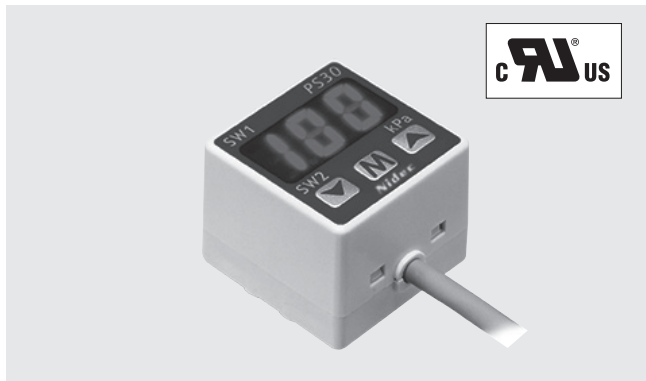


PRESSURE SWITCHES WITH GAUGES PS30

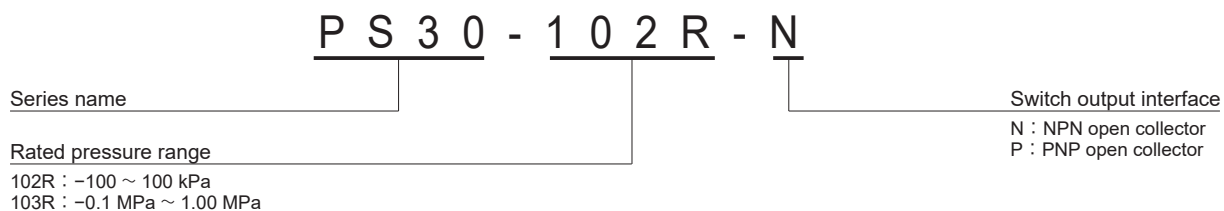


FEATURES

- Optimum for pneumatic equipment and semiconductor manufacturing equipment
- Larger size display and high luminance LED for best visibility
- Eight switch output modes
- Low consumption by nondisplay mode

| INTERNAL STRUCTURE | |
|-----------------------|--|
| | |
| Part name | Material |
| ① Pressure transducer | P-2000 |
| ② "O" ring | Fluoro-rubber |
| ③ Pressure port | Brass (Ni-plated) |
| ④ Base | ABS (Acrylonitrile-butadiene-styrene) |
| ⑤ Housing | |
| ⑥ Panel sheet | Polyester |

MODEL NUMBER DESIGNATION



LIST OF MODEL NUMBERS

| Switch output interface | Pressure reference Rated pressure range | Gauge | |
|-------------------------|--|----------------|-----------------|
| | | -100 ~ 100 kPa | -100 ~ 1000 kPa |
| NPN | | PS30-102R-N | PS30-103R-N |
| PNP | | PS30-102R-P | PS30-103R-P |

※ Please refer to the LIST OF MODEL NUMBERS when placing orders.

PS30

PRESSURE SWITCHES WITH GAUGE

STANDARD SPECIFICATIONS

● Unless otherwise specified, the specs are defined at an ambient temperature of 25 ± 5 °C and excitation voltage of 24 VDC.

| Item | Model number | PS30 | | |
|------------------------|-------------------------|------------|--|---------------|
| | | 102R | 103R | |
| General specifications | Pressure reference | Gauge | | |
| | Rated pressure range | kPa | - 100 ~ 100 | - 100 ~ 1000 |
| | Maximum pressure | kPa | 200 | 1500 |
| | Break-down pressure | kPa | 500 | 2000 |
| | Operating temp. range | °C | - 10 ~ 50 | |
| | Compensated temp. range | °C | 0 ~ 50 | |
| | Thermal error | | ± 3 %F.S. (0 ~ 50 °C) | |
| | Operating humidity | %RH | 35 ~ 85 (No condensation) | |
| | Storage temp. | °C | - 20 ~ 70 (Atmospheric pressure, humidity 65 %RH maximum) | |
| | Pressure medium | | Non-corrosive gases | |
| | Insulation resistance | MΩ minimum | 100 (DC 500 V) | |
| | Dielectric strength | | 500 VAC, 60 s (Leakage current 1 mA maximum) | |
| | Pressure port | | M5 female screw, "O" ring groove (P8) | |
| | Net weight | g | Approx. 60 (Including 1.5 m cable) | |
| Power | Supply voltage | VDC | 12 ~ 24 V ± 10 % (including ripple voltage) | |
| | Consumption current | mA maximum | 40 | |
| Display | Display element | | LED (2 and 1/2 digit) | |
| | Rated display range | kPa | - 100 ~ 100 | _____ |
| | | MPa | _____ | - 0.10 ~ 1.00 |
| | Display accuracy | | ± 1 %F.S. | |
| Resolution | | 1 count | | |
| Switch output | No. of outputs | | 2 | |
| | Output interface | | Open collector output (NPN or PNP) | |
| | Display | | Output 1 (SW1), Output 2 (SW2) Light on when output is ON. | |
| | Repeatability | %F.S. | ± 0.3 maximum | |
| | Switch hysteresis | | 0 ~ 30 counts (Adjustable) | |
| | Switching capacity | | 30 VDC 100 mA maximum Short-circuit protection | |
| | Residual voltage | V maximum | 1.2 V (NPN), 2.2 V (PNP) | |
| | Response | ms | Approx 5, 25, 250 (Adjustable) | |

ENVIRONMENTAL CHARACTERISTICS

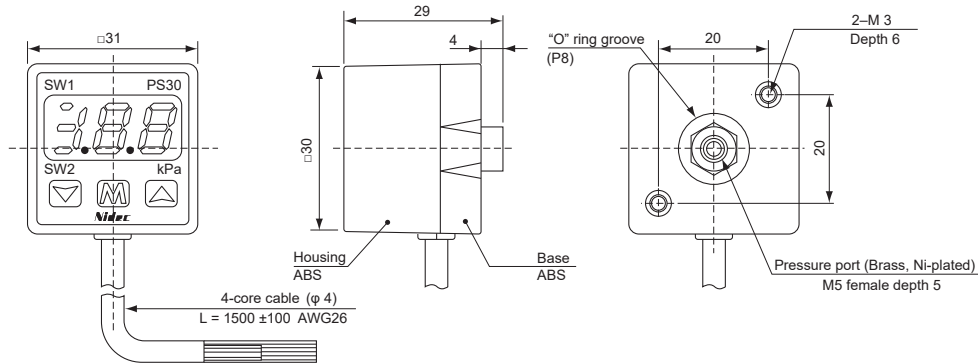
| Test item | Test conditions | Permissible change |
|---------------------|---|--|
| Vibration | 10 ~ 500 Hz, 98.1 m/s ² or 1.5 mm P-P, 3 directions for 2 hours each | ± 2 %F.S. maximum after test ※ 1 |
| Shock | 490 m/s ² , 3 directions for 3 times each | |
| Pressure cycling | 0 ~ Rated pressure, 10 ⁶ cycles | |
| Moisture resistance | 40 °C, 90 ~ 95 %RH, 240 hrs. | |
| EMC | EMI : EN55011: 2007, A2 : 2007 Group 1, class B EMS : EN61326-1 : 2006 Table 2 | Switch operating pressure : ± 5 %F.S., maximum during tset ※ 1 |

※ 1 Change in the pressure indication, switch operating points.

PS30 PRESSURE SWITCHES WITH GAUGES

OUTLINE DIMENSIONS

Unless otherwise specified, tolerance : ± 0.5 (Unit : mm)

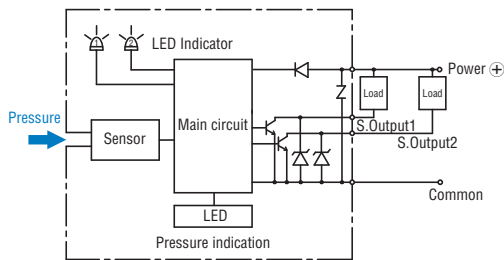


PS30

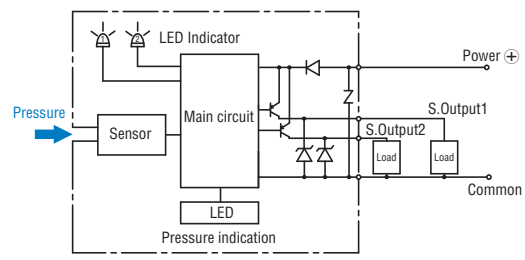
| Wire color | Connection |
|------------|-----------------|
| Brown | Power ⊕ |
| Black | Switch output 1 |
| White | Switch output 2 |
| Blue | Common |

INTERNAL ELECTRICAL SCHEMATICS

● NPN open collector



● PNP open collector



SELECTION OF DISPLAY MULTIPLIER

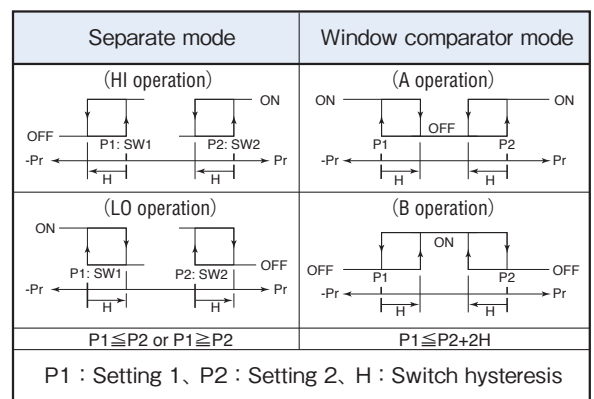
Please refer to the right list.

(Note) Diagonal column : No unit can be selected due to resolution and number of digits.

| Selection number | 102R | | 103R | |
|------------------|--------------------|---------------|--------------------|---------------|
| | Display multiplier | Display range | Display multiplier | Display range |
| 0 | × 1 | -100 ~ 100 | / | / |
| 1 | / | / | × 1 | -0.10 ~ 1.00 |
| 2 | × 0.75 | 75 ~ 75 | / | / |
| 3 | × 0.01 | -1.00 ~ 1.00 | × 10 | -1.0 ~ 10.0 |
| 4 | × 0.145 | -14.5 ~ 14.5 | × 145 | -14 ~ 145 |

SWITCH OUTPUT MODE

| Output | SW 1 | | | | SW 2 | | | |
|-----------|---------------------|----|--|---|---------------------|----|--|---|
| | Separate | | Window comparator | | Separate | | Window comparator | |
| Operation | HI | LO | A | B | HI | LO | A | B |
| 0 | ○ | | | | ○ | | | |
| 1 | ○ | | | | | ○ | | |
| 2 | | ○ | | | ○ | | | |
| 3 | | ○ | | | | ○ | | |
| 4 | | | ○ | | | | ○ | |
| 5 | | | ○ | | | | ○ | |
| 6 | | | | ○ | | | | ○ |
| 7 | | | | ○ | | | | ○ |
| | Setting 1 Note 1 | | Lower limit : Setting 1 Upper limit : Setting 1 Note 2 | | Setting 1 Note 1 | | Lower limit : Setting 1 Upper limit : Setting 1 Note 2 | |



(Note 1) In the Separate Mode, setting 1 corresponds to SW1, and Setting 2 corresponds to SW2.

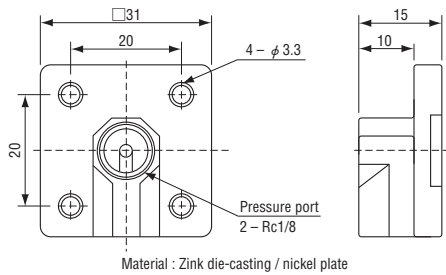
(Note 2) In the Window Comparator Mode, the minimum value for SW1 and SW2 corresponds to Setting 1 and the maximum value corresponds to Setting 2.

PS30

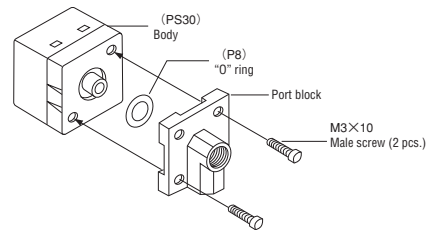
PRESSURE SWITCHES WITH GAUGES

■ HOW TO MOUNT OPTIONAL ACCESSORIES (Sold separately)

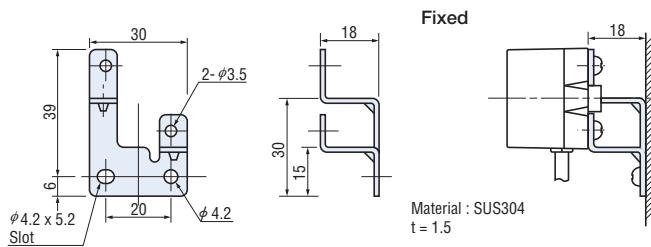
● Port block



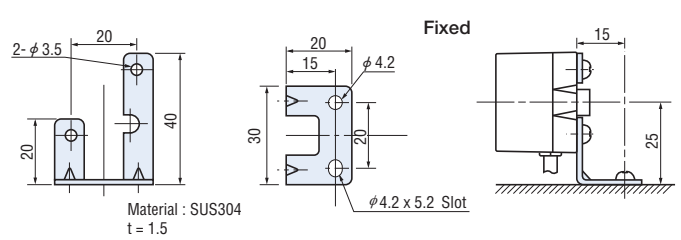
● How to mount port block



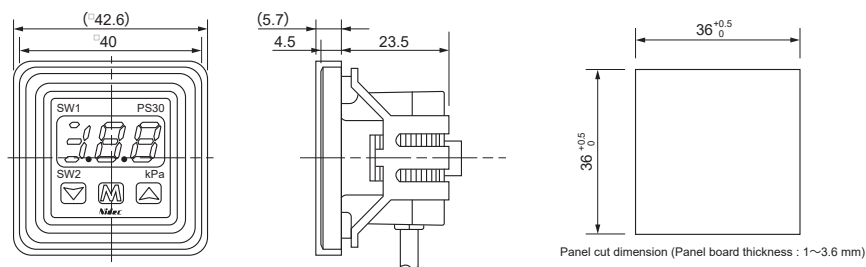
● Rear panel mounting bracket(ACPG-001)



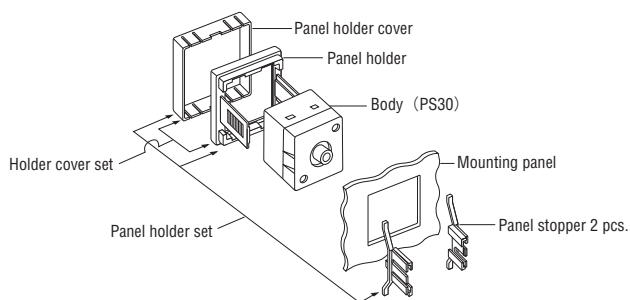
● Panel mounting bracket (ACPG-002)



● Panel mounting bracket (Option)



● How to mount panel holder cover set



| Name | Description | Contents | Applicable model |
|----------|---|--|--|
| ACPG-001 | Rear panel bracket set | Rear panel bracket and M3 x 4 male screw (2 pcs.) | PG-30-PS30 |
| ACPG-002 | Panel bracket set | Panel bracket and M3 x 4 male screw (2 pcs.) | PG-30-PS30 |
| ACPG-003 | Holder cover set (For protecting operating panel) | Panel holder cover Panel holder Panel stopper (2 pcs.) | PG-30-PG-35 PG-75-PG-35H PG-35L-PS30 |
| ACPG-004 | Holder cover set (For protecting operating panel) | Panel holder cover Panel holder | PG-30-PG-35 PG-75-PG-35H PG-35L-PS30 |
| ACPG-005 | Port block | Port block "O" ring (P8) M3 x 10 Male screw 2 pcs. Seal screw 1 pc. | PS30 |
| ACPG-007 | Holder stopper set | Panel holder Panel stopper (2pcs.) | PG-30-PG-35 PG-75-PG-35H PG-35L-PS30 |