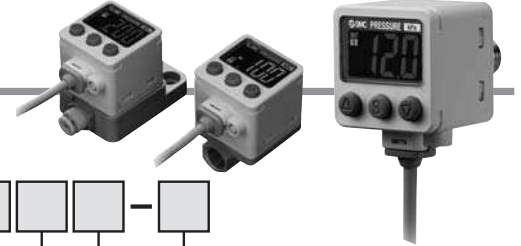


2-Color Display High Precision Digital Pressure Switch

Series ZSE40A(F)/ISE40A



How to Order



Rated pressure range
ISE40A -14.5 to 145.0 psi

For positive pressure

ISE40A - **01** - **X** - **P** [] [] - []

For vacuum/
compound pressure

ZSE40A - **01** - **Y** - **P** [] [] - []

Rated pressure range
ZSE40A 0.00 to -14.69 psi
ZSE40AF -14.50 to 14.50 psi

Piping specifications

Option	Specification	Diagram
01	R1/8 (With M5 female thread)	
N01	NPT1/8 (With M5 female thread)	
W1	Rc1/8	
WF1*	G1/8	
M5*	M5 x 0.8 (Female thread)	
C4*	ø4 one-touch fitting	
C6*	ø6 one-touch fitting	

* Made to Order

Combination of piping specifications with option 1 and part numbers of options

Option 1	Piping									
	Description	Symbol	Part no.	01	N01	W1	WF1	M5	C4	C6
Bracket A	A	ZS-24-A	○	○	○	○	○	×	×	×
Bracket B	B	ZS-24-B	×	×	○	○	○	×	×	×
Bracket D	D	ZS-24-D	○	○	○	○	×	×	×	×
Panel mount adapter	E	ZS-35-C	○	○	×	×	×	×	×	×
	F	ZS-35-D	×	×	○	○	○	○	○	○
Panel mount adapter + Front protective cover	F	ZS-35-F	○	○	×	×	×	×	×	×
	F	ZS-35-G	×	×	○	○	○	○	○	○

Output specifications

R	NPN open collector 2 outputs + Analog voltage/Auto-shift switching
T	PNP open collector 2 outputs + Analog voltage/Auto-shift switching
S	NPN open collector 2 outputs + Analog current/Auto-shift switching
V	PNP open collector 2 outputs + Analog current/Auto-shift switching
X	NPN open collector 2 outputs + Copy function
Y	PNP open collector 2 outputs + Copy function

When optional parts are required separately, Options/Part No. use the following part numbers to place an order.

Part no.	Option
ZS-24-A	Bracket A With 2 mounting screws of each M3 x 5L, M4 x 5L
ZS-24-B	Bracket B With 2 mounting screws M4 x 5L
ZS-24-D	Bracket D With 2 mounting screws of each M3 x 5L, M4 x 5L
ZS-35-C	Panel mount adapter (Piping: For 01/N01)
ZS-35-D	Panel mount adapter (Piping: For W1/WF1/M5/C4/C6)
ZS-35-F	Panel mount adapter + Front protective cover (Piping: For 01/N01)
ZS-35-G	Panel mount adapter + Front protective cover (Piping: For W1/WF1/M5/C4/C6)

Unit specifications

Nil	With unit switching function (Note 1)
M	Fixed SI unit (Note 2)
P	With unit switching function (Note 1) (Initial value psi)

Note 1) Under the New Measurement Law, sales of switches with the unit switching function are not allowed for use in Japan.

Note 2) Fixed unit:
 For vacuum/compound pressure: kPa
 For positive pressure: MPa

• Made to Order

• Option 2

Symbol	Calibration certificate
Nil	—
K	○

Symbol	Specifications/Description
X501	Lead wire length 3 m
X531	M12 4-pin pre-wired connector (Lead wire length 100 mm)

• Option 1*

Refer to page 17 for details.

Nil	None	
A	Bracket A	
B	Bracket B	
D	Bracket D	
E	Panel mount adapter	
	01/N01	
F	Panel mount adapter + Front protective cover	
	01/N01	

* Some options are unavailable depending on the piping specifications. Refer to "Combination of piping specifications with option 1 and part numbers of options".

Series ZSE40A(F)/ISE40A

Specifications

Model		ZSE40A (vacuum pressure)	ZSE40AF (compound pressure)	ISE40A (positive pressure)	
Rated pressure range		0.00 to -14.69 psi	-14.50 to 14.50 psi	-14.5 to 145.0 psi	
Display/Set pressure range		1.45 to -15.23 psi	-15.22 to 15.22 psi	-15.2 to 152.3 psi	
Withstand pressure		72.5 psi	72.5 psi	218 psi	
Display/Minimum unit setting		0.01 psi	0.02 psi	0.1 psi	
Applicable fluid		Air, Non-corrosive gas, Non-flammable gas			
Power supply voltage		12 to 24 VDC $\pm 10\%$, Ripple (p-p) 10% or less (with power supply polarity protection)			
Current consumption		45 mA or less			
Switch output		NPN or PNP open collector 2 outputs (Selectable)			
Maximum load current		80 mA			
Maximum applied voltage		28 V (at NPN output)			
Residual voltage		1 V or less			
Response time		2.5 ms (with anti-chattering function: 20, 100, 500, 1000, 2000 ms)			
Short circuit protection		Yes			
Repeat accuracy		$\pm 0.2\%$ F.S. ± 1 digit			
Hysteresis	Hysteresis mode	Variable (0 or above) ^{Note 1)}			
	Window comparator mode				
Analog output	^{Note 2)} Voltage output	Output voltage (Rated pressure range)	1 to 5 V $\pm 2.5\%$ F.S.	0.6 to 5 V $\pm 2.5\%$ F.S.	
		Linearity	$\pm 1\%$ F.S. or less		
		Output impedance	Approx. 1 k Ω		
	^{Note 3)} Current output	Output current (Rated pressure range)	4 to 20 mA $\pm 2.5\%$ F.S.	2.4 to 20 mA $\pm 2.5\%$ F.S.	
		Linearity	$\pm 1\%$ F.S. or less		
		Load impedance	Maximum load impedance: 300 Ω (Power supply voltage 12 V) 600 Ω (Power supply voltage 24 V) Minimum load impedance: 50 Ω		
Auto-shift input		Non-voltage input (Reed or Solid state), Low level: 0.4 V or less, 5 ms or longer input			
Display		3 1/2-digit, 7-segment, 2-color LCD (Red/Green)			
Display accuracy		$\pm 2\%$ F.S. ± 1 digit (Ambient temperature of 77 $\pm 5^\circ$ F)			
Indicator light		Lights up when output is turned ON. OUT1, OUT2: Orange			
Environment resistance	Enclosure	IP65			
	Operating temperature range	Operating: 23 to 122 $^\circ$ F, Stored: 14 to 140 $^\circ$ F (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 M Ω 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 20 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		$\pm 2\%$ F.S. (Based on 77 $^\circ$ F)			
Lead wire		Oilproof heavy-duty vinyl cable $\phi 3.5$, 2 m Conductor area: 0.15 mm ² (AWG26) Insulator O.D.: 0.95 mm			
Standards		CE marking, UL (CSA), RoHS compliance			

Note 1) If the applied voltage fluctuates around the set-value, the hysteresis must be set to a value more than the fluctuating width, otherwise chattering will occur.

Note 2) When the analog voltage output is selected, the analog current output cannot be selected.

Note 3) When the analog current output is selected, the analog voltage output cannot be selected.

Piping Specifications

Part no.		01	N01	W1	WF1	M5	C4	C6
Port size		R1/8 (With M5 female thread)	NPT1/8 (With M5 female thread)	Rc1/8	G1/8	M5 x 0.8 female thread	$\phi 4$ one-touch fitting	$\phi 6$ one-touch fitting
Material of parts in contact with fluid	Sensor pressure receiving area	Silicon						
	Piping port	C3602 (Electroless nickel plated) O-ring: HNBR			ZDC2 O-ring: HNBR		ZDC2, POM, Stainless steel 304, C3604 (Electroless nickel plated) O-ring: HNBR	
Weight		78 g	79 g	97 g		104 g	101 g	