McMaster-Carr Part Number 4276N11 = ISE20A-T-P-N01-J

2 Outputs + Analog Output (Voltage/Current)

3-Screen Display High-Precision

Digital Pressure Switch

(RoHS)

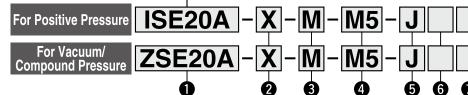
ZSE20A(F)/ISE20A Series

How to Order





Rated pressure range **ISE20A** -0.1 to 1 MPa





Rated pressure range

ZSE20A	0 to -101 kPa
ZSE20AF	-100 to 100 kPa

2 Output specification

Symbol	Description			
R	NPN open collector 2 outputs + Analog voltage output *1			
S	NPN open collector 2 outputs + Analog current output *1			
Т	PNP open collector 2 outputs + Analog voltage output *1			
V	PNP open collector 2 outputs + Analog current output *1			
X	X NPN open collector 2 outputs + Copy function			
Υ	Y PNP open collector 2 outputs + Copy function			

*1 Can be switched to auto-shift or copy function

1 Unit specification

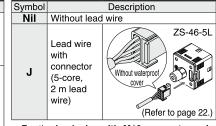
Symbol	Description			
Nil Units selection function*1				
M	SI units only*2			
P Units selection function (Initial value				

- *1 Under the New Measurement Act, switches with the units selection function are no longer allowed for use in Japan.
- *2 Fixed units: kPa, MPa

4 Piping specification

<u> </u>	T iping openinguion						
Symbol	Description	Description Symbol Description					
	M5 female thread	C4H	One-touch fitting ø4 mm	Straight type			
M5		С6Н	One-touch fitting ø6 mm				
	Piping port	N7H	One-touch fitting ø1/4 inch				
	R1/8 R1/8 Piping	C4L	One-touch fitting ø4 mm	Elbow type			
01	adapter ZS-46-N1	C6L	One-touch fitting ø6 mm				
	25-46-111	N7L	One-touch fitting ø1/4 inch				
	NPT1/8 NPT1/8 Piping	* One-touch fitting is shipped together with product.					

Option 1



* For the lead wire with M12 connector, refer to page 43.

Option 3

Symbol	Operation manual*1	Calibration certificate*1		
Nil	0	_		
Υ	_	_		
K	0	0		
Т	_	0		

All texts are in both English and Japanese.

6 Option 2

O Option 2							
Symbol	Description						
Nil	None						
A 1	Bracket A (Vertical mounting)	ZS-46-A1					
A2	Bracket B (Horizontal mounting)	ZS-46-A2					
В	Panel mount adapter	ZS-46-B					
D	Panel mount adapter + Front protection cover	ZS-46-D					

Options/Part Nos.

When only optional parts are required, order with the part numbers listed below.

Which only optional parts are re-	quirca, oraci	with the part numbers hatea below.
Description	Part no.	Note
Bracket A	ZS-46-A1	Tapping screw: Nominal size 3 x 8 L (2 pcs.)
Bracket B	ZS-46-A2	Tapping screw: Nominal size 3 x 8 L (2 pcs.)
Panel mount adapter	ZS-46-B	_
Panel mount adapter + Front protection cover	ZS-46-D	_
Lead wire with connector	ZS-46-5L	5-core, 2 m, Non-waterproof (Without waterproof cover)
Lead wire with M12 connector	ZS-46-5LM12	Made to order (Refer to page 43.)
Front protection cover	ZS-27-01	_
R1/8 Piping adapter	ZS-46-N1	R1/8 NPT1/8
NPT1/8 Piping adapter	ZS-46-N2	
One-touch fitting ø4 mm straight	ZS-46-C4H	_
One-touch fitting ø6 mm straight	ZS-46-C6H	_
One-touch fitting ø1/4 inch straight	ZS-46-N7H	_
One-touch fitting ø4 mm elbow	ZS-46-C4L	_
One-touch fitting ø6 mm elbow	ZS-46-C6L	_
One-touch fitting ø1/4 inch elbow	ZS-46-N7L	_
Spacer for fitting extension	ZS-46-M5A	Made to order (Refer to page 44.)

3-Screen Display High-Precision Digital Pressure Switch ZSE20A(F)/ISE20A Series

For pressure switch precautions and specific product precautions, refer to the "Operation Manual" on the SMC website.



Specifications

	Me	odel	ZSE20A (Vacuum pressure)	ZSE20AF (Compound pressure) ISE20A (Positive press				
Applicable fluid	d		Air, Non-corrosive gas, Non-flammable gas					
••	Rated pre	ssure range	0.0 to -101.0 kPa	-100.0 to 100.0 kPa	-0.100 to 1.000 MPa			
D	Display/S	et pressure range	10.0 to -105.0 kPa	-105.0 to 105.0 kPa	-0.105 to 1.050 MPa			
Pressure	Display/Smallest settable increment		0.1	0.001 MPa				
	Withstand	l pressure	500	kPa	1.5 MPa			
		pply voltage	12 to 2	24 VDC ±10%, Ripple (p-p) 10%	or less			
Power supply		onsumption		35 mA or less				
,	Protection	า	Polarity protection					
	Display a	ccuracy	±2% F.S. ±1 digit (Ambient temperature of 25 ±3°C)					
	Repeatab		±0.2% F.S. ±1 digit					
Accuracy	Analog ou	utput accuracy	±2.5%	F.S. (Ambient temperature of 25	±3°C)			
•	Analog ou	utput linearity		±1% F.S.	,			
		ure characteristics		±2% F.S. (25°C standard)				
	Output ty	pe	NI	PN or PNP open collector 2 outpu	uts			
	Output m			Vindow comparator mode, Error				
	Switch op			Normal output, Reversed output				
	Max. load	current		80 mA				
	Max. appl	ied voltage (NPN only)		28 V				
Switch output	Internal vo	Itage drop (Residual voltage)	1	V or less (at load current of 80 m	A)			
	Delay time	e*1	1.5 ms or less (with anti-chattering function: 20, 100, 500, 1000, 2000, 5000 ms)					
		Hysteresis mode	,		,			
	Hysteresis	Window comparator mode		Variable from 0*2				
	Short circuit protection		Yes					
	Voltage	Output type	Voltage output: 1 to 5 V Voltage output: 0.6 to 5 V					
	output Output impedance		Approx. 1 kΩ					
	·	Output type	Current outpo	ut: 4 to 20 mA	Current output: 2.4 to 20 mA			
Analog output	Current		Maximum load impedance at power supply voltage of 12 V: 300 Ω					
	output	Load impedance	at power supply voltage of 24 V: 600 Ω					
		•	Minimum load impedance: 50 Ω					
	Input type	•		Non-voltage input: 0.4 V or less				
Auto-shift	Input mod		Select from Auto-shift or Auto-shift zero.					
input	Input time	•	5 ms or more					
	Unit*3		MPa, kPa, kgf/cm², t	cm², bar, psi, inHg, mmHg MPa, kPa, kgf/cm², bar, r				
	Display ty	ре	LCD					
	Number o	f screens	3-screen display (Main screen, Sub screen x 2)					
Display	Display co	olor	1) Main screen: Red/Green					
Display	Display C	DIOF	2) Sub screen: Orange					
	Number	f diamles, digite	1) Main screen: 4 digits (7 segments)					
	Number o	f display digits	2) Sub screen: 4 digits (Upper 1 digit 11 segments, 7 segments for other)					
	Indicator	light	Lights up when switch output is turned ON. OUT1, OUT2: Orange					
Digital filter*4		0, 10, 50, 100, 500, 1000, 5000 ms						
·	Enclosure		IP40					
Environmental	Withstand	l voltage	1000 VAC for 1 minute between terminals and housing					
	Insulation resistance		50 M Ω or more (500 VDC measured via megohmmeter) between terminals and housing					
resistance	Operating temperature range		Operating: -5 to 50°C, Stored: -10 to 60°C (No condensation or freezing)					
		humidity range	Operating/Stored: 35 to 85% RH (No condensation)					
Standards		<u> </u>	UL/CSA (E216656), CE/UKCA marking					
Length of lead	wire with c	onnector	2 m					

- *1 Value without digital filter (at 0 ms)
- *2 If the applied pressure fluctuates around the set value, the hysteresis must be set to a value greater than the amount of fluctuation, or chattering will occur.
- *3 Setting is only possible for models with the units selection function. Only MPa or kPa is available for models without this function.
- $\ast 4\,$ The response time indicates when the set value is 90% in relation to the step input.
- * Products with tiny scratches, marks, or display color or brightness variations which do not affect the performance of the product are verified as conforming products.

Piping Specifications and Weights

iping opcomoditions and weights										
	Model	M5	01	N01	C4H	C6H	N7H	C4L	C6L	N7L
Port size		M5 x 0.8	R1/8	NPT1/8	_		_	_	_	_
	One-touch fitting Straight type	_	_	_	ø4 mm ø5/32 inch	ø6 mm	ø1/4 inch	_	_	_
	One-touch fitting Elbow type	_	_	_	_	_	_	ø4 mm ø5/32 inch	ø6 mm	ø1/4 inch
Materials of Sensor pressure receiving area parts in Piping port (Common)			Silicon							
		PBT, CB156, Heat-resistant PPS, O-ring: HNBR								
contact with fluid	Piping port — C3604 (Electroless nickel plating), Stainless steel 304, NBR POM, Stain		Stainless ste	el 304, NBR, 0	C3604					
Weight	Body	24 g	34 g	36 g	27 g	28 g	29 g	30 g	30 g	36 g
weignt	Lead wire with connector				+39 a					

Cable Specifications

Conductor cross section		0.15 mm ² (AWG26)				
Insulator	O.D.	1.0 mm				
insulator	Color	Brown, Blue, Black, White, Gray (5-core)				
Sheath	Finished O.D.	ø3.5				

"Set Pressure Range and Rated Pressure Range," "Functions" → p. 17
"Internal Circuits and Wiring Examples" → From p. 18 "Dimensions" → From p. 20

SE20(F

ZSE20A(F)

2SE20B(F)

ZSE20B(F)-I

ZSE20C(F)

ZSE20C(F)-L ISE20C(H)-L

Function Details

Made to Order