Remote Controlled
High Accuracy Pressure Sensor
Digital Pressure Switch

Series **PSE**

**Display units**

<table>
<thead>
<tr>
<th>Vacuum</th>
<th>Positive pressure (Low pressure)</th>
<th>Positive pressure (High pressure)</th>
</tr>
</thead>
<tbody>
<tr>
<td>kPa ⇔ mmHg ⇔ kgf/cm² ⇔ bar</td>
<td>kPa ⇔ MPa ⇔ kgf/cm² ⇔ bar</td>
<td></td>
</tr>
</tbody>
</table>

**Self diagnosis**

Detects broken connection between sensor and controller, excessive current and excessive pressure.

**Panel and DIN rail mount**

User interface front plate is rated IP66.

**Auto preset function**

The controller reads the adsorption/no adsorption points and adjusts the setpoints for optimum performance.

**Auto shift function**

External reset input allows to reset the zero point and shift the setpoints accordingly.

---

Switch resolution of controller: 1/1000

Switch output responds to small pressure changes.

**2CH X 2 outputs**

One controller can process the information from two separate pressure sensors.

**Various output modes**

Applicable to hysteresis mode, reversed output hysteresis mode, window comparator mode and reversed window comparator mode.

**Display units**

Display unit can be easily selected and changed.

Controller with easy to read large 4 digits LED display

**Series PSE100**
Compact and lightweight pressure sensor for pneumatic applications

Series PSE510

Extremely compact: 13W X 10H X 30Lmm (Excluding process connection)

Lightweight: 12g

Compact and lightweight allows the sensor to be mounted where needed, e.g. as an adsorption confirmation sensor close to a vacuum pad.

Quick response

Due to its miniature size and weight the sensor can be located close to the detection area. Response delays due to piping volume are therefore avoided.

4 different process connections

Process connection is available to easily mount reducer or thread styles, M5, R(PT)1/8, NPTF1/8.

Remote Controlled
High Accuracy Pressure Sensor

General purpose pressure sensor applicable for a variety of fluids

Series PSE520

Stainless steel diaphragm

The use of stainless steel for all wetted parts (SUS630 for diaphragm, SUS304 for fitting) allows this sensor to be used in a wide variety of gas and fluid applications.

IP65 rating for enclosures

Centralized location of controller modules

Flexible mounting location

Compact and lightweight pressure sensor for pneumatic applications

Series PSE510

Extremely compact: 13W X 10H X 30Lmm (Excluding process connection)

Lightweight: 12g

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4 different process connections

Process connection is available to easily mount reducer or thread styles, M5, R(PT)1/8, NPTF1/8.
How to Order

PSE51 [__]—[__]—Q

Porting

- Operating pressure
  - 0: High pressure (0 to 1 MPa)
  - 1: Vacuum (~–101 to 0 kPa)
  - 2: Low pressure (0 to 100 kPa)

- Porting:
  - R06: ø6 reducer
  - M5: M5 X 0.8
  - 01: R(PT) 1/8, M5
  - T01: NPTF 1/8, M5

Sensor Specifications/General Pneumatic Applications

<table>
<thead>
<tr>
<th>Model</th>
<th>PSE510-__</th>
<th>PSE511-__</th>
<th>PSE512-__</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating pressure range</td>
<td>0 to 1 MPa</td>
<td>–101 to 0 kPa</td>
<td>0 to 100 kPa</td>
</tr>
<tr>
<td>Max. pressure</td>
<td>1 MPa</td>
<td></td>
<td>200 kPa</td>
</tr>
<tr>
<td>Fluid</td>
<td>Air, Non corrosive gases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output specification</td>
<td>Analog (1 to 5 V, Load impedance: 10 kΩ or more)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply voltage</td>
<td>12 to 24 V DC (Ripple ± 10% or less)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current consumption</td>
<td>10 mA or less</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating temperature range</td>
<td>0 to 50°C (No condensation)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature characteristics (25°C standard)</td>
<td>25 ± 10°C</td>
<td>± 1% F.S. or less</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0 to 50°C</td>
<td>± 1.5% F.S. or less</td>
<td></td>
</tr>
<tr>
<td>Repeatability</td>
<td>± 0.3% F.S. or less</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voltage resistance</td>
<td>Between external terminal and housing 1000 V AC, 50/60 Hz for 1 min.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insulation resistance</td>
<td>Between external terminal and housing 2 M (500 V DC by megahertz)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vibration resistance</td>
<td>10 to 500 Hz Pulse width: 1.5 mm or acceleration 98 m/s² (at the smaller vibration) to X, Y, Z direction (2 hours)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shock resistance</td>
<td>980 m/s² to X, Y, Z direction (3 times for each direction)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protective construction</td>
<td>IP40</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: When pressure sensor PSE510 series is connected to controller PSE100 series, display range is as series PSE100.

Process Connection

<table>
<thead>
<tr>
<th>Model</th>
<th>R06</th>
<th>M5</th>
<th>01</th>
<th>T01</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Housing</td>
<td>Pressure sensor area</td>
<td>Pressure sensor area</td>
<td>Pressure sensor area</td>
</tr>
<tr>
<td>Lead wire</td>
<td>Oil proof vinyl insulation ø2.55, 0.15 mm² X 3 wire (Brown, Blue, Black) 3000 mm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Port size</td>
<td>ø6 reducer</td>
<td>M5</td>
<td>R(PT) 1/8, M5</td>
<td>NPTF 1/8, M5</td>
</tr>
<tr>
<td>Weight (Excluding lead wire)</td>
<td>Approx. 7 g</td>
<td>Approx. 10 g</td>
<td>Approx. 12 g</td>
<td></td>
</tr>
</tbody>
</table>
**Internal Circuit**

Lead wire colours inside ( ) are those prior to conformity with IEC standards.

- **Brown DC (+)**: (Red)
- **Black OUT**: (White)
- **Blue DC (−)**: (Black)

**Caution**

Be sure to read before handling. Refer to p.0-26 and 0-27 for Safety Instructions and common precautions on the products mentioned in this catalogue, and refer to p.3.0-7 to 3.0-9 for precautions on every series.

**Dimensions**

01, T01

- Width across flats 12
- 13

M5

- Width across flats 10
- 13

R06

- ø6 reducer
- 13

<table>
<thead>
<tr>
<th>Applicable fitting</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>KQ 06-M5</td>
<td>16</td>
</tr>
<tr>
<td>Other series KQ, KS</td>
<td>13</td>
</tr>
<tr>
<td>KJ Series</td>
<td>14.5</td>
</tr>
<tr>
<td>KJ (-X20) Series</td>
<td>16</td>
</tr>
</tbody>
</table>
# Pressure Sensor

## For General Purpose Fluid Applications

### Series **PSE520**

![Pressure Sensor Image]

### How to Order

<table>
<thead>
<tr>
<th>PSE520</th>
<th>O</th>
<th>Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating pressure</td>
<td>0</td>
<td>High pressure (0 to 1 MPa)</td>
</tr>
<tr>
<td>Porting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>01</td>
<td>R(PT) 1/8, M5 X 0.8</td>
<td></td>
</tr>
<tr>
<td>02</td>
<td>R(PT) 1/4, M5 X 0.8</td>
<td></td>
</tr>
<tr>
<td>T01</td>
<td>NPTF 1/8, M5 X 0.8</td>
<td></td>
</tr>
<tr>
<td>T02</td>
<td>NPTF 1/4, M5 X 0.8</td>
<td></td>
</tr>
</tbody>
</table>

### Sensor Specifications/General Purpose Fluid Applications

<table>
<thead>
<tr>
<th>Model</th>
<th>PSE520-01</th>
<th>PSE520-02</th>
<th>PSE520-T01</th>
<th>PSE520-T02</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating pressure range</td>
<td>0 to 1 MPa</td>
<td>2MPa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. pressure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fluid</td>
<td>Fluid non corrosive to SUS304, SUS630</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output specification</td>
<td>Analog (1 to 5V, Load impedance: 10k or more)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply voltage</td>
<td>12 to 24 V DC (Ripple ± 10% or less)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current consumption</td>
<td>15mA or less</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating temperature range</td>
<td>−10 to 70°C (No condensation or frost formation)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature characteristics (25°C standard)</td>
<td>25 ± 10°C</td>
<td>± 1% F.S. or less</td>
<td>± 3% F.S. or less</td>
<td></td>
</tr>
<tr>
<td>Repeatability</td>
<td>± 0.3% F.S. or less</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voltage resistance</td>
<td>Between GND terminal and housing 250V AC for 1 min.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insulation resistance</td>
<td>Between external terminal and housing 100M (50V DC by megameter)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vibration resistance</td>
<td>10 to 55Hz Pulse width: 1.5mm to X, Y, Z direction (2 hours)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shock resistance</td>
<td>294 m/s² (11ms or less) to X, Y, Z direction (3 times for each direction)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protective construction</td>
<td>IP65</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material</td>
<td>Housing: Stainless steel (SUS304), Fitting: Stainless steel (SUS304)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Diaphragm: Stainless steel (SUS630)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead wire</td>
<td>Special elastic polyvinyl chloride ø6, 0.34mm², 3 wire, 3000mm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Port size</td>
<td>R(PT)1/8, M5</td>
<td>R(PT)1/4, M5</td>
<td>NPTF1/8, M5</td>
<td>NPTF1/4, M5</td>
</tr>
<tr>
<td>Weight</td>
<td>Approx. 220g</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note) When pressure sensor PSE 520 series is connected to controller PSE100 series, display range is as PSE100 series.
Internal Circuit

Lead wire colours inside ( ) are those prior to conformity with IEC standards.

Power voltage + Terminal

Brown DC (+) (Red)

Black OUT (White)

Blue DC (–) (Black)

Shield wire

Caution

Be sure to read before handling. Refer to p.0-26 and 0-27 for Safety Instructions and common precautions on the products mentioned in this catalogue, and refer to p.3.0-7 to 3.0-9 for precautions on every series.

Dimensions

PSE520-01, T01

M5 depth 5

01: R(PT) 1/8
T01: NPTF 1/8
Width across flats 19

PSE520-02, T02

M5 depth 5

02: R(PT) 1/4
T02: NPTF 1/4
Width across flats 19

Protective tube (Resists bending)

* Reference dimensions after thread installation
Controller

Series PSE100

How to Order

<table>
<thead>
<tr>
<th>Model</th>
<th>PSE100</th>
<th>PSE101</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output specifications</td>
<td>NPN Open Collector 30V 80mA max.</td>
<td>PNP Open Collector 80mA max.</td>
</tr>
<tr>
<td>Number of outputs</td>
<td>2CH X 2 outputs</td>
<td></td>
</tr>
<tr>
<td>Pressure display range</td>
<td>–101 to 10kPa (For vacuum), –10 to 100kPa (For low press.), –0.1 to 1MPa (For high press.)</td>
<td></td>
</tr>
<tr>
<td>Display resolution</td>
<td>0.1kPa (For vacuum, low pressure), 1kPa (For high pressure)</td>
<td></td>
</tr>
<tr>
<td>Display unit</td>
<td>For vacuum pressure and low pressure: kPa, mmHg, kgf/cm², bar, lnHg; For high pressure: kPa, MPa, kgf/cm², bar</td>
<td></td>
</tr>
<tr>
<td>Operating display</td>
<td>Light at ON. (Switch output 1: Green, Switch output 2: Red)</td>
<td></td>
</tr>
<tr>
<td>Frequency response</td>
<td>100Hz (10ms)</td>
<td></td>
</tr>
<tr>
<td>Hysteresis</td>
<td>Hysteresis mode: Variable, Window comparator mode: Fixed (2% F.S.)</td>
<td></td>
</tr>
<tr>
<td>Temp characteristics (25°C standard)</td>
<td>25 ± 10°C; 0 to 50°C</td>
<td></td>
</tr>
<tr>
<td>Hysteresis</td>
<td>±0.3% F.S. or less; ±0.5% F.S. or less; ±0.2% F.S. or less</td>
<td></td>
</tr>
<tr>
<td>Repeatability</td>
<td>±0.3% F.S. or less; ±0.5% F.S. or less; ±0.2% F.S. or less</td>
<td></td>
</tr>
<tr>
<td>Supply voltage</td>
<td>12 to 24V DC (Ripple ±10% or less)</td>
<td></td>
</tr>
<tr>
<td>Current consumption</td>
<td>250mA or less</td>
<td></td>
</tr>
<tr>
<td>Error display</td>
<td>Error display at 7 segment LED</td>
<td></td>
</tr>
<tr>
<td>Display specifications</td>
<td>4 figures X 2, 7 segment LED display, Sampling cycle 4 times/sec.</td>
<td></td>
</tr>
<tr>
<td>Self diagnostic function</td>
<td>Excess pressure, Excess current, NO sensor connection, Data error (Pressure presence at zero clear)</td>
<td></td>
</tr>
<tr>
<td>Additional function</td>
<td>Auto preset: Possible to set adsorption confirmation by pressing button only. Auto shift: Possible to zero clear by input terminal</td>
<td></td>
</tr>
<tr>
<td>Operating temperature range</td>
<td>0 to 50°C (No condensation)</td>
<td></td>
</tr>
<tr>
<td>Noise resistance</td>
<td>500Vp-p, Pulse width 1μs, Standing 1ns</td>
<td></td>
</tr>
<tr>
<td>Voltage resistance</td>
<td>Between external terminal and case 1000V AC, 50/60Hz for 1 min.</td>
<td></td>
</tr>
<tr>
<td>Insulation resistance</td>
<td>Between external terminal and case 2MΩ (500V DC by megameter)</td>
<td></td>
</tr>
<tr>
<td>Vibration resistance</td>
<td>10 to 500Hz Width: 1.5mm or acceleration 980m/s² (at the smaller vibration) to X, Y, Z direction (2 hours)</td>
<td></td>
</tr>
<tr>
<td>Shock resistance</td>
<td>980m/s² to X, Y, Z direction (3 times for each direction)</td>
<td></td>
</tr>
<tr>
<td>Protective construction</td>
<td>Panel mounting type: IP66 (Used gasket at panel mount part only), Wall mounting, DIN rail type: IP40</td>
<td></td>
</tr>
<tr>
<td>Mounting</td>
<td>A: Panel mounting, B: Wall mounting, DIN rail</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>A: Approx. 90g B: Approx. 110g</td>
<td></td>
</tr>
<tr>
<td>Sensor connection</td>
<td>Supply voltage: Same as power supply</td>
<td></td>
</tr>
<tr>
<td>Voltage input</td>
<td>1 to 5V (Input impedance 100KΩ)</td>
<td></td>
</tr>
<tr>
<td>Current input</td>
<td>4 to 20mA (Input impedance 250Ω)</td>
<td></td>
</tr>
</tbody>
</table>

+Refer to p.3.1-14 for DIN rail part number.
Input/Output Circuit and Connection

Connection diagram

Sensor connection

Voltage input type

Current input type

Description

How to use the auto shift function
Connect the auto shift terminal to GND. This forces the unit to accept a new zero point, the display will indicate "0". After disconnecting the auto shift terminal from GND, the display will indicate relative pressure based on the new zero point.

Note: To invoke the auto shift function, the auto shift terminal must be connected to GND for at least 10 msec. LED1 will display "0" during connection to GND.

How to select channel
When CH:SELECT terminal is open, channel A is selected. When it is connected to GND, channel B is selected.

Note: There is a 10 msec. time delay from making contact and the actual selection of the channel.

Display of peak, bottom and absolute pressure (LED2)
Display of present pressure (LED1)
Display of units
Display of outputs
UP button (+): Increases calibration value.
DOWN button (−): Decreases calibration value.
Reset button (R): Clears abnormality. Displays "0".
Auto preset button (A): Reads present pressure directly.
Set button (S): Changes calibration value and modes.
Calibration Procedure

**Procedure**

**Initial setup**
Select "Connect sensor", "Display unit", "LED2 display mode" and "Output mode".

**Manual calibration**
Calibrate set point for switch output.

**Auto preset**
Calibrate set point automatically for adsorption confirmation.

**Manual calibration**
The data set by auto preset function can be fine tuned.

**Normal operation**
Measured pressure, displayed, switch operation occurs.

---

**Method of calibration/1, 2, 3**

**Table 1** Sensor types and min. display unit

<table>
<thead>
<tr>
<th>Sensor type</th>
<th>Display unit</th>
<th>kPa</th>
<th>MPa</th>
<th>mmHg</th>
<th>kgf/cm²</th>
<th>bar</th>
<th>inHg</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSE511(-100kPa)</td>
<td>–0.1</td>
<td>–</td>
<td>–1</td>
<td>–0.001</td>
<td>–0.001</td>
<td>–0.1</td>
<td></td>
</tr>
<tr>
<td>PSE512(100kPa)</td>
<td>0.1</td>
<td>–</td>
<td>1</td>
<td>0.001</td>
<td>0.001</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>PSE510, 520(1MPa)</td>
<td>1</td>
<td>0.001</td>
<td>–</td>
<td>0.01</td>
<td>0.01</td>
<td>–</td>
<td></td>
</tr>
</tbody>
</table>

**Table 2** LED2 display

LED2 (green) display indicates the following 3 mode options.

- Peak hold mode (L2_P): Hold the display till next peak value.
- Absolute pressure display mode (L2_A): Display based on atmospheric pressure.
- Bottom hold mode (L2_b): Hold the display till next bottom value.

**Table 3** Output type

One output type can be selected from 4 types according to output modes and relation of each calibration values. Two separate outputs, OUT1 and OUT2, can be set per channel and two channels, A and B can be selected from outside.

**CH.A**
- OUT1
- OUT2

**CH.B**
- OUT1
- OUT2

**CH.A and CH.B** can be selected by external signal.

Hysteresis mode

H (fixed hysteresis) ±2% F.S.

Window comparator mode

Hysteresis mode

H (fixed hysteresis) ±2% F.S.

Window comparator mode

Refer to p.3.1-8 "Channel selection" for further information.
Initial setup

1. Initial setup mode
Press the button “S” at least 3 seconds while holding down the ▲ button.

2. Selection of “Connect sensor”
Select “Connect sensor” by pressing the ▲ button.
LED2 display
- 5: PSE511 (For −100kPa)
- 1: PSE512 (For 100kPa)
- 1: PSE510/520 (For 1MPa)

3. Selection of “Display unit”
“Display unit” is entered by pressing the ▲ or ▼ button.
“LED Display mode” is entered by pressing the “S” button.

4. Selection of “LED2 display mode”
Select “LED2 display mode” by pressing the ▲ button.
LED2 display
- 2, 8: Absolute pressure
- 2, P: Peak hold
- 2, b: Button hold
(Refer to p.3.1-9 Table 2)

5. Selection of “OUT1 output mode”
Select “OUT1 output mode” by pressing the ▲ button.
LED2 display
- 1: Normal mode
- 1: Reversed output mode
(Refer to p.3.1-9 Table 3)

6. Selection of “OUT2 output mode”
Select “OUT2 output mode” by pressing the ▲ button.
LED2 display
- 2: Normal mode
- 2: Reversed output mode

Manual calibration

1. Calibration value input mode (manual)
Press the button “S”.
3 seconds or less: Selected channel
3 seconds or more: Not selected channel

2. Input set point value for OUT1 (1)
▲ button: Increase set point value
▼ button: Decrease set point value
R button: Reads the pressure value at that moment
(Refer to p.3.1-9 Table 3)

3. Input set point value for OUT1 (2)
▲ button: Increase set point value
▼ button: Decrease set point value
R button: Reads the pressure value at that moment

4. Input set point value for OUT2 (3)
▲ button: Increase set point value
▼ button: Decrease set point value
R button: Reads the pressure value at that moment

5. Input set point value for OUT2 (4)
▲ button: Increase set point value
▼ button: Decrease set point value
R button: Reads the pressure value at that moment

By pressing the button “S”, the calibration is completed.

(Refer to p.3.1-9 Table 3)
Auto preset

1. Auto preset mode
Press the button "A" for 3 to 6 seconds for selected channel, and for more than 6 seconds for not selected channel.

2. Preparation for auto preset
When the initial conditions for adsorption confirmation are met, press the button "S". Press the ▼ button when it is not required to calibrate OUT1.

3. OUT1 auto preset
Repeat the steps adsorption and no adsorption several times. This will set the best values automatically.

4. Preparation for auto preset
When the initial condition for adsorption confirmation are met, press the button "S". Press the ▼ button when it is not required to calibrate OUT2.

5. OUT2 auto preset
Repeat the steps adsorption and no adsorption several times. This will set the best values automatically.

After pressing button "S", OUT2 auto preset is completed.

* Initial condition for adsorption confirmation means that conditions are met for operation to begin.

Other function

Lock out

Lock out start
Press the ▼ and ▲ buttons simultaneously for at least 3 seconds. Display starts to blink.

Lock out release
Press the ▲ and ▼ buttons simultaneously for at least 3 seconds. Lock out is released. During malfunction lockout is released automatically.

Reset display to "0"

Press the "R" for at least 3 seconds to reset the display to zero. If pressure is higher than ± 2% of rated pressure, reset of the display is not possible.

Clear auto shift

Press the "R" for at least 2 seconds but no longer than 3 seconds. This clears the auto shift function.
## Error Codes

<table>
<thead>
<tr>
<th>Display</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>-FFF</td>
<td>Sensor is not connected.</td>
<td>Connect sensor.</td>
</tr>
<tr>
<td>FFFF</td>
<td>Operating pressure over max. limit.</td>
<td>Lower operating pressure.</td>
</tr>
<tr>
<td>Err 1</td>
<td>Calibration data lost.</td>
<td>Contact SMC.</td>
</tr>
<tr>
<td>Err 2 DU-1</td>
<td>Current draw on Output 1 too high (&gt;120mA).</td>
<td>Check load and/or wiring for Output 1.</td>
</tr>
<tr>
<td>Err 2 DU-2</td>
<td>Current draw on Output 2 too high (&gt;120mA).</td>
<td>Check load and/or wiring for Output 2.</td>
</tr>
<tr>
<td>Err 2 DU-R</td>
<td>Current draw on Output 1 and 2 too high (&gt;120mA).</td>
<td>Check load and/or wiring for Output 1 and 2.</td>
</tr>
<tr>
<td>-------</td>
<td>-----</td>
<td>--------</td>
</tr>
<tr>
<td>--------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure is 2% above rated pressure during 0 clear.</td>
<td>Apply atmospheric pressure then do 0 clear.</td>
<td></td>
</tr>
</tbody>
</table>

## Precautions

Be sure to read before handling. Refer to p.0-26 and 0-27 for Safety Instructions and common precautions on the products mentioned in this catalogue, and refer to p.3.0-7 to 3.0-9 for precautions on every series.

### Wiring

**Warning**

1. Connect FG to ground when using switching power supply as a power source.
2. Every input signal needs to be longer than 10ms to be recognized by the PSE.

### Installation

**Caution**

1. Front plate of the PSE100 meets IP66 rating. However if the panel mount adaptor is used and the instrument is not seated correctly, water might enter.
2. As illustrated below, hook the nail located on the bottom of the body on the DIN rail and press down in the direction of the arrow. To remove from the DIN rail lift the switch up with a bladed screw driver, etc. in the direction of the arrow.
3. Be careful not to apply excessive force to the wiring during mounting on panel or DIN rail.

#### Panel mount

![Diagram of Panel mount](image)

Turn screw 1/4 to 1/2 turn after panel makes contact with the sealing surface of the PSE.

#### Mounting on DIN rail

![Diagram of Mounting on DIN rail](image)

#### Removal from DIN rail

![Diagram of Removal from DIN rail](image)

#### Others

**Caution**

1. Time delay for power on reset of controller is 0.5 seconds. Be aware that the output circuit is not active immediately after the power is connected.
A: Panel mount

Dimensions

Cutout dimensions for panel mount

N pieces: Side by side mounting
(Ensure correct panel mount orientation)

Side by side mounting: L = (48n-2.5)/2

* Thickness of panel: 0.5 to 4 mm
IP rating does not apply when units are mounted side by side.
B: Wall mount, DIN rail

Cover for display (Optional)

DIN rail

Material: Aluminum

<table>
<thead>
<tr>
<th>Part number of DIN rail</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISA-2-1</td>
<td>105</td>
</tr>
<tr>
<td>ISA-2-2</td>
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<tr>
<td>ISA-2-3</td>
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<td>ISA-2-4</td>
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<td>ISA-2-7</td>
<td>315</td>
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