Discontinue

CKD

SM-277767-A

NSTRUCTDN MANUAL

PARECT PRESSURE CONTROLLER

PPS2

- Please read this instruction manual carefully before using this product, particularly the section describing safety.
- Retain this instruction manual with the product for further consultation whenever necessary.

2nd

CKD Corporation

For Safety Use

To use this product safety, basic knowledge of pneumatic equipment, including materials, piping, electrical system and mechanism, is required (to the level pursuant to JIS B 8370 Pneumatic System Rules).

We do not bear any responsibility for accidents caused by any person without such knowledge or arising from improper operation.

Our customers use this product for a very wide range of applications, and we cannot keep track of all of them. Depending on operating conditions, the product may fail to operate to maximum performance, or cause an accident. Thus, before placing an order, examine whether the product meets your application, requirements, and how to use it.

This product incorporates many functions and mechanisms to ensure safety. However, improper operation could result in an accident. To prevent such accidents, **read this operation manual carefully for proper operation.**

Observe the cautions on handling described in this manual, as well as the following instructions:

⚠ **DANGER** : Failure to pay attention to DANGER notices may cause a situation that results in a fatality or serious injury and that requires urgent addressing.

⚠ **WARNING** : Failure to pay attention to WARNING notices may result in a fatality or serious injury.

⚠ **CAUTION** : Failure to pay attention to WARNING notices may result in injury or damage to equipment or facilities.

About design and selection

⚠ WARNING :

a) Use the product correctly under the specified conditions.

- Note that the product may be damaged or malfunction if it is used for a purpose for which it is not intended or subjected to a load current, voltage, temperature, shock, or environmental condition that is beyond the scope of the product specifications.

b) Never use the product with oxygen, corrosive or flammable gas, or toxic fluid.

c) Do not install this product inside a hermetically closed control box or room.

- Because an accidental leakage of the medium will change the pressure inside the closed space. Always use this product in a control box that has a safety device for preventing sudden pressure changes or in a room that allows ventilation with external air.

⚠ CAUTION :

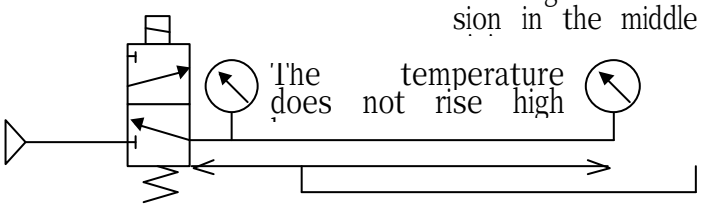
a) Use of fluids other than those specified

- The product includes such mechanisms as O-ring type sealing and screw type joints that allow a very small amount of air to escape (1 cm^3/min ANR).
- The acceptability of this product in an application that handles a corrosive but nonflammable gas should be judged in view of your knowledge about the gas and your experience with the technology for handling the gas. If you wish to use the product for such an application, do so at your own risk only after validating the safety and providing necessary safety measures.

b) Operating environment

- Do not installer use the product in a place where it is exposed to vibrations of 98 m/s^2 or to impact.
- Also, pay attention to the measured fluid temperature and the atmospheric temperature around the piping. If a pressure gauge is connected to the end of long piping, in which pressurization and depressurization take place repeatedly, the inside temperature of the piping increases, and the pressure gauge temperature also rises considerably and sometimes exceeds the rated temperature range due to compression at pressurization. The temperature of piping laid in a hot environment, in particular, is quite prone to exceed the operating temperature range. In this case, the product may be damaged even if it is installed in an environment within the operating temperature range, or the joint may become disconnected because of the tube softened by the heat. Take proper measures to prevent temperature rise such as installing a pressure gauge in the middle of the piping not at an end, adding dummy piping before the pressure gauge, and avoiding a hot environment.

⚠ CAUTION :



- Do not install or use the product in a place where a corrosive or combustible gas is generated, where the product is exposed to a chemical, solvent, oil or water, in a place contaminated with dust or cutting chips, in a pressurized or depressurized environment, or in a place where the temperature significantly varies or highly humid air is produced.
- Connect some tube to the screw M3×0.5 at the inlet for leading atmosphere to keep water proof preference for the sensor substance at the case of sensor-separate type.

c) Select the Palect equipment, the type of DC0 ? 10V input signal voltage.

d) Use only APC-23 (DC24V type) as for Palect controller (APC series) to be connected with PPS2-APC* but those APC-21, 22, 27 or 28 (APC series).

About mounting, installation and adjustment

⚠ WARNING :

a) Take extreme care never to make a wrong connection.

- A mistake in connecting wires may cause fatal damage such as the burning of the components not only to this product but also to the peripheral devices.

b) Never use a DC power supply unit that not provide any isolation between the primary side (AC power) and the secondary side (output).

⚠ CAUTION :

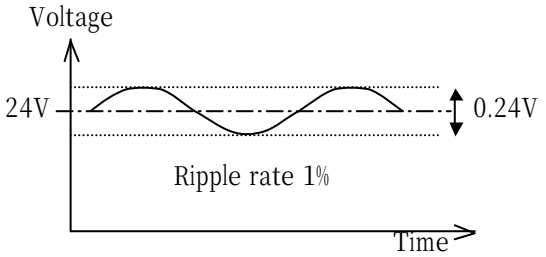
a) Take care to protect the unit and lead wires from damage.

- Carefully avoid bouncing, dropping, charging an excessive load to the lead cord or giving frequent bending stress to the cord. They could result in an unsatisfactory level of accuracy, disconnection or failure.
- Use such flexible wires as robot wires for movable portions.

⚠ CAUTION :

b) Wiring operation

- Cut the electrical power before starting any wiring operation.
  Before conducting a wiring operation, and from time to time during the wiring operation, discharge the static electricity from your body and the tool.
- Use a stabilized power supply unit that can provide a noiseless power with a ripple voltage of 1% or less.



- Carefully tighten terminal screws applying a range of tightening torque, 0.5 - 0.7N-m.
- Instead of in-putting voltage signal to pressure selective input, use relay contact switch or open collector of NPN transistor. In-put is achieved by short circuit between "GND" and "IN 1 - 4" terminals. Keep in-put signal held longer than 50msec. In-put will not be achieved when plural number of selective signals are given simultaneously.
- Install it and its wiring in remote area from noise source such as high tension line as far as possible. Provide some independent measure against power line which surge overrides to.
- Do not operate any control unit, device or machine just after the wiring of this product has been completed because the product may issue an unexpected signal according to an unintended unit or set value. Turn ON the product with all of the other devices OFF to confirm whether it is energized, and set the desired switch data and unit.

c) Reverse current and overcorrect protection circuits

- There are various protective measures such as reverse connection protection or over current protective circuit. These are effective against only some limned range of erroneous connections or short circuit but not necessarily all problems. It is unable to protect from reverse connection of output, over current, connection with AC. Be always alert that erroneous connection may cause severe damage to not only this product but also peripheral equipment.
- Over current protective function of this model shuts OFF the output as soon as detecting over current. Would like to reset power source after having done circuit check in order to let you return.

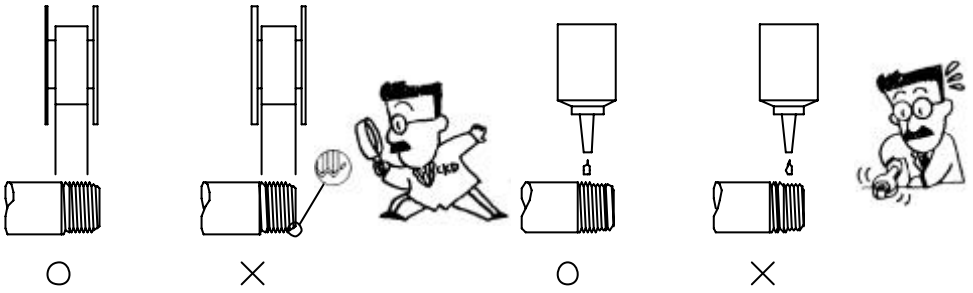
d) Pressure setting

- Before setting data A and data B, turn OFF the machine or device for safety.

⚠ CAUTION :

e) Piping operation

- For a product that has a one-touch joint, use a recommended tube for connection with it. After brushing the tube, connect it to the one-touch joint built into the product.
  * Recommended/connectable tube types: F-1506, U-9506 (supplied by CKD) etc.
- If you chose a product that has a screw type joint, apply a seal tape or sealant to the connecting portion and screw a tube into the joint taking care not to apply an excessive torque. For tightening, apply a wrench to the metal portion.
- When applying a seal tape, start from a position 2-mm or more away from the end of the thread portion on the tube, to a direction opposite to the tip of the tube, and wind the tape around the tube in a direction reverse to the direction of the thread.
  * If a part of the seal tape is positioned closer to the tip of the tube than the thread portion, the tape may be threaded into pieces as the tube ts screwed into the joint; they may go into the tube and cause trouble.



○ × ○ ×

- The tube length should be about one meter. Eliminate any possibility of a tensile force or a shock transmitted though the tube. A longer tube may produce an unexpectedly large force by its own weight, by its swinging, or by transmitting a shock. To distribute the tube and joint weights, fix a part of the tube to the machinery or use an intermediate joint and fix it to the machinery.
- Do not insert a needle or the like into the pressure lead-in port in the bottom of the product or leave it clogged up with dust. The blocked port not only makes accurate measurement impossible but also damages the pressure sensor. Install a 5-micron filter on the primary side of the fluid circuit.

f) Do not connect the output from the product parallel to the output from a relay contact, an operation switch, or another device. Do not short the input terminal provided for the product to the negative (-) side power line for the purpose of testing the input device, because the output circuit of the product may be damaged.

About use and maintenance

⚠ CAUTION :

a) As a general rule, the product should not be disassembled.

- Disassembling may damage the product or decrease its performance. The manufacturer does not guarantee the performance of a product that has been disassembled. When replacing or relocating the product, be sure to remove the product together with its mount (pressurizing port).

b) Before touching the installed product, stop the equipment and ensure safety.

- During adjusting, it sometimes cause remarkable delay the response of switch output or forced to turn OFF (while setting data).
- The last mode as power was turned OFF comes back when power is turned ON again.
- Be sure that sensor separated type substance and sensor are same lot No. on use because their adjustment depends on each other. (When each lot No. are different, it occurs different press. Indication from actual press.)

c) The value displayed is updated four times a second, whereas switch output takes place about 200 times a second. The pressure changes so fast that the display cannot follow it. The switch sometimes starts to operate although the displayed pressure value does not reach the set value. This is because the pressure varies at a very high rate and the pressure value display cannot track it.

Discontinue

PPS2
Parect pressure controller

Manual No. SM-277767-A

Feb.14.2000
Revision : Oct.30.2000

1. PRODUCT

1.1 Specification

Model code / Item	PPS2-R15 0P (MPa)	PPS2-R17 0P (MPa)	PPS2-R31 0A (kPa)	PPS2-R35 0P (MPa)	PPS2-R38 0P (MPa)	PPS2-AP CP (MPa)	PPS2-EV 01A (kPa)	PPS2-EV 05P (MPa)	PPS2-EV 25P (MPa)
Range of pressure display	0-1.000 MPa		0-100.0 kPa	0-1.000 MPa			0-100.0 kPa	0-1.000 MPa	
Range of pressure setting	0.01-0.5 MPa	0.01-07 MPa	0-100.0 kPa	0-0.5 MPa	0-0.8 MPa	0.05-0.6 MPa	0-100.0 kPa	0-0.5 MPa	
Strain transducer	Diffusing semi-conductor strain gage								
Working media	Air or non-corrosive gas								
Proof pressure	1.5MPa		150kPa	1.5MPa			150kPa	1.5MPa	
Display	LED display, sdigits, red, 8mm high								
Display sampling rate	Approx. 4times/sec								
Powersourca	DC24V±10%, 100mA (Ripple less than 1%)								
Set value self holding	Holds it for 10 years with no power (E²PROM adopted)								
Displaying accuracy	±1%F.S.±1dig (at 25℃)								
Temperature character istics	Zero shift : ±0.1%F.S./℃ Span shift : ±0.1%F.S./℃								
Switch rating	No. of output points : 4 points Type of output : NPN open collector output Proof voltage : MAX. 30V Current : MAX. 100mA Internal voltage drop : Less than 3V ＊ Switch output remains ON while pressure is within ±0.01MPa of set pressure. (+1.0kPa for R31O or EV01 type)								
Switch response	Over 200Hz (less than 5msec)								
Input spec (Selective input of set pressure)	No. of input points : 4 points Type of input : Non-voltage contact or NPN open collector input (Negative logic) Min. input pulse span : 50msec								
Palect equipment Command output	Output voltage : DC0-10V (0- Set pressure F.S.) Temperature characteristics : ±0.1F.S./℃								
Special function	• Zero point adjustment • Short circuit protection of switch output anderror display • Capable of shifting switch output between NO and NC (Normally open and normally closed)								
Environmental condition — Range of working temperature	0-50 (℃)								
Environmental condition — Range of storage temperature	-20 - 60 (℃)								
Environmental condition — Range of humidity temperature	0 – 85 (%R.H.)								
Environmental condition — Water proof	Non (Option : IP66 for only front operating face)								
Environmental condition — Mechanical vibration proof	10-55 (Hz) Amplitude 1.5mm X, Y and Z each direction 2 hours								
Environmental condition — Mechanical shock proof	100m/s² X, Y and Z each direction								
Connecting port dia	Rc1/8 (PT1/8 female)								
Mass	Approx. 180g								

* This mark of the model is not full for the products. Check and select the mark which is mentioned in “MODEL CODING” at the case of selecting the detail of the product.

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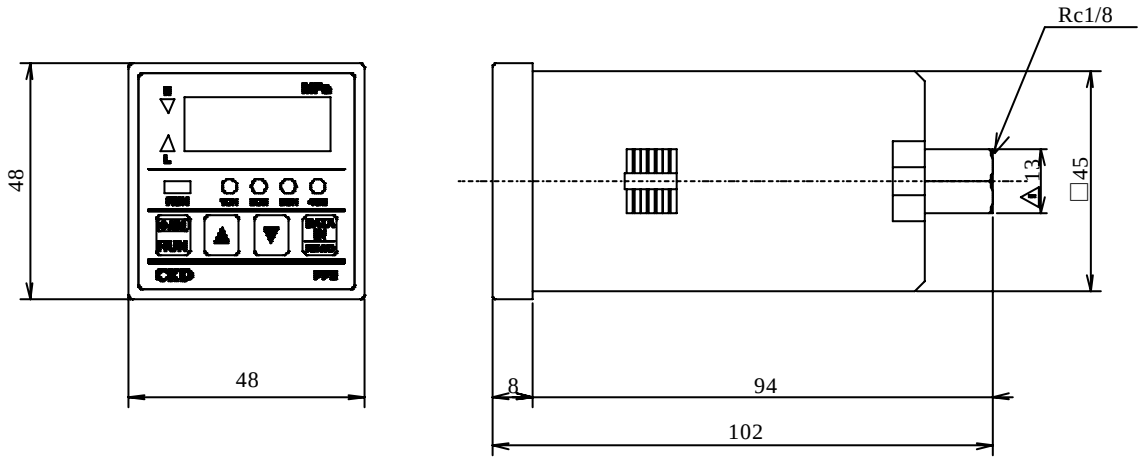
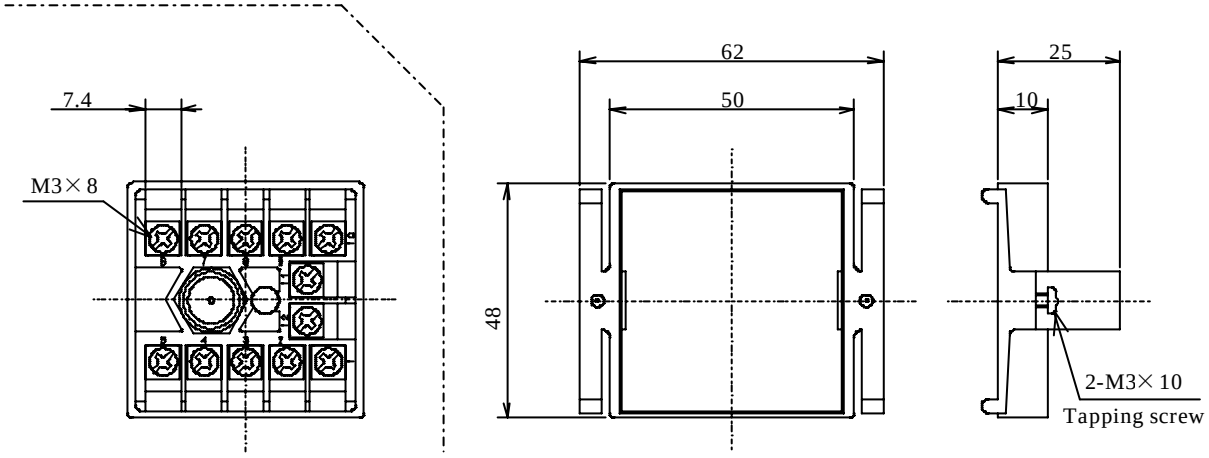
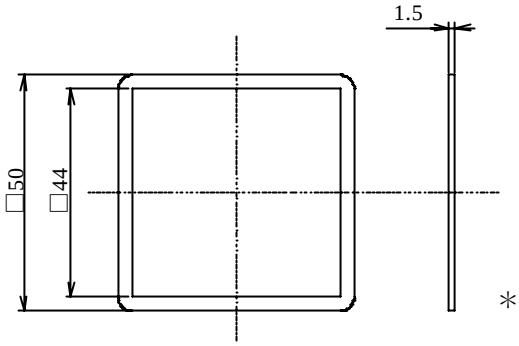
1.2 External Dimension

1.2.1 Sensor - included type





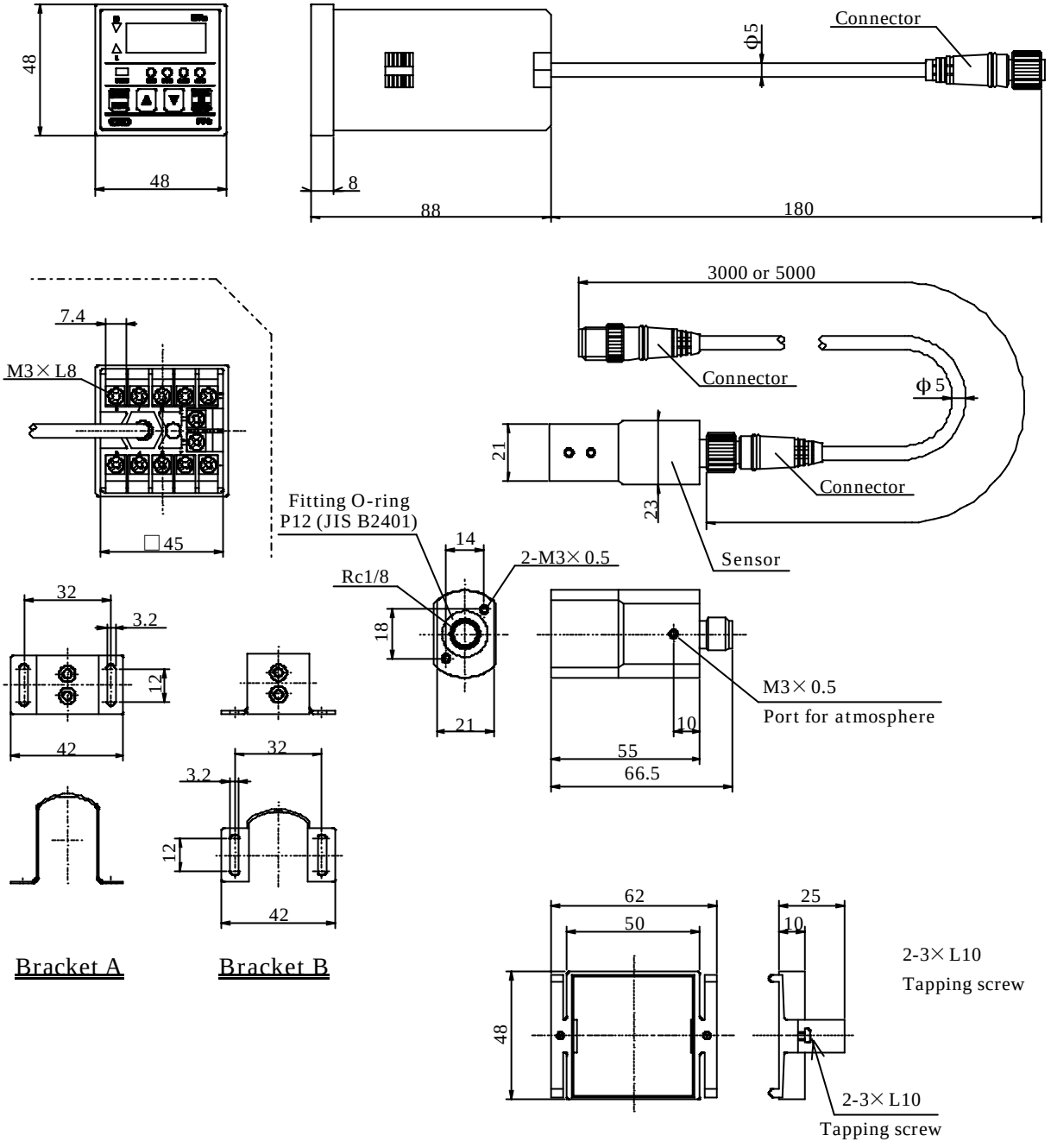
<Adapter>



<Water resistant rubber packing>

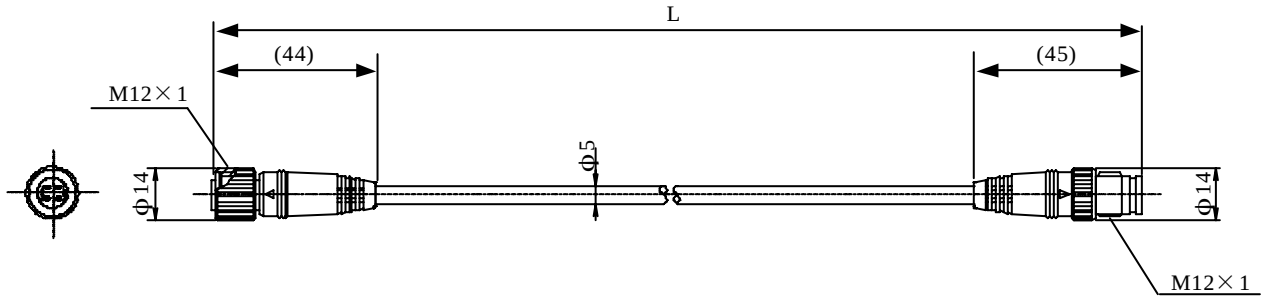
＊ Shipment together on mounting for option [-w] means water proof.

1.2.2 Sensor – separate type



<Adapter>

1.2.3 Connector cable (PPS2-L3, PPS2-L5)



Pin No.	Means
1	+9V
2	Shield
3	GND
4	Sensor output

*1
PPS2-L□

*1 Connector cable	Length
3	3000 +100 0
5	5000 +100 0

⚠ CAUTION :

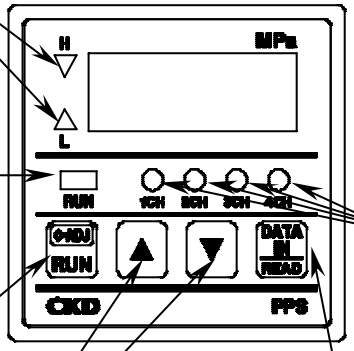
- This connector cable is for only PPS2 on use. Be sure to use for the connection with PPS2 and sensor. Don't connect it to the other equipment which has the other similar form connector (At that case, the damage for PPS2 and the other equipment is possible).
- Possible to extend the cable length by connecting additional ones Max. length is 20m on use.

2. OPERATION

2.1 Explanation of front panel

In “RUN” mode

- H lamp ON : Pressure is higher than set range.
- L lamp ON : Pressure is lower than set range.
- Both H and L lamps OFF : Pressure is within the range ±0.01Mpa (It is ±1.0kPa for R310 or EV01)



- In “RUN” mode
  Green lamp ON
  : NO (Normally open)
  Red lamp ON
  : NC (Normally closed)
- In “DATA IN” mode
  Lights OFF

- RUN mode setting key
- O-ADJ key

△(Up)key & ▽(Down)key

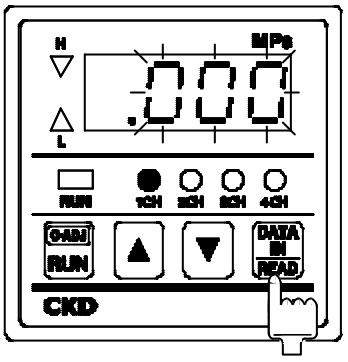
- In “DATA IN” mode
  Either increase or decrease the setting value.
- In “RUN” mode
  (While Pressure selective input is kept held..)
  Micro-adjustment of increase or decrease of Palect command output.

- In “RUN” mode Lamp lights at selected
  Red lamp ON
  : Lamp lights at selected
  Green lamp ON
  : Lamp lights at the channel where set value is to be read out.
- In “DATA IN” mode
  Green lamp ON
  : Displays selected channel.

- “DATA IN” mode key
  (keep pressing it for over 2 seconds.)
- “READ” key
  (Press it to read out the set value while it is in “RUN” mode.)

2.2 Pressure setting

(1) Set it in “DATA IN” mode by keeping “DATA IN” key pressed for over 2 seconds. See if “RUN” lamp is put out and 1CH lamp is lit green indicating channel 1 is ready to be set.



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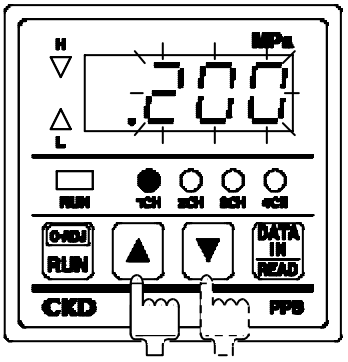
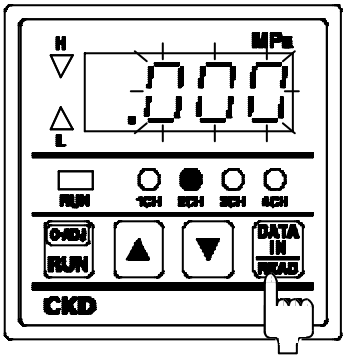
(2) Increase or decrease the pressure set value using △ key or ▽ key. An "automatic repeat" functions while either key is kept pressed.

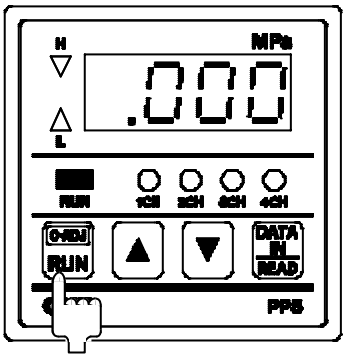


(3) Press the "DATA IN" key again and see if 2CH lamp is lit green indicating channel 2 is ready to be set.

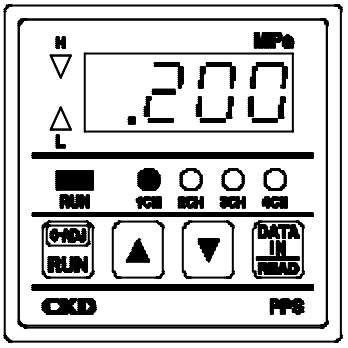


(4) Set presure with same process in ② above. Set values up to 4CH but skipping the channel which is to be unused.

(5) Set it in "RUN" mode by pressing "RUN" key. See if "RUN" lamp is lit.

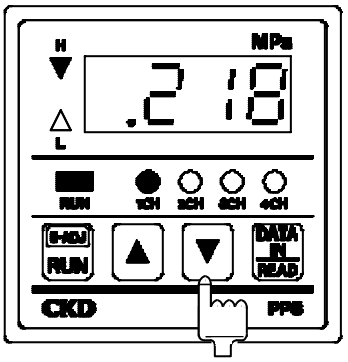


(6) Pressure is set by short circuiting between pressure selective input "IN 1" and "GND" terminals. (Micro-adjustment as explained in ⑦ below is done while the short circuiting is kept held.)

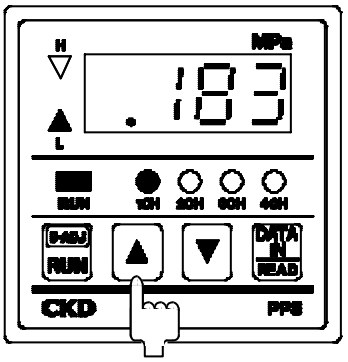


(7) See if the output pressure value of Palest equipment is corresponding with set value.
Neither LED H nor L is lit regarding as matching both values when output pressure remains within ±0.01Mpa of set value. (It is ±1.0kPa for R310 or EV01)

- When H LED is lit, current pressure is Higher than set value. Bring current pressure lower by pressing ▽ (Down) key.



- When L LED is lit, current pressure is lower than set value. Bring current pressure higher by pressing △ (UP) key. In those cases, automatic repeat does not function.

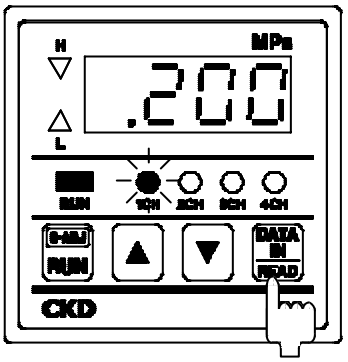


(8) Correct channel 2 - 4, likewise. (Short circuit between "GND" and pressure selective inputs "IN2", "IN3" or "IN4" respectively.)

* Those values corrected are memorized by E²PROM as well as set values. Those data are kept held even after power is turned OFF. The value corrected is, however, cleared out once the set value is revised. It requires setting corrected value again following to revision of set value.

2.3 Reading out the set value

To verify the set value, press "READ" key. At the first, the value of 1CH (channel 1) is displayed while green light blinks at 1CH. Each time the "READ" key is pressed, channel number increases sequentially. Normally, output pressure value of Palect equipment is displayed back again after untouched 5 seconds elapsed.



In "RUN" mode, it is unable to revise the set value of pressure. However, it is capable to revise the command value (current pressure) to Palect quipment. Shoed it be the case, the pressure selective input signal should be held as it is put in. (Refer to sub- paragraphs (6 & 7) of 3-2 above.)

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2.4 Operation stop

When power is turned OFF, it stops. Beware that it memorizes the mode as just before power was turned OFF. Therefore, it starts in the mode memorized, namely "RUN" mode if it was stopped in that mode and "DATA IN" mode if it was stopped in that mode. It does not, however, memorize the selective pressure input.

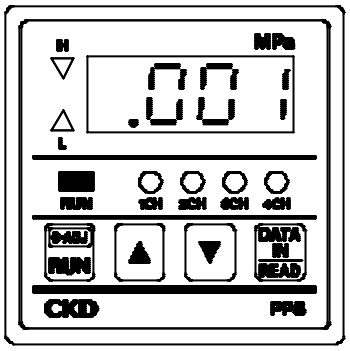
⚠ CAUTION :

- Be aware that the mode condition at the time of re-energizing after di-energizing keeps the same as the mode condition before di-energizing.

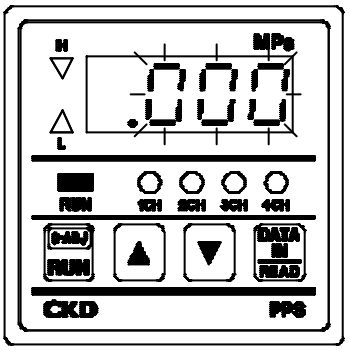
2.5 Zero point adjustment

If the pressure display is other than O while no pressure is being charged press "0-ADJ" key to adjust 0 point.

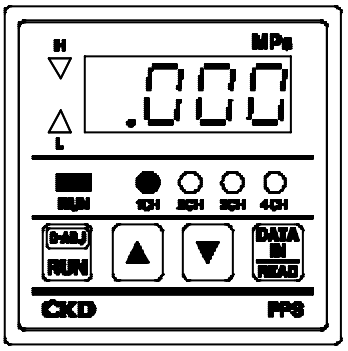
Zero point setting is achieved as "000" displayed, when "0-ADJ" key is kept pressed in "RUN" mode for over 2 seconds.



Keep pushing



Keep pushing even if [000] turns on and off



[000] turns ON. Zero point adjustment is finished

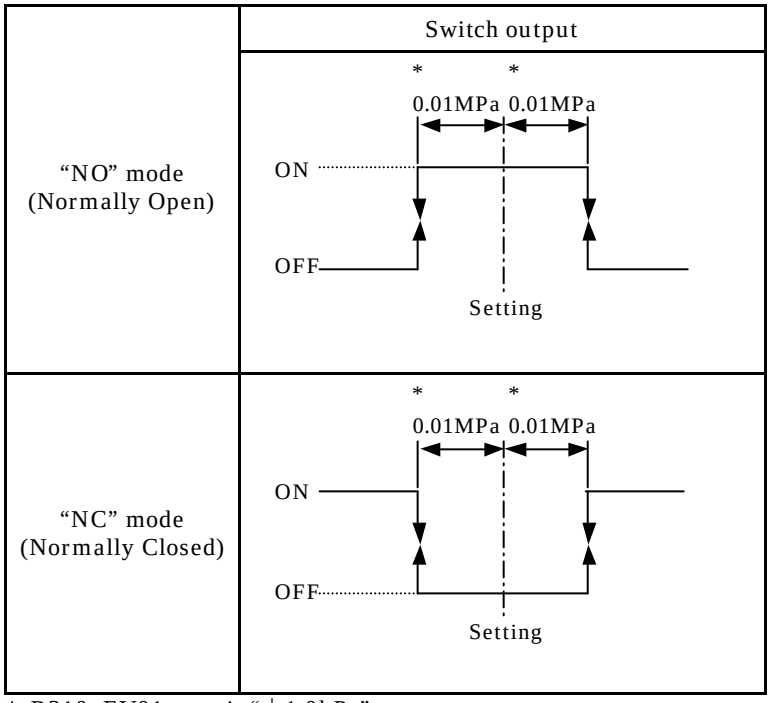
⚠ CAUTION :

- The absolute pressure type is so designed that zero point adjustment cannot be carried out.

2.6 Setting NO (normally open) or NC (normally closed) of Switch output

When “DATA IN” key is kept pressed in “DATA IN” mode, it displays “NO”, and it displays “NC” when either △ (Up) key or ▽ (Down) key is pressed. It comes back to “RUN” key is pressed.

{ NO : RUN lamp ON, green. CH-LED is lit when power is ON.
{ NC : RUN lamp ON, red. CH-LED is lit when power is ON.



* R310, EV01 type is “±1.0kPa”.

⚠ CAUTION : • CH LED corresponds to pressure selection input. This LED does not light up at switch output.

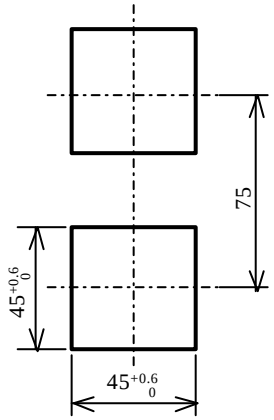
2.7 Self holding the set value

Set vault is memorized by E²PROM and set data do not fade away even when power is turned OFF.

[SM-277767-A]

3. INSTALLATION

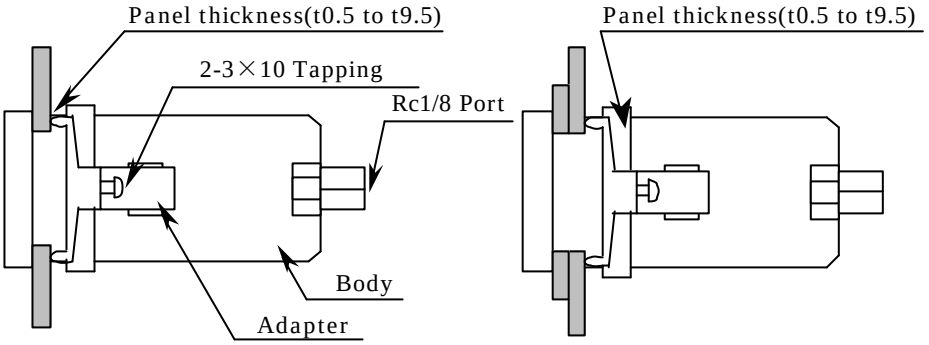
3.1 Panel cutting dimension



3.2 Mounting it

3.2.1 Mounting body

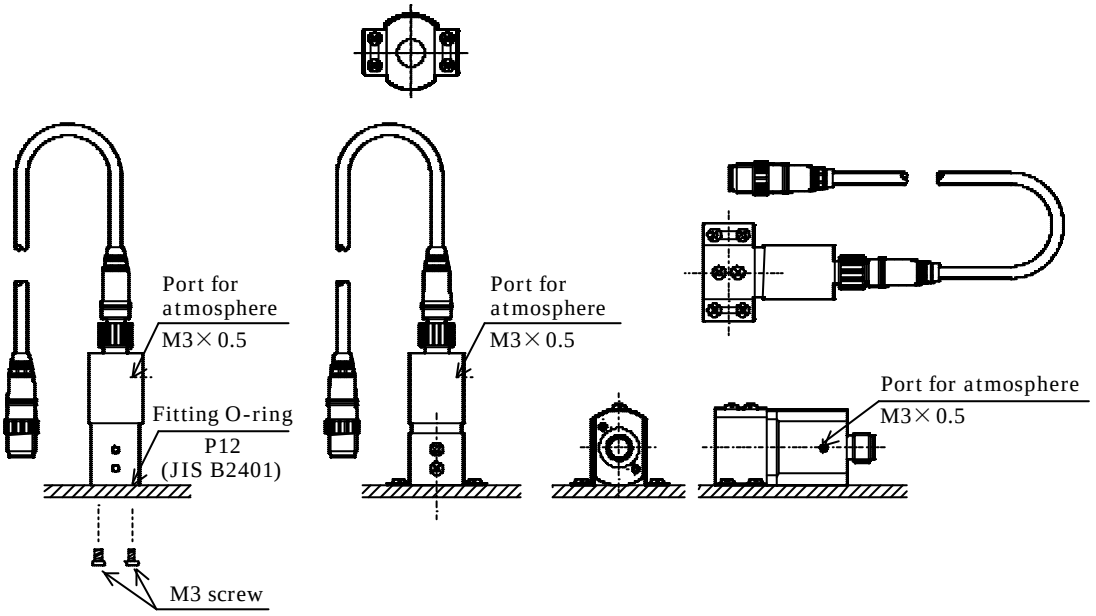
At first, insert its body through square cut on panel. Secondly insert mounting panel from rear of body and push it into the gap between body and panel and fix it with mounting screws. And be sure to use the water resistant rubber packing for panel mounting on mounting for option [-W] (front operating face keep water-proof).



⚠ CAUTION :

- Avoid using ti as muchas possible within the ambience where corrosive gas exists or possible splash of chemicals, water or oil takes place over it.
  Avoid its installation in place with vibration or shock.
- Install it seperately away from high tension wire with noise.
- Pressure port dia. is Rc1/8. When mounting a nipple, apply sealant (type or jelly type) to make it air tight. Carefully apply it to keep its residual from falling into pipes. Use a spanner (13mm) to pressure port to screw a nipple in. (Otherwise, controller body may be damaged.)
- Where a push-in joint is used for the pressure port, insert the tube securely. (Otherwise, air leakage may result or the tube may come off.)

3.2.2 Mounting sensor



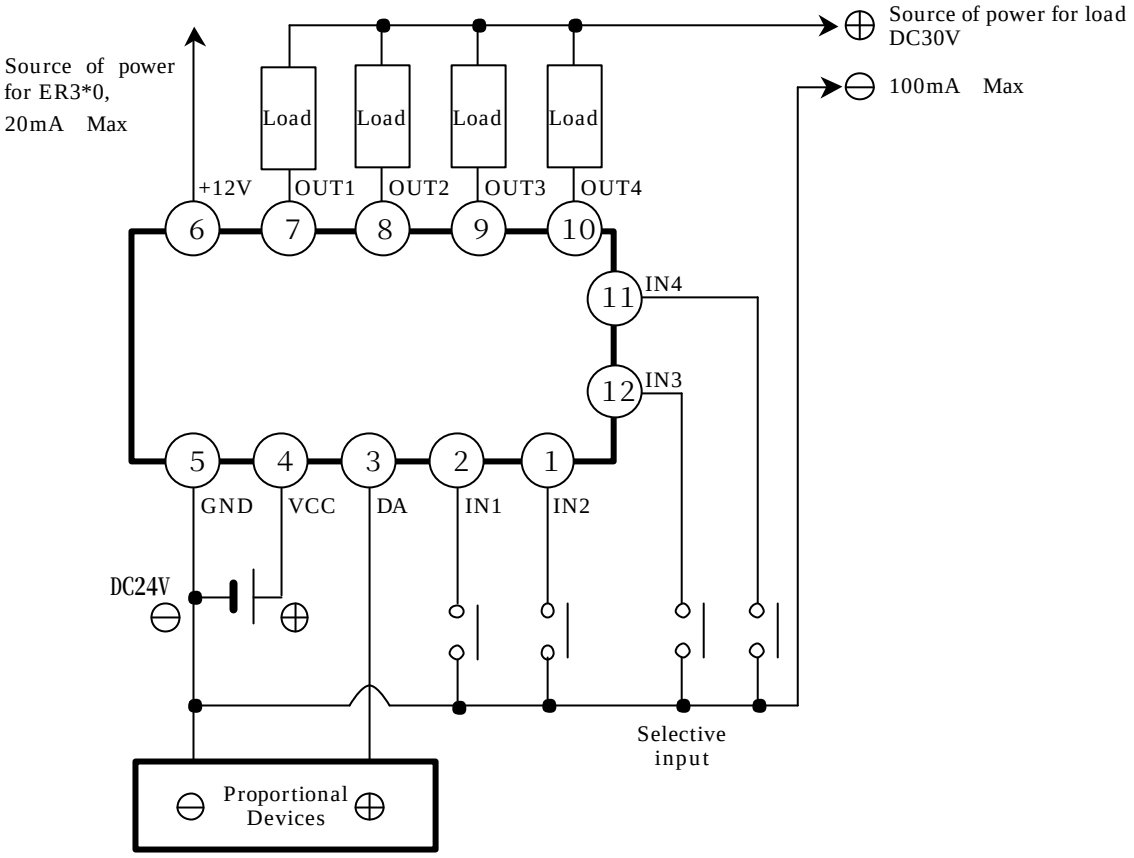
⚠ CAUTION :

- Sensor-separate type has pressure port Rc1/8. Use some sealant (seal type, jelly sealant) to prevent leak at the case of mounting nipples. Take care to avoid sticking out of the sealant inside. Screw into the pressure port with spanners (21mm). Prevent the damage of the sensor body (Don 't put any spanners on the width across flats 23mm of the label side. The damage or the sensor occurs.)
- Connect some tube to the screw M3×0.5 at the inlet for leading atmosphere to keep water proof preformance for the sensor substance at the case of sensor-separate type. (Possible to use blind plug of size M3 at the case of absolute pressure type.)
- Avoid using it within the ambience where corrosive gas exists or possible splash of chemicals, water or oil takes place over it.
  Avoid its installation in place with vibration or shock.
- Install it separately away from high tension wire with noise.
- Where a push-in joint is used for the pressure port, insert the tube securely. (Otherwise, air leakage may result or the tube may come off.)
- Be sure that sensor separated type substance and sensor are same lot No. on use because their adjustment depends on each other. (When each lot No. are different, it occurs different pressure indication from actual press.)

3.3 Wiring

⚠ CAUTION :

- Practice the wiring to this equipment properly acording to the following wiring diagram (indicated on the very thing also) to avoid he wrong wiring and prevent the damage on energizing the different voltage. And don 't energize while at work of wiring.
- Supply such source of power as its voltage being within the range of DC24V (±10%), stabilized as less voltage fluctuation as possible. Max. source current is 100mA.



⚠ CAUTION :

- Connect no other load than Palect equipment with command output terminal of Palect controller.
- Carefully tighten terminal screws applying a range of tightening torque, 0.5 to 0.7 N-m.

4. MAINTENANCE

4.1 Error display

Display	Content of Error	Remedies
OFF	Charged pressure is higher than 1.2 times of rated pressure.	Correct the charing pressure lower than rated pressure.
Err	Trying Zero-adjusting while pressure is being charged.	Remove charged pressure once, then do zero-adjusting again.
 Red light blinks (Proper channel lamp blinks)	Detecting overcurrent of switch output at the channel red light is blinking.(Switch output is shut OFF as for overcurrent protection.)	Inspect wiring with connected load and state of load current. Turn power OFF once. Then re-set overcurrent protection. (Unless power is turned OFF once, red blinking light and switch output OFF are not re-set even after removing overcurrent.

4.2 Trouble and Corrective Measures

Irregular	Cause	Disposal to correct
Press. value is not indicated	• Supply power is not wired correctly	• Check outside wiring • Wire the rated supply power correctly
	• Irregular operation from noise	• Separate the very thing and cable far away from noise source
	• Damage of PPS2	• Change the PPS2
Press. indication shows abnormal value	• Energize more than rated pressure	• Supply the pressure within rated pressure
	• Leak air on piping	• Check the piping condition
	• Irregular supply voltage (Low voltage, short source capacity)	• Supply the rated source • Keep source capacity
	• Zero.adjustment on the pressurized condition	• Adjust the zero point under atmosphere condition
	• Damage of PPS2 sensor	• Change the PPS2 and check the air quality
	• Broken wire of the sensor cable or the looseness of the connector at the case of sensor-separated type	• Change the sensor cable or tighten the connector correctly
	• Disconnection of wiring with Palect equipment	• Check for external wiring.
	• Palect equipment failure	• Replace the Palect equipment.
The pressure of Palect equipment does not reach the set value.	• Disconnection of wiring with Palect equipment	• Check for external wiring.
	• Palect equipment failure	• Replace the Palect equipment.
	• The Palect equipment is not of a 0 to 10 V input type.	• Use the 0 to 10 V input type.
	• The pressure is fine-adjusted too excessively.	• Re-set and re-fine-adjust the pressure.
	• Leak air on piping	• Check the piping condition
No pressure selection input is accepted.	• Disconnection of pressure selection input wiring	• Check for external wiring.
	• The contact input time is short.	• The input time should be 50 msec or more.
	• Several inputs are applied at the same time.	• Avoid simultaneous input.
	• Damage of PPS2	• Change the PPS2
Switch output doesn't turn on or come out	• Broken wiring	• Check the wiring
	• Wrong selection for input circuit outer load) (non-operation for the load according to inner voltage drop of the switch output part)	• Check the specification for input circuit (outer load) and change
	• Damage of PPS2 output circuit	• Change the PPS2
	• Wrong setting for NO and NC mode	• Set NO and NC mode correctly
	• DATA. IN mode is set	• Change to RUN mode
	• Output over current protector is operated	• Check the load wiring
	• The pressure value does not fall inside the range of the set value +/-0.01 MPa (+/-1.0kPa).	• Check the pressure value and set value.
Switch output doesn't turn off	• Wrong selection for input circuit (outer load) (non-operation for the load according to inner voltage drop of the switch output part)	• Check the specification for input circuit (outer load) and change
	• Damage of the PPS2 output circuit	• Change the PPS2

5. MODEL CODING

5.1 Sensor-included type

PPS2 – a – b

(a) Model No.		(b) Option	
R150P	for ER150 (MPa)	No marking	Non-Waterproof
R170P	for ER170 (MPa)	W	Waterproof(IP66)*
R310A	for ER310 (kPa)		
R350P	for ER350 (MPa)		
R380P	for ER380 (MPa)		
APCP	for APC (3AP2) (MPa)		
EV01A	for EV0100 (kPa)		
EV05P	for EV0500 (MPa)		
EV25P	for EV2500 (MPa)		

* As for Parect equipment to be used, select the type of input voltage 0 to 10V

5.2 Sensor-separate type

PPS2 – a b – c – d

(a) Range of pressure		(b) Length of connector cable	
R150PS	for ER150 (MPa)	3	3m
R170PS	for ER170 (MPa)	5	5m
R310PS	for ER310 (kPa)		
R350PS	for ER350 (MPa)		
R380PS	for ER380 (MPa)		
APCPS	for APC (3AP2) (MPa)		
EV01AS	for EV0100 (kPa)		
EV05PS	for EV0500 (MPa)		
EV25PS	for EV2500 (MPa)		

(c) Bracket	
A	Bracket A (for horizontal mounting)
B	Bracket B (for vertical mounting)

(d) Option	
No marking	Non-Waterproof
W	Waterproof (IP66)

* Only front operating face of the substance.
* As for Parect equipment to be used, select the type of input voltage 0 to 10V

5.3 Connector cable

PPS2 – L – ○

Length of connector cable	
3	3m
5	5m

[SM-277767-A]