

2-Color Display Digital Pressure Switch For General Fluids



Series ZSE80/ISE80

How to Order



For positive
pressure

ISE 80 - 02 - N - M

For vacuum/
compound pressure

ZSE 80 - 02 - N - M

Rated pressure range

80	-0.1 to 1 MPa
80H	-0.1 to 2 MPa

Made to Order
Refer to Table 1 below.

Rated pressure range

80	0 to -101 kPa
80F	-100 to 100 kPa

Piping

02	R1/4 (M5 female threaded)	Rear ported
N02	NPT1/4 (M5 female threaded)	
F02	G1/4 (M5 female threaded)	
C01	Rc1/8	
A2	URJ1/4	
B2	TSJ1/4	
02L	R1/4 (M5 female threaded)	Bottom ported
N02L	NPT1/4 (M5 female threaded)	
C01L	Rc1/8	
A2L	URJ1/4	
B2L	TSJ1/4	

Input/Output

N	NPN open collector 1 output
P	PNP open collector 1 output
A	NPN open collector 2 outputs
B	PNP open collector 2 outputs
R	NPN open collector 2 outputs + Analog voltage output/Auto-shift switching
T	PNP open collector 2 outputs + Analog voltage output/Auto-shift switching
S	NPN open collector 2 outputs + Analog current output/Auto-shift switching
V	PNP open collector 2 outputs + Analog current output/Auto-shift switching



Table 1
Made to Order

Symbol	Specifications
-X500 (Note)	Wetted parts: Stainless steel 316L
-X501	Lead wire length 3 m
-X510	Restrictor installed fitting

(Note) Not applicable to the rated pressure range 0 to 2 MPa specification. Refer to page 743 for detail.

Option

Option	Piping direction	Part no.
Bracket	Rear ported	ZS-24-A
	Rear ported	ZS-24-D
	Bottom ported	ZS-35-A
Panel mount	Rear ported	ZS-35-C
	Bottom ported	ZS-35-B
Panel mount + Front protection cover	Rear ported	ZS-35-F
	Bottom ported	ZS-35-E

Option 3

Symbol	Operating manual	Note	Calibration certificate	Symbol	Operating manual	Note	Calibration certificate
Nil	● (Booklet)	—	—	K	● (Booklet)	—	—
Y	—	—	—	T	—	—	—
W	● (CD-ROM)	—	—	R	● (CD-ROM)	—	—

(Note) All texts in both English and Japanese

Option 1

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

(Note) Fixed unit ISE80H: MPa
Others : MPa, kPa

Option 2

Nil	None
A	With bracket
	Rear ported ZS-24-A, Bottom ported ZS-35-A
B	With bracket (Note)
	ZS-24-D
C	Panel mount
	Rear ported ZS-35-C, Bottom ported ZS-35-B
D	Panel mount + Front protection cover
	Rear ported ZS-35-F, Bottom ported ZS-35-E

(Note) Rear ported only

2-Color Display Digital Pressure Switch

For General Fluids *Series ZSE80/ISE80*

Specifications

Model			ZSE80 (Vacuum pressure)	ZSE80F (Compound pressure)	ISE80 (Positive pressure)	ISE80H (Positive pressure)
Rated pressure range			0.0 to −101.0 kPa	−100.0 to 100.0 kPa	−0.100 to 1.000 MPa	−0.100 to 2.00 MPa
Set pressure range			10.0 to −111.0 kPa	−110.0 to 110.0 kPa	−0.105 to 1.100 MPa	−0.105 to 2.20 MPa
Withstand pressure			500 kPa		2 MPa	4 MPa
Wetted parts material			Pressure sensor: Stainless steel 630, Fitting: Stainless steel 304			
Applicable fluid			Fluids do not corrode stainless steel 630 and 304			
Port size			R1/4, NPT1/4, G1/4*, URJ1/4, TSJ1/4, Rc1/8 Piping direction: Rear/Bottom			
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 1 output, NPN 2 outputs, PNP 1 output, PNP 2 outputs			
	Maximum load current		80 mA			
	Maximum load voltage		28 V (at NPN output)			
	Residual voltage		1 V or less (with load current of 80 mA)			
	Response time		2.5 ms (with anti-chattering function: 20, 100, 500, 1000, 2000 ms)			
	Short circuit protection		Yes			
Repeatability			±0.2% F.S. ±1 digit			
Hysteresis	Hysteresis mode		Variable (0 or above)			
	Window comparator mode					
Analog output	Voltage output	Output voltage (Rated pressure range)	1 to 5 V ±2.5% F.S.		0.6 to 5 V ±2.5% F.S.	0.8 to 5 V ±2.5% F.S.
		Linearity	±1% F.S. or less			
		Output impedance	Approx. 1 kΩ			
	Current output	Output current (Rated pressure range)	4 to 20 mA ±2.5% F.S.		2.4 to 20 mA ±2.5% F.S.	3.2 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 25 ±3°C)			
Indicator light			Lights up when output is turned ON. OUT1, OUT2: Orange			
Function			Anti-chattering, Zero-out, Key lock function, Auto-preset, Auto-shift, Unit display switching, Power-saving mode			
Environment resistance	Enclosure		IP65			
	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		250 VAC for 1 minute between live parts and case			
	Insulation resistance		2 MΩ or more between live parts and case (at 50 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			±3% F.S. (Based on 25°C, within operating temperature range)			
Lead wire			Oilproof heavy-duty vinyl cable, 3 cores (N.P) 4 cores (A.B) 5 cores (R.T.S.V)		ø3.5, 2 m Conductor area: 0.15 mm ² (AWG26) Insulator O.D.: 0.95 mm	
Standards			CE marking, UL/CSA, RoHS compliance			

* G1/4 is available for rear ported only.

Piping Specifications

Model	02	N02	F02	C01	A2	B2
Port size	R1/4	NPT1/4	G1/4	Rc1/8	URJ1/4	TSJ1/4
Mass (Bottom ported)	117 g	118 g	—	114 g	120 g	111 g
Mass (Rear ported)	89 g	90 g	86 g	86 g	92 g	83 g
Leakage	1×10^{-5} Pa·m ³ /s				1×10^{-10} Pa·m ³ /s	