KEYENCE

NEW **High-Accuracy Digital Contact Sensor**

GT2 Series

EtherNet/IP DeviceNet PROFIBUS CE

Intelligent sensor I-SERIES

The GT2 Series is now available in pencil type models!

High-accuracy and an absolute measurement are possible with a slim ø8 ø0.31" body

Unique technology allowing a compact sensor head.

The Scale Shot System in the GT2 Series improves upon the technology of conventional contact sensors and is now concentrated into a pencil-type sensor head.

SCALE SHOT SYSTEM II

Display resolution 0.1 µm 0.004 Mil
Accuracy 1 µm 0.04 Mil

The ø8 mm ø0.31" sensor head is equipped with KEYENCE's proprietary Scale Shot System II, which allows it to achieve the highest accuracy in its class throughout its entire measurement range. It also overcomes the disadvantages of conventional methods such as tracking errors and not knowing absolute position.

TOUGH & RUGGED CONSTRUCTION

NEMA Type 13/IP67G
100 million cycles detecting durability
PUR cable

Complies with NEMA Type 13/IP67G oil resistance protection standards. These sensor heads can be used in wet and dusty environments, and now even in environments with splashing oil. The sensor head also clears a detecting durability of 100 million cycles with its long lasting linear ball bearings.

MULTI-SENSOR UNIT

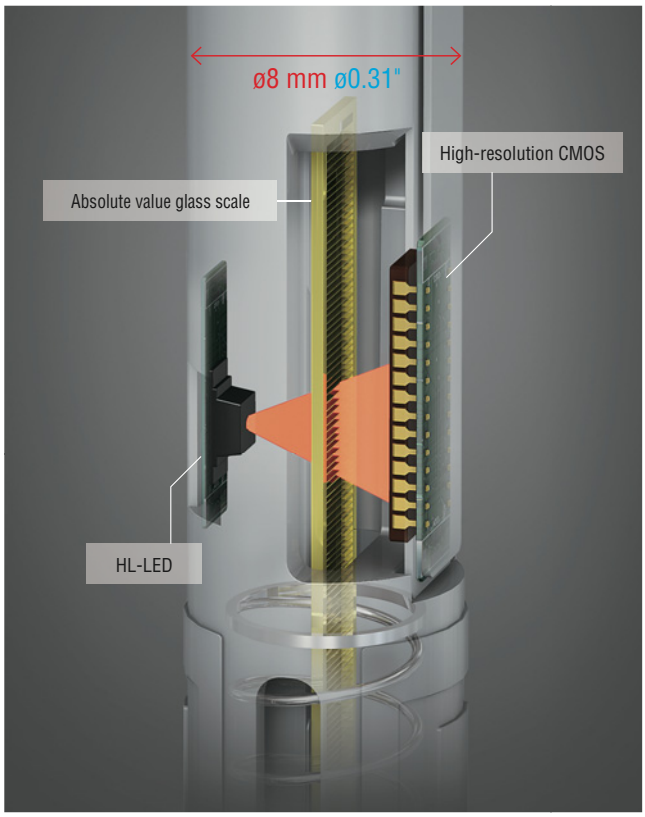
5 heads can connect to 1 amplifier unit

A multi-sensor amplifier unit has been added to our line up which allows up to 5 sensor heads to connect to 1 amplifier unit. A maximum of 3 amplifier units and 15 sensor heads can be simultaneously connected to support multi-point applications. Also, larger systems can easily be constructed using the communication units.

FULL-RANGE, HIGH-ACCURACY PENCIL-TYPE

Combines a slim ø8 mm ø0.31" body with high-accuracy measurements

The evolutionary Scale Shot System II is enclosed in the slim ø8 mm ø0.31" body through the use of newly developed technology for the transmitter, receiver, and CPU. The sensor head features high accuracy while overcoming the disadvantages of conventional contact sensors such as tracking errors and unknown absolute position.



SCALE SHOT SYSTEM II

The absolute value glass scale, with different patterns according to position, is captured at high speed with the high-resolution CMOS sensor. This detection principle reads the absolute position information from the slit pattern engraved on the scale. It is the first of its kind in the world.

PROBLEMS WITH CONVENTIONAL TYPES

SCALE (PULSE-COUNT) METHOD

TRACKING ERRORS

Tracking errors in measurement values result from sudden impact.

ABSOLUTE POSITION UNKNOWN

The origin point must be adjusted before operation.

DIFFERENTIAL TRANSFORMER METHOD

UNSTABLE ACCURACY THROUGHOUT ENTIRE MEASURING RANGE

Unstable accuracy at the top and bottom of the measuring range.

POOR TEMPERATURE CHARACTERISTICS

Measurement values deviate morning, noon, and night.

LARGE BODY

Installation space must be considered.

RESOLVED WITH THE SCALE SHOT SYSTEM II

Absolute measurement with the highest accuracy in its class

DISPLAY RESOLUTION

0.1 µm 0.004 Mil

ACCURACY

1 µm 0.04 Mil

THE NEWLY DEVELOPED FEATURES THAT MAKE THE SCALE SHOT SYSTEM II POSSIBLE

HL-LED

A newly developed LED that is a point light source and capable of producing even intensity with a brightness 9-times that of a conventional LED.

* HL = High luminance

HIGH-RESOLUTION CMOS

An imaging element with twice the pixels of a conventional imaging element that can receive the LED light passed through the absolute value glass scale with high sensitivity, increase the resolution, and create the output signal.

I-PROCESSOR

A custom IC equipped with new algorithms that can perform high-speed, high-resolution arithmetic processing of the output signal sent from the CMOS sensor.

First in class

NEMA Type 13 IP67G

*GT2-P12K(F)/P12(F)

USABLE IN OILY ENVIRONMENTS

The sensor head, including the connector and cable section, complies with two standards - NEMA Type 13 and IP67G. The sensor head can be mounted almost anywhere, even in environments with splashing water or oil.

Oil-resistant connector and cable

Both the sensor head and connector comply with NEMA Type 13/IP67G. Extremely oil-resistant PUR (polyurethane) is used for the GT2-sensor cable to reduce the risk of oil penetration.

Seamless construction

The sensor body is cast in one piece for seamless outer construction. Corrosion from water and oil is reduced due to the fully enclosed structure.

NEMA Type 13

NEMA (National Electrical Manufactures Association) specifies the classification and description of enclosures for electrical equipment. The classification is represented as the "Type", and NEMA Type 13 is designed to provide a degree of protection against the ingress of oil.

IP67G

IP67G represents the enclosure rating for electronic devices as defined by the JIS (Japanese Industrial Standards). IP67G represents “IP67” as defined by the IEC (International Electrotechnical Commission) with “G” added for its oil resistance.

EXTRAORDINARY DETECTING DURABILITY

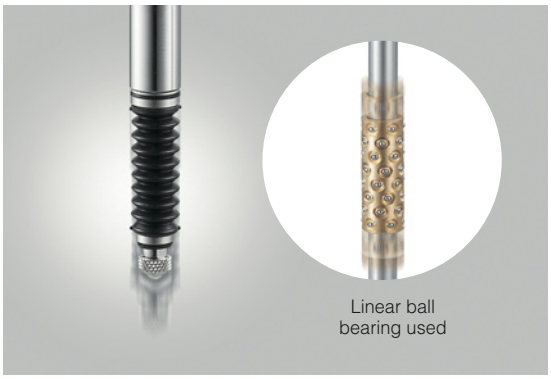
100 million cycles

*GT2-P12K(F)/P12(F)

A detecting durability of 100 million cycles has been achieved by using new high-strength linear ball bearings in the spindle. This can greatly reduce maintenance costs and replacement efforts.

Long lasting linear ball bearings

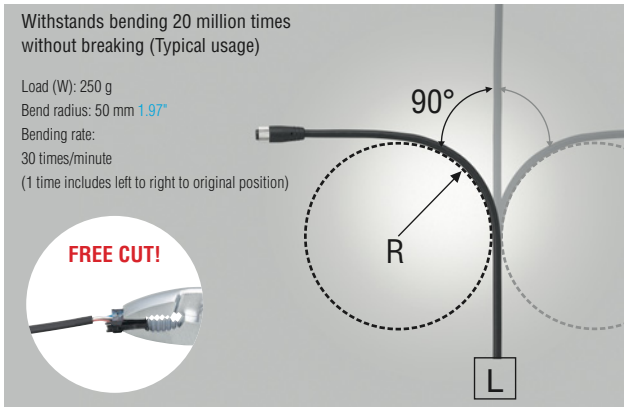
The all stainless steel construction of the spindle structure (shaft & bearings) reduced the weight of the GT2. Through these weight savings, wear due to friction inside the spindle has been minimized. This has dramatically increased endurance.



FLEXIBLE FREE-CUT ROBOT CABLE & OIL-RESISTANT RELAY CONNECTOR

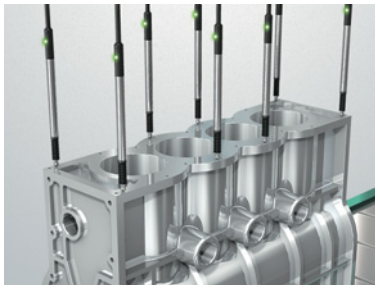
The cable between the relay connector and amplifier unit uses a flexible free-cut robot cable that withstands continuous bending. This allows the sensor to be installed on moving equipment. A detachable relay connector system is also used. This can greatly reduce replacement work during maintenance.

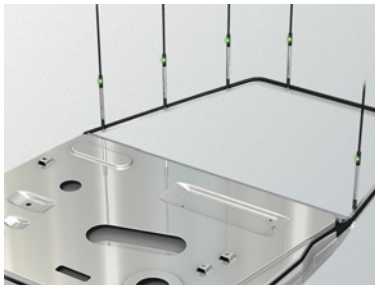
Flexible free-cut robot cable

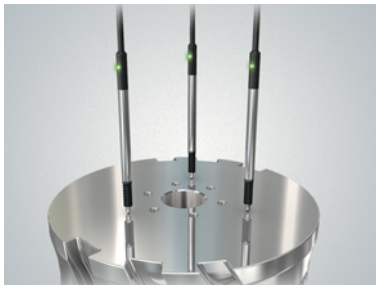


Detachable sensor head cable

AUTOMOBILES


Flatness measurement of engine block


Door beam deformation check

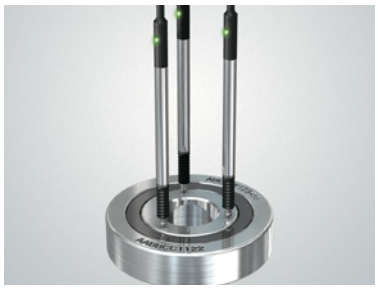

Disc assembly inspection

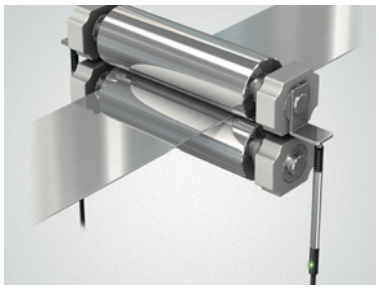

Camshaft runout measurement

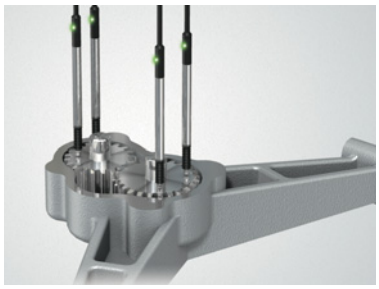

Side mirror angle inspection


Oil pan flatness measurement

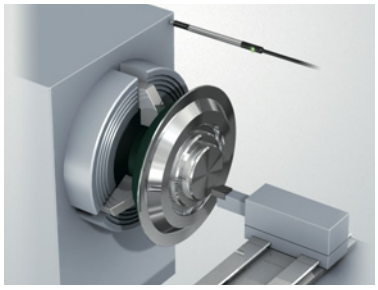
METALS

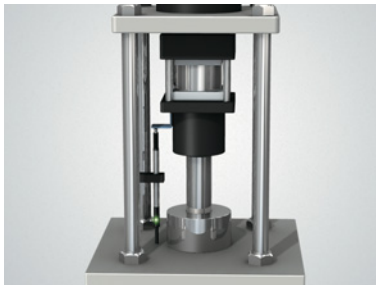

Bearing assembly inspection

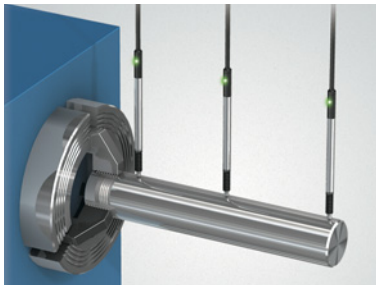

Mill roll gap management


Gear assembly inspection

EQUIPMENT


Machine tool stroke management

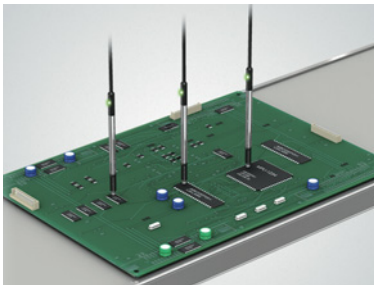

Assembly equipment press fitting inspection

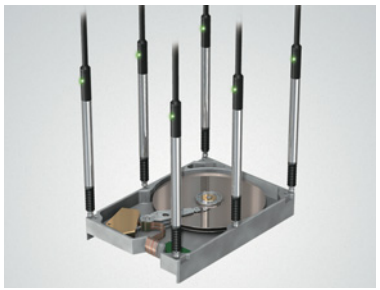

Product chucking confirmation

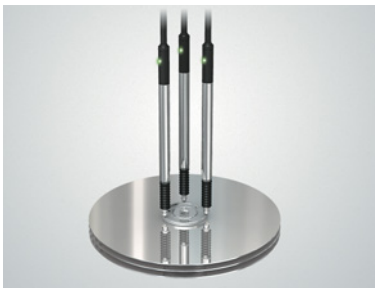
ELECTRONICS

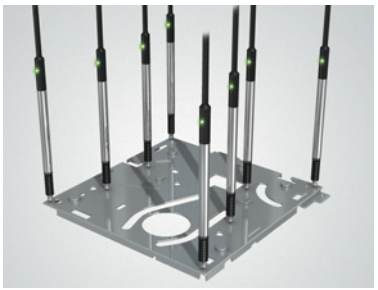

Battery flatness check


Smartphone chassis flatness inspection

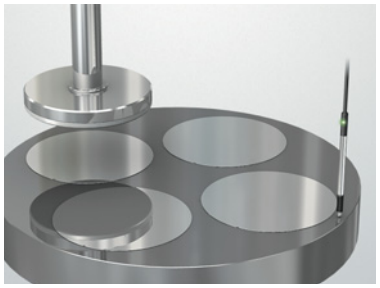

Board assembly check

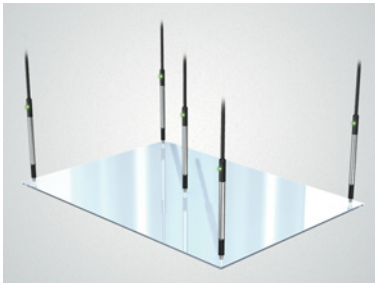

Hard disk frame assembly inspection

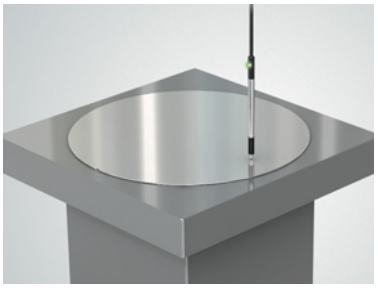

Hard disk clamp parallelism inspection


Chassis frame warpage inspection

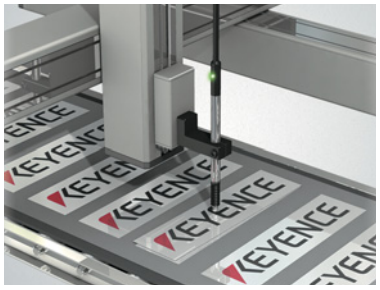
SEMICONDUCTORS/LIQUID CRYSTALS


Polisher height control

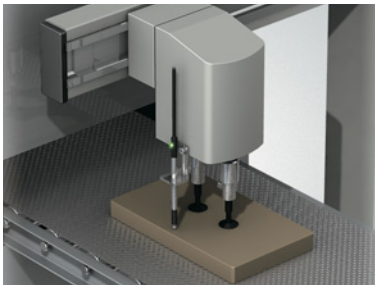

Liquid crystal panel flatness inspection


Wafer thickness measurement

FOOD/PRINTING

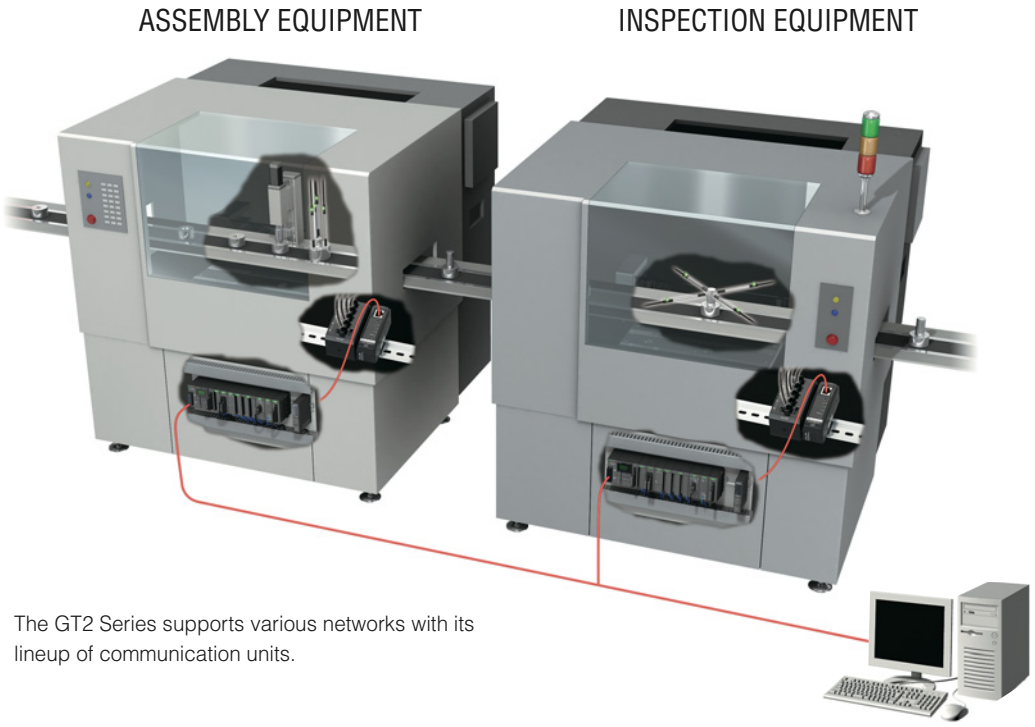


Double label stickers detection


Workpiece suction check

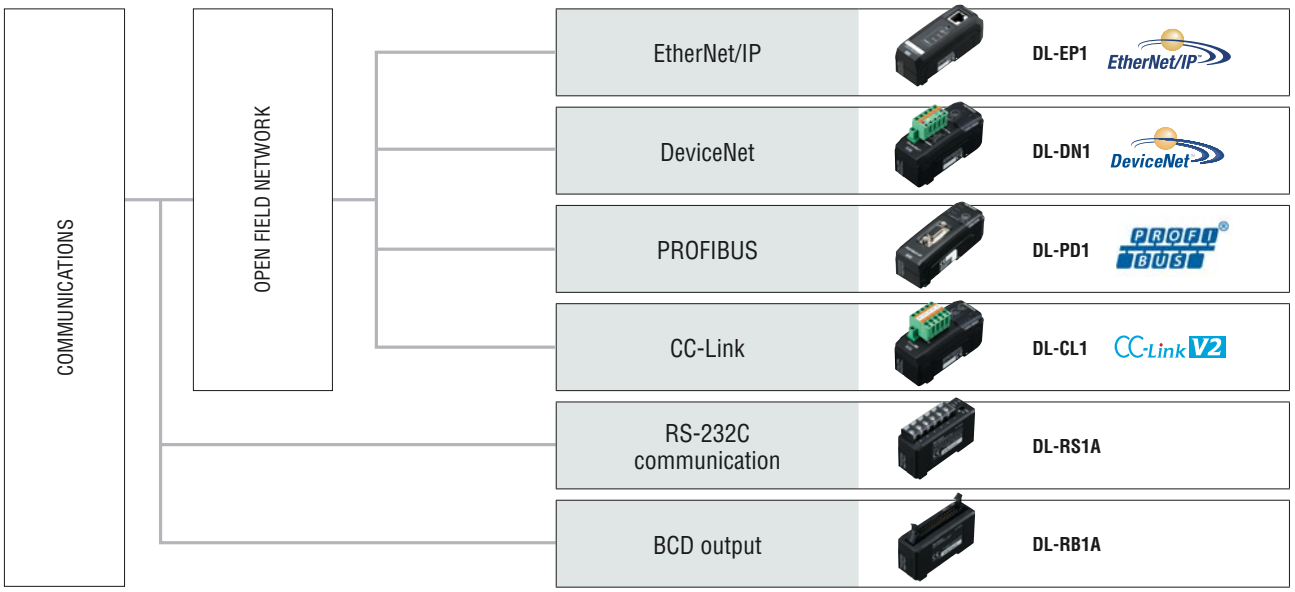

Double feed detection

SAVE WIRING TIME WITH OPEN FIELD NETWORK SUPPORT



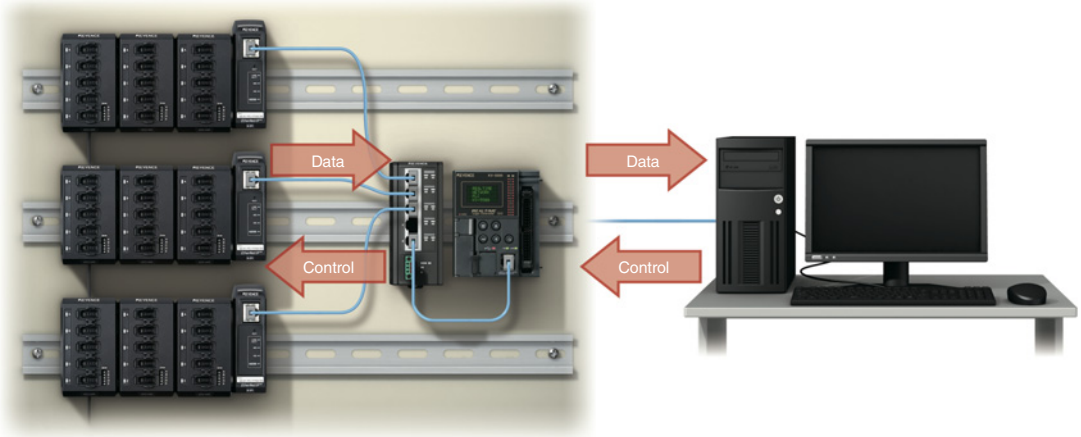
The GT2 Series supports various networks with its lineup of communication units.

DL Series lineup



Batch read and change settings for multiple amplifier units

Batch transmit data for a maximum of 15 units.
Settings can also be changed from a PC or PLC which leads to reduced setup time.



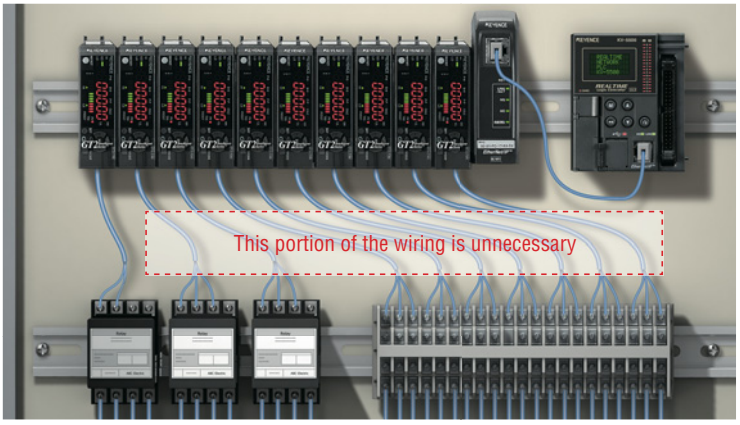
Further wiring and space savings with the multi-sensor unit

NEW

Up to 5 sensor heads can be connected to 1 multi-sensor amplifier unit. Up to 3 units can be linked, which allows for a maximum of 15 connected sensor heads.

Reduced wiring and installation

When more units are used in combination with each other, more wiring is required.
If communicating with the DL Series, this unit will send data to the PLC and only two wires are required to supply power to the main unit.



Reduce cable fabrication work

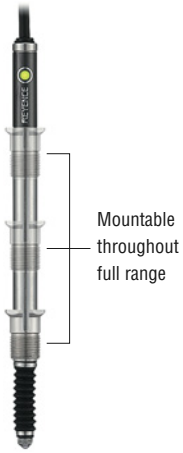
Reduce work wiring into terminal blocks

No terminal blocks required

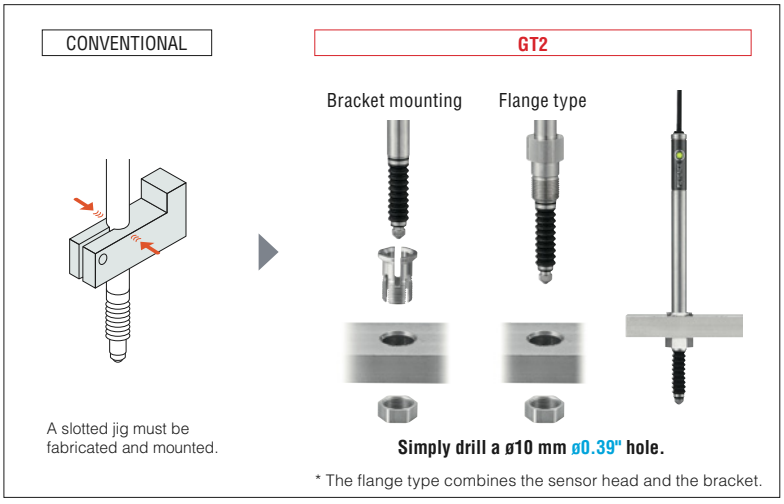
COST REDUCING MOUNTING METHODS

Greatly reduces design and fabrication time

The sensor can be mounted almost anywhere thanks to ø8 mm ø0.31" slim body that can be mounted anywhere along its body. If you use one of the dedicated brackets, you do not need to fabricate a slotted jig. The flange type can also be directly mounted by simply drilling a ø10 mm ø0.39" hole.

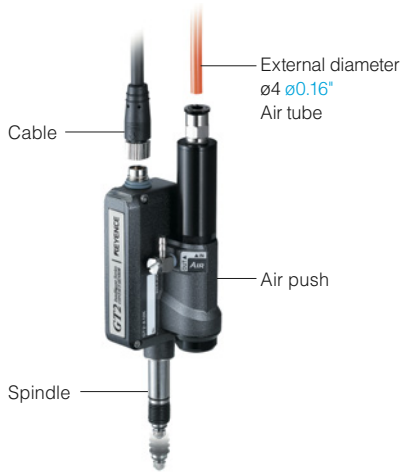


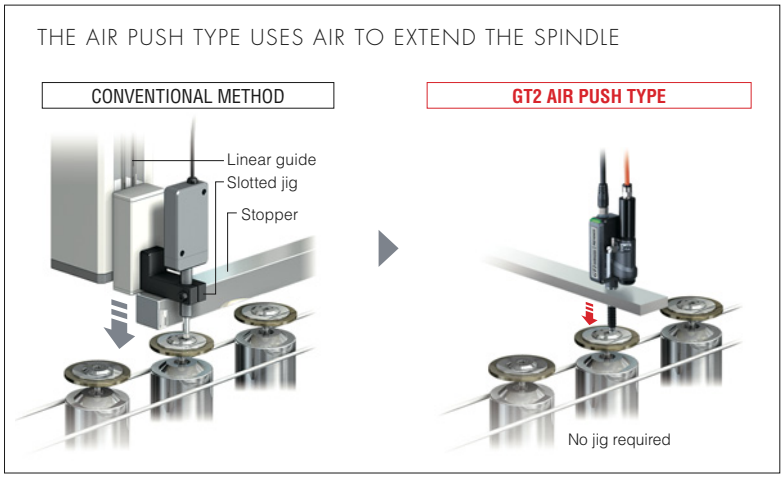
When using mounting bracket F



Air push type requires no drive mechanism

Measurements can be performed with the sensor head secured in place, so no mechanism is required to move the sensor head itself. This allows for space-saving installation which can greatly reduce costs at initial setup. Plus any worries about variations in accuracy due to the jig are eliminated.



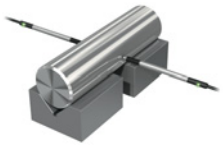


REDUCE COSTS WITH MULTI-FUNCTION AMPLIFIER UNITS

Simple calculations

A variety of detection modes are standard.
Calculations between additional amplifier units can be easily configured simply by selecting the desired mode.

Thickness



[SHAFT DIAMETER MEASUREMENT]

Positioning the target between two sensor heads will display the outer diameter.

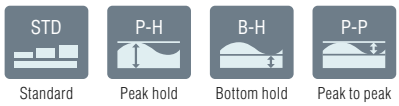
Degree of flatness

[FLATNESS CHECK]

By subtracting the minimum value from the maximum value the flatness will be displayed.

VERSATILE DETECTION MODES SUPPORT ALL APPLICATIONS

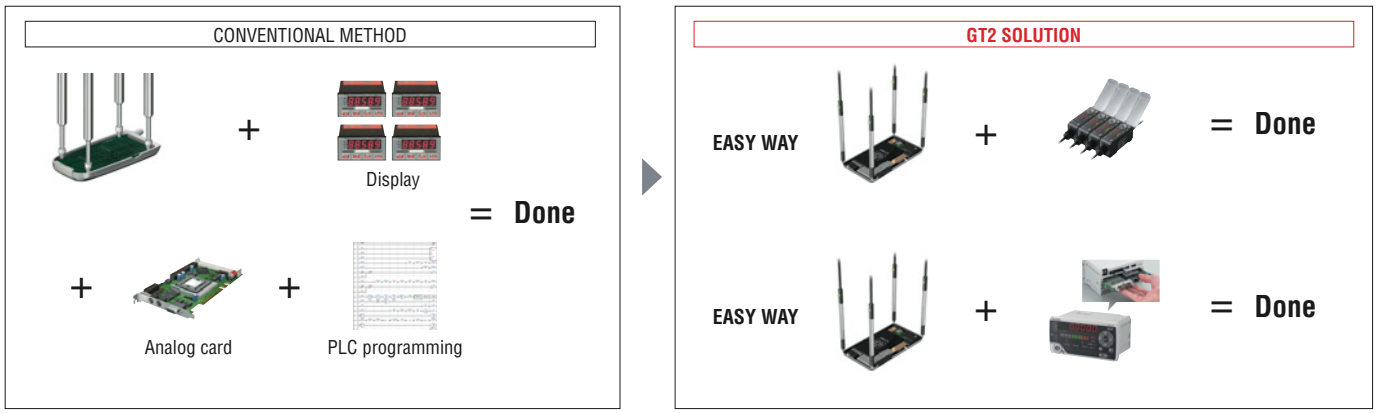
SINGLE HEAD



MULTIPLE HEADS/when additional amplifier units are installed (application modes)

Total cost reductions

PLC programming or an analog input card, which was required with LVDTs, is no longer necessary.
This leads to cost reductions.



SENSOR HEAD LINEUP

Select the sensor head by measuring range, appearance, resolution, accuracy, mounting method, and measuring force

Pencil type NEW

Measuring range	Accuracy	Standard		Flange
		Standard	Low stress	Standard
12 mm 0.47"	**High-accuracy** Resolution 0.1 µm 0.004 Mil Accuracy 1 µm 0.04 Mil	**GT2-P12K** 	**GT2-P12KL** 	**GT2-P12KF** 
	General-purpose Resolution 0.5 µm 0.02 Mil Accuracy 2 µm 0.08 Mil	**GT2-P12** 	**GT2-P12L** 	**GT2-P12F** 

Sensor head cable

Select by the distance between the sensor head and the amplifier unit, the environment, and the mounting method

NEW Oil-resistant cable (straight)*1		Standard cable (straight)		Standard cable (L-shaped)*2	
					
GT2-CHP2M	2 m 6.6'	**GT2-CH2M**	2 m 6.6'	**GT2-CHL2M**	2 m 6.6'
GT2-CHP5M	5 m 16.4'	**GT2-CH5M**	5 m 16.4'	**GT2-CHL5M**	5 m 16.4'
GT2-CHP10M	10 m 32.8'	**GT2-CH10M**	10 m 32.8'	**GT2-CHL10M**	10 m 32.8'
		GT2-CH20M	20 m 65.6'	**GT2-CHL20M**	20 m 65.6'

*1 To satisfy NEMA Type 13/IP67G with the pencil type, the oil-resistant cable must be used.

*2 Can only be used with the 12 mm 0.47" type.

Box type

Measuring range	Accuracy	Standard		Flange		Air push	
		Standard	Low stress	Standard	Low stress	Standard	Low stress
12 mm 0.47"	**High-accuracy** Resolution 0.1 µm 0.004 Mil Accuracy 1 µm 0.04 Mil	**GT2-H12K** 	**GT2-H12KL** 	**GT2-H12KF** 	**GT2-H12KLF** 	**GT2-A12K** 	**GT2-A12KL** 
	General-purpose Resolution 0.5 µm 0.02 Mil Accuracy 2 µm 0.08 Mil	**GT2-H12** 	**GT2-H12L** 	**GT2-H12F** 	**GT2-H12LF** 	**GT2-A12** 	**GT2-A12L** 
32 mm 1.26"	**General-purpose** Resolution 0.5 µm 0.02 Mil Accuracy 3 µm 0.12 Mil	**GT2-H32** 	**GT2-H32L** 	-	-	**GT2-A32** 	-
50 mm 1.97"	**General-purpose** Resolution 0.5 µm 0.02 Mil Accuracy 3.5 µm 0.14 Mil	**GT2-H50** 	-	-	-	**GT2-A50** 	-

AMPLIFIER UNIT LINEUP

Select according to the output method, mounting method, and number of connected units

Judgment output (5 outputs)

DIN-rail mount type **Panel mount type**

Connector type

5-output function
Judges the 5 statuses HH/High/Go/Low/LL
Bank function
Registers limit setting values and preset values in up to 4 different groups
Calculation functions using expansion units
Enables calculations such as maximum value, minimum value, and degree of flatness

		Loose wire	Connector	Panel
Main unit	NPN	**GT2-71N**	**GT2-71CN**	**GT2-75N**
	PNP	**GT2-71P**	**GT2-71CP**	**GT2-75P**
Expansion unit	NPN	**GT2-72N**	**GT2-72CN**	**GT2-76N**
	PNP	**GT2-72P**	**GT2-72CP**	**GT2-76P**

Analog output (4 to 20 mA)

DIN-rail mount type

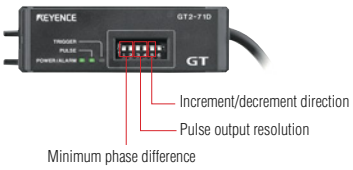
Connector type

3-output function
Judges the 3 statuses High/Go/Low
Bank function
Registers limit setting values and preset values in up to 4 different groups
Calculation functions using expansion units
Enables calculations such as maximum value, minimum value, and degree of flatness

		Connector
Main unit	NPN	**GT2-71MCN**
	PNP	**GT2-71MCP**

Pulse output

DIN-rail mount type



Minimum phase difference selection
[0.5/2.5/5/25 µs]
Capable of batch output of position information.

		Loose wire
Main unit	NPN	**GT2-71D**

Large display

Panel mount type

Easy operation with a large display and buttons.
Up to 11 sensor heads can be connected using the expansion board.
* With only the main body, up to 2 sensor heads can be connected

		Connector
Main body	NPN	**GT2-100N**
	PNP	**GT2-100P**
Expansion board (3 sensor heads/1 board)	NPN	**GT2-E3N**
	PNP	**GT2-E3P**

NEW Multi-sensor amplifier unit

DIN-rail mount type

Up to 5 sensor heads can be connected to 1 amplifier unit
Up to 15 sensor heads can be connected by adding 2 expansion units
* A communication unit (DL Series) is required for output.

	Multi-head connection
Main unit	**GT2-500**
Expansion unit	**GT2-550**

COMMUNICATION UNIT LINEUP

Communication method	Model	Appearance	Judgment result readout	Measurement value readout	Control input	Modify tolerance value	Remarks
EtherNet/IP	**DL-EP1**		◎	◎	◎	○	Uses cyclic communication. A communication program does not need to be created. Change settings using explicit message communication.
DeviceNet	**DL-DN1**		◎	◎	◎	◎	Uses I/O communication. A communication program does not need to be created. Change settings using explicit message communication.
PROFIBUS	**DL-PD1**		◎	◎	◎	○	Uses cyclic transmissions. A communication program does not need to be created. Change settings using the DP-V1 service.
CC-Link	**DL-CL1**		◎	◎	◎	◎	Uses cyclic transmissions. A communication program does not need to be created. Change settings using handshake control.
RS-232C	**DL-RS1A**		○	○	○	○	Uses RS-232C communication. Communicate by creating a communication program.
BCD	**DL-RB1A**		×	○	×	×	Measurement values are synchronized and updated with the input terminal or automatically updated by timer. Values are synchronized and read by strobe output.

The ◎ symbol indicates wire savings and communication program creation is not required. ○=Can be accessed by creating a communication program. ×=Cannot be accessed.

SYSTEM CONFIGURATION

Main unit

GT2-71N/P
GT2-71CN/CP
GT2-71MCN/MCP
GT2-75N/P

*The GT2-71D cannot be added and used.

Expansion units

GT2-72N/P
GT2-72CN/CP
GT2-76N/P

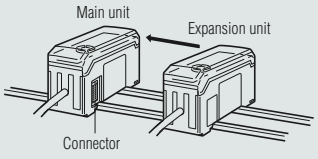
*Expansion units expandable up to 14 units for 1 main unit.

DL Series communication unit

Adding expansion units to the main unit

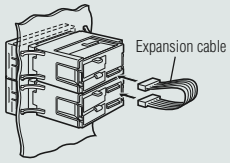
Expand with the side connector.

To add a unit, please use the separately available end unit (OP-26751).



Expand with the cable included with the expansion unit.

To add a unit, mount vertically with the main unit as the top unit.



* To mount horizontally, the separately available OP-35361 (expansion cable 300 mm 11.81") is required.

Mounting brackets (GT2 12 mm 0.47" type mounting brackets)

GENERAL PURPOSE TYPE
Mounting bracket A
OP-76874

SIDE MOUNTING TYPE
Mounting bracket B
OP-76875

REINFORCED HOLDING FORCE TYPE
Mounting bracket C
OP-84396 Vibration resistant

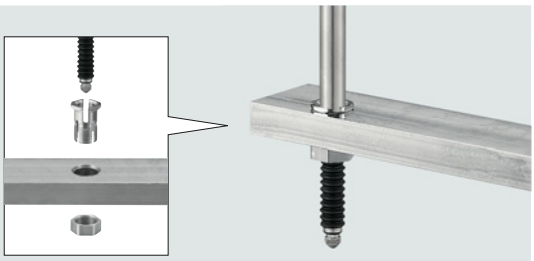
SIDE MOUNTING TYPE
Mounting bracket E
OP-87220 Reinforced holding force

NEW

COUPLED MOUNTING TYPE
Mounting bracket F
OP-87863

Mounting bracket (GT2 32 mm 1.26"/50 mm 1.97" type mounting brackets)

REINFORCED HOLDING FORCE TYPE
Mounting bracket D
OP-84327 Vibration resistant



Drill a ø10 ø0.39" hole, and secure the mounting bracket. For mounting bracket D, drill a ø14 ø0.55" hole, and secure the mounting bracket.

* The mounting method is the same for mounting bracket A and mounting bracket C.
* When using the GT2-H32L with the contact probe pointed up, use the mounting holes on the main body.

Horizontal mounting.

The sensor head mounting pitch is 10 mm 0.39" when the brackets are mounted to the same surface and 9 mm 0.35" when the brackets are mounted front and back.

Contacts

STANDARD*1
OP-77678
For standard measurements

SUPER-TOUGH*2
OP-77682
Uses a super-tough alloy, for high-accuracy measurements

FLAT PLATE
OP-77679
For objects with a curved or pointed surface

ROLLER
OP-77680
For moving objects

FLUOROCARBON RESIN
OP-80228
Made from material that is unlikely to damage the target's surface

CERAMIC
OP-81970
To electrically insulate the sensor from the target

NEEDLE
OP-77681
To measure in tight locations

OFFSET
OP-77683
For multiple measurements of a small object

SPACER
OP-77684
Extends the spindle 12.2 mm 0.48"

ROLLER (HIGH-ACCURACY)
OP-93332
For use when the roller eccentricity is a concern

*1 Standard on the GT2-P12(L/F), GT2-H(A)12(L/F/LF), GT2-H(A)32(L), GT2-H(A)50
*2 Standard on the GT2-P12K(L/F), GT2-H(A)12K(L/F/LF)

Dust boots

STANDARD DUST BOOT
(material: NBR)
For 12 mm 0.47" **OP-84332**
For 32 mm 1.26" **OP-84459**
For 50 mm 1.97" **OP-84460**

NEW

FLUOROCARBON RUBBER DUST BOOT
(material: FKM)
For 12 mm 0.47" **OP-87859**

Amplifier unit options (for DIN-rail mount/panel mount types)

DIN-RAIL TYPE
AMPLIFIER UNIT BRACKET
OP-76877

END UNIT (2 count)
OP-26751

SOCKET CABLE
GT2-CA2M/CA10M
Required with the connector type

PANEL MOUNT
OP-84394
Included with the panel type

EXPANSION CABLE
300 mm 11.81"
OP-35361
To connect panel types horizontally, and to connect the panel type and the DL

Amplifier unit options (for the GT2-100N/100P)

EXPANSION BOARD
GT2-E3N/E3P
Can expand 3 sensor heads per 1 board

BRACKET
OP-84331
To mount on a rack

20-PIN MIL CONNECTOR
OP-22185
For 1 to 2 sensor heads

30-PIN MIL CONNECTOR
OP-84456
For the expansion board

CONTACTS
for AWG24 to 22, 200 count
OP-22186
For OP-22185/84456

CONTACTS
for AWG28 to 26, 200 count
OP-30594
For OP-22185/84456

SPECIAL CRIMPING TOOL
OP-21734
For crimping OP-22186/30594

EXPANSION CABLE
300 mm 11.81"
OP-35361
Use when connecting the DL

Others

SPEED CONTROLLER
OP-82133
For adjusting the air for air push type

LIFT LEVER
OP-84397
Manually lifts the spindle

SENSOR HEAD RELAY CABLE
OP-87431/87432/87433
M8-M8 relay cable 3.5 m 11.5'/7.5 m 24.6'/9.0 m 29.5'

CONNECTORS
Replacements for connecting to the amplifier unit
OP-84338 (2 count)
For the sensor head cable

Pencil type (High-accuracy type) NEW

Model		GT2-P12K	GT2-P12KF	GT2-P12KL
Appearance				
Detection system		Scale Shot System II, absolute (no tracking errors) type		
Measuring range		12 mm 0.47"		
Resolution		0.1 µm 0.004 Mil		
Indicated accuracy*1		1 µm 0.04 Mil (P-P)		
Measuring force *2	Downward mounting	1.0 N		0.2 N
	Side mounting	0.95 N		0.15 N
	Upward mounting	0.9 N		0.1 N
Sampling cycle		4 ms		
Mechanical response*1		10 Hz		4 Hz
Operation indicator		2-color LED (red, green)		
Environmental resistance	Enclosure rating	IP67G (JIS)*3 IP67 (IEC) NEMA Type 13*3		-
	Ambient temperature	-10 to +55°C 14 to 131°F (No freezing)		
	Relative humidity	35 to 85% RH (No condensation)		
	Vibration	10 to 55 Hz Double amplitude 1.5 mm 0.06" in the X, Y, Z axis directions respectively, 2 hours		
	Impact resistance	1000 m/s² (IEC60068-2-27)		
Materials	Main body	Main body case: SUS 303, Status indicator: PET, Sensor head-relay connector cable: PUR, Relay connector: PBT		
	Dustboot	NBR		-
	Contact*4	SUS304, cemented tungsten carbide		
Sensor head cable		Optional (connect to relay connector)		
Weight (not including cable)*5		Approx. 35 g	Approx. 45 g	Approx. 35 g

*1 Value when the ambient temperature is 20°C 68°F. *2 Representative value at the center of the measuring range. The measuring force when using OP-87859 is the above value +0.4 N.
*3 When an M8 oil-resistant cable (GT2-CHP2M/CHP5M/CHP10M) is used for the sensor head cable. *4 Contacts are available as options sold separately. *5 Including the relay connector.
Note: You may not be able to connect the sensor head to the amplifier unit depending on when the amplifier unit was purchased.
For details, contact your local sales office.

Pencil type (General purpose type) NEW

Model		GT2-P12	GT2-P12F	GT2-P12L
Appearance				
Detection system		Scale Shot System II, absolute (no tracking errors) type		
Measuring range		12 mm 0.47"		
Resolution		0.5 µm 0.02 Mil		
Indicated accuracy*1		2 µm 0.08 Mil (P-P)		
Measuring force*2	Downward mounting	1.0 N		0.2 N
	Side mounting	0.95 N		0.15 N
	Upward mounting	0.9 N		0.1 N
Sampling cycle		4 ms		
Mechanical response*1		10 Hz		4 Hz
Operation indicator		2-color LED (red, green)		
Environmental resistance	Enclosure rating	IP67G (JIS)*3 IP67 (IEC) NEMA Type 13*3		-
	Ambient temperature	-10 to +55°C 14 to 131°F (No freezing)		
	Relative humidity	35 to 85% RH (No condensation)		
	Vibration	10 to 55 Hz Double amplitude 1.5 mm 0.06" in the X, Y, Z axis directions respectively, 2 hours		
	Impact resistance	1000 m/s² (IEC60068-2-27)		
Materials	Main body	Main body case: SUS 303, Status indicator: PET, Sensor head-relay connector cable: PUR, Relay connector: PBT		
	Dustboot	NBR		-
	Contact*4	SUS304, SUS440C		
Sensor head cable		Optional (connect to relay connector)		
Weight (not including cable)*5		Approx. 35 g	Approx. 45 g	Approx. 35 g

*1 Value when the ambient temperature is 20°C 68°F. *2 Representative value at the center of the measuring range. The measuring force when using OP-87859 is the above value +0.4 N.
*3 When an M8 oil-resistant cable (GT2-CHP2M/CHP5M/CHP10M) is used for the sensor head cable. *4 Contacts are available as options sold separately. *5 Including the relay connector.
Note: You may not be able to connect the sensor head to the amplifier unit depending on when the amplifier unit was purchased.
For details, contact your local sales office.

Box type

Model		GT2-H12K	GT2-H12KF	GT2-H12KL	GT2-H12KLF	GT2-H12	GT2-H12F	GT2-H12L	GT2-H12LF
Appearance									
Detection system		Scale Shot System, absolute (no tracking errors) type							
Measuring range		12 mm 0.47"							
Resolution		0.1 µm 0.004 Mil				0.5 µm 0.02 Mil			
Indicated accuracy*1		1 µm 0.04 Mil (P-P)				2 µm 0.08 Mil (P-P)			
Measuring force *2	Downward mounting	1.0 N		0.4 N		1.0 N		0.4 N	
	Side mounting	0.9 N		0.3 N		0.9 N		0.3 N	
	Upward mounting	0.8 N		0.2 N		0.8 N		0.2 N	
Sampling cycle		1 ms							
Mechanical response*1		10 Hz		4 Hz		10 Hz		4 Hz	
Operation indicator		2-color LED (red, green)							
Environmental resistance	Enclosure rating	IP67 (IEC)		-		IP67 (IEC)		-	
	Ambient temperature	-10 to +55°C 14 to 131°F (No freezing)							
	Relative humidity	35 to 85% RH (No condensation)							
	Vibration	10 to 55 Hz Double amplitude 1.5 mm 0.06" in the X, Y, Z axis directions respectively, 2 hours							
	Impact resistance	1000 m/s² (IEC60068-2-27)							
Materials	Main body	Main body case: die-cast zinc, Indicator: polyarylate (PAR)							
	Dustboot	NBR		-		NBR		-	
	Contact*3	SUS304, cemented tungsten carbide				SUS304, SUS440C			
Sensor head cable		Optional (connect to the M8 connector)							
Weight (not including cable)		Approx. 95 g	Approx. 100 g	Approx. 95 g	Approx. 100 g	Approx. 95 g	Approx. 100 g	Approx. 95 g	Approx. 100 g

*1 Value when the ambient temperature is 20°C 68°F.
*2 Representative value at the center of the measuring range. Please note that the measuring force varies by the installation state of the dust boot.
*3 Contacts are available as options sold separately.

Box type (long range type)

Model		GT2-H32	GT2-H32L	GT2-H50
Appearance				
Detection system		Scale Shot System, absolute (no tracking errors) type		
Measuring range		32 mm 1.26"		50 mm 1.97"
Resolution		0.5 µm 0.02 Mil		
Indicated accuracy*1		3 µm 0.12 Mil (P-P)		3.5 µm 0.14 Mil (P-P)
Measuring force *2	Downward mounting	2.1 N	1.2 N	3.2 N
	Side mounting	1.8 N	0.9 N	2.8 N
	Upward mounting	1.5 N	0.6 N	2.4 N
Sampling cycle		1 ms		
Mechanical response*1		6 Hz	5 Hz	7 Hz
Operation indicator		2-color LED (red, green)		
Environmental resistance	Enclosure rating	IP67 (IEC)	-	IP67 (IEC)
	Ambient temperature	-10 to 55°C 14 to 131°F (No freezing)		
	Relative humidity	35 to 85% RH (No condensation)		
	Vibration	10 to 55 Hz Double amplitude 1.5 mm 0.06" in the X, Y, Z axis directions respectively, 2 hours		
Materials	Main body	Main body case: die-cast zinc, Indicator: polyarylate (PAR)		
	Dustboot	NBR	-	NBR
	Contact*3	SUS304, SUS440C		
Sensor head cable		Optional (connect to the M8 connector)		
Weight (not including cable)		Approx. 270 g		Approx. 320 g

*1 Value when the ambient temperature is 20°C 68°F.
*2 Representative value at the center of the measuring range. Please note that the measuring force varies by the installation state of the dust boot.
*3 Contacts are available as options sold separately.

Box type (air push type)

Model		GT2-A12K	GT2-A12KL	GT2-A12	GT2-A12L
Appearance					
Detection system		Scale Shot System, absolute (no tracking errors) type			
Measuring range		12 mm 0.47"			
Resolution		0.1 µm 0.004 Mil		0.5 µm 0.02 Mil	
Indicated accuracy*1		1 µm 0.04 Mil (P-P)		2 µm 0.08 Mil (P-P)	
Measuring force*2	Downward mounting	1.2 N	0.4 N	1.2 N	0.4 N
	Side mounting	1.1 N	0.3 N	1.1 N	0.3 N
	Upward mounting	1.0 N	0.2 N	1.0 N	0.2 N
Sampling cycle		1 ms			
Applied pressure range		0.25 MPa to 0.50 MPa			
Pressure resistance		1 MPa			
Fluid used		Dry air			
Operation indicator		2-color LED (red, green)			
Environmental resistance	Enclosure rating	IP67 (IEC)*3	-	IP67 (IEC)*3	-
	Ambient temperature	0 to +55°C 32 to 131°F (No freezing)			
	Relative humidity	35 to 85% RH (No condensation)			
	Vibration	10 to 55 Hz Double amplitude 1.5 mm 0.06" in the X, Y, Z axis directions respectively, 2 hours			
	Impact resistance	1000 m/s² (IEC60068-2-27)			
Materials	Main body	Main body case: die-cast zinc, Cylinder section: aluminum alloy, Air joint resin: polyacetal, Air joint metal: nickel-plated brass, Indicator: polyarylate (PAR)			
	Dustboot	NBR	-	NBR	-
	Contact*4	SUS304, cemented tungsten carbide		SUS304, SUS440C	
Sensor head cable		Optional (connect to the M8 connector)			
Weight (not including cable)		Approx. 145 g			

*1 Value when the ambient temperature is 20°C 68°F. *2 Representative value at the center of the measuring range. Please note that the measuring force varies by the installation state of the dust boot.
*3 Connect an exhaust joint to the air tube and ensure that foreign matter does not enter the tube from joint. *4 Contacts are available as options sold separately.

Box type (air push type/long range type)

Model		GT2-A32	GT2-A50
Appearance			
Detection system		Scale Shot System, absolute (no tracking errors) type	
Measuring range		32 mm 1.26"	50 mm 1.97"
Resolution		0.5 µm 0.02 Mil	
Indicated accuracy*1		3 µm 0.12 Mil (P-P)	3.5 µm 0.14 Mil (P-P)
Measuring force*2	Downward mounting	2.1 N	3.2 N
	Side mounting	1.8 N	2.8 N
	Upward mounting	1.5 N	2.4 N
Sampling cycle		1 ms	
Applied pressure range		0.25 MPa to 0.50 MPa	
Pressure resistance		1 MPa	
Fluid used		Dry air	
Operation indicator		2-color LED (red, green)	
Environmental resistance	Enclosure rating	IP67 (IEC)*3	
	Ambient temperature	0 to +55°C 32 to 131°F (No freezing)	
	Relative humidity	35 to 85% RH (No condensation)	
	Vibration*4	10 to 55 Hz Double amplitude 1.5 mm 0.06" in the X, Y, Z axis directions respectively, 2 hours	
Materials	Main body	Main body case: die-cast zinc, Cylinder section: aluminum alloy, Air joint resin: polyacetal, Air joint metal: nickel-plated brass, Indicator: polyarylate (PAR)	
	Dustboot	NBR	
	Contact*5	SUS304, SUS440C	
Sensor head cable		Optional (connect to the M8 connector)	
Weight (not including cable)		Approx. 340 g	Approx. 405 g

*1 Value when the ambient temperature is 20°C 68°F. *2 Representative value at the center of the measuring range. Please note that the measuring force varies by the installation state of the dust boot.
*3 Connect an exhaust joint to the air tube and ensure that foreign matter does not enter the tube from joint. *4 When using mounting bracket D (OP-84327), the double amplitude is 0.75 mm 0.03". *5 Contacts are available as options sold separately.

Judgment output/analog output type

Model					
	NPN output	Main unit	GT2-71(C)N	GT2-75N	GT2-71MCN
		Expansion unit *1	GT2-72(C)N	GT2-76N	-
	PNP output	Main unit	GT2-71(C)P	GT2-75P	GT2-71MCP
		Expansion unit *1	GT2-72(C)P	GT2-76P	-
Appearance					
Mounting type*2			DIN-rail mount	Panel mount	DIN-rail mount
Number of expansion units *1			Up to 14 expansion units for 1 main unit		
Power supply voltage *1			10 to 30 VDC, including 10% ripple (P-P), Class 2		20 to 30 VDC, including 10% ripple (P-P), Class 2
Display range			-199.999.9 to 199.999.9		
Display resolution			0.1 µm 0.004 Mil		
Power consumption	Normal		2200 mW or less (73.3 mA or less at 30 V)		2700 mW or less (90.0 mA or less at 30 V)
	Power saving (Eco half)		1800 mW or less (60.0 mA or less at 30 V)		2300 mW or less (76.7 mA or less at 30 V)
	Power saving (Eco all)		1700 mW or less (56.7 mA or less at 30 V)		2200 mW or less (73.3 mA or less at 30 V)
Response time			hsp (3)/5/10/100/500/1000 ms (When using GT2-Pxxx, hsp (12)/20/40/400/2000/4000 ms)		
Control output (HH/HI/GO/LO/LL)*3	NPN output		NPN open collector, 40 V 50 mA or less, residual voltage 1 V or less*1		
	PNP output		PNP open collector, 30 V 50 mA or less, residual voltage 1 V or less *1		
Control input	Timing/preset/ reset/bank input		No-voltage input		
Analog output	Output range		-		4 to 20 mA with a max. load resistance of 350 Ω
	Response time		-		Set response time + 1 ms
Environmental resistance	Ambient temperature		-10 to +50°C 14 to 122°F (No freezing)*1		
	Relative humidity		35 to 85% RH (No condensation)		
	Vibration		10 to 55 Hz Double amplitude 1.5 mm 0.06" in the X, Y, Z axis directions respectively, 2 hours		
Materials			Main body case/front cover: polycarbonate (PC), Key top: polyacetal (POM), Front sheet: polyethylene terephthalate (PET), Cable: polyvinyl chloride (PVC)		
Weight	GT2-71N(P)/72N(P)		Approx. 140 g (including power supply cable)		
	GT2-75N(P)/76N(P)		Approx. 140 g (including panel mount, front protective cover, power supply cable)		
	GT2-71MCN(P)/ 71CN(P)/72CN(P)		Approx. 70 g (not including the GT2-CA2M/CA5M/CA10M)		

*1 When adding expansion units, there are the following restrictions according to the number of connected units.

- When 2 to 8 units are connected including the main unit
  - Power supply voltage: 20 to 30 VDC
  - Control output current: 20 mA or less
  - (GT2-71MCN(P) only) Ambient temperature: -10 to 45°C 14 to 113°F
- When 9 to 15 units are connected including the main unit
  - Power supply voltage: 20 to 30 VDC
  - Control output current: 10 mA or less (including the DL-RB1A output current)
  - Residual voltage: 1.5 V or lower
  - (GT2-71MCN(P) only) Ambient temperature: -10 to 45°C 14 to 113°F

*2 When using the DIN-rail mount type, always mount it to a DIN-rail (mounted to a metal plate), and when adding expansion units, always use the end unit (OP-26751).

*3 The GT2-71MCN(P) does not have HH/LL.

Pulse output type

Model		GT2-71D
Appearance		
Mounting type		DIN-rail mount
Number of expansion units		Only 1 unit
Power supply voltage		10 to 30 VDC, including 10% ripple (P-P), Class 2
Power consumption		1600 mW or less (53.3 mA or less at 30 V)
Indicators		Power supply (green)/alarm (red) indicator, pulse output indicator (green), input indicator
Pulse resolution		Select from 0.1/0.5/1/10 µm 0.004/0.02/0.04/0.4 Mil (when shipped: 0.5 µm 0.02 Mil)
Minimum phase difference		Select from 0.5/2.5/5/25 µs (when shipped: 2.5 µs)
Control input	Origin return	No-voltage input (contact, non-contact)
Output signal		90° phase difference, differential square wave (EIA-422 compliant) 4x multiplier
Output signal level		+5 V
Environmental resistance	Ambient temperature	-10 to +50°C 14 to 122°F (No freezing)
	Relative humidity	35 to 85% RH (No condensation)
	Vibration	10 to 55 Hz Double amplitude 1.5 mm 0.06" in the X, Y, Z axis directions respectively, 2 hours
Materials		Main body case/front cover: polycarbonate (PC), Cable: polyvinyl chloride (PVC)
Weight		Approx. 110 g (including power supply cable)

Large display type

Model	NPN output	GT2-100N	GT2-E3N
	PNP output	GT2-100P	GT2-E3P
Appearance			
Mounting type		Panel mount	-
Number of connectable heads		2 heads with GT2-100N(P) alone + 3 heads per 1 head board expansion When expanded with a maximum of 3 head boards, 11 heads	-
Power supply voltage		10 to 30 VDC, including 10% ripple (P-P), Class 2	Supplied from the GT2-100N/100P
Display range		-199.999.9 to 199.999.9	-
Display resolution		0.1 µm 0.004 Mil	-
Power consumption	Normal	4500 mW or less (150.0 mA or less at 30 V)	4200 mW or less (140.0 mA or less at 30 V)
	Power saving (Eco half) *1	3700 mW or less (123.3 mA or less at 30 V)	4200 mW or less (140.0 mA or less at 30 V)
	Power saving (Eco all)*1	3600 mW or less (120.0 mA or less at 30 V)	4000 mW or less (133.3 mA or less at 30 V)
Response time		hsp (3)/5/10/100/500/1000 ms (When using GT2-Pxxx, hsp (12)/20/40/400/2000/4000 ms)	
Control output (HH/HI/GO/LO/LL)	NPN output	NPN open collector, 40 V 50 mA or less*3, residual voltage 1 V or less	
	PNP output	PNP open collector, 30 V 50 mA or less*3, residual voltage 1 V or less	
Control input	Timing/preset/ reset/bank input	No-voltage input	
Input/output connector *2		Power supply: Terminal block connection Input/output: 20-pin connector (MIL standard)	30-pin connector (MIL standard)
Environmental resistance	Ambient temperature	-10 to +50°C 14 to 122°F (No freezing)	
	Relative humidity	35 to 85% RH (No condensation)	
	Vibration	10 to 55 Hz Double amplitude 0.15 mm 0.01" in the X, Y, Z axis directions respectively, 2 hours	
Materials		Main body case/front cover: polycarbonate (PC), Key top: polyacetal (POM), Front sheet: polyethylene terephthalate (PET)	-
Weight		Approx. 380 g	Approx. 80 g

*1 When the maximum number of sensor heads is connected, and all devices are set to power saving settings
*2 The connector and cable are sold separately.
*3 When 2 or more sensor heads are connected, 20 mA or less.

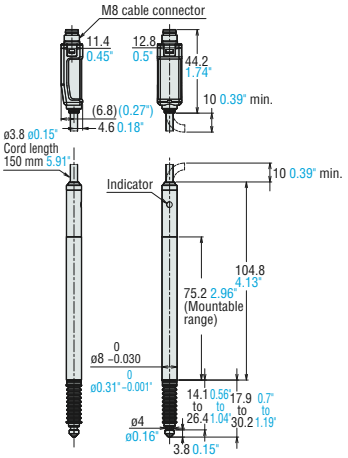
Multi-head type NEW

Model	Main unit	GT2-500
	Expansion unit	GT2-550
Appearance		
Mounting type *1		DIN-rail mount
Number of expansion units *2		Maximum of 3 units including the main unit (Maximum of 15 sensor heads)
Power supply voltage		20 to 30 VDC, including 10% ripple (P-P) (GT2-550 power supplied from the main unit), Class 2
Consumption current		4800 mW 160.0 mA or less at 30 V
Response time		hsp (3)/5/10/100/500/1000 ms (When using GT2-Pxxx, hsp (12)/20/40/400/2000/4000 ms)
Environmental resistance	Ambient temperature	-10 to +50°C 14 to 122°F
	Relative humidity	35 to 85% RH (No condensation)
	Vibration	10 to 55 Hz Double amplitude 1.5 mm 0.06" in the X, Y, Z axis directions respectively, 2 hours
Materials		Main body case: polycarbonate, Cable: PVC
Weight		GT2-500: Approx. 140 g, GT2-550: Approx. 95 g

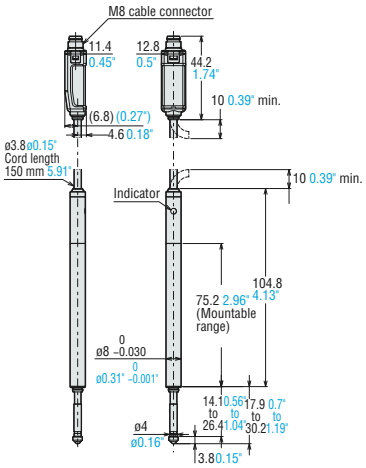
*1 When connecting the DL Series and expansion units, always connect them when the amplifier unit is connected to the DIN-rail and use the end unit (OP-26751 included with the DL Series).
*2 When using the DL-RB1A (for communication), ensure that the output current is 10 mA or less.

Unit: mm inch

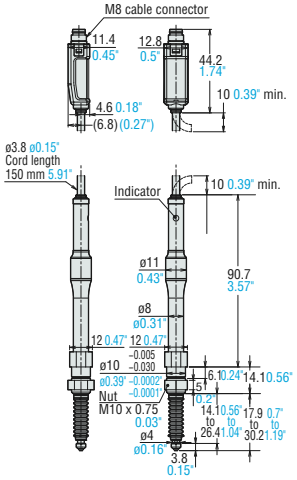
Sensor head (standard)
GT2-P12K/
GT2-P12



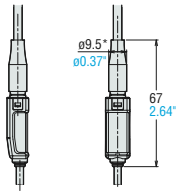
Sensor head (low stress)
GT2-P12KL/
GT2-P12L



Sensor head (flange)
GT2-P12KF/
GT2-P12F



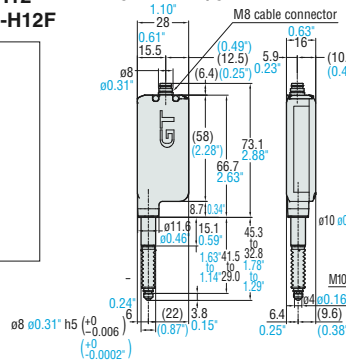
Sensor head - Sensor head cable
When attached



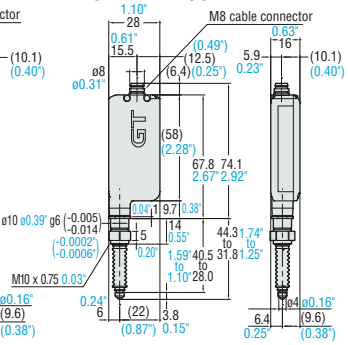
* When using GT2-CHP2M/CHP5M/CHP10M, ø10 ø0.39"

Sensor head (Standard)
GT2-H12K/GT2-H12
GT2-H12KF/GT2-H12F

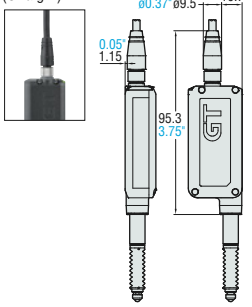
GT2-H12K/GT2-H12



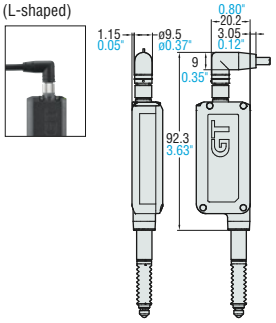
GT2-H12KF/GT2-H12F



Cable connection (Straight)

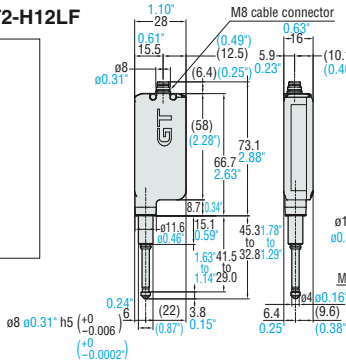


Cable connection (L-shaped)

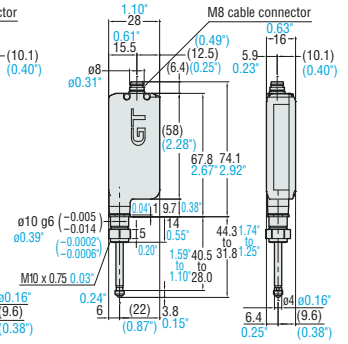


Sensor head (Low stress)
GT2-H12KL/GT2-H12L
GT2-H12KLF/GT2-H12LF

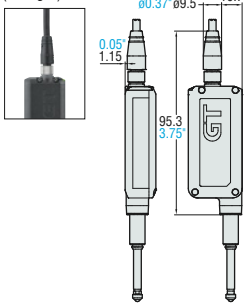
GT2-H12KL/GT2-H12L



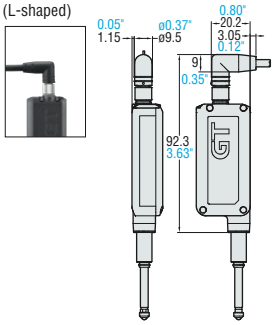
GT2-H12KLF/GT2-H12LF



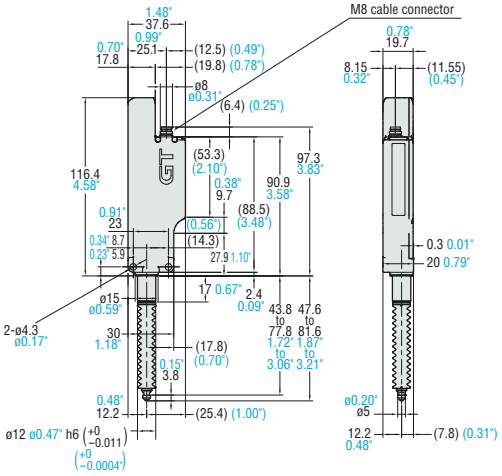
Cable connection (Straight)



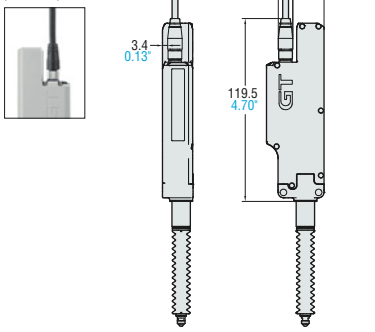
Cable connection (L-shaped)



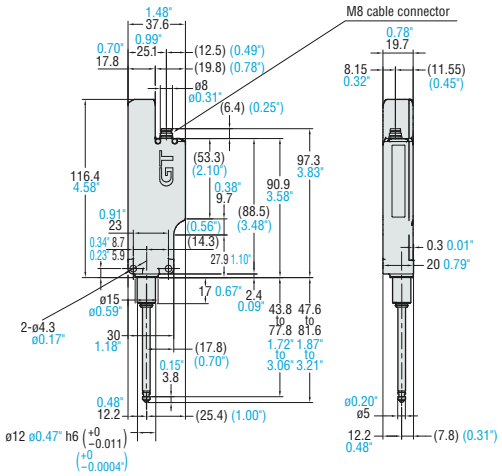
Sensor head (Standard)
GT2-H32



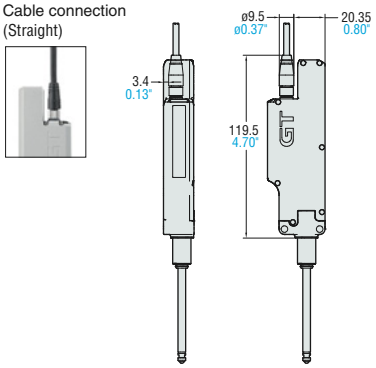
Cable connection (Straight)



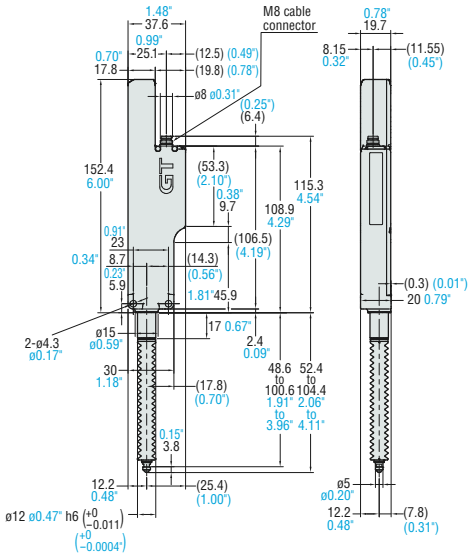
Sensor head (Low stress)
GT2-H32L



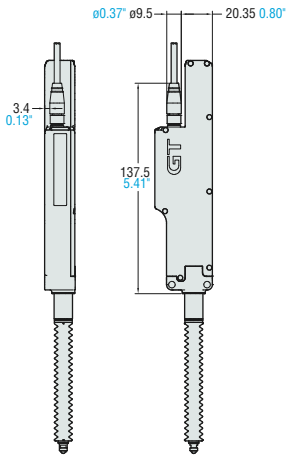
Cable connection (Straight)



Sensor head (Standard)
GT2-H50

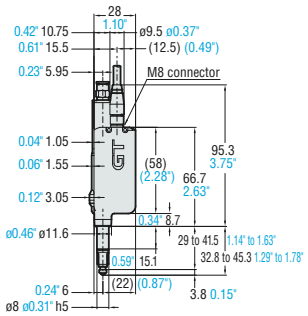


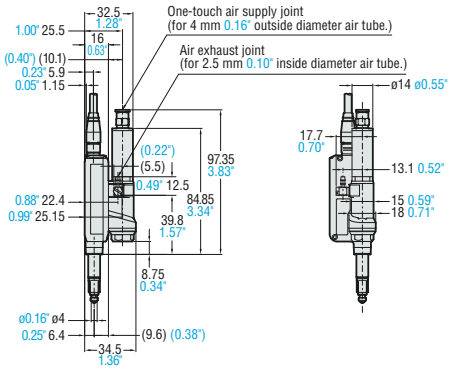
Cable connection (Straight)



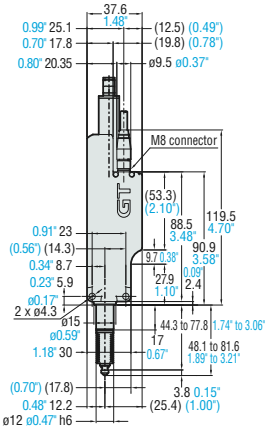
Sensor head (Air push)
GT2-A12K/
GT2-A12

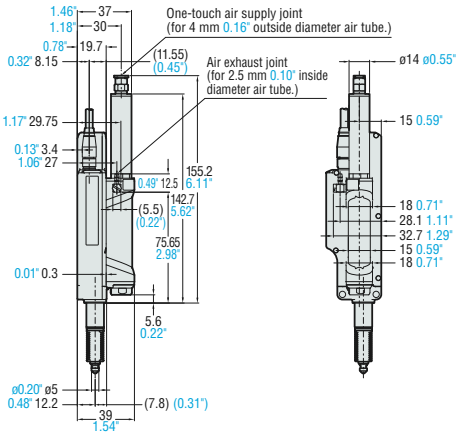
There are no dust boots on the low stress type GT2-A12L/A12KL



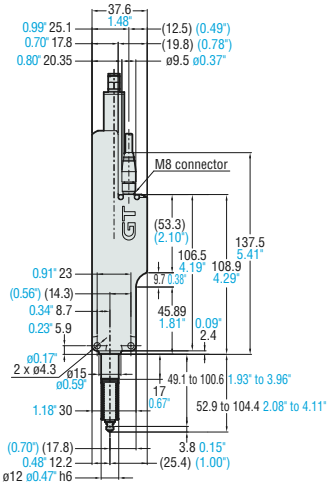


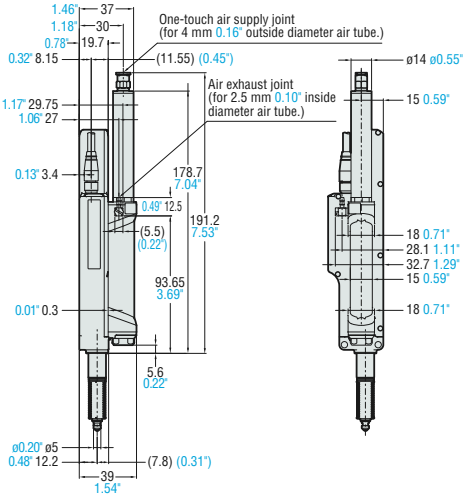
Sensor head (Air push)
GT2-A32





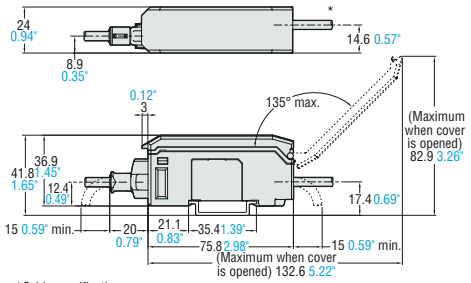
Sensor head (Air push)
GT2-A50



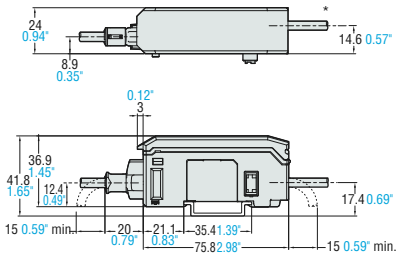


Amplifier unit
DIN-rail mount type

GT2-71N/71P/71MCN/71MCP/71CN/71CP

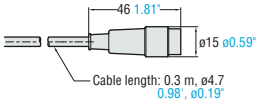


GT2-72N/72P/72CN/72CP

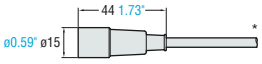


*Cable specifications
GT2-71N/71P: ø4.7 ø0.19", 12-core x Brown/Blue: 0.20 mm², Black/White/Gray/Orange/Green/Pink/Purple/Yellow/Red/Pink purple: 0.15 mm², Cable length: 2 m 6.6'
GT2-72N/72P: ø4.7 ø0.19", 10-core x Black/White/Gray/Orange/Green/Pink/Purple/Yellow/Red/Pink purple: 0.15 mm², Cable length: 2 m 6.6'

GT2-71MCN/71MCP/71CN/71CP/72CN/72CP
Connector
(connector type/analog output type amplifier unit)



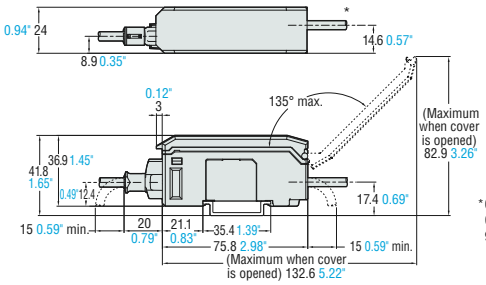
GT2-CA2M/CA10M
Connection cable



*Cable specifications
Outer diameter: ø4.7 mm ø0.19", Cable length: 2 m 6.6' (GT2-CA2M), 10 m 32.8' (GT2-CA10M),
12-core x Brown/Blue: 0.20 mm², Black/White/Gray/Orange/Green/Pink/Purple/Yellow/Red/
Pink purple: 0.15 mm²

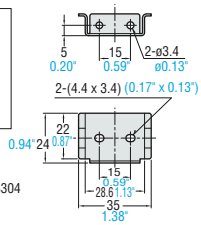
Amplifier unit
Pulse output

GT2-71D



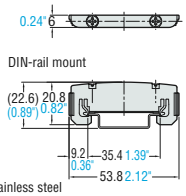
*Cable specifications
Outer diameter: ø4.7 mm ø0.19", Cable length: 2 m 6.6',
9-core x Brown/Blue/Purple/Pink/Orange/Green/Gray/White/Black: 0.15 mm²

Mounting bracket for
DIN-rail mount type
amplifier (Optional)
OP-76877



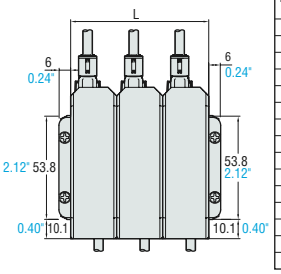
Material: SUS304

End unit (Optional) (2 pcs.)
OP-26751



Material: Polycarbonate, Stainless steel

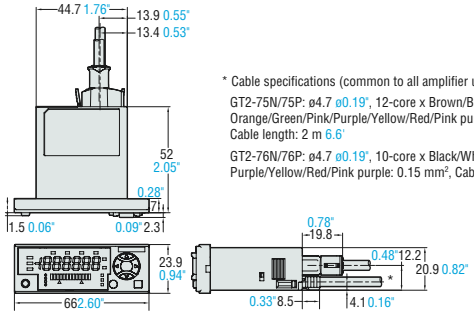
When several units are connected



Number of units	L
1	24 0.94"
2	48 1.89"
3	72 2.83"
4	96 3.78"
5	120 4.72"
6	144 5.67"
7	168 6.61"
8	192 7.56"
9	216 8.50"
10	240 9.45"
11	264 10.39"
12	288 11.34"
13	312 12.28"
14	336 13.23"
15	360 14.17"

Amplifier unit
Panel mount type

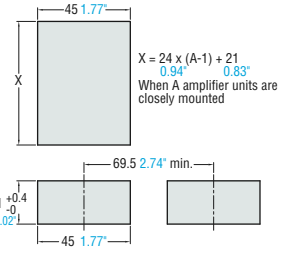
GT2-75N/75P/76N/76P



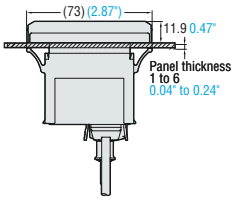
* Cable specifications (common to all amplifier units)
GT2-75N/75P: ø4.7 ø0.19", 12-core x Brown/Blue: 0.20 mm², Black/White/Gray/
Orange/Green/Pink/Purple/Yellow/Red/Pink purple: 0.15 mm²,
Cable length: 2 m 6.6'
GT2-76N/76P: ø4.7 ø0.19", 10-core x Black/White/Gray/Orange/Green/Pink/
Purple/Yellow/Red/Pink purple: 0.15 mm², Cable length: 2 m 6.6'

Panel mounting bracket
(Accessory)
OP-84394

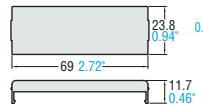
Panel cutout



Panel mounting bracket



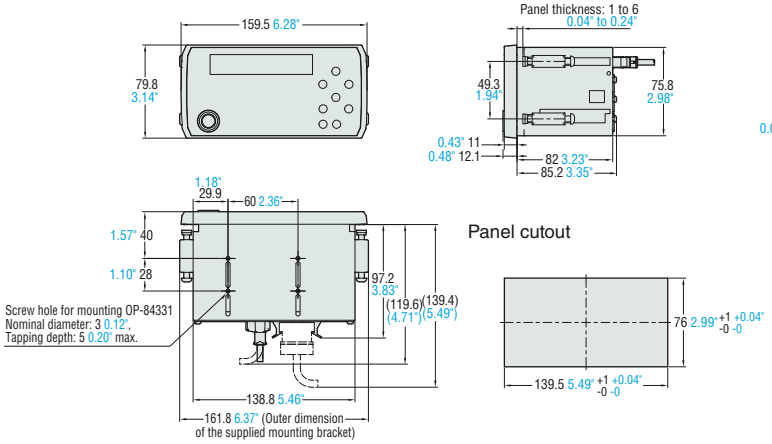
Protective front cover



Material: (Mounting bracket) Polyacetal,
(Protective front cover) Polycarbonate

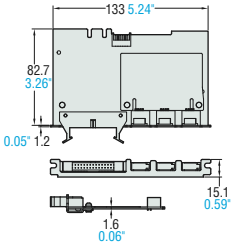
Amplifier unit
Large display
GT2-100N/100P

When the supplied mounting bracket is attached

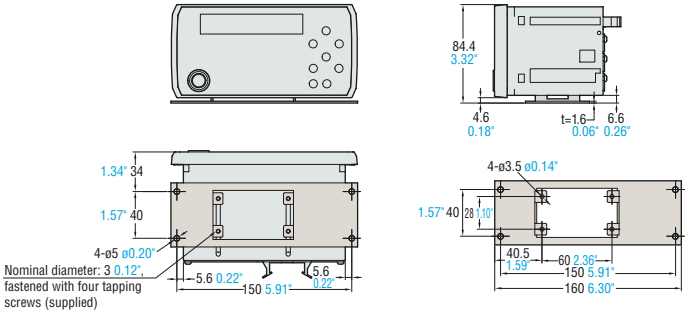


Panel cutout

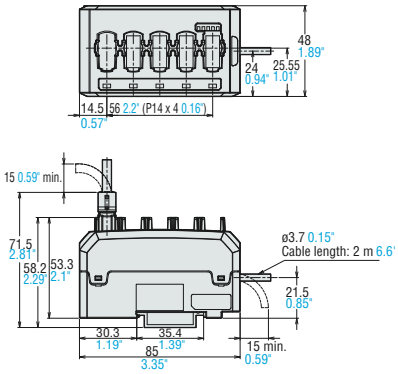
GT2-E3N/E3P Expansion board



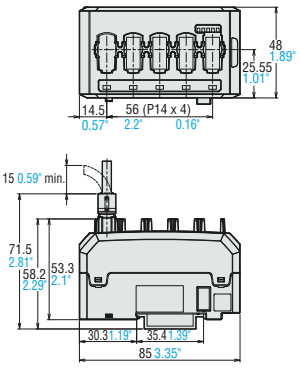
When the optional mounting bracket (OP-84331) is used



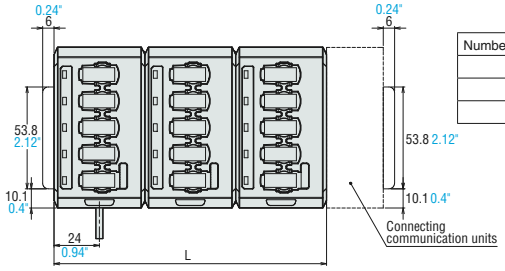
Amplifier unit
Multi-head type main unit
GT2-500



Amplifier unit
Multi-head type expansion unit
GT2-550



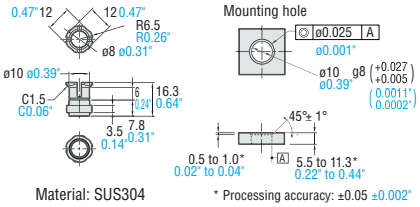
When amplifier units are added



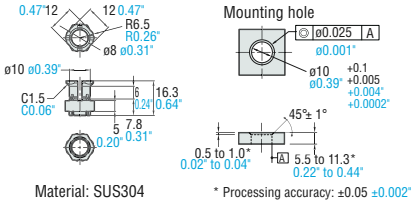
Number of units	L
1	48 1.89"
2	96 3.78"
3	144 5.67"

Unit: mm inch

Sensor head mounting bracket A (Optional) **OP-76874**

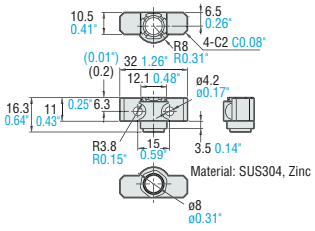


Sensor head mounting bracket C (Optional) **OP-84396**

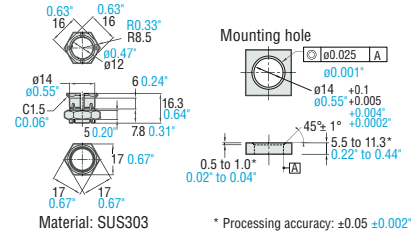


Sensor head mounting bracket B (Optional) **OP-76875**

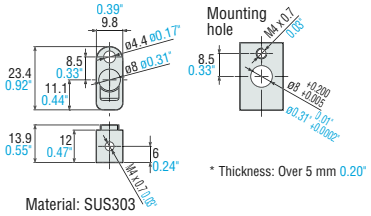
Sensor head mounting bracket E (Optional) **OP-87220**



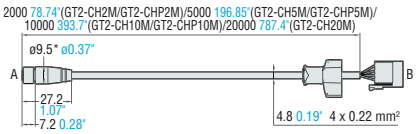
Sensor head mounting bracket D (Optional) **OP-84327**



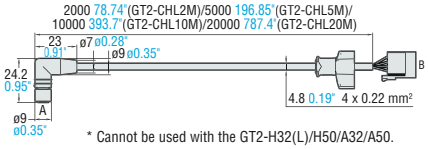
Sensor head mounting bracket F (Optional) **OP-87863**



Sensor head cable (straight)/(oil-resistant straight) **GT2-CH2M/5M/10M/20M** (Optional)/ **GT2-CHP2M/5M/10M** (Optional)

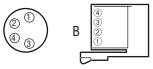


Sensor head cable (L-shaped) **GT2-CHL2M/5M/10M/20M** (Optional)



Pin arrangement

Sensor head cable (straight/L-shaped)



A	B	Casing cover
(1)	(1)	Brown
(2)	(3)	White
(3)	(4)	Blue
(4)	(2)	Black

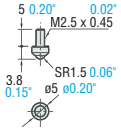
Dustboot

OP-84332
Applicable models
GT2-P12K(F)/P12(F)
GT2-H12K(F)/H12(F)
GT2-A12K/A12
Materials: NBR, SUS304
* Attached to the sensor head. (Excluding the low stress type)

OP-87859 (Optional)
Applicable models
GT2-P12K(F)/P12(F)
Materials: Fluorocarbon rubber, SUS304

Contact

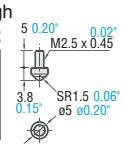
Standard **OP-77678**



Standard equipment of the general-purpose sensor head
GT2-P12(L/F)
GT2-H(A)12(L/F/LF)
GT2-H(A)32(L)/GT2-H(A)50

Material: SUS304, SUS440C

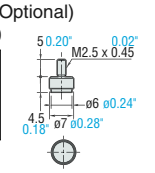
Super-tough **OP-77682**



Standard equipment of the high-accuracy type sensor head
GT2-P12K(L/F)
GT2-H(A)12K(L/F/LF)

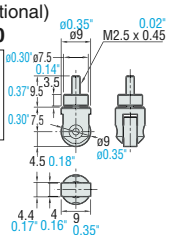
Material: SUS304, Super-tough tungsten alloy

Flat plate (Optional) **OP-77679**



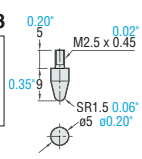
Material: SUS304, Super-tough tungsten alloy

Roller (Optional) **OP-77680**



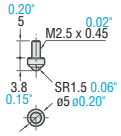
Material: SUS304, SUS440C

Fluorocarbon resin (Optional) **OP-80228**



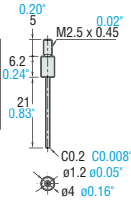
Material: Fluorocarbon resin (PTFE)

Ceramic (Optional) **OP-81970**



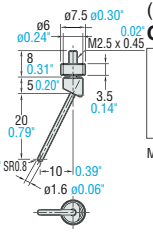
Material: SUS304, Ceramic

Needle (Optional) **OP-77681**



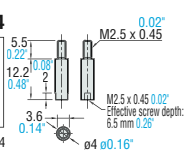
Material: SUS304, Super-tough tungsten alloy

Offset (Optional) **OP-77683**



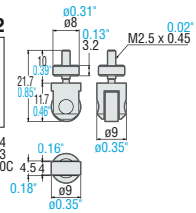
Material: SUS304, Super-tough tungsten alloy

Spacer (Optional) **OP-77684**



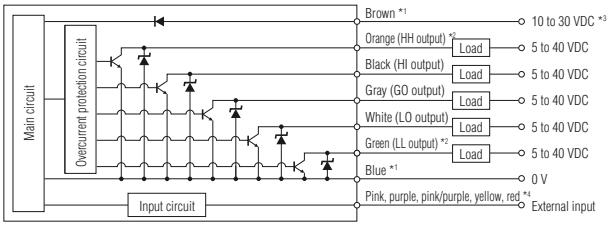
Material: SUS304

Roller (high-accuracy) (Optional) **OP-93332**

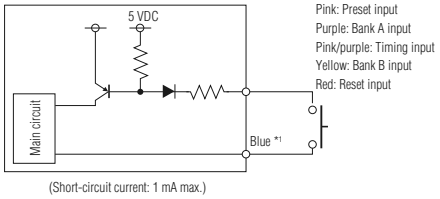


Material: SUS304, SUS303, SUS440C

I/O circuit **GT2-71N/72N/71CN/72CN/71MCN/75N/76N**

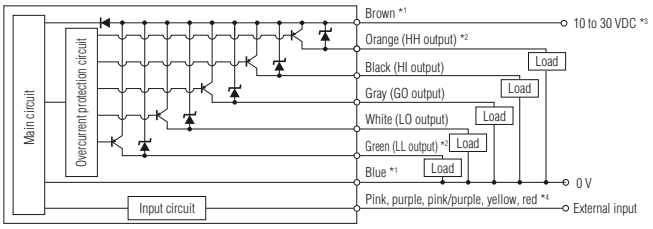


External input circuit

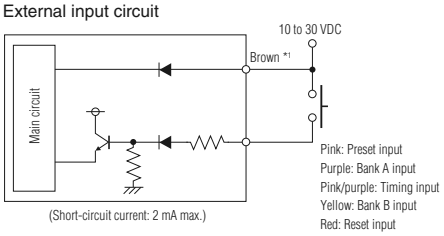


(Short-circuit current: 1 mA max.)

I/O circuit **GT2-71P/72P/71CP/72CP/71MCP/75P/76P**



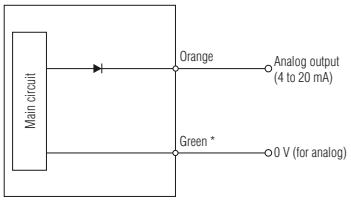
External input circuit



(Short-circuit current: 2 mA max.)

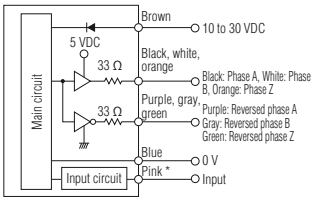
*1 Brown and blue are applicable only to main units (GT2-71N/71P/71CN/71CP/71MCN/71MCP/75N/75P). Not applicable to expansion units (GT2-72N/72P/72CN/72CP/76N/76P). The connector type expansion unit (GT2-72CN/72CP) is not connected to the internal circuit.
*2 The orange and green wires are used as analog output cables for the analog type amplifier unit (GT2-71MCN/71MCP). For details, refer to the analog output circuit diagram.
*3 20 to 30 VDC when expansion unit is connected or for the analog type amplifier unit (GT2-71MCN/71MCP).
*4 For details on external input, refer to the external input circuit diagram.

Analog output circuit
GT2-71MCN/71MCP

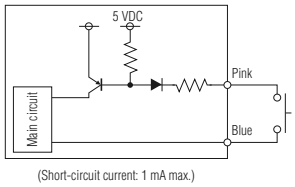


* The green and blue wires are common internally.

Pulse output amplifier unit **GT2-71D**
I/O circuit



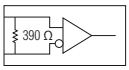
External input circuit



(Short-circuit current: 1 mA max.)

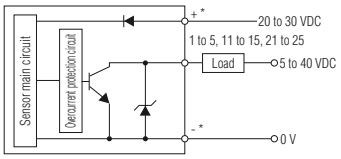
Recommended input device

AM26LS32 line receiver or equivalent device



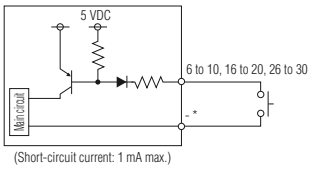
* For details of the external input, refer to the diagram of the external input circuit.

Output circuit of the large display amplifier unit
GT2-100N/GT2-E3N
(Pin Nos. 1 to 5, 11 to 15, 21 to 25)



* The +/- terminals are provided in the GT2-100N only. They are not provided in the GT2-E3N.

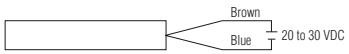
Input circuit of the large display amplifier unit
GT2-100N/GT2-E3N
(Pin Nos. 6 to 10, 16 to 20, 26 to 30)



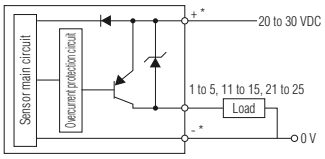
(Short-circuit current: 1 mA max.)

* The - terminal is provided in the GT2-100N only. It is not provided in the GT2-E3N.

Multi-head amplifier unit **GT2-500** (main unit)
The power supply cable is as follows.

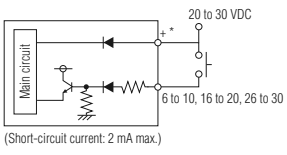


Output circuit of the large display amplifier unit
GT2-100P/GT2-E3P
(Pin Nos. 1 to 5, 11 to 15, 21 to 25)



* The +/- terminals are provided in the GT2-100P only. They are not provided in the GT2-E3P.

Input circuit of the large display amplifier unit
GT2-100P/GT2-E3P
(Pin Nos. 6 to 10, 16 to 20, 26 to 30)



(Short-circuit current: 2 mA max.)

* The + terminal is provided in the GT2-100P only. It is not provided in the GT2-E3P.

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SAFETY INFORMATION
Please read the instruction manual carefully in order to safely operate any KEYENCE product.

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