



Non-Contact Displacement Sensor

PD-704 / PD-710



- Measure velocity/length without contacting moving target.
- Track fast acceleration (up to 100G)
- Measure zero velocity (from Stopped position)

Canon Quality, 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 Velocity from Stopped position

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

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

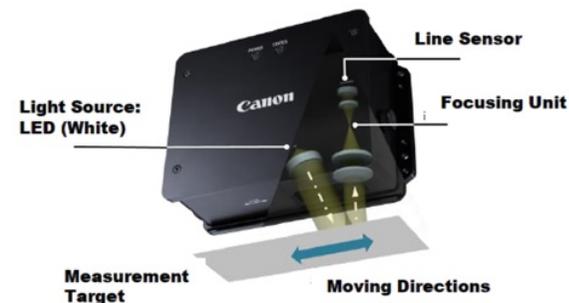
Compact & Stand Alone

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

Measurement Algorithm : Profile Matching

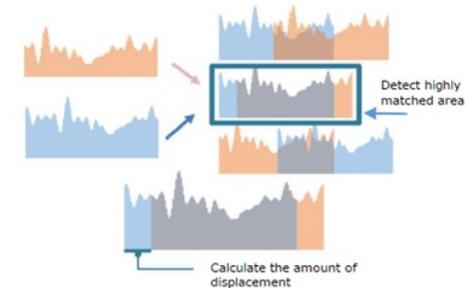
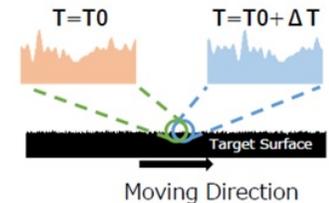
Profile matching method works by capturing consecutive images of an object and using these images (profiles) to search for correlations (matches). Based on the differences in position, the system calculates the distance and speed

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)

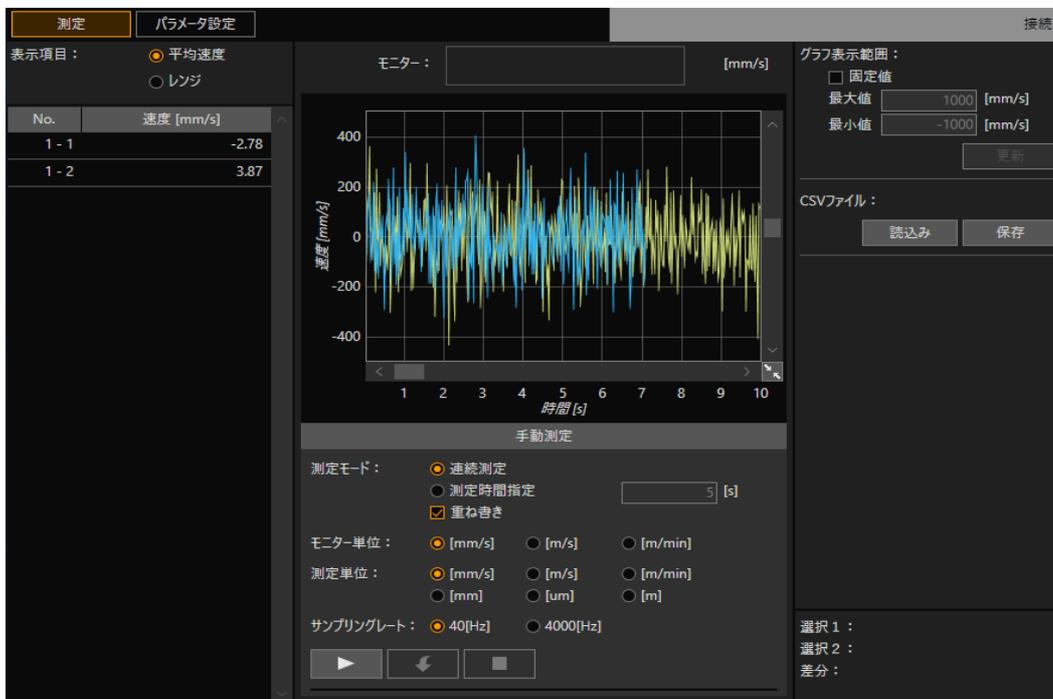
● Alignment Tools



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.

APPLICATION EXAMPLES

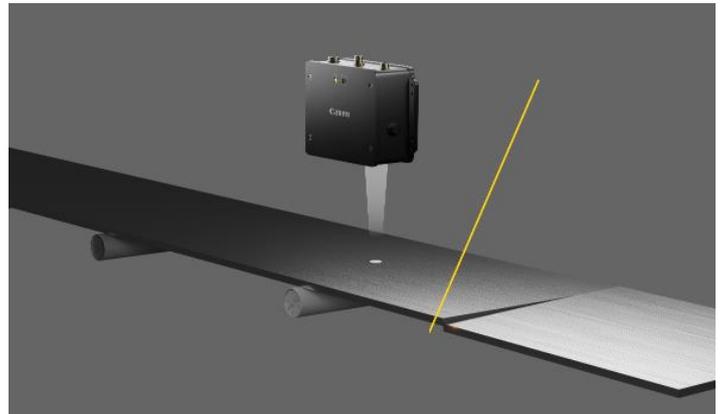
Material feed control in the press process



This sensor can measure coil feed amount correctly without contacting the material. This prevented defective products and mold damage, reducing fix costs and improved productivity.

Movement amount control in cutting process

By directly measuring the length of the steel sheet, accurate length measurement that is not affected by slippage has become possible.



Speed, Movement control for Extrusion



Measures speed or movement amount of extrusion product without contact to prevent any impact to your finished product

Specifications

		PD-704	PD-710
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)	-10,000mm/s ~ 10,000mm/s (Including a stationary 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		180x135x67	
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.

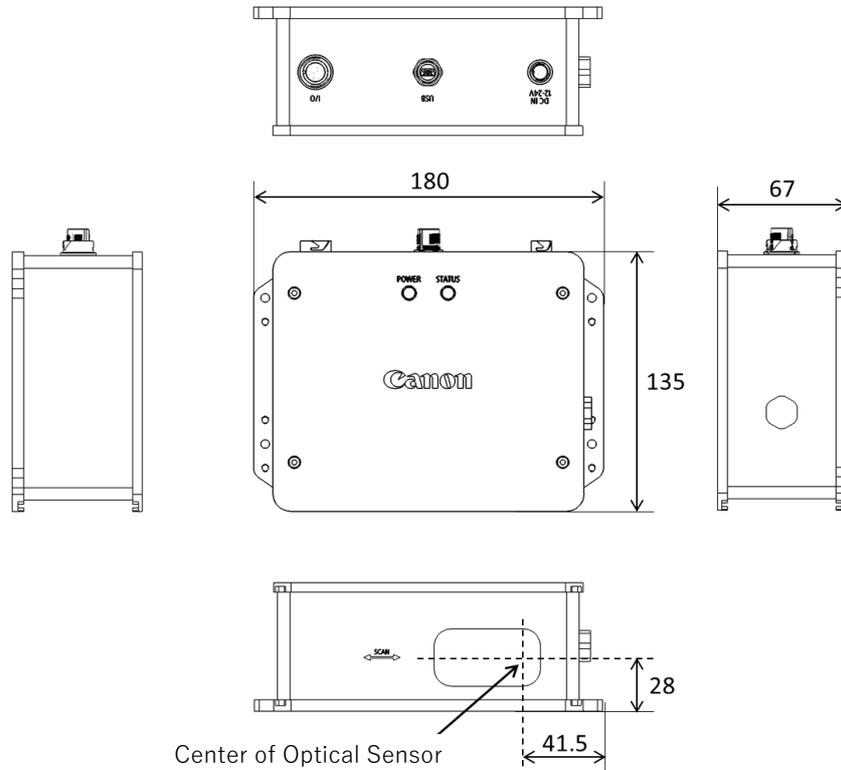
※4 A glossy surface similar to a mirror may not be measured.



Dimension

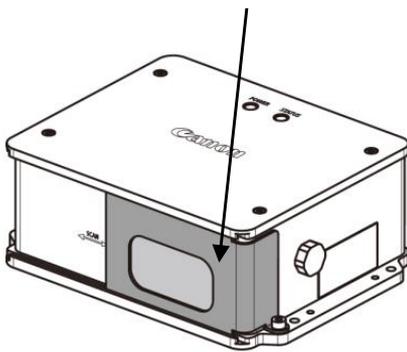
Main Unit

PD-704

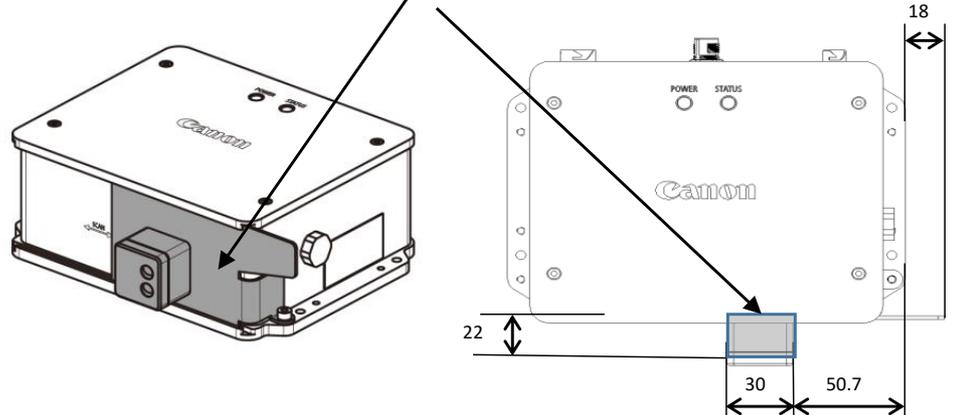


Options

Protection Cover Unit



Working Distance Alignment Tool



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