

Pressure Sensor Controller

Series *PSE300*



How to Order



DIN rail/terminal block type

PSE3 0 0 T-M



Connector type

PSE3 0 0 -M

Input specifications

0	Voltage input
1	Current input

Input/Output specifications

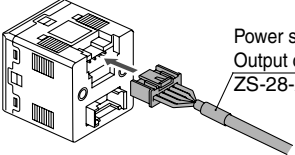
0	NPN 2 outputs + 1-5 V output
1	NPN 2 outputs + 4-20 mA output
2	NPN 2 outputs + Auto-shift input
3	PNP 2 outputs + 1-5 V output
4	PNP 2 outputs + 4-20 mA output
5	PNP 2 outputs + Auto-shift input

Unit specifications

Nil	With unit display switching function
M	Fixed SI unit <small>Note)</small>

Note) Fixed unit
For vacuum, low pressure, low differential pressure and compound pressure: kPa
For positive pressure: MPa (For 1 MPa)
kPa (For 500 kPa)

Option 1

Nil	None
L	Power supply/Output connection cable 

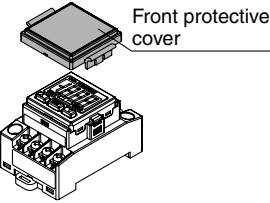
Note) The cable is unassembled in the factory, but is included with the shipment.

Order DIN rail separately. Refer to page 852.

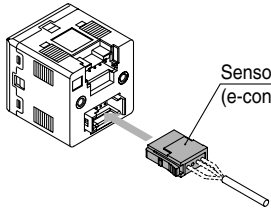
Option

Description	Part no.	Note
Power supply/Output connection cable (2 m)	ZS-28-A	
Bracket	ZS-28-B	With M3 x 5L (2 pcs.)
Sensor connector	ZS-28-C	1 pc.
Panel mount adapter	ZS-27-C	With M3 x 8L (2 pcs.)
Panel mount adapter + Front protective cover	ZS-27-D	With M3 x 8L (2 pcs.)
Front protective cover	ZS-27-01	1 pc.

Option

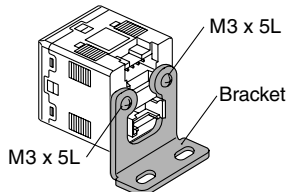
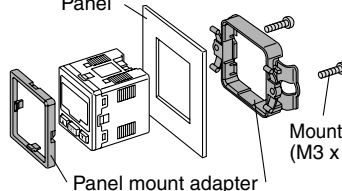
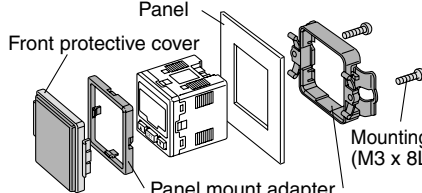
Nil	None
E	Front protective cover 

Option 3

Nil	None
C	Sensor connector 

Note) At the factory, the connector is not attached to the cable, but packed together with it for shipment.

Option 2

Nil	None
A	Bracket 
B	Panel mount adapter 
D	Panel mount adapter + Front protective cover 

Note) These options are not attached in the factory, but packed together with it for shipment.

ZSE
ISE

ZSP

PS

ISA

PSE

IS

ISG

ZSM

Series PSE300

Specifications

Model		PSE3□□					
Applicable pressure sensor		PSE533 PSE543 PSE563	PSE531 PSE541 PSE561	PSE532	PSE530 PSE560	PSE564	PSE550
Set (differential) pressure range		−101 to 101 kPa	10 to −101 kPa	−10 to 100 kPa	−0.1 to 1 MPa	−50 to 500 kPa	−0.2 to 2 kPa
Setting/Display resolution		0.2 kPa	0.1 kPa	0.1 kPa	0.001 MPa	1 kPa	0.01 kPa
Pressure range <small>Note 1)</small>		For compound pressure	For vacuum	For low pressure	For positive pressure		For low differential pressure
Rated (differential) pressure range		−100 to 100 kPa	0 to −101 kPa	0 to 100 kPa	0 to 1 MPa	0 to 500 kPa	0 to 2 kPa
Extension analog output range		—	10.1 to 0 kPa	−10 to 0 kPa	−0.1 to 0 MPa	−50 to 0 kPa	−0.2 to 0 kPa
Power supply voltage		12 to 24 VDC ±10%, Ripple (p-p) 10% or less (with power supply polarity protection)					
Current consumption		50 mA or less (Current consumption for sensor is not included.)					
Sensor input		PSE30□: Voltage input 1 to 5 VDC (Input impedance: 1 MΩ) PSE31□: Current input 4 to 20 mADC (Input impedance: 100 Ω)					
	Number of inputs	1 input					
	Input protection	With excess voltage protection (Up to 26.4 V)					
Hysteresis		Hysteresis mode: Variable, Window comparator mode: Variable					
Switch output		NPN or PNP open collector output: 2 outputs					
	Maximum load current	80 mA					
	Maximum load voltage	30 VDC (at NPN output)					
	Residual voltage	1 V or less (with load current of 80 mA)					
	Output protection	With short circuit protection					
Response time		1 ms or less					
	Anti-chattering function	Response time settings for anti-chattering function: 20 ms, 160 ms, 640 ms, 1280 ms					
Repeatability		±0.1% F.S. or less					
Analog output	Voltage output <small>Note 2)</small>	Output voltage: 1 to 5 V (within rated pressure range (Differential pressure)), 0.6 to 1 V (within extension analog output range) Output impedance: Approx. 1 kΩ, Linearity: ±0.2% F.S. (Not including sensor accuracy), Response speed: 150 ms or less					
	Accuracy (To display value) (25°C)	±0.6% F.S. or less				±1.0% F.S. or less	±1.5% F.S. or less
	Current output <small>Note 2)</small>	Output current: 4 to 20 mA (within rated pressure range (Differential pressure)), 2.4 to 4 mA (within extension analog output range) Maximum load impedance: 300 Ω (at 12 VDC), 600 Ω (at 24 VDC), Minimum load impedance: 50 Ω Linearity: ±0.2% F.S. (Not including sensor accuracy), Response time: 150 ms or less					
	Accuracy (To display value) (25°C)	±1.0% F.S. or less				±1.5% F.S. or less	±2.0% F.S. or less
Display accuracy (Ambient temperature at 25°C)		±0.5% F.S. ±2 digits or less	±0.5% F.S. ±1 digit or less				
Display		3 + 1/2 digit, 7 segment indicator, 2-color display (Red/Green), Sampling frequency: 5 times/sec					
Indicator light		OUT1: Lights up when turned ON (Green), OUT2: Lights up when turned ON (Red)					
Auto-shift input <small>Note 2)</small>		Non-voltage input (Reed or Solid state), Low level input: 5 ms or more, Low level: 0.4 V or less					
Environmental resistance	Enclosure	IP40					
	Operating temperature range	Operating: 0 to 50°C, Stored: −10 to 60°C (No freezing or condensation)					
	Operating humidity range	Operating/Stored: 35 to 85% RH (No condensation)					
	Withstand voltage	1000 VAC for 1 minute between live parts and case					
	Insulation resistance	50 MΩ or more between live parts and case (at 500 VDC Mega)					
	Vibration resistance	10 to 150 Hz at whichever is smaller of 1.5 mm amplitude or 98 m/s ² acceleration, in X, Y, Z directions, for 2 hours each (De-energized)					
	Impact resistance	100 m/s ² in X, Y, Z directions, 3 times each (De-energized)					
Temperature characteristics		±0.5% F.S. or less (Based on 25°C)					
Connection		PSE3□□: Power supply/Output connection: 5P connector, Sensor connection: 4P connector PSE3□□T: Terminal block					
Material		Front case: PBT, Rear case: PBT (PSE3□□), Denaturated PPE (PSE3□□T)					
Mass	With power supply/Output connection cable	PSE3□□: 85 g					
	Without power supply/Output connection cable	PSE3□□: 30 g, PSE3□□T: 50 g					
Power supply/Output connection cable		Oil proof heavy-duty vinyl cable, 5 cores, ø4.1, 2 m, Conductor area: 0.2 mm ² Insulator O.D.: 1.12 mm					
Standards		Compliant with CE marking, UL (CSA)					

Note 1) Pressure range can be selected during initial setting.

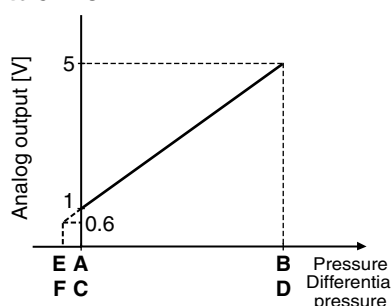
Note 2) Auto-shift function is not available when analog output option is selected.

Also, analog output option is not available when auto-shift function is selected.

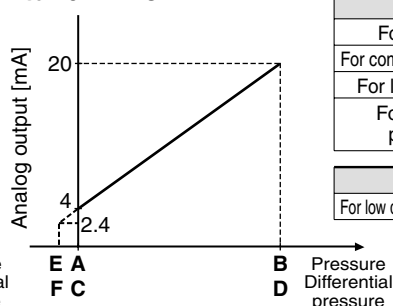
Note 3) The following units can be selected with unit conversion function:
For vacuum & compound pressure: kPa·kgf/cm²·bar·psi·mmHg·inHg
For positive pressure & low pressure: MPa·kPa·kgf/cm²·bar·psi
For low differential pressure: kPa·mmH₂O

Analog Output

1 to 5VDC



4 to 20 mADC



Range	Rated pressure range	A	B	E
For vacuum	0 to −101 kPa	0	−101 kPa	10.1 kPa
For compound pressure	−100 kPa to 100 kPa	−100 kPa	100 kPa	—
For low pressure	0 to 100 kPa	0	100 kPa	−10 kPa
For positive pressure	0 to 1 MPa	0	1 MPa	−0.1 MPa
	0 to 500 kPa	0	500 kPa	−50 kPa

Range	Rated pressure range	C	D	F
For low differential pressure	0 to 2 kPa	0	2 kPa	−0.2 kPa