

Digitized Automation for a Changing World

Delta Multifunction Pressure Sensor DPA Series



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 **DELTA**
Smarter. Greener. Together.

Multifunction Pressure Sensor DPA Series

- ▶ Energy-saving mode
- ▶ Various unit conversion
- ▶ Analog output function
- ▶ Various output modes
- ▶ 3-color display
- ▶ Fast zero reset
- ▶ Safety control function
- ▶ Easy code display
- ▶ 10 sets of output response time setup
- ▶ Parameter copy function
- ▶ RS-485 communication

Various Unit Conversion

The DPA Series offers 6 kinds of globally adopted pressure units for measurement and display.



Fast Parameter Copy

The DPA Series allows fast internal parameters duplication from the master to slaves and saves time for configuring the same parameters on multiple slaves.



3-Color LCD Display (Green, Red, Orange)

The large LCD with a green, red and orange 3-color LCD display allows users to set up the display colors for different ambient environments, such as pressures within normal ranges or larger than the allowed ranges. The text display color in the parameter setup mode is orange. 3-Color display enables easy reading and reduces operation errors.



Display color for upper / lower limit (green / red)



Parameter Setup (orange)

Safety Control Mode

The safety control mode prevents operators from accidental setting to relevant parameters that may affect the equipment operation and production.



Locked

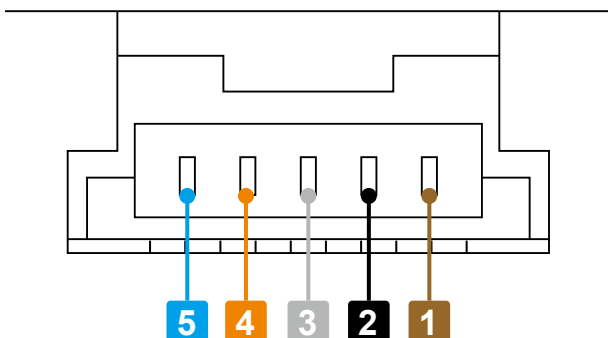
Real-time Collecting Pressure Data via RS-485



Specifications

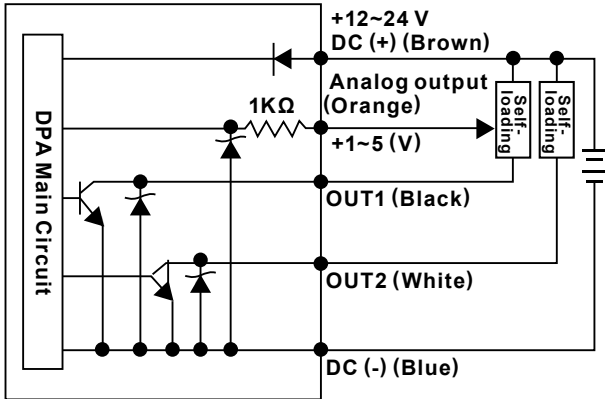
| | | |
|-------------------------------|---|---|
| Power Supply | Voltage range | 12~24 V _{DC} ±10% no isolation |
| | Power consumption | 40mA Max.; current output type 60mA Max. |
| Communication | For communication model | RS-485 |
| Pressure Measurement | Pressure type | Non-corrosive gas, gauge type |
| | Measurable range | DPA01: -100 kPa ~ 100 kPa |
| | | DPA10: -100 kPa ~ 1,000 kPa |
| | Max. durable pressure | DPA01: 200 kPa |
| | | DPA10: 1,100 kPa |
| Measurement accuracy | ±3% entire process | |
| Temperature inaccuracy | ± 2% entire process | |
| Display | Setup | 2-line LCD display, 4 digits for measured value and 3.5 digits for setup display |
| | Status | LCD output status display |
| | Display mode | 3 colors for different modes |
| | Cycle | 250 ms, 500 ms, 1,000 ms |
| | Pressure units | DPA01 (low pressure type): kPa, kgf/cm ² , bar, psi, mmHg, inchHg DPA10 (high pressure type): MPa, kgf/cm ² , bar, psi, cmHg, inchHg Data Display: Displays the first digit after the decimal point |
| Output | Number of outputs | Built-in 2 NPN or PNP transistor digital outputs and 1 analog output |
| | Transistor output | NPN: Max. durable pressure 30V / 100 mA, residual voltage 1.5V |
| | Analog output | 1~5V: Min. output load resistance 1,000Ω |
| | | 4~20mA: Max. output load resistance 400Ω; linear inaccuracy < 2% entire process |
| | Response time | 2 ms, 4 ms, 10 ms, 30 ms, 50 ms, 100 ms, 250 ms, 500 ms, 1,000 ms, 5,000 ms |
| Output inaccuracy | Linear inaccuracy: < ± 2% entire process | |
| Shock Resistance | 10~550 Hz, 100 mm, 3 axes for 2 hours | |
| Vibration Resistance | Max. 100 m/s ² , 3 axes 6 directions, 3 times each | |
| Operating Ambient Temperature | 0~50 °C | |
| Storage Temperature | -20~65 °C | |
| Altitude | < 2,000 m | |
| Operating Relative Humidity | 35~80% RH (non-condensing) | |

Terminals

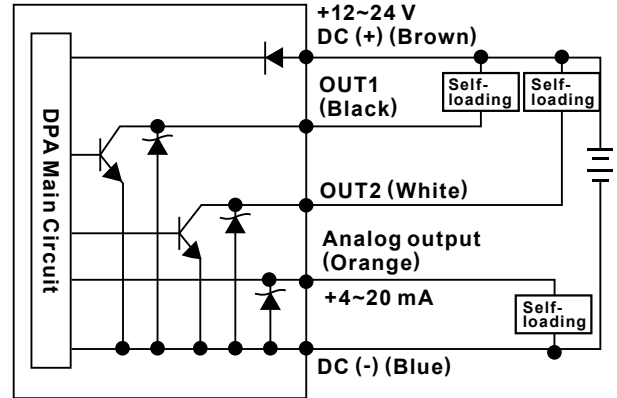


| No. | General Model | RS-485 Model |
|-----|-------------------------------------|------------------|
| 1 | Positive power supply input (Brown) | |
| 2 | Digital output 1 signal (Black) | |
| 3 | Digital output 2 signal (White) | RS-485+ (White) |
| 4 | Analog output signal (Orange) | RS-485- (Orange) |
| 5 | Negative power supply input (Blue) | |

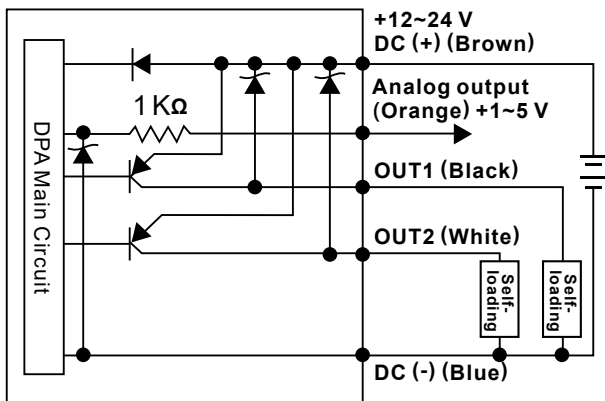
Various Output Control Modes



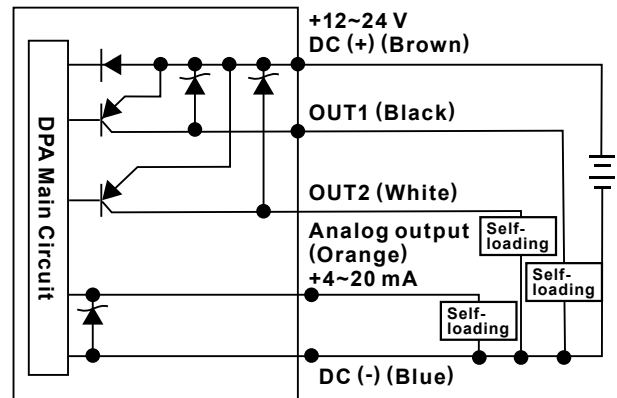
NPN +1 ~ 5V Output



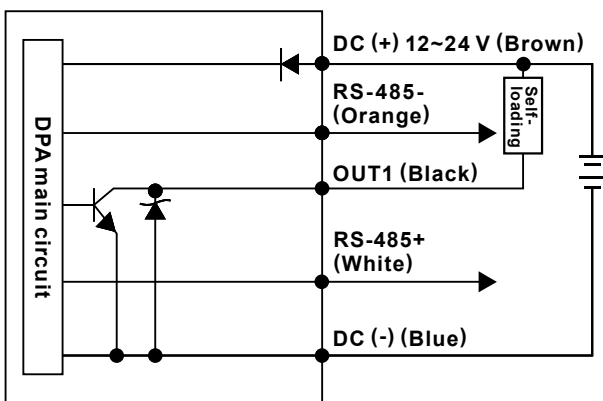
NPN +4 ~ 20mA Output



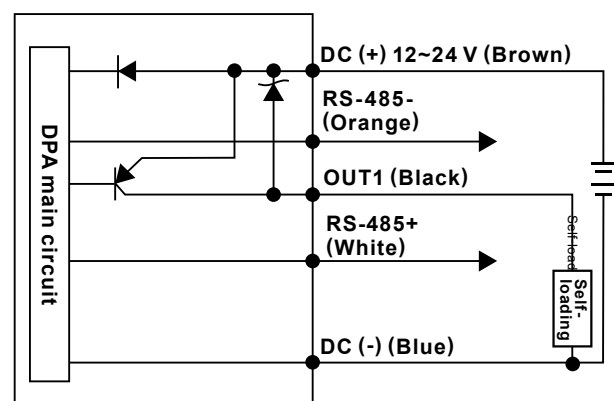
PNP +1 ~ 5V Output



PNP +4 ~ 20mA Output



NPN RS-485 Output



PNP RS-485 Output

Model Information

DPA 01 N R - P

Product Name

DPA Series pressure sensor

Range for Pressure Measurement

01: -100 kPa ~ 100 kPa
10: -100 kPa ~ 1,000 kPa

Output Types

N: NPN output + 4 ~ 20 mA P: PNP output + 4 ~ 20 mA
M: NPN output + 1 ~ 5 V Q: PNP output + 1 ~ 5 V

Pressure Pore Output Types

P: Outer pore 1/8PT, inner pore M5
N: Outer pore 1/8NPT, inner pore M5
G: Outer pore 1/8G, inner pore M5

Communication Type

R: RS-485
(for models with communication function only)

| RS-485 Model Specifications | |
|-----------------------------|---|
| DPA01NR-P | -100 ~ 100 kPa NPN requires 1/8PT for the external hole (s) and M5 for the internal hole (s) |
| DPA01PR-P | -100 ~ 100 kPa PNP requires 1/8PT for the external hole (s) and M5 for the internal hole (s) |
| DPA10NR-P | -100 ~ 1000 kPa NPN requires 1/8PT for the external hole (s) and M5 for the internal hole (s) |
| DPA10PR-P | -100 ~ 1000 kPa PNP requires 1/8PT for the external hole (s) and M5 for the internal hole (s) |

| Model | DPA / DPB Accessories |
|------------|------------------------------|
| DPA-PFKIT | Panel Installation |
| DPA-FMKIT | Bracket |
| DPA-FPCKIT | Transparent Protective Cover |

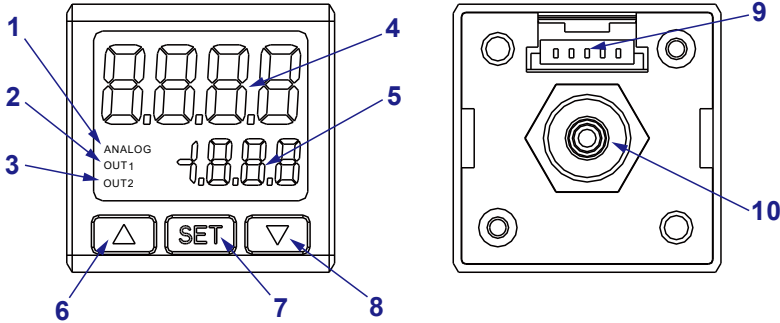
| -100 ~ 100 kPa NPN Series Specifications | |
|--|--|
| DPA01M-G | -100 ~ 100 kPa NPN outputs 1 ~ 5V; requires 1/8 for the external hole (s) and M5 for the internal hole (s) |
| DPA01M-N | -100 ~ 100 kPa NPN outputs 1 ~ 5V; requires 1/8NPT for the external hole (s) and M5 for the internal hole (s) |
| DPA01M-P | -100 ~ 100 kPa NPN outputs 1 ~ 5V; requires 1/8PT for the external hole (s) and M5 for the internal hole (s) |
| DPA01N-G | -100 ~ 100 kPa NPN outputs 4 ~ 20 mA; requires 1/8 for the external hole (s) and M5 for the internal hole (s) |
| DPA01N-N | -100 ~ 100 kPa NPN outputs 4 ~ 20 mA; requires 1/8NPT for the external hole (s) and M5 for the internal hole (s) |
| DPA01N-P | -100 ~ 100 kPa NPN outputs 4 ~ 20 mA; requires 1/8PT for the external hole (s) and M5 for the internal hole (s) |

| -100 ~ 100 kPa PNP Series Specifications | |
|--|--|
| DPA01Q-G | -100 ~ 100 kPa PNP outputs 1 ~ 5V; requires 1/8 for the external hole (s) and M5 for the internal hole (s) |
| DPA01Q-N | -100 ~ 100 kPa PNP outputs 1 ~ 5V; requires 1/8NPT for the external hole (s) and M5 for the internal hole (s) |
| DPA01Q-P | -100 ~ 100 kPa PNP outputs 1 ~ 5V; requires 1/8PT for the external hole (s) and M5 for the internal hole (s) |
| DPA01P-G | -100 ~ 100 kPa PNP outputs 4 ~ 20 mA; requires 1/8 for the external hole (s) and M5 for the internal hole (s) |
| DPA01P-N | -100 ~ 100 kPa PNP outputs 4 ~ 20 mA; requires 1/8NPT for the external hole (s) and M5 for the internal hole (s) |
| DPA01P-P | -100 ~ 100 kPa PNP outputs 4 ~ 20 mA; requires 1/8PT for the external hole (s) and M5 for the internal hole (s) |

| -100 ~ 1000 kPa NPN Series Specifications | |
|---|---|
| DPA10M-G | -100 ~ 1000 kPa NPN outputs 1 ~ 5V; requires 1/8 for the external hole (s) and M5 for the internal hole (s) |
| DPA10M-N | -100 ~ 1000 kPa NPN outputs 1 ~ 5V; requires 1/8NPT for the external hole (s) and M5 for the internal hole (s) |
| DPA10M-P | -100 ~ 1000 kPa NPN outputs 1 ~ 5V; requires 1/8PT for the external hole (s) and M5 for the internal hole (s) |
| DPA10N-G | -100 ~ 1000 kPa NPN outputs 4 ~ 20 mA; requires 1/8 for the external hole (s) and M5 for the internal hole (s) |
| DPA10N-N | -100 ~ 1000 kPa NPN outputs 4 ~ 20 mA; requires 1/8NPT for the external hole (s) and M5 for the internal hole (s) |
| DPA10N-P | -100 ~ 1000 kPa NPN outputs 4 ~ 20 mA; requires 1/8PT for the external hole (s) and M5 for the internal hole (s) |

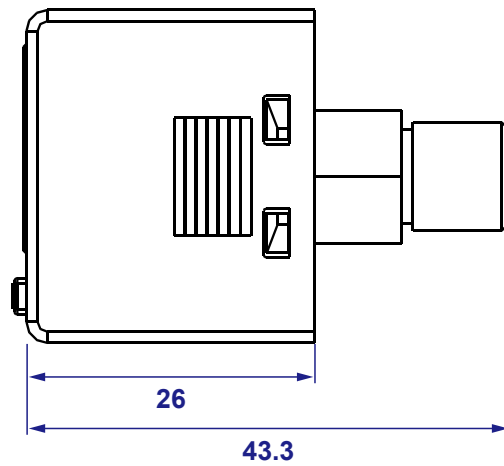
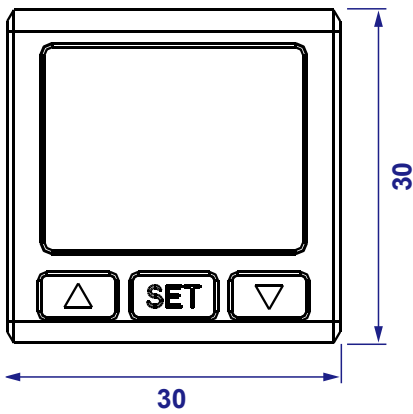
| -100 ~ 1000 kPa PNP Series Specifications | |
|---|---|
| DPA10Q-G | -100 ~ 1000 kPa PNP outputs 1 ~ 5V; requires 1/8 for the external hole (s) and M5 for the internal hole (s) |
| DPA10Q-N | -100 ~ 1000 kPa PNP outputs 1 ~ 5V; requires 1/8NPT for the external hole (s) and M5 for the internal hole (s) |
| DPA10Q-P | -100 ~ 1000 kPa PNP outputs 1 ~ 5V; requires 1/8PT for the external hole (s) and M5 for the internal hole (s) |
| DPA10P-G | -100 ~ 1000 kPa PNP outputs 4 ~ 20 mA; requires 1/8 for the external hole (s) and M5 for the internal hole (s) |
| DPA10P-N | -100 ~ 1000 kPa PNP outputs 4 ~ 20 mA; requires 1/8NPT for the external hole (s) and M5 for the internal hole (s) |
| DPA10P-P | -100 ~ 1000 kPa PNP outputs 4 ~ 20 mA; requires 1/8PT for the external hole (s) and M5 for the internal hole (s) |

Product Profile & Outline



- 1 Analog output indicator
- 2 Digital output 1 indicator
- 3 Digital output 2 indicator
- 4 Pressure / parameter display
- 5 SV / setup item display
- 6 Up key
- 7 Set key
- 8 Down key
- 9 Power supply and output terminals
- 10 Pressure input pore

Dimensions

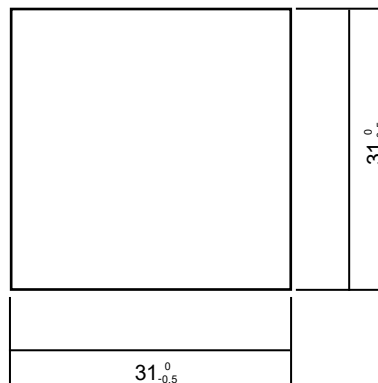
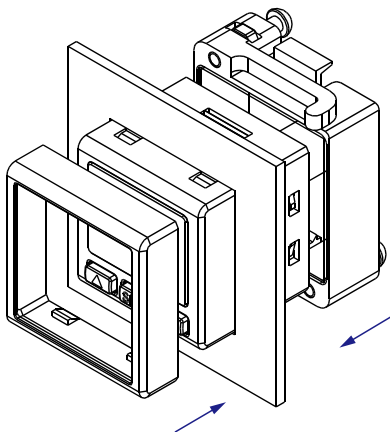


Unit: mm

Panel Accessory

Model: DPA-PFKit

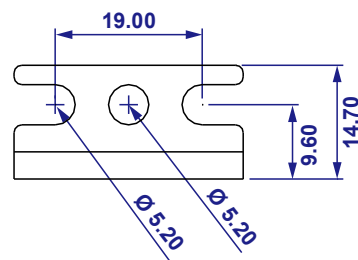
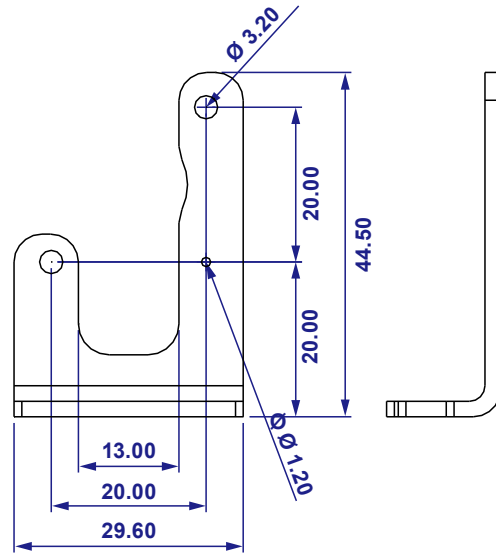
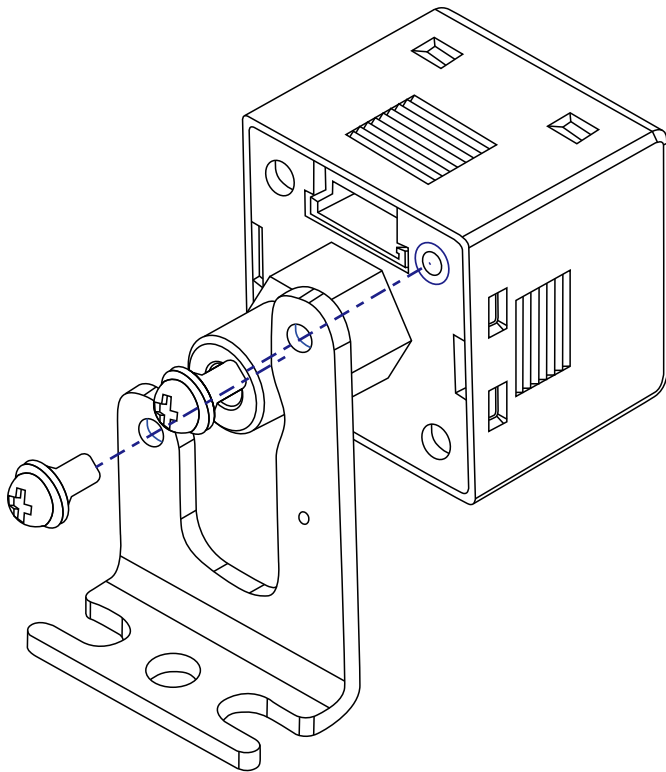
Unit: mm



Shelf Accessory

Model: DPA-FMKit

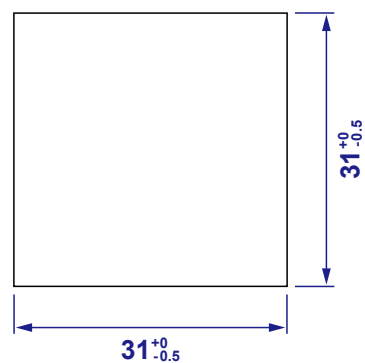
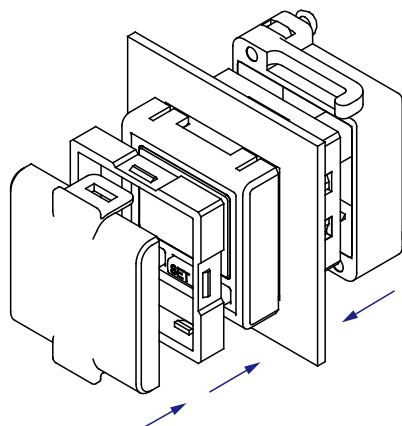
Unit: mm



Transparent Protective Cover

Model: DPA-FPCKIT

Unit: mm





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