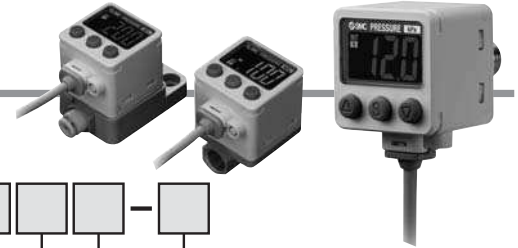


# 2-Color Display High Precision Digital Pressure Switch



## Series ZSE40A(F)/ISE40A

### How to Order



#### Rated pressure range

<b>ISE40A</b>	-14.5 to 145.0 psi
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For positive pressure

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

For vacuum/  
compound pressure

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

#### Rated pressure range

<b>ZSE40A</b>	0.00 to -14.69 psi
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<b>ZSE40AF</b>	-14.50 to 14.50 psi
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#### Piping specifications

<b>01</b>	R1/8 (With M5 female thread)	
<b>N01</b>	NPT1/8 (With M5 female thread)	
<b>W1</b>	Rc1/8	
<b>WF1*</b>	G1/8	
<b>M5*</b>	M5 x 0.8 (Female thread)	
<b>C4*</b>	ø4 one-touch fitting	
<b>C6*</b>	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	<b>A</b>	<b>ZS-24-A</b>	○	○	○	○	×	×	×	
Bracket B	<b>B</b>	<b>ZS-24-B</b>	×	×	○	○	×	×	×	
Bracket D	<b>D</b>	<b>ZS-24-D</b>	○	○	○	○	×	×	×	
Panel mount adapter	<b>E</b>	<b>ZS-35-C</b>	○	○	×	×	×	×	×	
		<b>ZS-35-D</b>	×	×	○	○	○	○	○	
Panel mount adapter + Front protective cover	<b>F</b>	<b>ZS-35-F</b>	○	○	×	×	×	×	×	
		<b>ZS-35-G</b>	×	×	○	○	○	○	○	

#### Output specifications

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

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

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

#### Unit specifications

<b>Nil</b>	With unit switching function (Note 1)
<b>M</b>	Fixed SI unit (Note 2)
<b>P</b>	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
<b>Nil</b>	—
<b>K</b>	○

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

##### Option 1\*

Refer to page 17 for details.

<b>Nil</b>	None
<b>A</b>	Bracket A 
<b>B</b>	Bracket B 
<b>D</b>	Bracket D 
<b>E</b>	Panel mount adapter <b>01/N01</b>  <b>W1/WF1/M5/C4/C6</b>
<b>F</b>	Panel mount adapter + Front protective cover <b>01/N01</b>  <b>W1/WF1/M5/C4/C6</b>

\* 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 ±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		±0.2% F.S. ±1 digit		
Hysteresis	Hysteresis mode	Variable (0 or above) <sup>Note 1)</sup>		
	Window comparator mode			
Analog output	<sup>Note 2)</sup> Voltage output	Output voltage (Rated pressure range)	1 to 5 V ±2.5% F.S.	0.6 to 5 V ±2.5% F.S.
		Linearity	±1% F.S. or less	
		Output impedance	Approx. 1 kΩ	
	<sup>Note 3)</sup> Current output	Output current (Rated pressure range)	4 to 20 mA ±2.5% F.S.	2.4 to 20 mA ±2.5% F.S.
		Linearity	±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		±2% F.S. ±1 digit (Ambient temperature of 77 ±5°F)		
Indicator light		Lights up when output is turned ON. OUT1, OUT2: Orange		
Environment resistance	Enclosure	IP65		
	Operating temperature range	Operating: 23 to 122°F, Stored: 14 to 140°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 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 20 m/s² acceleration, in X, Y, Z directions, for 2 hours each (De-energized)		
	Impact resistance	100 m/s² in X, Y, Z directions, 3 times each (De-energized)		
Temperature characteristics		±2% F.S. (Based on 77°F)		
Lead wire		Oilproof heavy-duty vinyl cable ø3.5, 2 m Conductor area: 0.15 mm² (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	