



Non Contact Displacement Sensor

PD-704



High Accuracy & Simple Operation

Non Contact Measurement

Perform precious measurement of moving target without staining/damaging objects

Tracking High Acceleration

Tracking fast acceleration (up to 100G) by Canon Original Profile machining technology

Measure Zero Velocity

Capable of measuring in both moving directions from zero velocity (stopped position)

Compact & Stand Alone

Space Saving (180mm×135mm×67mm) and Easy to install with stand alone feature.

Wide Tolerance of vertical Shaking

Auto adjust to observe vertical wobbling $\pm 15\text{mm}$

Safe Operation with White LED

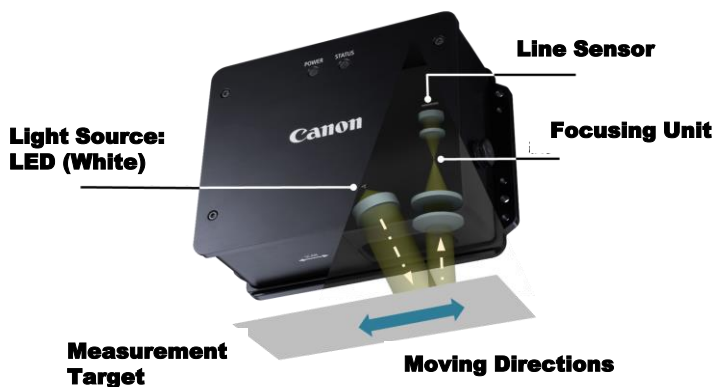
No need for safety precautions to protect against Laser radiation



Measurement Algorithm : Profile Matching

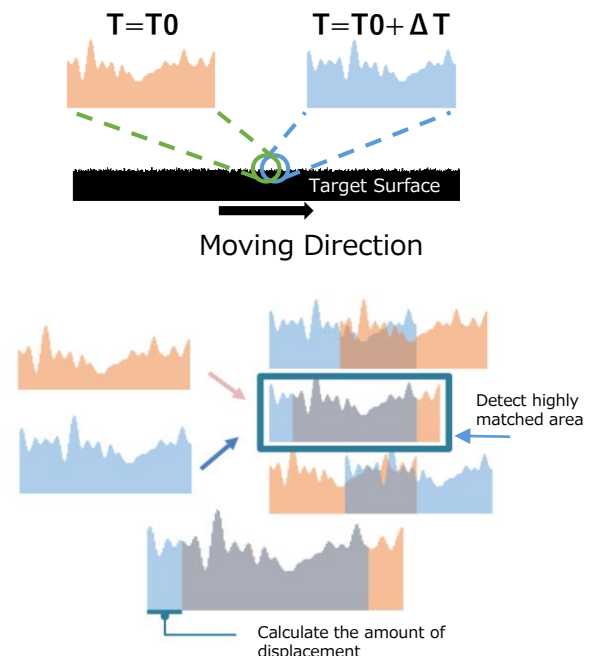
Profile matching method works by capturing consecutive images of an object and using these images (profiles) to search for correlations (matches). Based on the differences in position, the system calculates the distance and speed

Optical System



Profile Matching Method

■ Line Sensor acquires target image at each sampling



Product Package

Standard package

●Main Unit



●Power Cable



Waterproof Power Cable (5m)

●Software



Non-Contact Displacement Sensor software
User's manual

Options

●I/O Cable Kit



I/O
Cable (5m)



Waterproof
Connector
Cap

●USB Cable Kit



USB Cable
(5m)



Waterproof
I/O Connector
Cap

●Protection Cover



Protective Cover Unit (to
protect from Water,
Dusts)

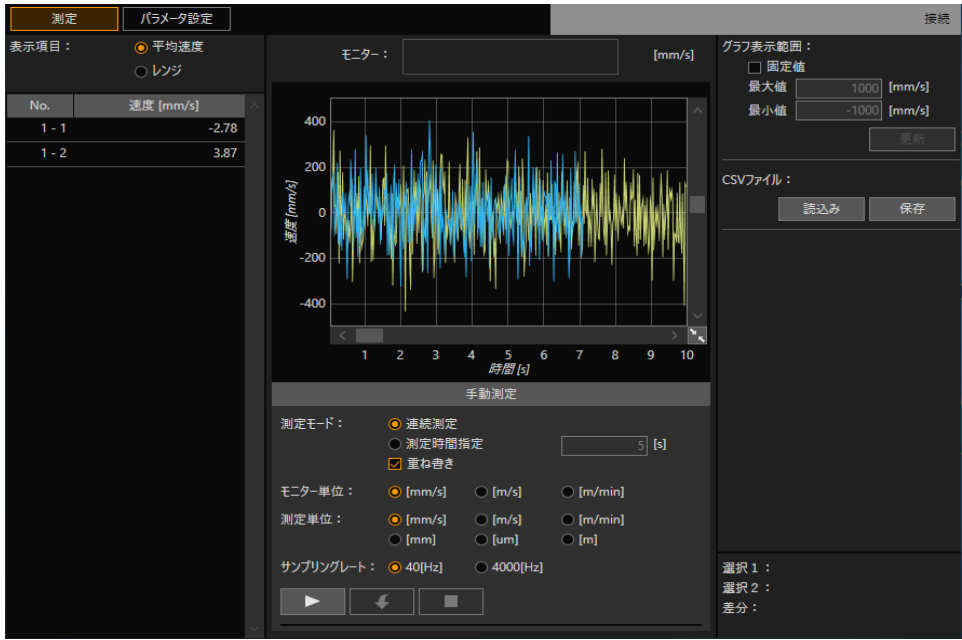
●Alignment Tools



Alignment Tool
for working distance to
target

Utility Software (Standard)

Measurement/Analyzing Software: (Non Contact Displacement Sensor Software)



Calibration Certificate Service

Calibration Certificate is available upon request. Annual Calibration is recommended for this product.



Specifications

PD-704		
Measurement Method		Profile Matching Method
Light source		LED
Measurement distance (WD: Working Distance)		70mm
Measurement range		± 15mm
Measurement speed range		-4,000mm/s to 4,000mm/s (Including the stop state)
Maximum acceleration of target measurement object		100G
Measurement resolution		1 μm
Measurement accuracy ※1	WD:70mm ± 5mm	± 0.2% or 100 μm
	WD:70mm ± 15mm	± 0.5% or 100 μm
Measurement repeatability ※2		0.02% or 20 μm
Light source		LED
Sampling rate		4kHz
Pulse output		1 μm to 1,000 μm (Set on application software) Phase A/B (RS422-compliant line driver)
Other input/output	Trigger input	Photo coupler insulation:5 to 24V
	Error output	Open collector output (Photo coupler insulation):5 to 24V
USB interface		USB 2.0 Full Speed (Compatible with USB 1.1) compliant
Operating temperature		0°C to 50°C
Storage temperature		-30°C to 50°C
Humidity		90%RH or lower
Vibration		Bare vibration Evaluated in vibrating environment Frequency:10 to 500Hz 5G sin wave 2 hours for XYZ directions
Protection class ※3		IP65
Power voltage		DC12V to 24V
Power consumption		8W
Weight		1.2kg
Dimensions		180 x 135 x 67
Materials		Aluminum, Window(Stainproof coating)
Cable length	Power cable	5m
	I/O cable	5m
	USB cable	5m

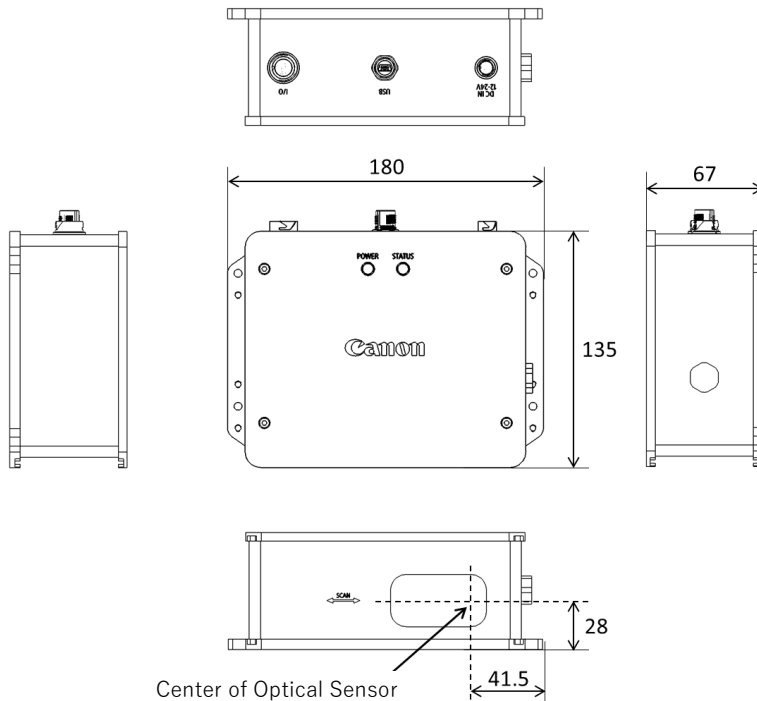
- ※1 When measured in our environment.
 ※2 When measured in our conditions.
 ※3 When used the optional kit.
 ※4 A glossy surface similar to a mirror may not be measured.



Main Unit

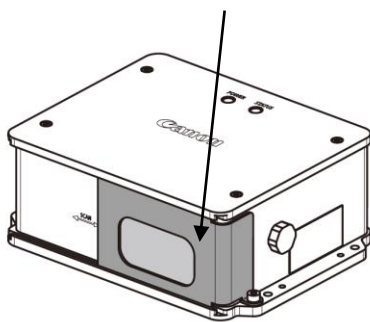
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(unit: mm)

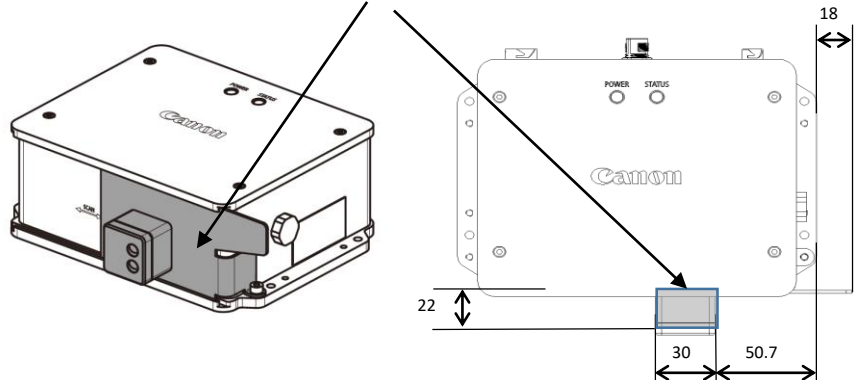


Options

Protection Cover Unit



Working Distance Alignment Tool



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