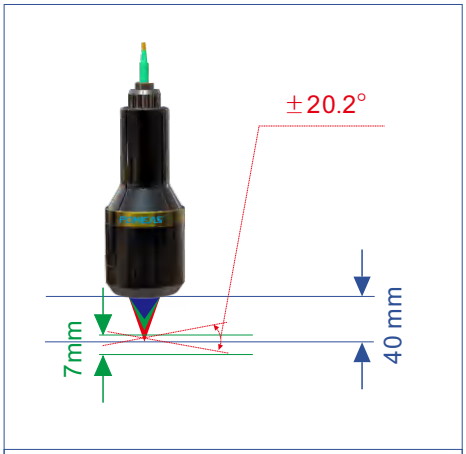
8022 Sensor Head Accuracy Comparison



Different fiber diameters corresponding to the min. spot diameters

ϕ20μm ϕ15.5μm	ϕ50μm ϕ38.8μm	ϕ110μm ϕ85.4μm

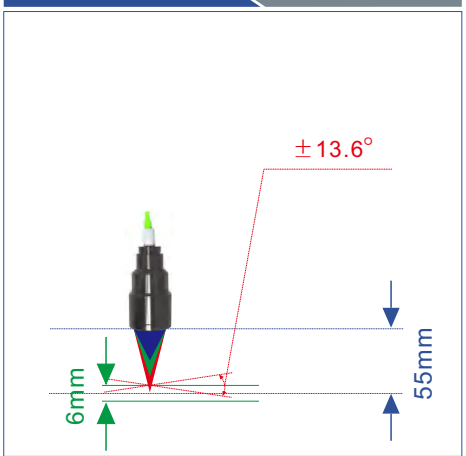
8040 Sensor Head Accuracy Comparison



Different fiber diameters corresponding to the min. spot diameters

ϕ20μm ϕ2.9μm	ϕ50μm ϕ7.3μm	ϕ110μm ϕ16μm

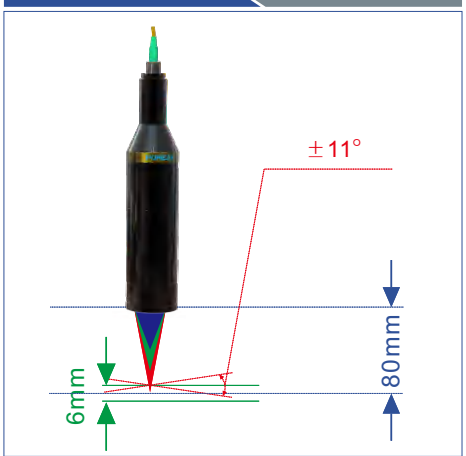
8055 Sensor Head Accuracy Comparison



Different fiber diameters corresponding to the min. spot diameters

ϕ20μm ϕ17μm	ϕ50μm ϕ42.6μm	ϕ110μm ϕ93.7μm

8080 Sensor Head Accuracy Comparison



Different fiber diameters corresponding to the min. spot diameters

ϕ20μm ϕ14μm	ϕ50μm ϕ35μm	ϕ110μm ϕ77μm

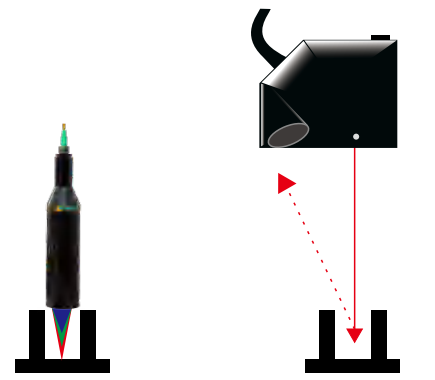
PMS-8000 SERIES

Change • Breakthrough

Comparison With Conventional Sensors

Deep Bore Workpieces

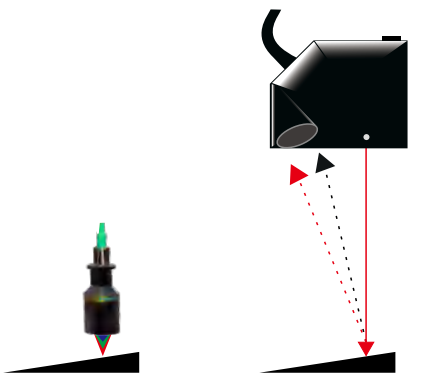
PMS-8000 SERIES	Conventional Triangulation



Measurable Not Measurable

Inclined Surface Workpieces

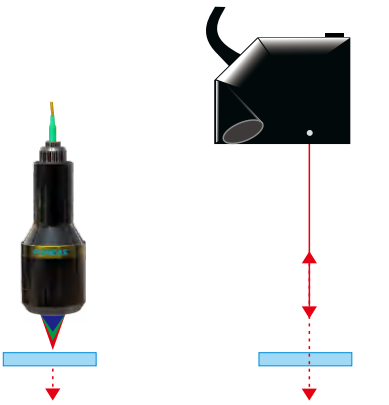
PMS-8000 SERIES	Conventional Triangulation



Measurable Not Measurable

Transparent/High Gloss Workpieces

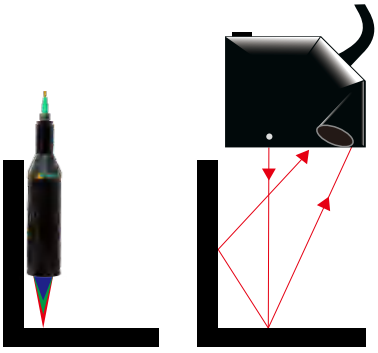
PMS-8000 SERIES	Conventional Triangulation



Measurable Not Measurable

Near Side Wall Surfaces

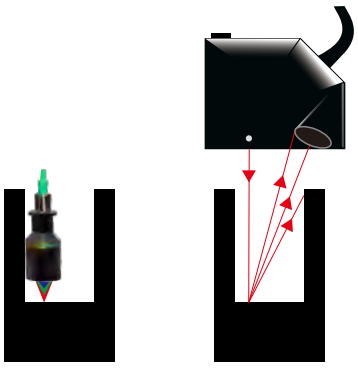
PMS-8000 SERIES	Conventional Triangulation



Measurable Not Measurable

In Bore Displacement

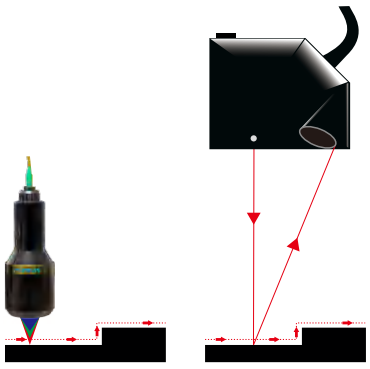
PMS-8000 SERIES	Conventional Triangulation



Measurable Not Measurable

Height difference measurement

PMS-8000 SERIES	Conventional Triangulation

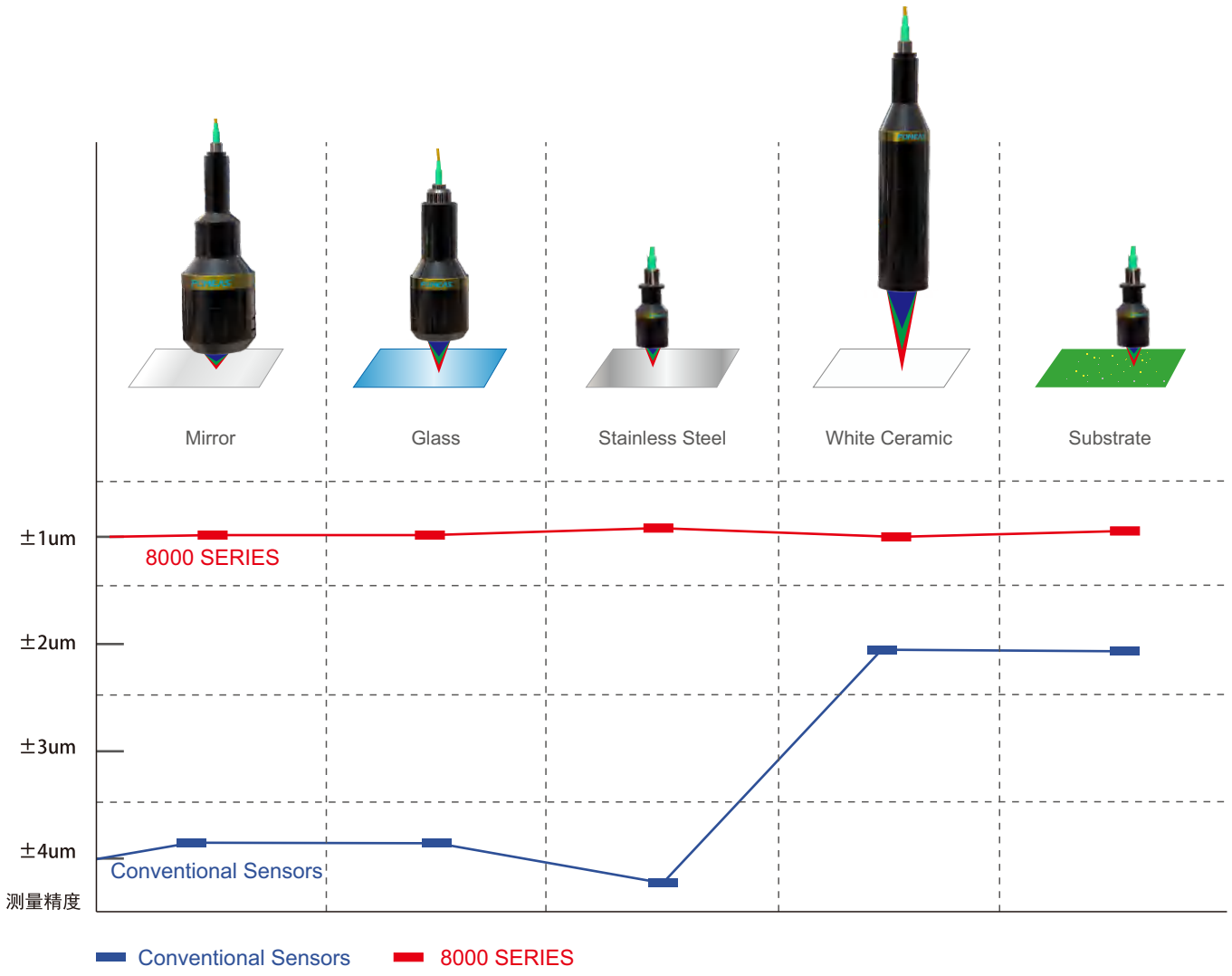


Measurable Not Measurable

PMS-8000 SERIES

Available For All Materials

Comparison Of Measurement Accuracy Of Various Materials



Conventional Sensors

Low measurement accuracy for reflective surfaces, different materials with different measurement accuracy.

8000 SERIES

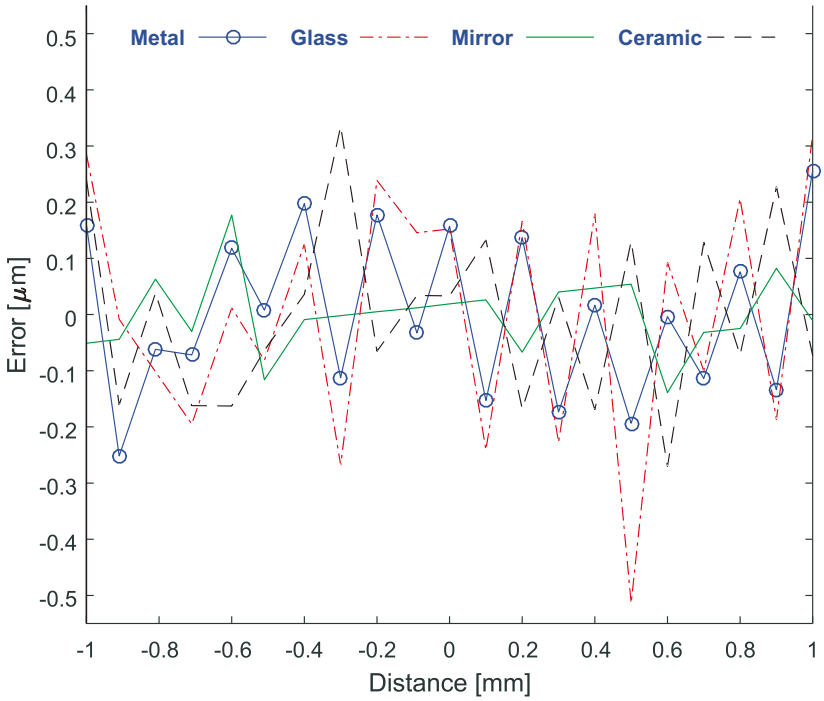
Stable measurement within 1μm accuracy on all surfaces.

PMS-8000 SERIES

More Accurate And Stable Measurement

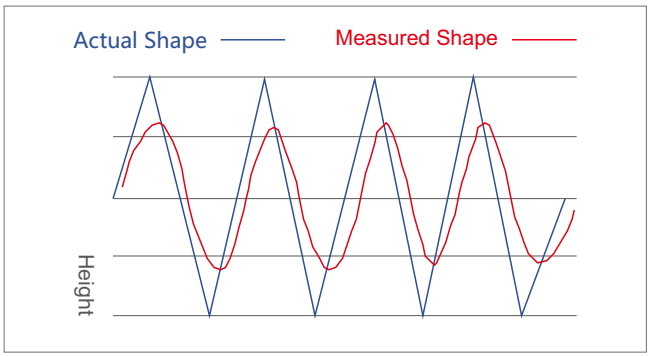
Better than conventional measurement Accurate measurement of various materials

Pomeas Confocal Displacement Sensor is not only more accurate than conventional triangulation sensors, but also provides stable and consistent results when measuring different materials or shapes.



Conventional Spectral Confocal Displacement Sensor

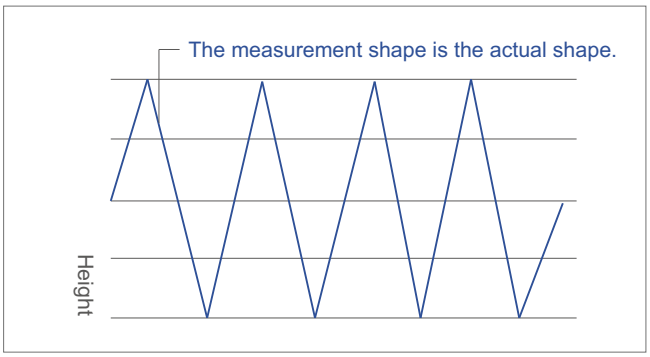
(With Averaging Process)



Travel Distance

PMS-8000 SERIES

(Without Averaging Process)

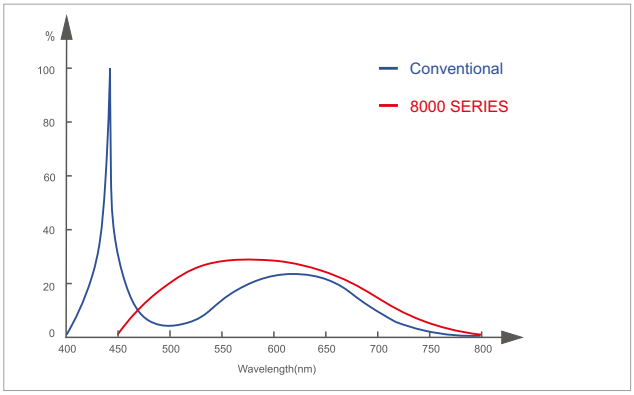


Travel Distance

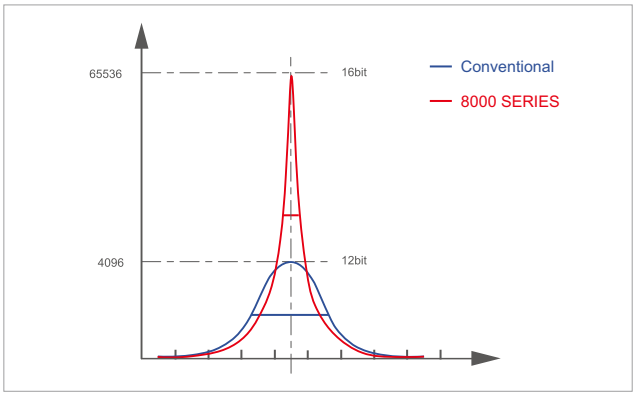
PMS-8000 SERIES

Better Stability

Higher Accuracy For Full Range Measurement

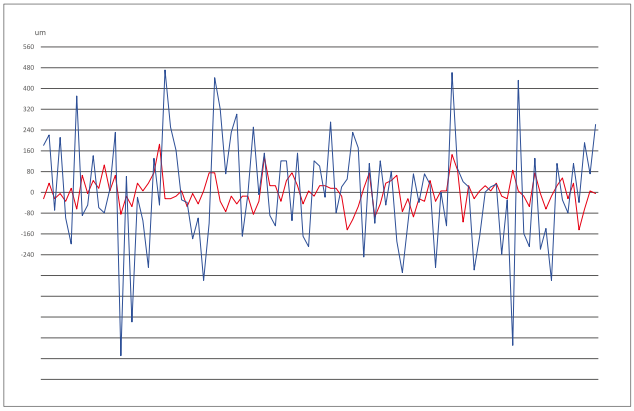


The original color light source breaks the limitation of uneven brightness distribution of conventional LED light source, with higher accuracy and stability over the whole range.



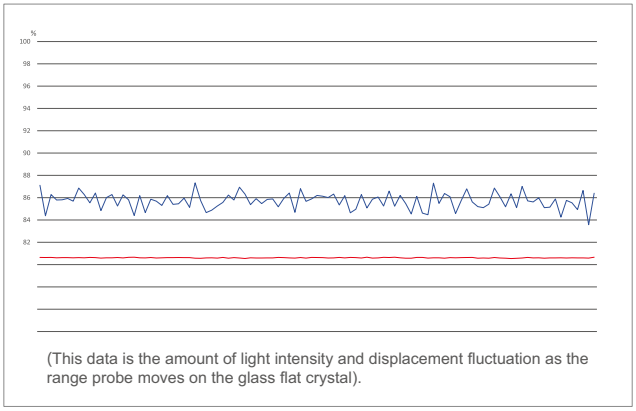
Color light source with the latest CMOS chip, the half-peak width is smaller than conventional type by more than 1/2, sampling accuracy is 1.33 times than conventional type.

Dynamic Displacement Fluctuation



Without any moving average modification, the scanning stability is 4 times higher than conventional models, and the resolution and accuracy of 100nm can be fully realized.

Dynamic Light Intensity Fluctuations



(This data is the amount of light intensity and displacement fluctuation as the range probe moves on the glass flat crystal).

Dynamic light intensity fluctuation stability is more than 10 times than the conventional model, light intensity can be used as another dimensional judgment measurement.

PMS-8000 SERIES

Application Examples

Wide Range Of Applications

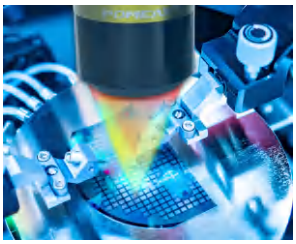
Application Industry:

- Cell phone, tablet, computer and other metal case machine processing manufacturing industry.
- PCB board, connector, IC chip and other electronic industries.
- Panel, glass, tempered film and other industries.
- Semiconductor wafers, green energy, photovoltaic and other industries.

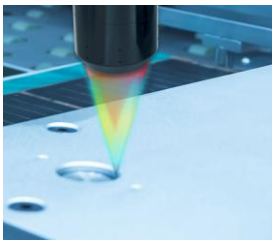
Application Features:

- Stable measurement of various materials, such as metal/ceramic/mirror/glass, etc.
- Applicable to various workpiece shapes (including deep holes/bevels/arc surfaces), such as height/section difference /thickness/flatness/profile, etc.
- High temperature and high pressure operating conditions.
- The lightweight structure of the probe makes it easy to integrate into automated measurement applications in various industries.

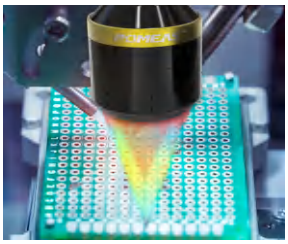
Semiconductor Wafers



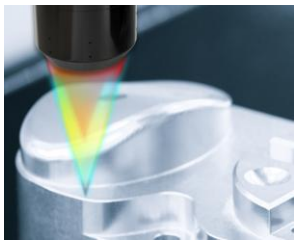
Cell Phone Metal Frame



PCB Board



High Gloss Metal /Glass/Ceramics



PMS-8000 SERIES The Following Data Can Be Measured

Height	Flatness	Segmentation	Contouring	Thickness

PMS-8000 SERIES

Control Box Introduction

Panel Function And Control

Manual Adjustment Of The Shell Level: The "+" and "-" buttons on the panel can be used to increase or decrease the brightness level for each output channel respectively, and the "-" button can be used to set the shell level to 000, when the corresponding channel is switched off and no voltage is output.

Example: When the digital tube display output is "CH2000", it means CHI2 channel is turned off. If you press "+", the corresponding channel will be turned on and the light source of the corresponding channel will be lit.

Channel Selection: The controller is very easy to use. The front and rear panels are very simple, and the front panel has two three-digit digital tube display. The first CH display is the "channel" display bit, which can be selected by the "SL" button.

Remote Digital Brightness Adjustment: Through RS232 interface or USB interface, the brightness can be adjusted in the computer application software interface.

PMS-8000 SERIES Spectral Confocal Sensor

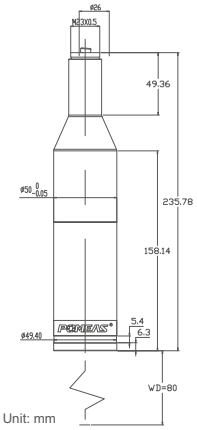
Model		8080	8040	8020	8022	8055
Nearest Measurement Distance		80mm	40mm	20mm	22mm	55mm
Measurement Range		6mm	7mm	1.6mm	2mm	6mm
Max. Light Angle		±11°	±20.2°	±45°	±17°	±13.6°
N.A.		0.2	0.31	0.56	0.27	0.23
Spot Diameter	Φ20μm	Φ14μm	Φ13.6μm	Φ2.9μm	Φ15.5μm	Φ17μm
	Φ50μm	Φ35μm	Φ34μm	Φ7.3μm	Φ38.8μm	Φ42.6μm
	Φ110μm	Φ77μm	Φ74.8μm	Φ16μm	Φ85.4μm	Φ93.7μm
Outer Diameter		Φ50μm	Φ69μm	Φ90μm	Φ31μm	Φ35μm
Length. Max		235.78mm	162.5mm	250.39mm	62mm	66.8mm
Linearity Error		1μm	1μm	0.5μm	0.5μm	1μm

*1: Measuring the value of our standard workpiece (mirror body) by displacement mode.

PMS-8000 SERIES

Specifications Introduction

Product Specifications

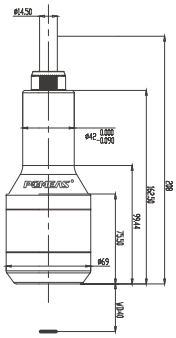


Unit: mm

PMS-8080
Nearest Measurement Distance: 80mm
Measuring Range: 6mm
Max. Light Angle: ±11°
N.A.: 0.2
Outer Diameter: Φ50mm
Length: 235.78mm
Max. Linearity Error: 1μm
Environment Humidity: 20 to 85% RH (no condensation)
Scanning Frequency: 200/500/1000/2000 HZ (4 segments adjustable)

Different Fiber Diameter Corresponds To The Min. Light Spot Diameter		
Φ20μm Φ14μm	Φ50μm Φ35μm	Φ110μm Φ70μm

Product Specifications

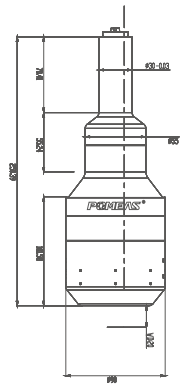


Unit: mm

PMS- 8040
Nearest Measurement Distance: 40mm
Measuring Range: 7mm
Max. Light Angle: ±20.2°
N.A.: 0.31
Outer Diameter: Φ69mm
Length: 162.5mm
Max. Linearity Error: 1μm
Environment Humidity: 20 to 85% RH (no condensation)
Scanning Frequency: 200/500/1000/2000 HZ (4 segments adjustable)

Different Fiber Diameter Corresponds To The Min. Light Spot Diameter		
Φ20μm Φ13.6μm	Φ50μm Φ34μm	Φ110μm Φ74.8μm

Product Specifications

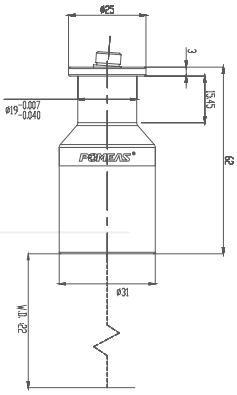


Unit: mm

PMS-8020
Nearest Measurement Distance: 20mm
Measuring Range: 1.6mm
Max. Light Angle: ±45°
N.A.: 0.56
Outer Diameter: Φ90mm
Length: 250.39mm
Max. Linearity Error: 0.5μm
Environment Humidity: 20 to 85% RH (no condensation)
Scanning Frequency: 200/500/1000/2000 HZ (4 segments adjustable)

Different Fiber Diameter Corresponds To The Min. Light Spot Diameter		
Φ20μm Φ2.9μm	Φ50μm Φ7.3μm	Φ110μm Φ16μm

Product Specifications

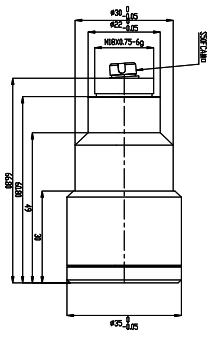


Unit: mm

PMS-8022
Nearest Measurement Distance: 22mm
Measuring Range: 2mm
Max. Light Angle: ±17°
N.A.: 0.27
Outer Diameter: Φ31mm
Length: 62mm
Max. Linearity Error: 0.5μm
Environment Humidity: 20 to 85% RH (no condensation)
Scanning Frequency: 200/500/1000/2000 HZ (4 segments adjustable)

Different Fiber Diameter Corresponds To The Min. Light Spot Diameter		
Φ20μm Φ15.5μm	Φ50μm Φ38.8μm	Φ110μm Φ85.4μm

Product Specifications



Unit: mm

PMS- 8055
Nearest Measurement Distance: 55mm
Measuring Range: 6mm
Max. Light Angle: ±13.6°
N.A.: 0.23
Outer Diameter: Φ35mm
Length: 66.8mm
Max. Linearity Error: 1μm
Environment Humidity: 20 to 85% RH (no condensation)
Scanning Frequency: 200/500/1000/2000 HZ (4 segments adjustable)

Different Fiber Diameter Corresponds To The Min. Light Spot Diameter		
Φ20μm Φ17μm	Φ50μm Φ42.6μm	Φ110μm Φ93.7μm

PMS-8000 SERIES

PMS-8080K

Zoom Coaxial

Spot Spectrum

Zoom Lens Master Lens — Specifications

Magnification Range		0.68X~5X					
Working Distance (mm)		80mm					
Magnification Ratio		0.68X	1X	2.0X	3.0X	4.0X	5X
DOF (mm)*1		1.78	0.89	0.25	0.12	0.08	0.07
N.A.		0.033	0.045	0.08	0.11	0.12	0.12
F NO.		10.3	11	12.4	13.5	16.5	20.6
Resolution (μm)		10.17	7.46	4.19	3.05	2.8	2.8
TV Distortion		< 0.02%	< 0.02%	< 0.02%	< 0.02%	< 0.02%	< 0.02%
FOV (mm)	1"	23.53X18.82X14.12	16X12.8X9.6	8X6.4X4.8	5.33X4.27X3.2	4X3.2X2.4	3.2X2.56X1.92
	2/3"	16.18X12.94X9.71	11X8.8X6.6	5.5X4.4X3.3	3.67X2.93X2.2	2.75X2.2X1.65	2.2X1.76X1.32
	1/2"	11.76X9.41X7.06	8X6.4X4.8	4X3.2X2.4	2.67X2.13X1.6	2X1.6X1.2	1.6X1.28X0.96
	1/3"	8.82X7.06X5.29	6X4.8X3.6	3X2.4X1.8	2X1.6X1.2	1.5X1.2X0.9	1.2X0.96X0.72
Max. Image Plane		1"					
Total Length (mm)		328					
Zoom Mode		Manual/Electric					
Mount		C-Mount					

*1: Theoretical calculation value (calculated by taking the diameter of dispersion spot Φ0.04mm), the effect is better when taking 1/2 of its range in practical application.

PMS-8080K — Specifications

Measuring Center Distance	80mm
Wavelength Range	500nm~650nm
Measuring Range	±3mm
Max. Light Angle	±11°
Light Point Diameter	φ35μm
Fiber Diameter	φ50μm
Fiber MA	0.14
Accuracy	1μm
Environment Humidity	20 to 85% RH (no condensation)
Scanning Frequency	200/500/1000/2000 HZ(4 segments adjustable)

*1: Measuring the value of our standard workpiece (mirror body) by displacement model.