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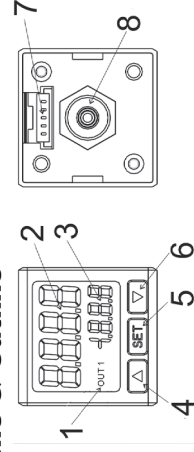


Series Pressure Sensor – RS485

Warning

- Keep away from high-voltage and high-frequency environment during the installation in case of interference. Prevent using the device in premises which contain:
 - dust or corrosive gas;
 - high humidity and high radiation;
 - shock and vibration.
- DPA can only be used for air pressure measurement and should avoid corrosive, inflammable or toxic gas measurement.

Product Profile & Outline



- Digital output 1 indicator
- Pressure/parameter display
- SV/Setup item display
- UP key
- SET key
- DOWN key
- Power supply and output terminals (with RS485)
- Pressure input pore

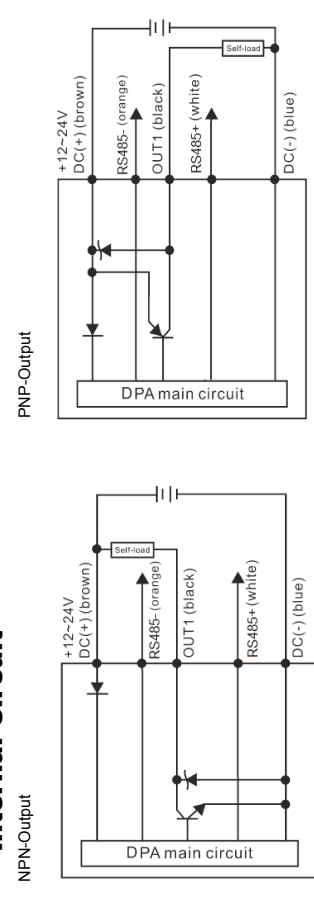
Ordering Information

DPA 1 2 3 4 - 5	
Series name	DPA: Delta DPA series pressure sensor
1 2 Measurable pressure range	01: -100kPa ~ 100kPa 10: -100kPa ~ 1,000kPa
3 4 Output types	PR: PNP output + RS485; NR: NPN output + RS485;
5 Pressure pore types	P: Outer pore PT 1/8, inner pore M5 N: Outer pore NPT 1/8, inner pore M5 G: Outer pore G 1/8, inner pore M5

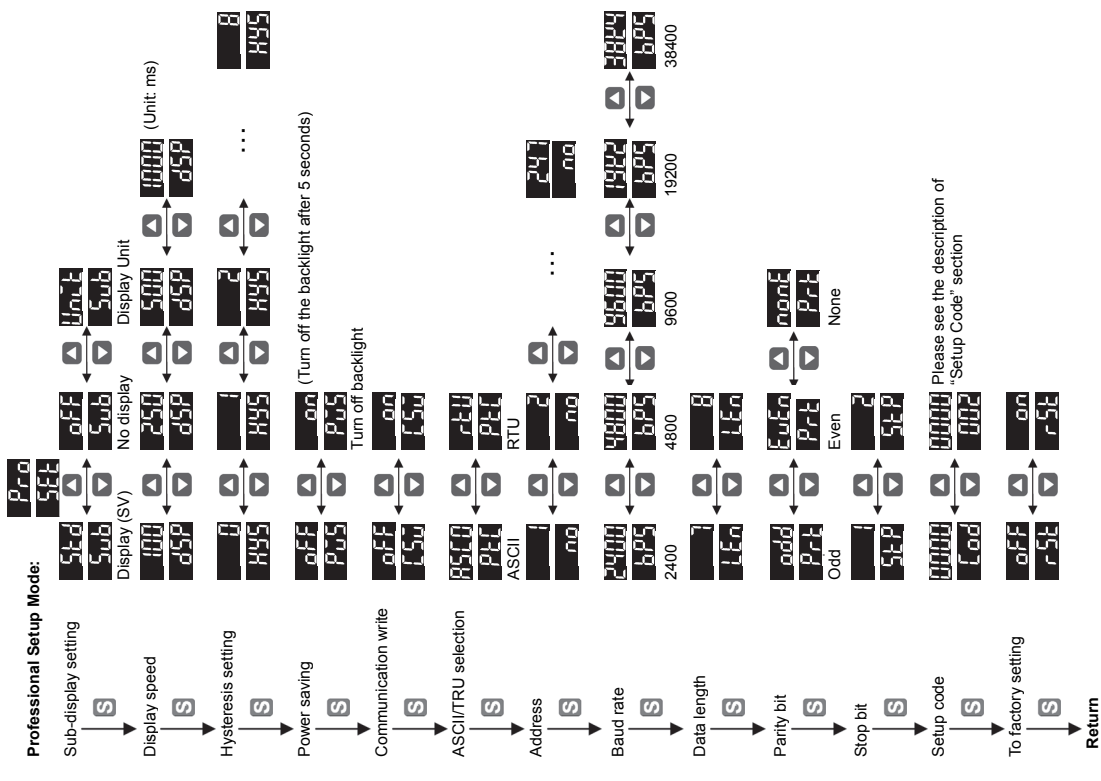
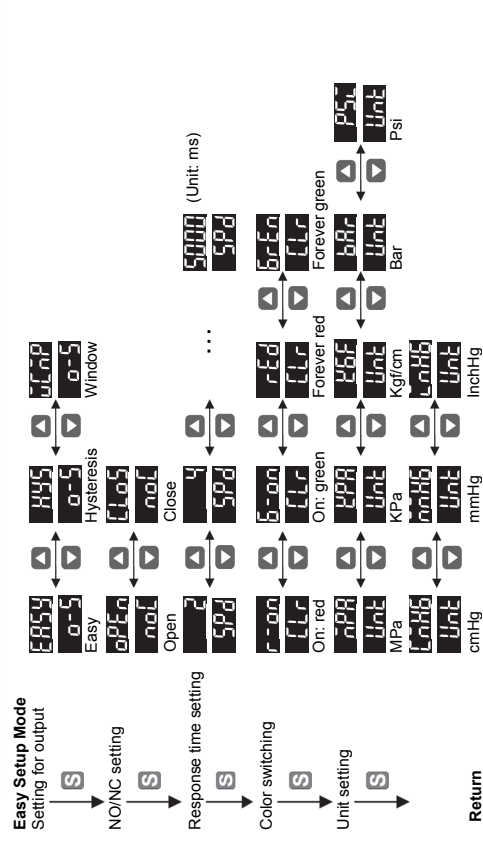
Electrical Specifications

Power supply	Voltage range 12 ~ 24V DC +/- 10% no isolation
	Power consumption 40mA Max
Pressure measurement	Pressure type Non-corrosive gas, gauge type
	Measurable range DPA01: -100kPa ~ 100kPa; DPA10: -100kPa ~ 1,000kPa
	Max. durable pressure DPA01: 200kPa; DPA10: 1,100kPa
	Accuracy +/- 3% entire process
Display	Setup display 2-line LCD display, 4 digits for measured value and 3.5 digits for setup display
	Cycle 100ms, 250ms, 500ms, 1,000ms
	Number of outputs Built-in 1 NPN or PNP transistor digital output
Output	Transistor output Max. durable pressure 30V/100mA, residual voltage 1.5V
	Response time 2ms, 4ms, 10ms, 30ms, 50ms, 100ms, 250ms, 500ms, 1,000ms, 5,000ms
	Output inaccuracy Linear inaccuracy: $\pm 2\%$ entire process
Communication	RS485 interface, 2400~38400bps, support ASCII/RTU
Temperature	Ambient: 0°C ~ +50°C; Storage: -20°C ~ +85°C
Ambient humidity	35% ~ 80% RH (non-condensing)

Internal Circuit

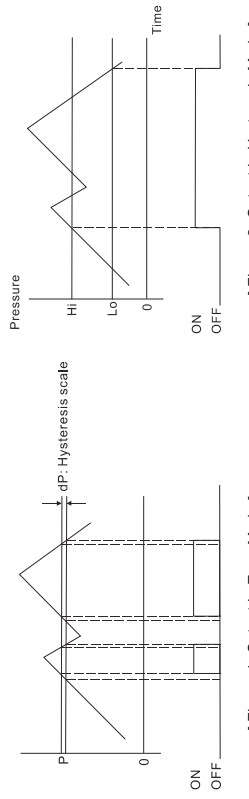


How to Set up Parameters



Output Mode Setting

- Easy Mode: When the pressure is bigger than (P + dP), the output will be ON. When the pressure is smaller than P, the output will be OFF. (See Figure 1: Output in Easy Mode)
 - In the 'Measuring Mode', press [M] and find [0-9] (OUT) and Use [M] to set up P value.
 - In the 'Advanced Setup Mode', press [M] and find [HYS] Use [M] to set up 'dP' value.
- Hysteresis Mode: When the pressure is bigger than the Hi value, the output will be ON. When the pressure is smaller than the Lo value, the output will be OFF. (See Figure 2: Output in Hysteresis Mode)
 - In the 'Measuring Mode', press [M] and find [0-H] Use [M] to set up HiLo values.

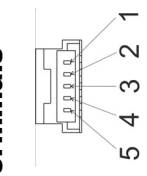


RS-485 Communication

- Address ID number range: 1~247
- Transmission baud rate speed: 2,400, 4,800, 9,600, 19,200, 38,400bps
- Data length: 7 or 8
- Data parity bit: Even, Odd, None
- Data stop bit: 1 or 2
- Communication protocol: ASCII or RTU selectable
- Function code: 03H (read Max. 8 words in register), 06H (write 1 word into register)
- Communication write function: Enable or Disable

Address	Content	Explanation
1000H	PV value	Measuring unit is 0.1
1001H	SV value	Easy mode setting
1002H	Upper limit	When Hysteresis and Window mode
1003H	Lower limit	When Hysteresis and Window mode
1004H	Output mode	0: Easy mode; 1: Hysteresis mode; 2: Window mode
1005H	Output NO/NC setting	0: Normal open; 1: Normal close
1006H	Response time	0: 2ms; 1: 4ms; 2: 10ms; 3: 30ms; 4: 50ms; 5: 100ms; 6: 250ms; 7: 500ms; 8: 1000ms; 9: 5000ms
1007H	PV display color	0: Red when output; 1: Green when output; 2: Red; 3: Green
1008H	Pressure unit	0: kPa; 1: MPa; 2: kgf/cm ² ; 3: Psi; 4: mmHg/cmHg; 5: inchHg
1009H	Auxiliary display	0: Standard; 1: OFF; 2: Unit
100AH	Display speed	0: 100ms; 1: 250ms; 2: 500ms; 3: 1000ms
100BH	Hysteresis	0-9 (unit: 0.1)
100CH	Power saving	0: OFF; 1: ON
100EH	Communication write	0: Disable; 1: Enable

Terminals



- Positive power supply input (brown)
- Digital output 1 signal (black)
- RS485+ (white)
- RS485- (orange)
- Negative power supply input (blue)

Download detailed operation instruction from Delta's website www.delta.com.tw/industrialautomation

Zero Returning

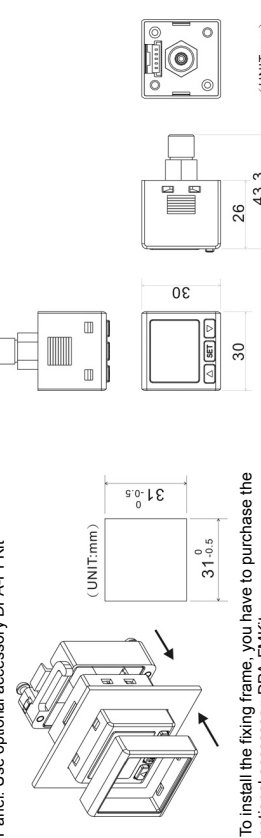
In the 'Measuring Mode', press [M] together, and you will see [0000]. The zero returning will start. Release the keys to end the zero returning.

Key Locking Function

Press [M] and [M] together for 2 seconds to switch lock, press [M] and [M] together for 2 seconds to switch unlock.

How to Install

Panel: Use optional accessory DPA-PFKIT



To install the fixing frame, you have to purchase the optional accessory: DPA-FMKIT.