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Head-separated Dual Display Digital Pressure Sensor For Liquid & Gas

# SERIES DPH

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Guide Pressure/ Digital Display

DPS-400/ DPH-100 DPC-100/ DPH-100

■ General terms and conditions...... F-7 ■ Sensor selection guide ...... P.731~ Related Information ■ Glossary of terms ...... P.1469~ ■ General precautions......P.1472











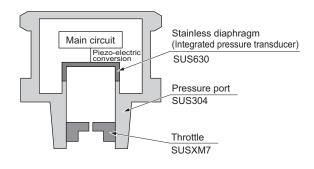
## High-precision detection of fluid and air pressure

## Allows high-precision fluid pressure management

The analog voltage output of the sensor head can achieve a high-precision sensing of ±1 % F.S. (at a normal temperature of 23 °C 73.4 °F).

## Oil-less single-layer diaphragm

Oil is not encapsulated in the diaphragm of the pressure sensing portion. No need to worry that oil will leak into the medium when the sensor head is damaged.



## **Compact stainless body**

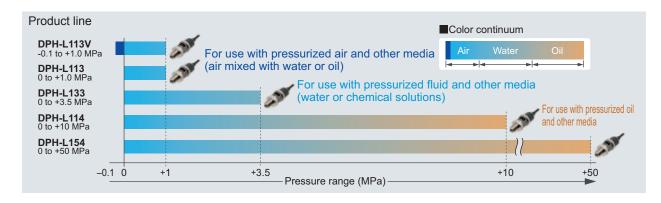
Compact size of HEX. 22 × 59 mm 0.866 × 2.323 in (excluding the screws). The body is also stainless so it can be used in various environments.



## Strong against pressure surges from throttle loading

Controls pressure surges and reduces sensor failure.





## APPLICATIONS







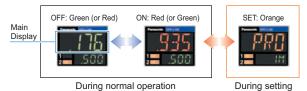
# The dual display means that the "current value" and the "threshold value", it makes direct setting of threshold value

Equipped with a 30 mm 1.181 in square compact-sized dual display. Because the current value and the threshold value can be checked at the same time, the threshold value can be set and checked smoothly without having to switch screen modes. ON / OFF operations are still carried out while the threshold values are being set, so setting to the same sensitivity as dial control-type sensors is possible. And naturally a key lock function is also equipped.



## 3-color display (Red, Green, Orange)

The main display changes color in line with changes in the status of output ON / OFF operation, and it also changes color while setting is in progress. The sensor status can therefore be understood easily, and operating errors can be reduced.



## **Equipped with new functions optimal for fluid pressure**

Equipped with functions optimal for fluid pressure management while inheriting the operability of the **DP-100** series.

• Peak / Bottom hold 2 (output-linked)

When output turns on (or off), the controller's digital display (current value) is reset and peak / bottom hold operation starts. For example, this functionality could be used to verify the peak pressure for an industrial press each time a workpiece is loaded.

Current value hold

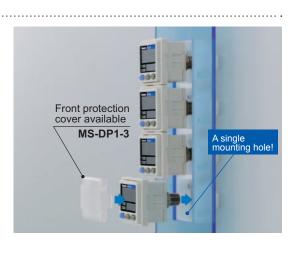
The controller's digital display (current value) is held while external input is on. By activating external input the moment you wish to capture the pressure value, you can pause and verify the display.

## **MOUNTING**

## Tight installation to panels is possible

An exclusive mounting bracket **MS-DP1-2** that is suitable for 1 to 6 mm 0.039 to 0.236 in panel thickness is available.





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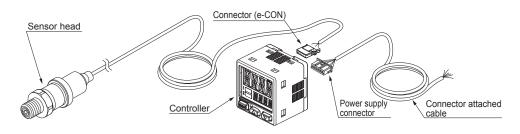
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#### Selection Guide Pressure/ Digital Display Pressure/ Head-separated

#### DPC-L100/ DPH-L100 DPS-400/ DPH-100 DPC-100/ DPH-100

## PRODUCT CONFIGURATION



## ORDER GUIDE

#### **Sensor heads**

Туре	Appearance	Rated pressure range	Model No.	Pressure port	Applicable fluid
Compound pressure		-0.1 to +1.0 MPa	DPH-L113V	R1/4 male thread	Gases and fluids that do not corrode stainless steel SUS304, SUS630, or SUSXM7
Positive pressure		0 to +1.0 MPa	DPH-L113		
		0 to +3.5 MPa	DPH-L133		
		0 to +10 MPa	DPH-L114		
		0 to +50 MPa	DPH-L154		

## **Controllers**

Appearance	Model No.	Comparative output				
935	DPC-L101	NPN open-collector transistor				
* CN-66A-C2 (Connector attached cable 2 m 6.562 ft) is attached.	DPC-L101-P	PNP open-collector transistor				

#### Type without connector attached cable

Type without connector attached cable is available. When ordering this type, suffix "-J" to the Model No. (e.g.) Type without connector attached cable of **DPC-L101-P** is "**DPC-L101-P-J**".

## Accessory

• CN-66A-C2 (Connector attached cable 2 m 6.562 ft)



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## OPTIONS

Designation	Model No.	Description		
Sensor head connector (e-CON)	CN-EP2 (Note 1) 5 pcs. per set	Connector for connecting sensor head controller		
Connector	CN-66A-C2 (Note 2)	Length 2 m 6.562 ft	Controller power supply I/O cable. 0.2 mm² 6-core oil-resistant cabtyre	
attached cable	CN-66A-C5	Length 5 m 16.404 ft		
Power supply connector	CN-66A 5 pcs. per set	Connector for controller power supply I/O cable.		
Controller mounting bracket	MS-DP1-6	Allows sensors to be installed on the wall. Multiple sensors can also be mounted closely.		
Panel mounting bracket	MS-DP1-2	Allows installation to panels with thickness of 1 to 6 m 0.039 to 0.236 in. Multiple sensors can also be mounted cle		
Front protection cover MS-DP1-3		Protects the adjustment surfaces of controllers. (Can be attached when using the panel mounting bracket)		

Notes: 1) One is attached to each sensor head according to standard.

2) The connector attached cable CN-66A-C2 is supplied with the controller according to standard.

## Sensor head connector (e-CON)

· CN-EP2



Note: One is attached to each sensor head according to standard.

#### **Connector attached cable**

- · CN-66A-C2
- · CN-66A-C5



Note: The connector attached cable **CN-66A-C2** is supplied with the controller according to standard.

# standard.

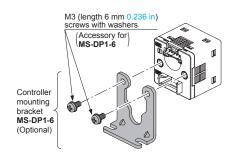
## Power supply connector

· CN-66A



## **Controller mounting bracket**

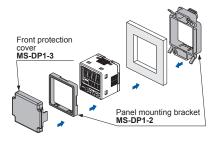
• MS-DP1-6



## Panel mounting bracket, Front protection cover

• MS-DP1-2

• MS-DP1-3



#### **Recommended e-CON**

Model No.: 1473562-4 (Manufactured by Tyco Electronics Japan G.K.) Note: Contact the manufacturer for details of the recommended products.

#### Recommended power supply connector

Contact: SPHD-001T-P0.5, Housing: PAP-06V-S (Manufactured by J.S.T. Mfg. Co., Ltd.) Note: Contact the manufacturer for details of the recommended products.

#### **Recommended crimping tool**

Model No.: YC-610R (Manufactured by J.S.T. Mfg. Co., Ltd.) Note: Contact the manufacturer for details of the recommended products.

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## SPECIFICATIONS

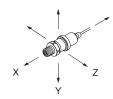
#### **Sensor heads**

_	Compound pressure Positive pressure					
Туре	-0.1 to 1 MPa type	1 MPa type	3.5 MPa type	10 MPa type	50 MPa type	
n Model No.	DPH-L113V	DPH-L113	DPH-L133	DPH-L114	DPH-L154	
e of pressure	Sealed gauge pressure (Note 4)					
ed pressure range	-0.1 to +1 MPa	0 to +1 MPa	0 to +3.5 MPa	0 to +10 MPa	0 to +50 MPa	
ssure withstandability	2 MPa	2 MPa	7 MPa	20 MPa	75 MPa	
licable fluid		Gases and fluids that	do not corrode SUS630,	SUS304, or SUSXM7		
ply voltage	9 to 36 V DC [9 to 32 V DC when using the attached connector (e-CON)]					
rent consumption			20 mA or less			
log voltage output	Output voltage: 1 to 5 V DC (over rated pressure range) Accuracy: ±1.0 % F.S. (at 23 ±2 °C +73.4 ±35 °F) ±2.0 % F.S. (at -20 to 70 °C -4 to +158 °F) (including linearity, hysteresis and repeatability)  Output voltage: 1 to 5 V DC (over rated pressure range) Accuracy: ±1.0 % F.S. (at 23 ±2 °C +73.4 ±35 °F) ±2.0 % F.S. (at -20 to 125 °C -4 to +158 °F) (including linearity, hysteresis and repeatability)				±2 °C +73.4 ±35 °F) 0 to 125 °C -4 to +158 °F)	
ponse time	1 ms or less					
Protection	IP67 (IEC)					
Ambient temperature			-20 to +80 °C -4 to +176 °F (Pressure port: -20 to +125 °C -4 to +257 °F, No dew condensation allowed), Storage: -30 to +100 °C -22 to +212 °F (e-CON connector (accesory): -20 to +75 °C -4 to +167 °F (Storage: -30 to +75 °C -22 to +167 °F)			
Ambient humidity	35 to 85 % RH, Storage: 35 to 85 % RH					
Medium temperature range	-20 to +70 °C -4 to +158 °F			-20 to +125 °C	C -4 to +257 °F	
Voltage withstandability	150 V AC for one min. between all supply terminals connected together and enclosure					
Insulation resistance	100 MΩ, or more, with 50 V DC megger between all supply terminals connected together and enclosure					
Vibration resistance	10 to 2,000 Hz frequency, acceleration 200 m/s², in X di-rection for four hours, in Y and Z directions for two hours each (Note 5)					
Shock resistance	1,000 m/s² acceleration in X, Y and Z directions for three times each					
unding method	Capacitor earth (Enclosure-supply terminal)					
ssure port	R1/4 male thread (throttle embeded)					
erial	Diaphragm: Stainless steel (SUS630), Pressure port: Stainless steel (SUS304), Throttle: Stainless steel (SUSXM7)					
necting method	Connector					
le	0.2 mm <sup>2</sup> 3-core heat resistant cabtyre cable 2 m 3.562 ft long					
le extension	Extension up to total 10 m 32.808 ft is possible with 0.2 mm², or more, cable.					
ght	Net weight: 100 g approx., Gross weight: 150 g approx.					
essory	Connector (e-CON): 1 pc.					
	e of pressure ed pressure range ssure withstandability licable fluid ply voltage rent consumption log voltage output ponse time Protection  Ambient temperature  Ambient humidity Medium temperature range Voltage withstandability Insulation resistance Shock resistance unding method ssure port erial necting method le le extension ght	Type  -0.1 to 1 MPa type  -0.1 to 1 MPa type  DPH-L113V  e of pressure  ed pressure range  -0.1 to +1 MPa  2 MPa  Juicable fluid  ply voltage  rent consumption  Juicable fluid  ponse time  Protection  Ambient temperature  Ambient humidity  Medium temperature range  Voltage withstandability  Insulation resistance  Vibration resistance  unding method  ssure port  erial  Diaphragm: Stainle  Plant 1 to 1 MPa type  -0.1 to 1 MP	Type -0.1 to 1 MPa type 1 MPa ty	Type -0.1 to 1 MPa type 1 MPa type 3.5 MPa type n Model No.  DPH-L113V DPH-L113 DPH-L133  Be of pressure Sealed gauge pressure (Not early pressure range) -0.1 to +1 MPa 0 to +1 MPa 0 to +3.5 MPa 7 MPa  Sure withstandability 2 MPa 2 MPa 7 MPa  Gases and fluids that do not corrode SUS630, ply voltage  Ply voltage  Qutput voltage: 1 to 5 V DC (over rated pressure range) Accuracy: ±1.0 % F.S. (at 23 ±2 °C +73.4 ±35 °F) (including linearity, hysteresis and repeatability)  Protection  Ambient temperature  -20 to +70 °C -4 to +158 °F  Voltage withstandability  1 to 0 v AC for one min. between all supply terminals con 1 Insulation resistance 1 to 10 to 2,000 Hz frequency, acceleration 200 m/s², in X di-rection for four hour Shock resistance 1 Diaphragm: Stainless steel (SUS630), Pressure port: Stainless steel (eacting method)  Extension up to total 10 m 32.808 ft is possible with Net weight: 100 g approx., Gross weight	Type Model No. DPH-L113V DPH-L113 DPH-L133 DPH-L114  a of pressure Model No. DPH-L113V DPH-L113 DPH-L133 DPH-L114  be of pressure ange of the same of	

Notes: 1) Where measurement conditions have not been specified precisely, the conditions used were an ambient temperature of +23 °C +73.4 °F.

2) The sensor head can be used independently.

3) Oil is used in the factory inspection process for models **DPH-L114** and **DPH-L154**. There may be some residual oil inside the pressure port. 4) The sensor's internal mechanism is sealed based on an air pressure of 1,013 hPa. 5) The X, Y, and Z directions are defined as follows:



## SPECIFICATIONS

#### **Controllers**

	ntrollers	NPN output			DPC-L101				
Item PNP outpu		•							
		· ·	DPH-L113V	DPH-L113	DPH-L133	DPH-L114	DPH-L154		
			-0.1 to +1 MPa	0 to +1 MPa					
Rated pressure range Set pressure range			-0.1 to +1 MPa -1.177 to +1.177 MPa (-12.00 to +12.00 kgf/cm² -11.77 to +11.77 bar -170.6 to +170.6 psi	-1.070 to +1.070 MPa -10.91 to +10.91 kgf/cm² -10.70 to +10.70 bar -155.2 to +155.2 psi	0 to +3.5 MPa -3.74 to +3.74 MPa -38.1 to +38.1 kgf/cm² -37.4 to +37.4 bar -542 to +542 psi	0 to +10 MPa -10.70 to +10.70 MPa {-109.1 to +109.1 kgf/cm² {-107.0 to +107.0 bar -1552 to +1552 psi	0 to +50 MPa -53.5 to +53.5 MPa -545 to +545 kgf/cm² -535 to +535 bar -1980 to +7760 psi		
Set	resolution		0.001 MPa						
Dis	play		4 digits +4 digits 3-color LCD display (Display refresh rate: 250 ms, 500 ms, 1,000 ms, selectable by key operation)						
	Displayable pr	essure range	-0.155 to +1.022 MPa (-1.58 to +10.42 kgf/cm² -1.55 to +10.22 bar -22.4 to +148.2 psi	-0.050 to +1.020 MPa -0.51 to +10.40 kgf/cm² -0.50 to +10.20 bar -7.2 to +148.0 psi	-0.17 to +3.57 MPa {-1.7 to +36.4 kgf/cm² } {-1.7 to +35.7 bar } {-24 to +518 psi	-0.50 to +10.20 MPa [-5.1 to +104.0 kgf/cm²] -5.0 to +102.0 bar -72 to +1480 psi	-2.5 to +51.0 MPa [-25 to +520 kgf/cm²] -25 to +510 bar -360 to +7400 psi		
Sup	pply voltage		12 to 24 V DC ±10 % Ripple P-P 10 % or less						
Pov	ver consumptic	on	Normal operation: 960 mW or less (Current consumption 40 mA or less at 24 V supply voltage) ECO mode (STD): 720 mW or less (Current consumption 30 mA or less at 24 V supply voltage) ECO mode (FULL): 600 mW or less (Current consumption 25 mA or less at 24 V supply voltage) Excluding the current consumption of sensor head and analog output current						
Comparative outputs (Comparative output 1, 2)			<npn output="" type=""> NPN open-collector transistor (2 outputs) <ul> <li>Maximum sink current: 50 mA</li> <li>Applied voltage: 30 V DC or less</li> <li>(between comparative output and 0 V)</li> <li>Residual voltage: 1 V or less (at 50 mA sink current)</li> </ul> <ppn output="" type=""> <ul> <li>PNP open-collector transistor (2 outputs)</li> <li>Maximum source current: 50 mA</li> <li>Applied voltage: 30 V DC or less</li> <li>(between comparative output and +V)</li> <li>Residual voltage: 1 V or less (at 50 mA source current)</li> </ul></ppn></npn>						
	Output operat	tion	NO / NC, selectable by key operation						
	Output modes	3	EASY mode / Hysteresis mode / Window comparator mode						
	Hysteresis		Minimum 1 digit (variable) (however, 2 digits when using psi unit)						
	Repeatability		Within ±0.2 % F.S.						
	Response tim	ie	5 ms, 10 ms, 25 ms, 50 ms, 100 ms, 250 ms, 500 ms, 1,000 ms, 5,000 ms, selectable by key operation						
Short-circuit protection		rotection	Incorporated						
Analog output			<ul> <li>Analog voltage output&gt;     <ul> <li>Output current: 1 to 5 V DC</li> <li>Zero point: within 1 V ±0.5 % F.S.</li> <li>(excluding <b>DPH-L113V</b>)</li> <li>within 1.364 V ±0.5 % F.S.</li> <li>Span: within 4 V ±0.5 % F.S.</li> <li>Linearity: within ±0.1 % F.S.</li> <li>Output impedance: 1 kΩ approx.</li> </ul> </li> <li>Analog current output&gt;     <ul> <li>Output current: 4 to 20 mA</li> <li>Zero point: within 4 m ±1.0 % F.S.</li> <li>within 5.455 mA ±1.0 % F.S. (<b>DPH-L113V</b>)</li> <li>Span: within 16 m ±1.5 % F.S.</li> <li>Linearity: within ±0.1 % F.S.</li> <li>Linearity: within ±0.1 % F.S.</li> <li>Load resistance: 250 Ω (max.)</li> </ul> </li></ul>						
	Sensor head	input		Input voltage ran	ge: 1 to 5 V DC (over rate	d pressure range)			
Inputs	External input	t	$^{\prime}$ NPN output type> $^{\prime}$ ON voltage: 0.4 V DC or less       ON voltage: 5 V to +V DC         OFF voltage: 5 to 30 V DC, or open       OFF voltage: 0.6 V DC or less, or open         Input impedance: 10 kΩ approx.       Input impedance: 10 kΩ approx.         Input time: 1 ms or more       Input time: 1 ms or more						
Оре	eration indicato	r	Orange LED (Comparative output 1 operation indicator, comparative output 2 operation indicator: Lights up when each comparative output is ON )						
a.	Protection				IP40 (IEC)				
resistance	Ambient temp	erature	-10 to +50 °C +14 to +122 °F (No dew condensation or icing allowed), Storage: -10 to +60 °C +14 to +140 °F						
esist	Ambient humi	idity	35 to 85 % RH, Storage: 35 to 85 % RH						
ıtal	Voltage withst	tandability	500 V AC for one min. between all supply terminals connected together and enclosure						
nmer	Insulation res	istance	50 MΩ, or more, with 500 V DC megger between all supply terminals connected together and enclosure						
Environmental	Vibration resis	stance	10 to 500 Hz frequency, amplitude 3 mm 0.118 in or maximum acceleration 196 m/s², in X, Y and Z directions for two hours each (when panel mounting bracket is mounted: 10 to 150 Hz frequency, amplitude 0.75 mm 0.030 in or maximum acceleration 49 m/s², in X, Y and Z directions for two hours each)						
ш	Shock resista	nce	100 m/s² acceleration in X, Y and Z directions for three times each						
Temperature characteristics		acteristics	Within ±0.5 % F.S. (ambient temperature range based on +20 °C +68 °F)						
Material			Enclosure: PBT (glass fiber reinforced), LCD display: Acrylic, Mounting threaded part: Brass (nickel plated), Switch part: Silicone rubber						
Connecting method		d	Connector						
Cable length			Total length up to 100 m 328.1 ft (less than 30 m 98.4 ft when conforming to CE marking) is possible with 0.3 mm², or more, cable.						
Weight			Net weight: 25 g approx. (excluding connector attached cable), Gross weight: 140 g approx.						
Accessories			CN-66A-C2 (Connector attached cable 2 m 6.562 ft), Pressure unit label: 1 set						
7.000301103			2017-2017 (2017) Catalogue d'autorité d'auto						

Notes: 1) Where measurement conditions have not been specified precisely, the conditions used were an ambient temperature of +20 °C +68 °F.

The values specified above are applied only to the controller.

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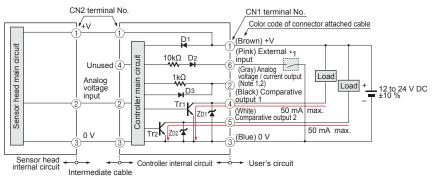
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## I/O CIRCUIT AND WIRING DIAGRAMS

DPC-L101 NPN output type

## I/O circuit diagram



Notes: 1) Set the output load resistance during analog current output to 250  $\Omega$  (max.). 2) Note that a voltage of 5 V or higher is generated during analog current output.

 $\label{eq:symbols} Symbols \dots D_1 \text{ to } D_3 \text{ : Reverse supply polarity protection diode} \\ Z_{D1}, Z_{D2} \text{ : Surge absorption zener diode} \\ T_{r1}, T_{r2} \quad : \text{NPN output transistor}$ 

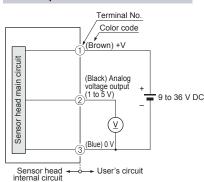
\*1

Non-voltage contact or NPN open-collector transistor

or

High (5 to 30 V DC, or open): Invalid
Low (0.4 V DC or less): Valid

#### For independent use of sensor head

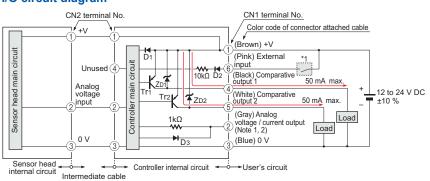


Notes: 1) When the sensor head is used independently, devices connected to the analog output must have an input impedance set at 10 k $\Omega$  or more and load capacity 1,000 pF or less.

- No short-circuit protection circuit is provided for analog voltage output.
   Do not connect directly to a power supply.
- The pressure port and internal circuitry are connected by a capacitor.
   Do not apply voltage in excess of the specifications' dielectric strength between the pressure port and wiring.
- The transparent tube attached to the cable is not used and should be cut off at the base.

DPC-L101-P PNP output type

## I/O circuit diagram



Notes: 1) Set the output load resistance during analog current output to 250  $\Omega$  (max.).

2) Note that a voltage of 5 V or higher is generated during analog current output.

 $\label{eq:symbols} \begin{array}{ll} \text{Symbols } ... D_1 \text{ to } D_3 \text{ : Reverse supply polarity protection diode} \\ Z_{D1}, Z_{D2} \text{ : Surge absorption zener diode} \\ T_{r1}, T_{r2} & \text{ : PNP output transistor} \end{array}$ 

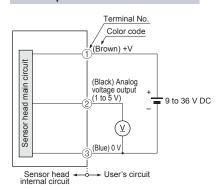
\*1

Non-voltage contact or PNP open-collector transistor

or

High (5 to +V DC, or open): Invalid
Low (0.6 V DC or less, or open): Valid

#### For independent use of sensor head

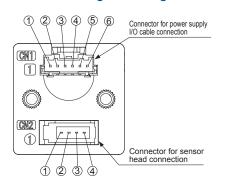


Notes:1) When the sensor head is used independently, devices connected to the analog output must have an input impedance set at 10 k $\Omega$  or more and load capacity 1,000 pF or less.

- No short-circuit protection circuit is provided for analog voltage output. Do not connect directly to a power supply.
- The pressure port and internal circuitry are connected by a capacitor.
   Do not apply voltage in excess of the specifications' dielectric strength between the pressure port and wiring.
- The transparent tube attached to the cable is not used and should be cut off at the base.

## I/O CIRCUIT AND WIRING DIAGRAMS

#### **Terminal arrangement diagram**



#### Connector for power supply I/O cable (CN1)

1)+V

② Analog voltage / current output

③ 0 V ④ Comparative output 1

© Comparative output 2 © External input

auto-reference function / remote zero-adjustment function / current value hold function)

#### Connector for sensor head (CN2)

Refer to p.1472 for general precautions.

Sensor head supply voltage

② Analog voltage input ③ 0 V ④ Unused

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## PRECAUTIONS FOR PROPER USE

 Never use this product as a sensing device for personnel protection.



· In case of using sensing devices for personnel protection, use products which meet laws and standards, such as OSHA, ANSI or IEC etc., for personnel protection applicable in each region or country.

 The DPH-L100 series is designed for use with air and non-corrosive gas. It cannot be used with liquid or corrosive and inflammable gases.

#### Part description



## Wiring

- Make sure that the power supply is off while wiring.
- Verify that the supply voltage variation is within the rating.
- · If power is supplied from a commercial switching regulator, ensure that the frame ground (F.G.) terminal of the power supply is connected to an actual ground.
- In case noise generating equipment (switching regulator, inverter motor, etc.) is used in the vicinity of this sensor, connect the frame ground (F.G.) terminal of the equipment to an actual ground.
- Do not run the wires together with high-voltage lines or power lines or put them in the same raceway. This can cause malfunction due to induction.
- · Incorrect wiring will cause problems with operation.

#### **Others**

- · Never remove the throttle.
- · Use within the rated pressure range.
- Do not apply pressure exceeding the pressure withstandability value. The diaphragm will get damaged and correct operation shall not be maintained.
- Do not use during the initial transient time (controller: 0.5 sec. approx, sensor head: 50 ms approx.) after the power supply is switched on.
- · Avoid dust, dirt, and steam.
- · Take care that the sensor does not come in direct contact with water, oil, grease, or organic solvents, such as, thinner, etc.
- Do not insert wires, etc., into the pressure port. The diaphragm will get damaged and correct operation shall not be maintained.
- Do not operate the keys with pointed or sharp objects.

Selectio Guide Pressure/ Digital Displ

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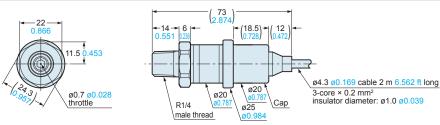
Pressure/ Digital Display Flow



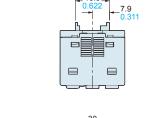
## DIMENSIONS (Unit: mm in)

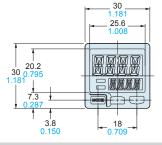
The CAD data in the dimensions can be downloaded from our website.

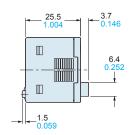
DPH-L1

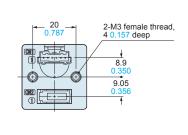


DPC-L101(-P) Controller









Controller mounting bracket (Optional)

## MS-DP1-6

14.5 ± 0.571

4.2

30 1.181

<u>↓</u> 10.5

(R)

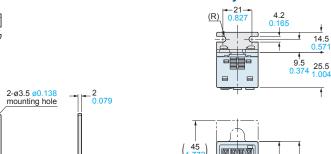
\_ 21 0.827

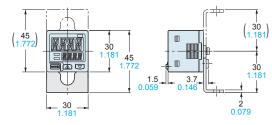
20.

\_ 10 18

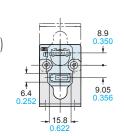
29.95 1.179

## **Assembly dimensions**





14.5 0.571



Material: Cold rolled carbon steel (SPCC) (Trivalent uni-chrome plated) Two M3 (length 6 mm 0.236 in) screws with washers are attached.

## DIMENSIONS (Unit: mm in)

The CAD data in the dimensions can be downloaded from our website.

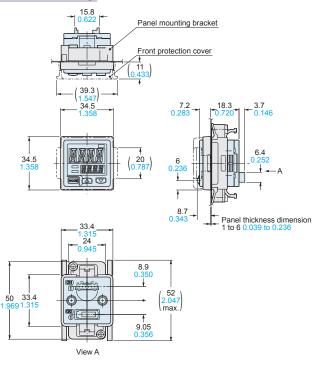
## MS-DP1-2 MS-DP1-3

Panel mounting bracket (Optional), Front protection cover (Optional)

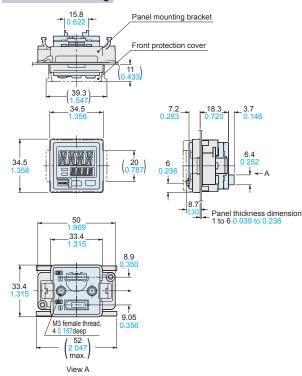
#### **Assembly dimensions**

Mounting drawing with DPC-L101(-P)

#### **Vertical mounting**

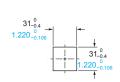


## **Horizontal mounting**

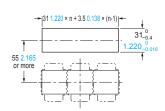


#### Panel cut-out dimensions

When 1 unit is installed

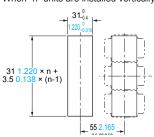


When "n" units are installed horizontally in series



Note: The panel thickness should be 1 to 6 mm 0.039 to 0.236 in.

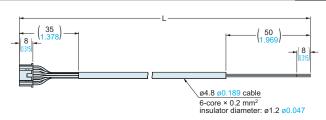
When "n" units are installed vertically in series



Note: The panel thickness should be 1 to 6 mm 0.039 to 0.236 in.

## CN-66A-C2 CN-66A-C5

Connector attached cable (Optional, CN-66A-C2 is attached to the controller)



Length	1

Model No.	Length L	
CN-66A-C2	2,000 78.740	
CN-66A-C5	5,000 196.850	

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Flow

DPC-L100/ DPH-L100 DPS-400/ DPH-100 DPC-100/ DPH-100