

High Precision, Digital Pressure Switch For General Fluids Series **ZSE50F/ISE50**

How to Order



For positive pressure

ISE50



For compound pressure

ZSE50 F



Piping specifications

02	R 1/4 (M5 with female screw), Piping in backward direction
T2	NPT 1/4 (M5 with female screw), Piping in backward direction
G2*	G 1/4 (M5 with female screw), Piping in backward direction

* Option

Input/Output specifications

22	NPN open collector 2 output + Analog output
30	NPN open collector 2 output + Auto shift input
62*	PNP open collector 2 output + Analog output
70*	PNP open collector 2 output + Auto shift input

* Option

Note) Auto shift input is used for the auto shift function.
For more information, please refer to "Auto Shift Function" on page 16-2-32.

Lead wire length

L	3 m
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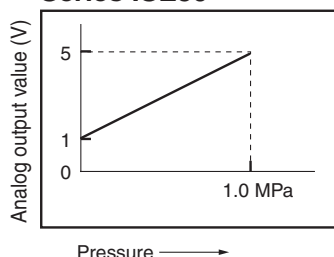
Option

Nil	None
A	Bracket A
D	Bracket D Refer to the dimensions for the difference between brackets A and D.
E	Panel mount
F	Panel mount + Front protection cover

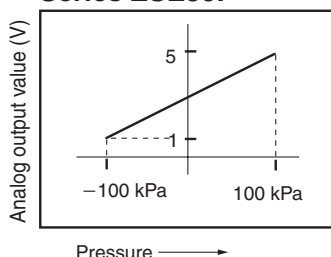
Analog Output

Suitable model: ZSE50F/ISE50-□-22/62(L)-(M)

Series ISE50



Series ZSE50F



Option

When option parts are required separately, use the following part numbers to place an order.

Option	Part no.	Qty.	Note
Bracket A	ZS-24-A	1	With 2 pcs. of mounting screws
Bracket D	ZS-24-D	1	With 2 pcs. of mounting screws
Panel mount	ZS-24-E	1	
Panel mount + Front protection cover	ZS-24-F	1	

Unit specification

Nil	With unit switching function ^{Note 1)}
M	Fixed SI unit ^{Note 2)}

Note 1) Under the New Measurement Law, which has been in effect since October, 1999, sales of switches with the unit conversion function have not been allowed for use in Japan.

Note 2) Fixed units:
For compound pressure : KPa
For positive pressure: MPa

High Precision, Digital Pressure Switch for General Fluids **Series ZSE50F/ISE50**

Specifications

		ZSE50F (Compound pressure)	ISE50 (Positive pressure)
Rated pressure range		−100 to 100 kPa	0.000 to 1.000 MPa
Operating pressure range and regulating pressure range		−100 to 100 kPa	−0.100 to 1.000 MPa
Proof pressure		500 kPa	1.5 MPa
Setting/Display resolution <small>Note 1)</small>	kPa	0.1	—
	MPa	—	0.001
	kgf/cm ²	0.001	0.01
	bar	0.001	0.01
	psi	0.02	0.1
	mmHg	1	—
		0.1	—
Fluid		Fluid that will not corrode stainless steel 630 and 304	
Power supply voltage		12 to 24 VDC, Ripple (p-p) 10% or less	
Current consumption		55 mA or less (With no load)	
Switch output		NPN or PNP 2 output (Max. applied voltage 30 V (NPN), Max. load current 80 mA)	
Repeatability		±0.2% F.S. ±1 digit or less	±0.3% F.S. ±1 digit or less
Hysteresis	Hysteresis mode	Variable (0 or above)	
	Window comparator mode	Fix (3 digits) <small>Note 4)</small>	
Response time		2.5 ms or less (With anti-chattering function: 24 ms, 192 ms, 768 ms or less)	
Output short circuit protection		Yes	
Display		3 1/2 digit LED display (Sampling frequency: 5 times/sec)	
Display accuracy		±2% F.S. ±1 digit or less (With ambient temperature of 25 ±3°C)	
Indicator light		Green LED (OUT1: Light up when ON), Red LED (OUT2: Lights up when ON)	
Analog output <small>Note 2)</small>		Output voltage: 1 to 5 V ±5% F.S. or less	Output voltage: 1 to 5 V ±2.5% F.S. or less
Auto shift input <small>Note 3)</small>		No-voltage input (Solid state switch or reed switch), input 5 ms or more	
Environmental resistance	Enclosure	IP65	
	Ambient temperature range	Operating: 0 to 50°C, Stored: −10 to 60°C (No condensation or freezing)	
	Ambient humidity range	Operating and stored: 35 to 85% RH (No condensation)	
	Withstand voltage	250 VAC for 1 min, between all lead wires and enclosure	
	Insulation resistance	2 MΩ or more (at 50 VDC) between all lead wires and enclosure	
	Vibration resistance	10 to 500 Hz with 1.5 mm amplitude or 98 m/s ² , whichever is smaller	
	Shock resistance	980 m/s ² in X, Y, Z directions 3 times each (Not energized)	
Temperature characteristics		±3% F.S. or less of measured pressure at 25°C in temperature range of 0 to 50°C	
Wetted material		Pressure receiving area: Stainless steel 630, Fittings: Stainless steel 304	
Port size		02: R 1/4, M5 x 0.8 T2: NPT 1/4, M5 x 0.8	
Lead wire		5-wire oil proof heavy-duty cable (0.15 mm ²)	
Weight		Approx. 120 g (Each including 3 m lead wire)	

Note 1) In case of types with unit conversion function. (Types without unit conversion function are fixed to the SI units (KPa or MPa).)

Note 2) When a type with analog output is selected.

Note 3) When a type with auto shift is selected.

Note 4) 0.03 to 0.04 psi in psi display.

Note 5) Value clear ±0.01 psi in psi display.

Note)

The possible set ranges for types with auto shift function are as follows:

Regulating pressure range	Possible set range
−100.0 to 100.0 kPa	−100.0 to 100.0 kPa
−0.1 to 1.000 MPa	−1.000 to 1.000 MPa

Function

Various additional functions are available for easy measurement, switch operation and check of measured values suitable for the conditions of the measured fluid.

Auto shift function <small>Note 1)</small>	Can correct the pressure set point value of switch output according to fluctuations in the primary pressure.	16-2-32
Anti-chattering function	Prevents malfunction due to sudden fluctuations in the primary pressure by adjusting the response time.	
Key lock function	The key board operation can be locked to prevent incorrect operation on the operation switch.	16-2-43
Peak hold function	Can retain the maximum pressure value displayed during measurement.	
Bottom hold function	Can retain the minimum pressure value displayed during measurement.	
Zero out function	The pressure display can be set at zero when the pressure is open to the atmosphere.	
Unit conversion (for overseas use) <small>Note 1)</small>	Can convert the display value (for overseas use only).	

Note 1) Select and order by specifying the types and models.