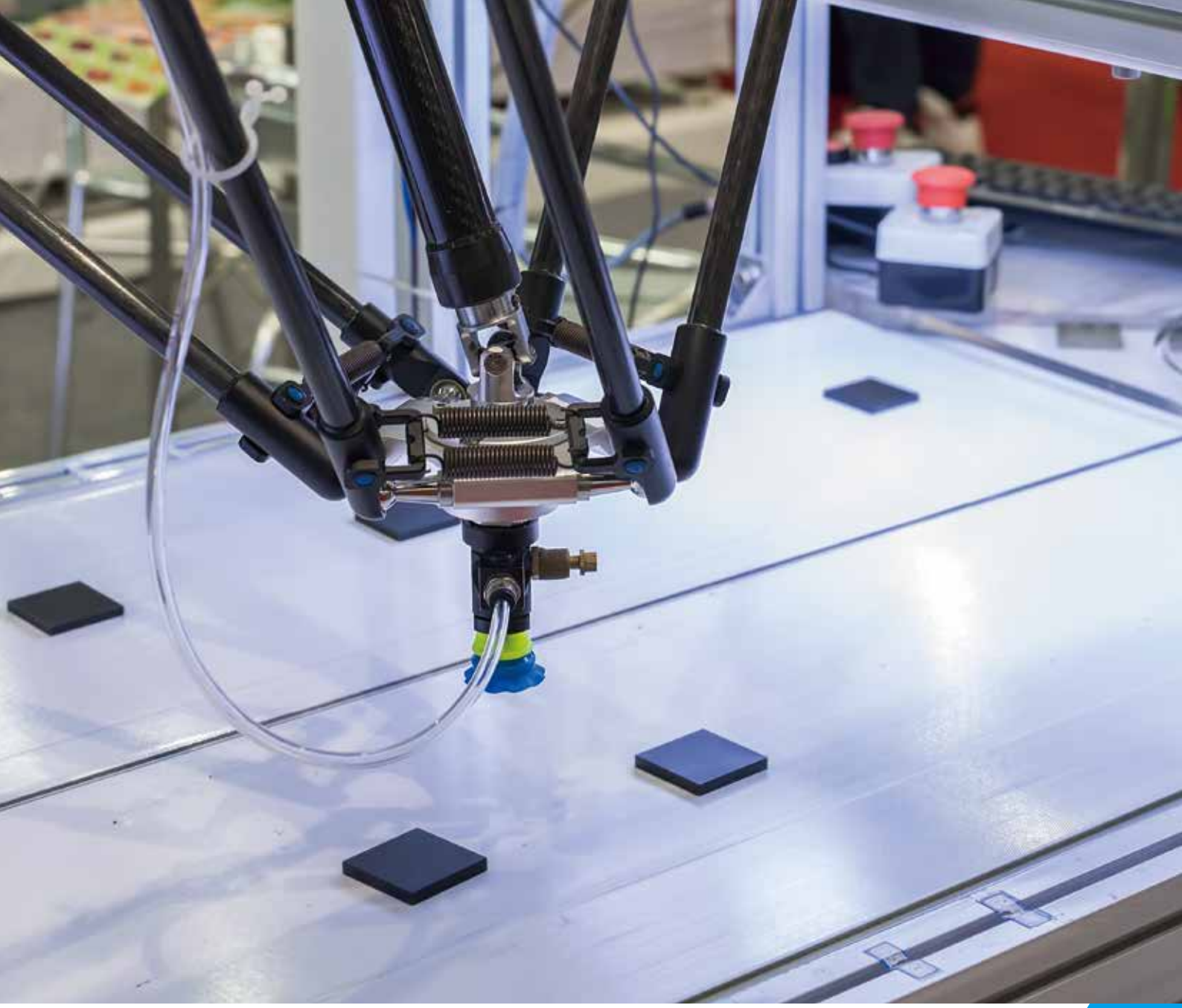


Digitized Automation for a Changing World

Delta Multifunction Pressure Sensor

DPA Series

www.deltaww.com

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.

Master Slave

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

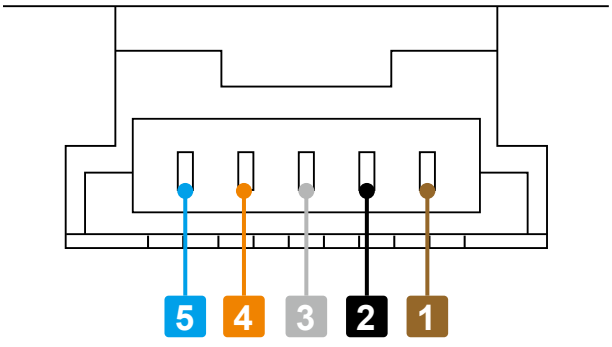
Real-time Collecting Pressure Data via RS-485

HMI for pressure data display

Specifications

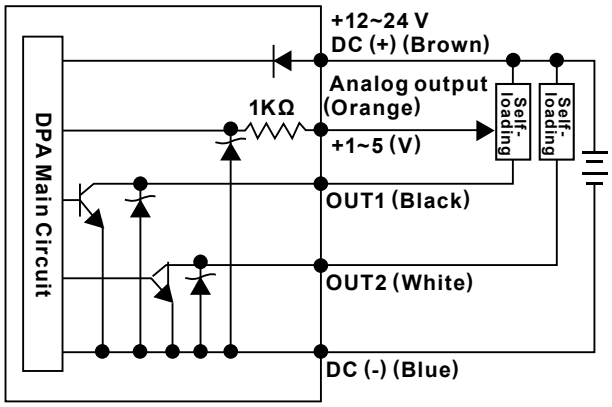
Power Supply	**Voltage range**	12~24 V_{DC} ±10% no isolation
	Power consumption	40 mA Max.; current output type 60 mA Max.
Communication	**For communiction model**	RS-485
Pressure Measurement	**Pressure type**	Non-corrosive gas, gauge type
	Measurable range	DPA01: -100 kPa ~ 100 kPa
		DPA10: -100 kPa ~ 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/cm², bar, psi, mmHg, inchHg DPA10 (high pressure type): MPa, kgf/cm², 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 1.5 V
	Analog output	1~5 V: Min. output load resistance 1,000 Ω
		4~20 mA: Max. output load resistance 400 Ω; 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/s², 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

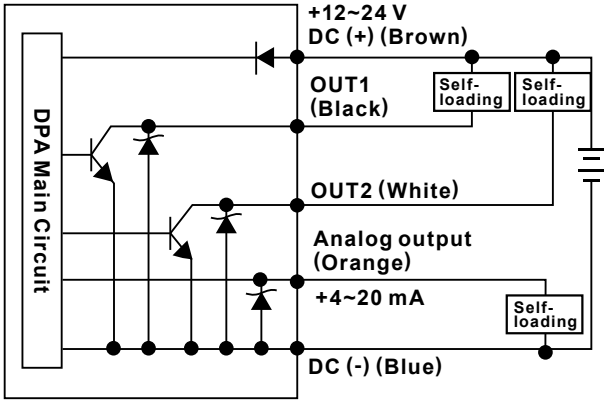


No.	General Model	RS-485 Model
1	Positive power supply input (Brown)	
2	Digital output 1 signal (Black)	
3	Digital output 2 signal (White)	RS-485+ (White)
4	Analog output signal (Orange)	RS-485- (Orange)
5	Negative power supply input (Blue)	

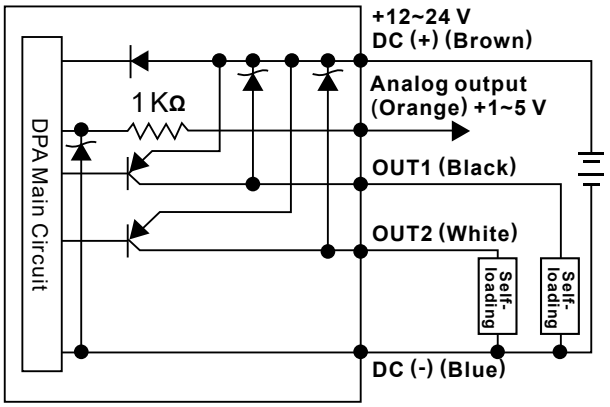
Various Output Control Modes



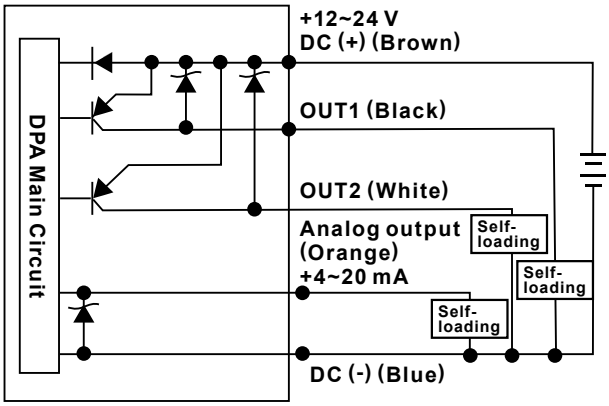
NPN +1 ~ 5V Output



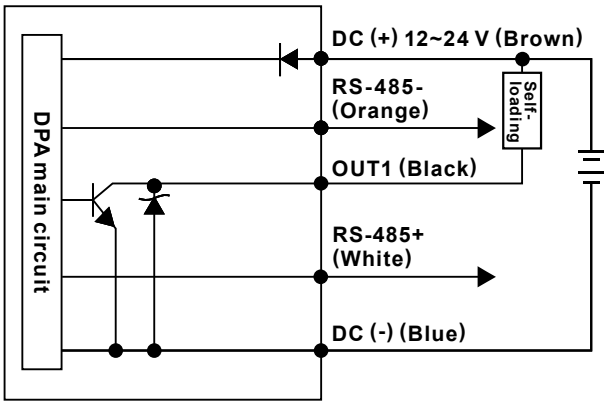
NPN +4 ~ 20mA Output



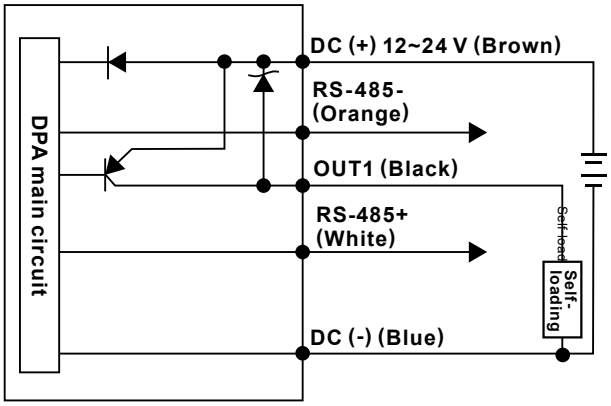
PNP +1 ~ 5V Output



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

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

Pressure Pore Output Types
P : Outer pore 1/8 PT, inner pore M5
N : Outer pore 1/8 NPT, inner pore M5
G : Outer pore 1/8 G, inner pore M5

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

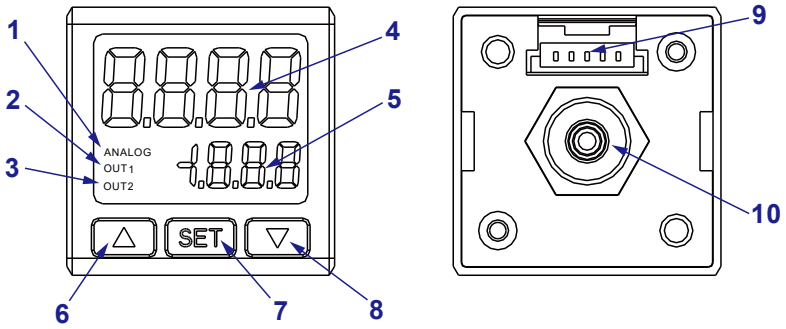
-100 ~ 100 kPa NPN Series Specifications	
DPA01M-G	-100 ~ 100 kPa NPN outputs 1 ~ 5 V; requires 1/8 for the external hole (s) and M5 for the internal hole (s)
DPA01M-N	-100 ~ 100 kPa NPN outputs 1 ~ 5 V; requires 1/8 NPT for the external hole (s) and M5 for the internal hole (s)
DPA01M-P	-100 ~ 100 kPa NPN outputs 1 ~ 5 V; requires 1/8 PT 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 1/8 NPT for the external hole (s) and M5 for the internal hole (s)
DPA01N-P	-100 ~ 100 kPa NPN outputs 4 ~ 20 mA; requires 1/8 PT 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 ~ 5 V; requires 1/8 for the external hole (s) and M5 for the internal hole (s)
DPA01Q-N	-100 ~ 100 kPa PNP outputs 1 ~ 5 V; requires 1/8 NPT for the external hole (s) and M5 for the internal hole (s)
DPA01Q-P	-100 ~ 100 kPa PNP outputs 1 ~ 5 V; requires 1/8 PT 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 1/8 NPT for the external hole (s) and M5 for the internal hole (s)
DPA01P-P	-100 ~ 100 kPa PNP outputs 4 ~ 20 mA; requires 1/8 PT 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 ~ 5 V; requires 1/8 for the external hole (s) and M5 for the internal hole (s)
DPA10M-N	-100 ~ 1000 kPa NPN outputs 1 ~ 5 V; requires 1/8 NPT for the external hole (s) and M5 for the internal hole (s)
DPA10M-P	-100 ~ 1000 kPa NPN outputs 1 ~ 5 V; requires 1/8 PT 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 1/8 NPT for the external hole (s) and M5 for the internal hole (s)
DPA10N-P	-100 ~ 1000 kPa NPN outputs 4 ~ 20 mA; requires 1/8 PT 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 ~ 5 V; requires 1/8 for the external hole (s) and M5 for the internal hole (s)
DPA10Q-N	-100 ~ 1000 kPa PNP outputs 1 ~ 5 V; requires 1/8 NPT for the external hole (s) and M5 for the internal hole (s)
DPA10Q-P	-100 ~ 1000 kPa PNP outputs 1 ~ 5 V; requires 1/8 PT 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 1/8 NPT for the external hole (s) and M5 for the internal hole (s)
DPA10P-P	-100 ~ 1000 kPa PNP outputs 4 ~ 20 mA; requires 1/8 PT for the external hole (s) and M5 for the internal hole (s)

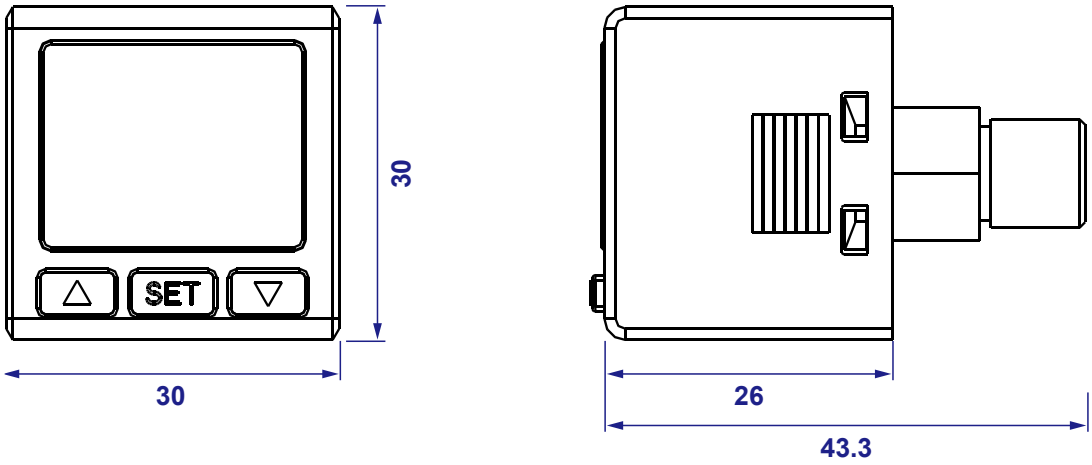
Product Profile & Outline



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

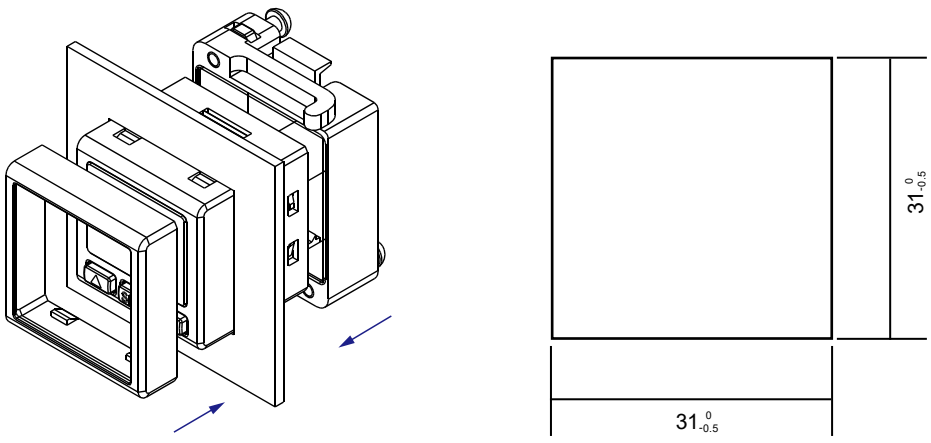
Unit: mm



Panel Accessory

Model: DPA-PFKit

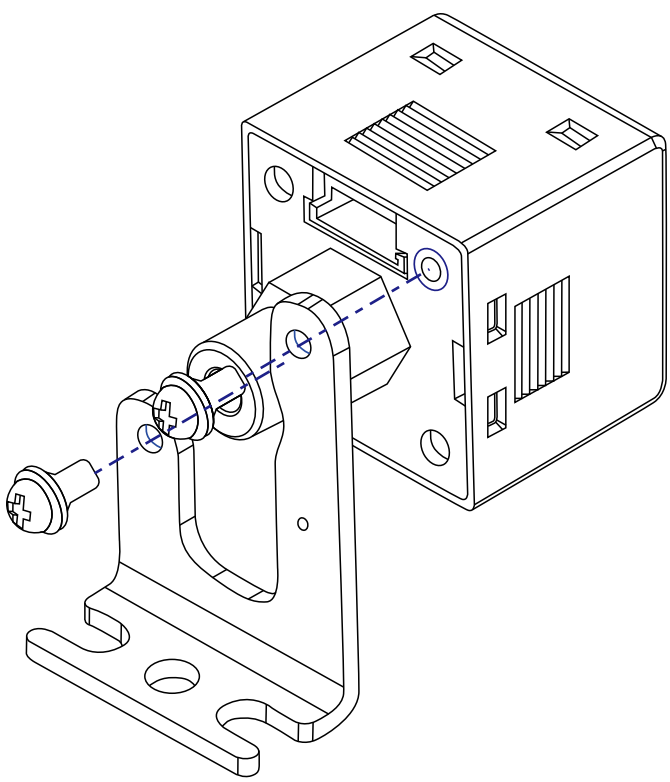
Unit: mm

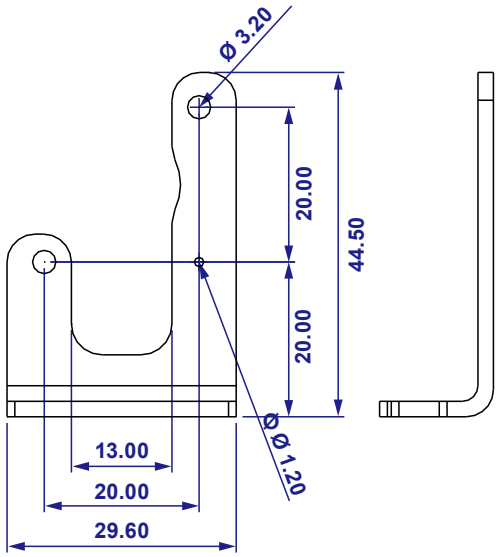


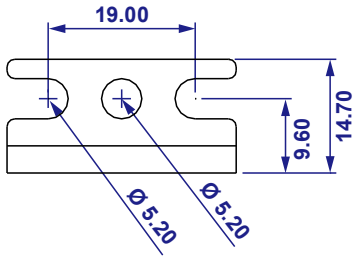
Shelf Accessory

Model : DPA-FMKit

Unit : mm



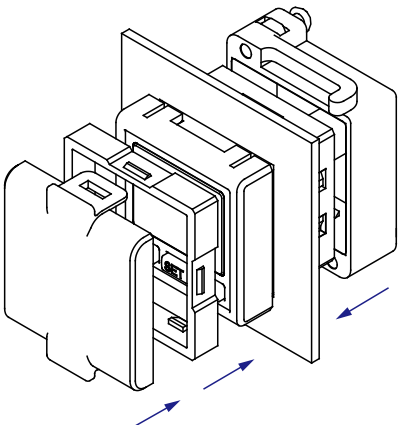


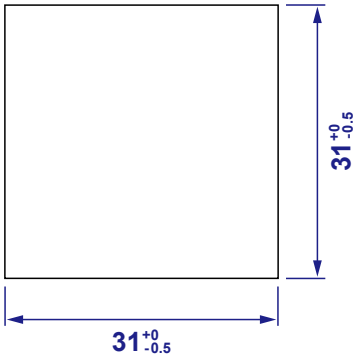


Transparent Protective Cover

Model : DPA-FPCKIT

Unit : mm





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