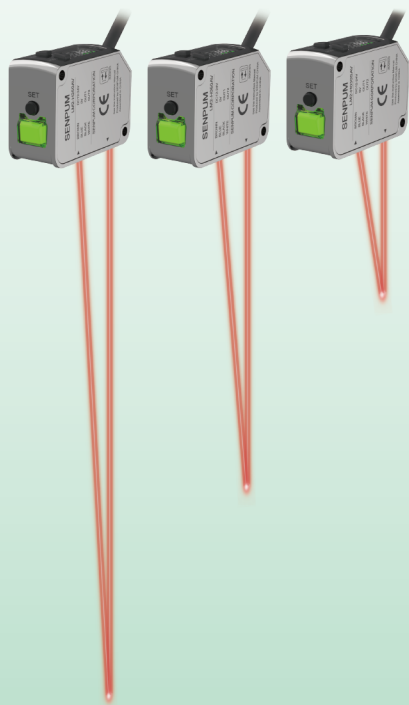


High-Precision

Medium-Long Range

Laser Displacement Sensor

LM2-H Series



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Fast Delivery Standard Models



Most products are in stock. Upon receiving your order, we will arrange prompt shipment to minimize your downtime-related costs and losses.



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LINE

Ultra-high precision, accurately and stably detecting on multiple occasions

Linear accuracy up to $\pm 0.1\%$ F.S., maximum repeatability up to $1\text{ }\mu\text{m}$.

Linear accuracy up to

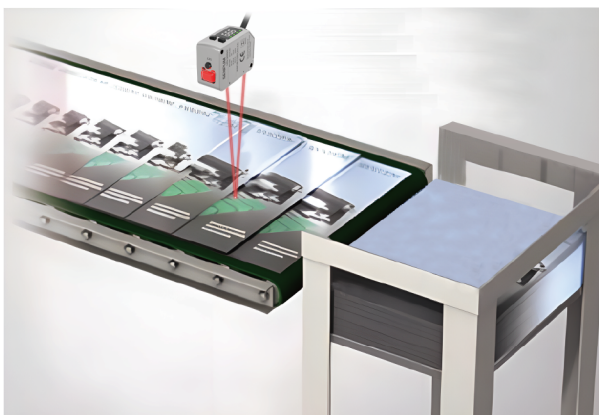
$\pm 0.1\%$ F.S.

Maximum repeatability up to

$1\text{ }\mu\text{m}$

Stable inspection even when the color of the workpiece changes

Counting and stacking detection of stacking box devices.



Detection distance up to 400 mm, supporting various applications

High-definition digital display and status indicators

With the high-definition digital display and status indicator, the measurement values and mode adjustment process are clearly visible.

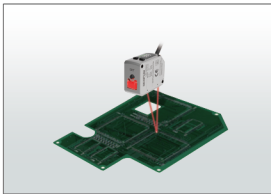
IP67 rating



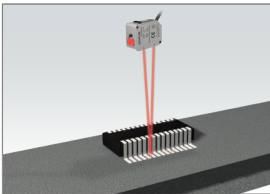
More Features

- NPN/PNP switchable.
- Integration of sensor head and amplifier, ultra-small size, simple and easy installation.
- With switching output, the upper and lower limit positions are easier to set.
- Analog output 4–20 mA or 0-5 V or 0-10 V switchable.

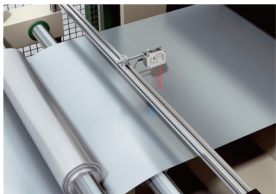
Applications



Substrate warpage and thickness

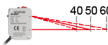


Pin Inspection



Sheet metal tracking

Product List

Cable Type							
Diffuse reflective	Appearance	Schematics	Detection distance (mm)	Repeatability	Output method	Model	
Short-range			30±5 mm	1 μm	NPN/PNP Analog voltage/current	LM2-H030SAV	
					NPN/PNP RS-485	LM2-H030ST	
			30±4 mm	2 μm	NPN/PNP Analog voltage/current	LM2-H030AV	
					NPN/PNP RS-485	LM2-H030T	
Medium-range			50±10 mm	5 μm	NPN/PNP Analog voltage/current	LM2-H050AV	
					NPN/PNP RS-485	LM2-H050T	
			85±20 mm	10 μm	NPN/PNP Analog voltage/current	LM2-H085AV	
					NPN/PNP RS-485	LM2-H085T	
			120±60 mm	40 μm	NPN/PNP Analog voltage/current	LM2-H120AV	
					NPN/PNP RS-485	LM2-H120T	
Long-range			200±105 mm	50 μm	NPN/PNP Analog voltage/current	LM2-H200AV	
					NPN/PNP RS-485	LM2-H200T	
			250±150 mm	70 μm	NPN/PNP Analog voltage/current	LM2-H250AV	
						NPN/PNP RS-485	LM2-H250T
			300±150 mm		NPN/PNP Analog voltage/current	LM2-H300AV	
						NPN/PNP RS-485	LM2-H300T

Relay Type							
Diffuse reflective	Appearance	Schematics	Detection distance (mm)	Repeatability	Output method	Model	
Short-range			30±5 mm	1 μm	NPN/PNP Analog voltage/current	LM2-H030SCAAV	
					NPN/PNP RS-485	LM2-H030SCAT	
			30±4 mm	2 μm	NPN/PNP Analog voltage/current	LM2-H030CAAV	
					NPN/PNP RS-485	LM2-H030CAT	
Medium-range			50±10 mm	5 μm	NPN/PNP Analog voltage/current	LM2-H050CAAV	
					NPN/PNP RS-485	LM2-H050CAT	
			85±20 mm	10 μm	NPN/PNP Analog voltage/current	LM2-H085CAAV	
					NPN/PNP RS-485	LM2-H085CAT	
			120±60 mm	40 μm	NPN/PNP Analog voltage/current	LM2-H120CAAV	
					NPN/PNP RS-485	LM2-H120CAT	
		Long-range		200±105 mm	50 μm	NPN/PNP Analog voltage/current	LM2-H200CAAV
						NPN/PNP RS-485	LM2-H200CAT
			250±150 mm	70 μm	NPN/PNP Analog voltage/current	LM2-H250CAAV	
						NPN/PNP RS-485	LM2-H250CAT
			300±150 mm			NPN/PNP Analog voltage/current	LM2-H300CAAV
						NPN/PNP RS-485	LM2-H300CAT

Cable (sold separately)

Appearance	Sensor side	Cable termination	Material	Output method	Cable length	Model
	M8 6PIN	Loose wire	PVC	Analog	2 m	OW-LM2H2000
				RS-485		OW-LM2HT2000
				Analog	5 m	OW-LM2H5000
				RS-485		OW-LM2HT5000
				Analog	10 m	OW-LM2H10M
				RS-485		OW-LM2HT10M

Laser Displacement Sensors

- LM2-Q
- LM2-H
- LM
- LS
- LM-S

- Fiber Optic Sensors
- Photoelectric Sensors
- Color Sensors
- Laser Sensors
- Proximity Sensors
- Precision Contact Sensors
- Area Sensors/ Safety Light Curtains
- Laser Scanners
- Digital Contact Sensors
- Laser Displacement Sensors
- Laser Micrometers
- Confocal Displacement Sensors
- Barcode Readers
- AI Vision Sensors
- RFID
- Infrared Temperature Sensors
- Pressure Sensors
- Flow Sensors
- Magnetic Sensors
- Ultrasonic Sensors
- Magnetic Scales
- Static Eliminators



LM2-Q

LM2-H

LM

LS

LM-S

Laser Displacement Sensors

LM2-H

High-Precision Medium-Long Range Laser Displacement Sensor

Specifications

Cable Type

Type		Diffuse reflective							
		Short-range		Medium-range			Long-range		
Model	NPN/PNP Analog voltage/current	LM2-H030SAV	LM2-H030AV	LM2-H050AV	LM2-H085AV	LM2-H120AV	LM2-H200AV	LM2-H250AV	LM2-H300AV
	NPN/PNP RS-485	LM2-H030ST	LM2-H030T	LM2-H050T	LM2-H085T	LM2-H120T	LM2-H200T	LM2-H250T	LM2-H300T
Detection distance		30 mm	30 mm	50 mm	85 mm	120 mm	200 mm	250 mm	300 mm
Range		±5 mm	±4 mm	±10 mm	±20 mm	±60 mm	±105 mm	±150 mm	±150 mm
Light sensor		Linear image sensor CMOS							
Spot size	Close range	Φ150 μm	Φ150 μm	250×700 μm	250×700 μm	Φ500 μm	Φ600 μm	Φ600 μm	Φ600 μm
	Reference distance	Φ120 μm	Φ120 μm	150×350 μm	150×150 μm	Φ250 μm	Φ400 μm	Φ400 μm	Φ400 μm
	Long range	Φ120 μm	Φ120 μm	100×100 μm	250×500 μm	Φ500 μm	Φ600 μm	Φ700 μm	Φ700 μm
Light source		655 nm red laser, 1 mW max.							
Laser class		IEC/JIS(class2); FDA(class II)							
Linear accuracy		±0.1% F.S. ^{1/2}							
Repeatability		1 μm ^{1/2}	2 μm ^{1/2}	5 μm ^{1/2}	10 μm ^{1/2}	40 μm ^{1/2}	50 μm ^{1/2}	70 μm ^{1/2}	
Sampling period		1 time/1 ms; 16 times/8.5 ms; 64 times/32.5 ms max.							1 time/1.5 ms; 16 times/13 ms; 64 times/49 ms max.
Temperature drift		±0.08% F.S./°C							
Analog output		0–20 mA; 4–20 mA; 0–5 V; 0–10 V; ±5 V; ±10 V							
Switching output		NPN or PNP open collector output, Q1/Q2: Max 100 mA/DC 30 V, residual voltage 1.8 V							
External input		NPN contactless input, valid: 0 to +1.2 VDC, input impedance: approx. 10 kΩ							
Power voltage		12 to 30 VDC ±10% including fluctuations of 10% (p-p)							
Current consumption		35 mA or less (at 24 VDC), 60 mA or less (at 12 VDC)							
Protection class		IP67							
Ambient illumination		Incandescent lamp: 3,000 lux or less							
Ambient temperature		-10 to +40 °C (no freezing)							
Ambient humidity		35 to 85% RH (no condensation)							
Power cable		2 m highly flexible drag chain type cable							
Material		Housing: Zinc alloy, Indicator cover: PC, Lens: Glass, Buttons: ABS, Cable: PVC							
Weight		Approx. 150 g (including cable)							

¹ This is data from SENPUM measurements of standard targets (white diffuse objects).

² The test data at an average number of 128 samples (High Resolution Mode) is used as the standard, and the repeatability accuracy varies in different modes.

³ The measurement time for optimal test values consists of two parts: sampling time and adjustment calculation time.

Laser Displacemen Sensors

Laser Micrometers

Confocal Displacement Sensors

Barcode Readers

AI Vision Sensors

RFID

Infrared Temperature Sensors

Pressure Sensors

Flow Sensors

Magnetic Sensors

Ultrasonic Sensors

Magnetic Scales

Static Eliminators

1

2

3

SENPUM

1235

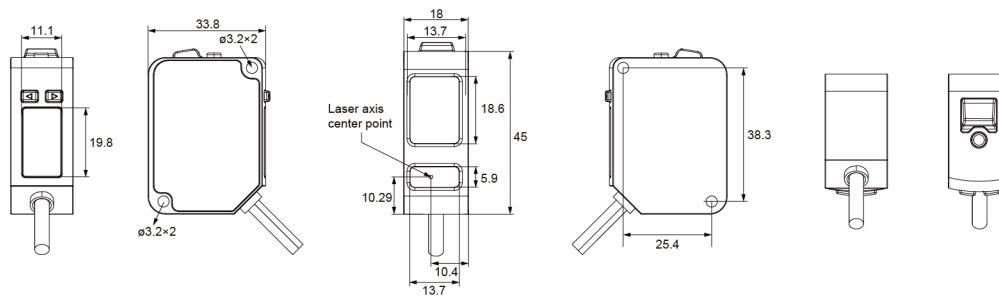
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Dimensions

Cable Type

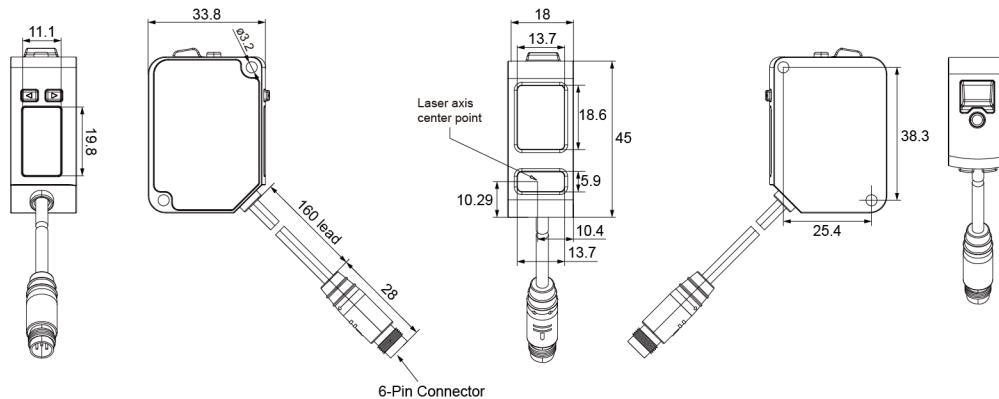
LM2-H030SAV / 030AV / 050AV / 085AV / 120AV / 200AV / 250AV / 300AV
LM2-H030ST / 030T / 050T / 085T / 120T / 200T / 250T / 300T

Unit: mm

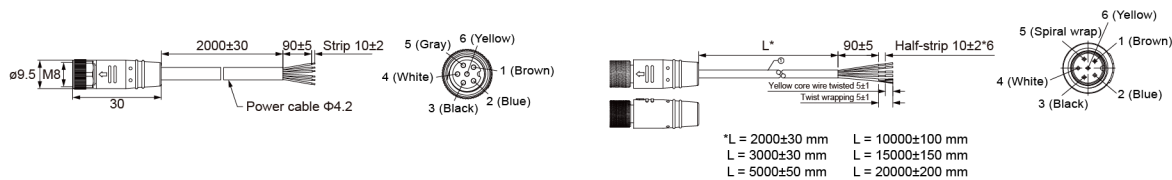


Relay Type

LM2-H030SCAAV / 030CAAV / 050CAAV / 085CAAV / 120CAAV / 200CAAV / 250CAAV / 300CAAV
LM2-H030SCAT / 030CAT / 050CAT / 085CAT / 120CAT / 200CAT / 250CAT / 300CAT



Cable (sold separately)

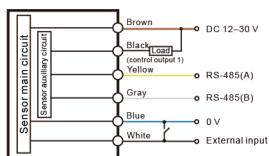


I/O Circuit Diagrams

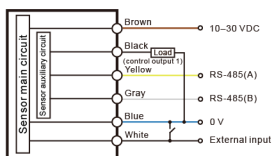
RS-485

LM2-H030ST / 030T / 050T / 085T / 120T / 200T / 250T / 300T
LM2-H030SCAT / 030CAT / 050CAT / 085CAT / 120CAT / 200CAT / 250CAT / 300CAT

When selecting NPN output, NPN input



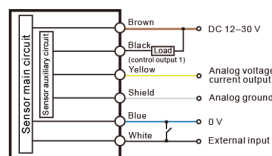
When selecting PNP output, NPN input



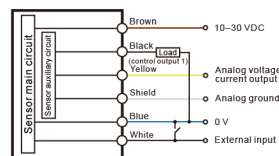
Analog

LM2-H030SAV / 030AV / 050AV / 085AV / 120AV / 200AV / 300AV
LM2-H030SCAAV / 030CAAV / 050CAAV / 085CAAV / 120CAAV / 200CAAV / 250CAAV / 300CAAV

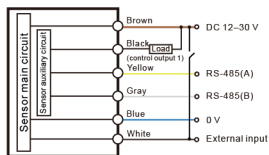
When selecting NPN output, NPN input



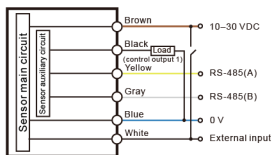
When selecting PNP output, NPN input



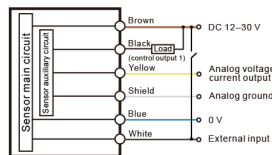
When selecting NPN output, PNP input



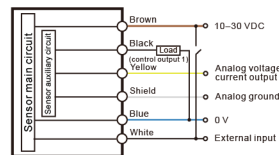
When selecting PNP output, PNP input



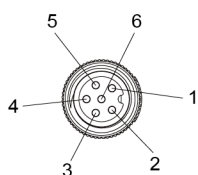
When selecting NPN output, PNP input



When selecting PNP output, PNP input



Connector Schematic



485 Output type

	Jacket color	Function
1	Brown	Power supply positive
2	Blue	Power supply negative
3	Black	Control output / IO-Link
4	White	Control input
5	Gray	RS485(B)
6	Yellow	RS485(A)

Analog output type

	Jacket color	Function
1	Brown	Power supply positive
2	Blue	Power supply negative
3	Black	Control output / IO-Link
4	White	Control input
5	Shield	Analog ground
6	Yellow	Analog voltage/current output

