

2 Outputs + Analog Output (Voltage/Current)



3-Screen Display High-Precision
Digital Pressure Switch

RoHS

IP65

ZSE20B(F)/ISE20B Series

For the IO-Link compatible type, refer to page 15.
For the M12 connector type, refer to page 13-1.

How to Order



For Positive Pressure

ISE20B - **X** - **M** - **M5** - [] [] []

For Vacuum/
Compound Pressure

ZSE20B - **X** - **M** - **M5** - [] [] []



Made to Order
(pp. 42 to 48)

Rated pressure range

ISE20B -0.1 to 1 MPa

1 Rated pressure range

ZSE20B	0 to -101 kPa
ZSE20BF	-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
T	PNP open collector 2 outputs + Analog voltage output *1
V	PNP open collector 2 outputs + Analog current output *1
X	NPN open collector 2 outputs + Copy function
Y	PNP open collector 2 outputs + Copy function

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

3 Unit specification

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

*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

Symbol	Description	Symbol	Description
M5	M5 female thread	C4L	One-touch fitting ø4 mm
	Piping port	C6L	One-touch fitting ø6 mm
01	R1/8 Piping adapter ZS-46-N1	* One-touch fitting is shipped together with the product.	
N01	NPT1/8 Piping adapter ZS-46-N2		

5 Option 1

Symbol	Description
Nil	Without lead wire
W	Lead wire with connector (5-core, 2 m lead wire, With waterproof cover)

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

7 Option 3

Symbol	Operation manual*1	Calibration certificate*1
Nil	○	—
Y	—	—
K	○	○
T	—	○

*1 All texts are in both English and Japanese.

6 Option 2

Symbol	Description
Nil	None
A1	Bracket A (Vertical mounting)
A2	Bracket B (Horizontal mounting)
B	Panel mount adapter
D	Panel mount adapter + Front protection cover

Options/Part Nos.

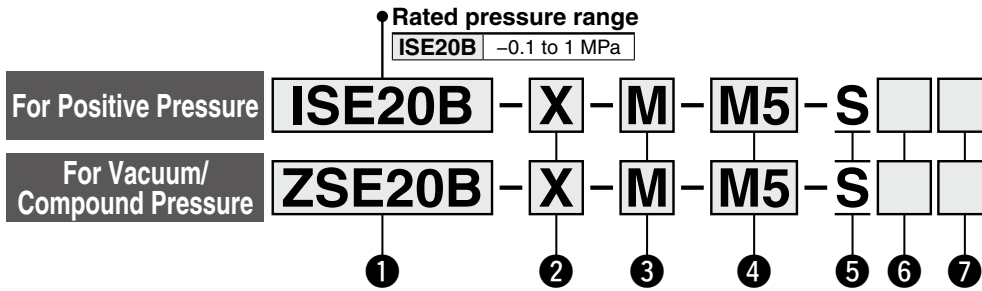
When only optional parts are required, order with the part numbers listed below.

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	—
Panel mount adapter (Compatible with the panel holes of the Z/ISE40A)	ZS-46-F	Made to order (Refer to page 45.)
Panel mount adapter + Front protection cover (Compatible with the panel holes of the Z/ISE40A)	ZS-46-G	Made to order (Refer to page 45.)
Lead wire with connector	ZS-46-5F	5-core, 2 m, Waterproof (With waterproof cover)
Lead wire with M12 connector	ZS-46-5FM12	Made to order (Refer to page 43.)
Front protection cover	ZS-27-01	—
R1/8 Piping adapter	ZS-46-N1	R1/8
NPT1/8 Piping adapter	ZS-46-N2	NPT1/8
One-touch fitting ø4 mm elbow	ZS-46-C4L	—
One-touch fitting ø6 mm elbow	ZS-46-C6L	—
Spacer for fitting extension	ZS-46-M5A	Made to order (Refer to page 44.)

3-Screen Display High-Precision Digital Pressure Switch **ZSE20B(F)/ISE20B Series**



How to Order [M12 Connector Type]



Made to Order
(pp. 42 to 48)

① Rated pressure range

ZSE20B	0 to -101 kPa
ZSE20BF	-100 to 100 kPa

② Output specification

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

*1 Can be switched to auto-shift or copy

③ Unit specification

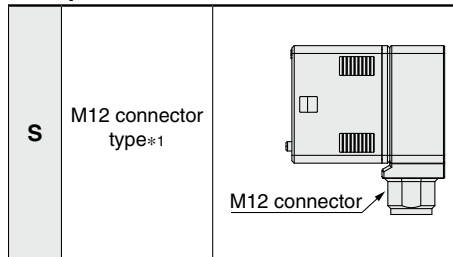
Symbol	Description
Nil	Units selection function*1
M	SI units only*2
P	Units selection function (Initial value psi)*1

*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

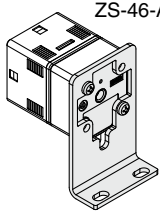
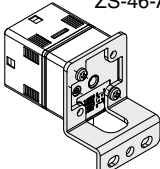
Symbol	Description
M5	M5 female thread
01	R1/8
N01	NPT1/8
C4L	One-touch fitting ø4 mm (Elbow type)
C6L	One-touch fitting ø6 mm (Elbow type)

⑤ Option 1



*1 Lead wire is not included.

⑥ Option 2

Nil	None
A4	Bracket D (For M12 connector type) 
A5	Bracket E (For M12 connector type) 

⑦ Option 3

Symbol	Operation manual*1	Calibration certificate*1
Nil	○	—
Y	—	—
K	○	○
T	—	○

*1 All texts are in both English and Japanese.

Options/Part Nos.

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

Description	Part no.	Note
Bracket D	ZS-46-A4	Tapping screw: Nominal size 3 x 8 L (2 pcs.)
Bracket E	ZS-46-A5	Tapping screw: Nominal size 3 x 8 L (2 pcs.)
Lead wire with M12 connector (Straight)	ZS-37-A	3 m lead wire 
	ZS-31-B	5 m lead wire
Lead wire with M12 connector (Right-angle)	ZS-37-B	3 m lead wire 
	ZS-31-C	5 m lead wire
Lead wire with M12 connector (Connectors on both sides)	EX9-AC005-SSPS	0.5 m lead wire, straight
	EX9-AC010-SSPS	1 m lead wire, straight
	EX9-AC020-SSPS	2 m lead wire, straight
	EX9-AC030-SSPS	3 m lead wire, straight
	EX9-AC050-SSPS	5 m lead wire, straight
	EX9-AC100-SSPS	10 m lead wire, straight
R1/8 Piping adapter	ZS-46-N1	R1/8 
NPT1/8 Piping adapter	ZS-46-N2	NPT1/8 
One-touch fitting ø4 mm elbow	ZS-46-C4L	—
One-touch fitting ø6 mm elbow	ZS-46-C6L	—

3-Screen Display High-Precision Digital Pressure Switch **ZSE20B(F)/ISE20B Series**

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



Specifications

Model		ZSE20B (Vacuum pressure)	ZSE20BF (Compound pressure)	ISE20B (Positive pressure)
Applicable fluid		Air, Non-corrosive gas, Non-flammable gas		
Pressure	Rated pressure range	0.0 to −101.0 kPa	−100.0 to 100.0 kPa	−0.100 to 1.000 MPa
	Display/Set pressure range	10.0 to −105.0 kPa	−105.0 to 105.0 kPa	−0.105 to 1.050 MPa
	Display/Smallest settable increment	0.1 kPa		0.001 MPa
	Withstand pressure	500 kPa		1.5 MPa
Power supply	Power supply voltage	12 to 24 VDC ±10%, Ripple (p-p) 10% or less		
	Current consumption	35 mA or less		
	Protection	Polarity protection		
Accuracy	Display accuracy	±2% F.S. ±1 digit (Ambient temperature of 25 ±3°C)		
	Repeatability	±0.2% F.S. ±1 digit		
	Analog output accuracy	±2.5% F.S. (Ambient temperature of 25 ±3°C)		
	Analog output linearity	±1% F.S.		
	Temperature characteristics	±2% F.S. (25°C standard)		
Switch output	Output type	NPN or PNP open collector 1 output or 2 outputs		
	Output mode	Hysteresis mode, Window comparator mode, Error output, Output OFF		
	Switch operation	Normal output, Reversed output		
	Max. load current	80 mA		
	Max. applied voltage (NPN only)	28 V		
	Internal voltage drop (Residual voltage)	1 V or less (at load current of 80 mA)		
	Delay time*1	1.5 ms or less (with anti-chattering function: 20, 100, 500, 1000, 2000, 5000 ms)		
	Hysteresis	Hysteresis mode	Variable from 0*2	
		Window comparator mode		
Short circuit protection	Yes			
Analog output	Voltage output	Output type	Voltage output: 1 to 5 V	Voltage output: 0.6 to 5 V
		Output impedance	Approx. 1 kΩ	
	Current output	Output type	Current output: 4 to 20 mA	Current output: 2.4 to 20 mA
		Load impedance	Maximum load impedance at power supply voltage of 12 V: 300 Ω	
			at power supply voltage of 24 V: 600 Ω	
Auto-shift input	Input type	Non-voltage input: 0.4 V or less		
	Input mode	Select from Auto-shift or Auto-shift zero.		
	Input time	5 ms or more		
	Unit*3	MPa, kPa, kgf/cm², bar, psi, inHg, mmHg		MPa, kPa, kgf/cm², bar, psi
Display	Display type	LCD		
	Number of screens	3-screen display (Main screen, Sub screen x 2)		
	Display color	1) Main screen: Red/Green 2) Sub screen: Orange		
	Number of display digits	1) Main screen: 4 digits (7 segments) 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		
Environmental resistance	Enclosure	IP65		
	Withstand voltage	1000 VAC for 1 minute between terminals and housing		
	Insulation resistance	50 MΩ or more (500 VDC measured via megohmmeter) between terminals and housing		
	Operating temperature range	Operating: −5 to 50°C, Stored: −10 to 60°C (No condensation or freezing)		
	Operating humidity range	Operating/Stored: 35 to 85% RH (No condensation)		
Standards		UL/CSA (E216656), CE/UKCA marking		
Length of lead wire with connector		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.

*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

Model		M5	01	N01	C4L	C6L
Port size		M5 x 0.8	R1/8	NPT1/8	—	—
	One-touch fitting Straight type	—	—	—	—	—
	One-touch fitting Elbow type	—	—	—	$\phi 4$ mm $\phi 5/32$ inch	$\phi 6$ mm
Materials of parts in contact with fluid	Sensor pressure receiving area	Silicon				
	Piping port (Common)	PBT, CB156, Heat-resistant PPS, O-ring: HNBR				
	Piping port	—	C3604 (Electroless nickel plating), Stainless steel 304, NBR		POM, Stainless steel 304, NBR, C3604	
Weight	Body	24 g	34 g	36 g	30 g	30 g
	Lead wire with connector	+39 g				
	M12 connector type	43 g	53 g	55 g	49 g	49 g

Cable Specifications

Conductor cross section		0.15 mm ² (AWG26)
Insulator	O.D.	1.0 mm
	Color	Brown, Blue, Black, White, Gray (5-core)
Sheath	Finished O.D.	$\phi 3.5$

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

ZSE20(F)
ISE20

ZSE20A(F)
ISE20A

ZSE20B(F)
ISE20B

ZSE20B(F)-L
ISE20B-L

ZSE20C(F)
ISE20C(H)

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

Function
Details

Made to
Order

ZSE20□(F)/ISE20□ Series

Set Pressure Range and Rated Pressure Range

Set the pressure within the rated pressure range.

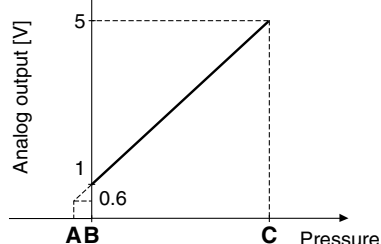
The set pressure range is the range of pressure within which setting is possible. The rated pressure range is the range of pressure that satisfies the specifications (accuracy, linearity, etc.) of the switch. Although it is possible to set a value outside the rated pressure range, the specifications cannot be guaranteed even if the value stays within the set pressure range.

Switch	Pressure range				
	-100 kPa	0	100 kPa	500 kPa	1 MPa
For vacuum pressure ZSE20 ZSE20A ZSE20B ZSE20B-L	-101 kPa	0	10 kPa		
	-105 kPa				
For compound pressure ZSE20F ZSE20AF ZSE20BF ZSE20BF-L	-100 kPa	100 kPa			
	-105 kPa	105 kPa			
For positive pressure ISE20 ISE20A ISE20B ISE20B-L	-100 kPa				1 MPa
	-105 kPa				1.05 MPa
	(-0.105 MPa)				

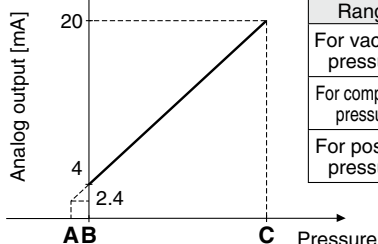
Rated pressure range of the switch
 Set pressure range of the switch

Analog Output^{*1}

Voltage output



Current output



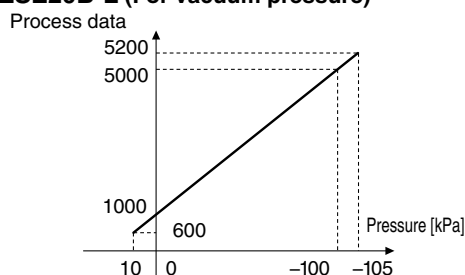
Range	Rated pressure range	A	B	C
For vacuum pressure	0.0 to -101.0 kPa	10.1 kPa	0	-101.0 kPa
For compound pressure	-100.0 to 100.0 kPa	—	-100.0 kPa	100.0 kPa
For positive pressure	-0.100 to 1.000 MPa	-0.100 MPa	0	1.000 MPa

*1 Excluding the 20/20B(F)-L

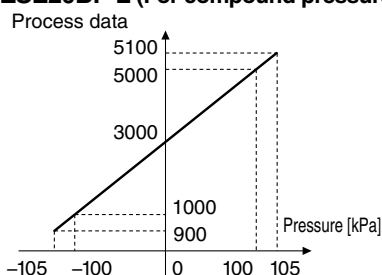
IO-Link: Process Data

Relationship between the process data and pressure value

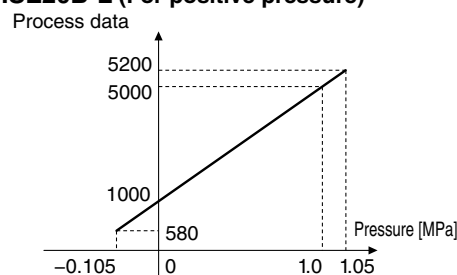
ZSE20B-L (For vacuum pressure)



ZSE20BF-L (For compound pressure)



ISE20B-L (For positive pressure)

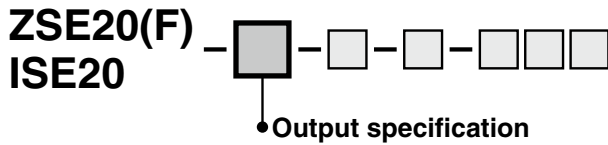


Functions

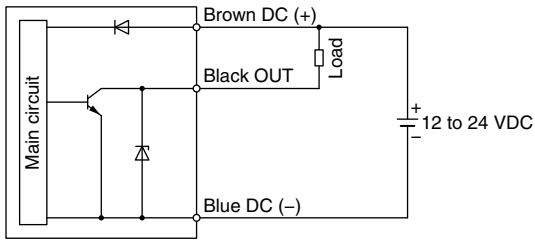
Sub screen setting function	The display of the sub screen can be selected.
Auto-preset function	This function calculates a rough set value automatically based on the on-going operation.
Display value fine adjustment function	Evens out deviations in the displayed value
Peak value indication function	Can retain the maximum pressure value displayed during measurement
Bottom value indication function	Can retain the minimum pressure value displayed during measurement
Key-lock function (Selectable security code)	The keyboard can be locked to prevent the accidental operation of the operation switch.
Zero-clear function	The pressure display can be set to zero when the pressure is open to the atmosphere.
Error indication function	This function displays the error location and content when a problem or error has occurred.
Anti-chattering function	Prevents possible malfunctions due to sudden fluctuations in the primary pressure by adjusting the delay time
Units selection function	Can convert the display value
Power saving mode	Reduces power consumption
Display resolution switch function	Converts the display resolution from the normal value of 1/1000 to 1/100 Can reduce flickering of the monitor
kPa ↔ MPa switch function	Converts the unit between kPa and MPa
Copy function ^{*1}	The settings of the copy source can be copied to the copy destination.
Auto-shift function ^{*1}	Measures the pressure at the time of external input and uses it as a reference to correct the set value of the switch

*1 Not available for the 20/20B-L

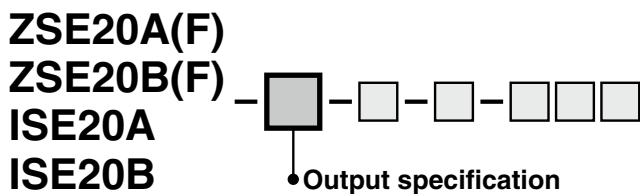
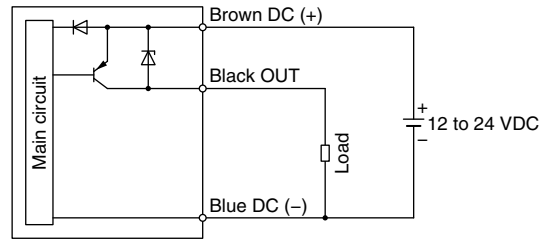
Internal Circuits and Wiring Examples



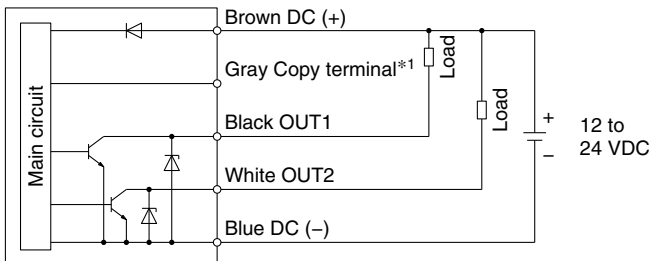
-N NPN (1 output)



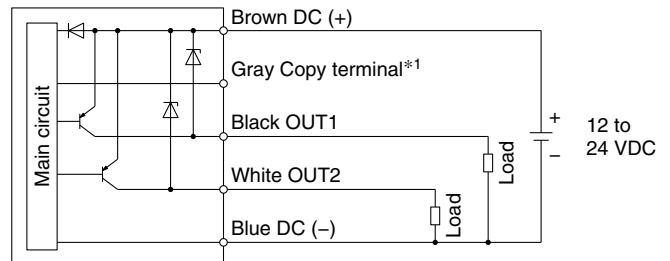
-P PNP (1 output)



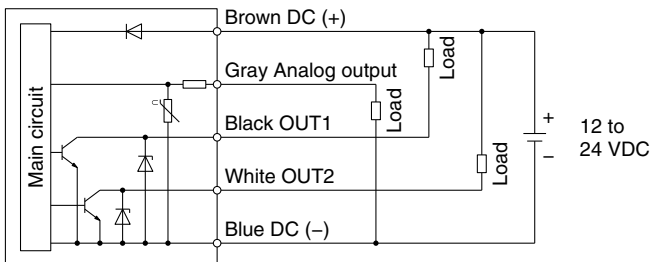
-X NPN (2 outputs) + Copy function



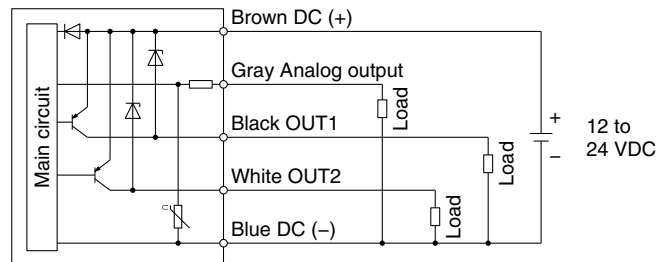
-Y PNP (2 outputs) + Copy function



-R: NPN (2 outputs) + Analog voltage output -S: NPN (2 outputs) + Analog current output



-T: PNP (2 outputs) + Analog voltage output -V: PNP (2 outputs) + Analog current output



*1 Refer to page 41.

ZSE20(F)
ISE20

ZSE20A(F)
ISE20A

ZSE20B(F)
ISE20B

ZSE20B(F)-L
ISE20B-L

ZSE20C(F)
ISE20C(H)

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

Function
Details

Made to
Order

ZSE20□(F)/ISE20□ Series

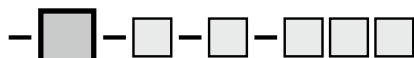
Internal Circuits and Wiring Examples

ZSE20A(F)

ZSE20B(F)

ISE20A

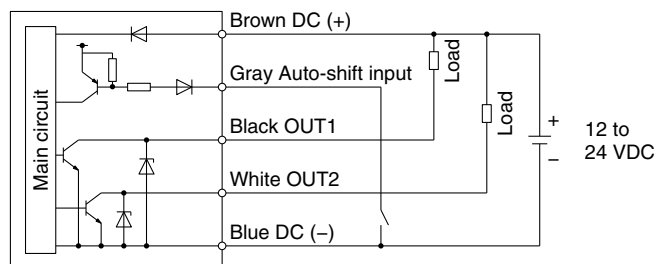
ISE20B



• Output specification

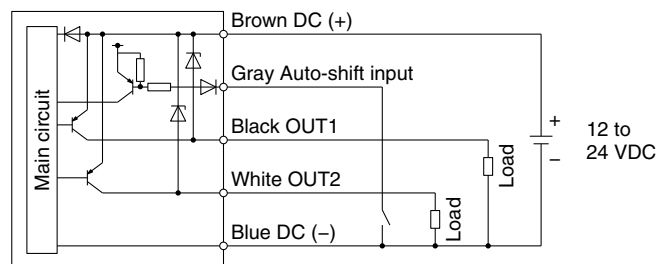
-R: NPN (2 outputs) + Auto-shift input

-S: NPN (2 outputs) + Auto-shift input



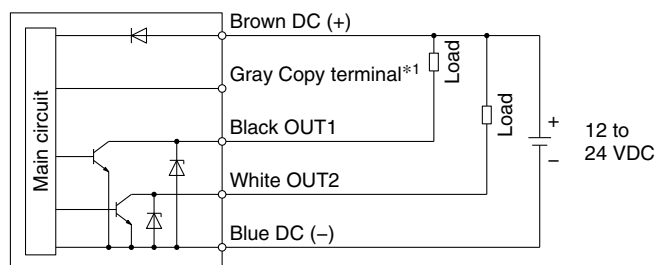
-T: PNP (2 outputs) + Auto-shift input

-V: PNP (2 outputs) + Auto-shift input



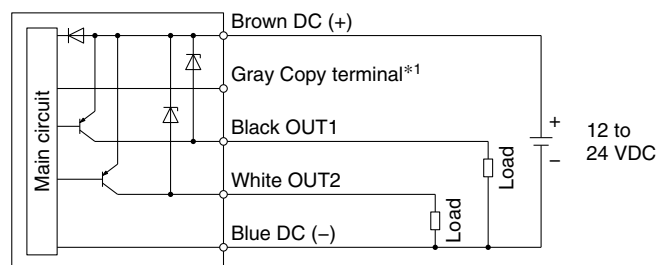
-R: NPN (2 outputs) + Copy function

-S: NPN (2 outputs) + Copy function



-T: PNP (2 outputs) + Copy function

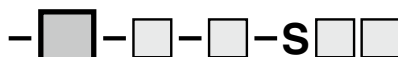
-V: PNP (2 outputs) + Copy function



*1 Refer to page 41.

ZSE20B(F)

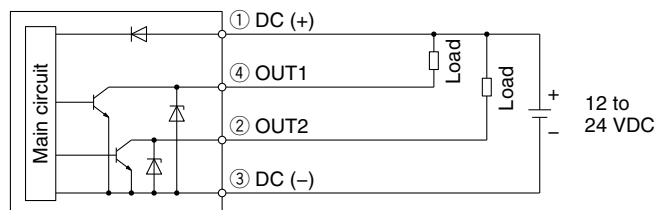
ISE20B



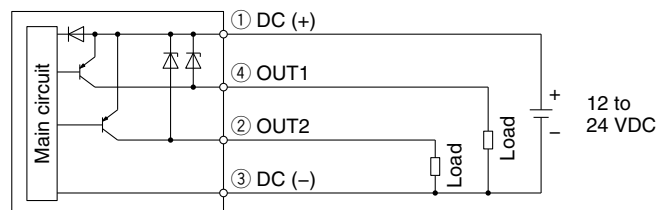
• Output specification

* The numbers in the circuit diagram indicate the connector pin numbers.

**-X
NPN (2 outputs)**

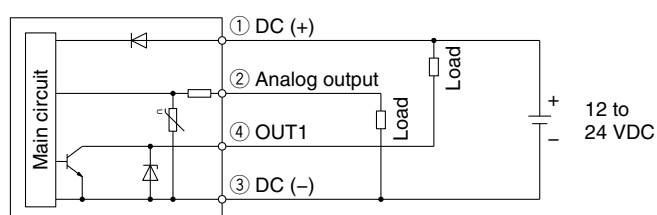


**-Y
PNP (2 outputs)**



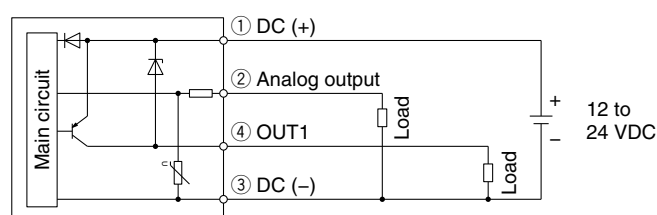
-R: NPN (1 output) + Analog voltage output

-S: NPN (1 output) + Analog current output



-T: PNP (1 output) + Analog voltage output

-V: PNP (1 output) + Analog current output

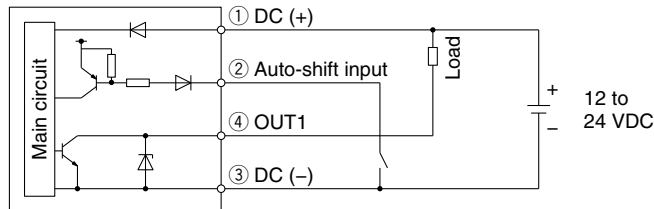


Internal Circuits and Wiring Examples

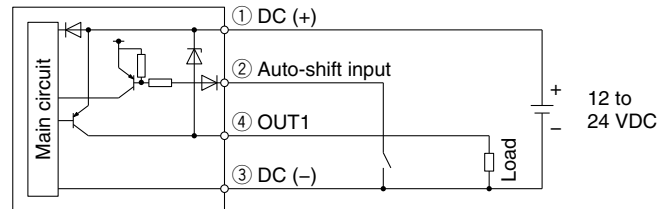
ZSE20B(F) -  -  -  - **S**  
ISE20B

● Output specification

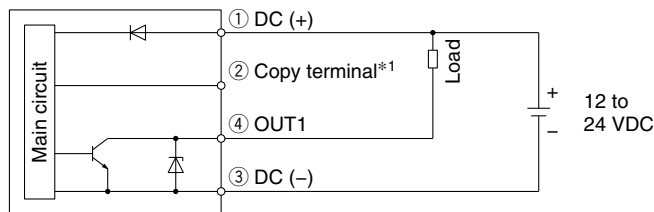
-R: NPN (1 output) + Auto-shift input
-S: NPN (1 output) + Auto-shift input



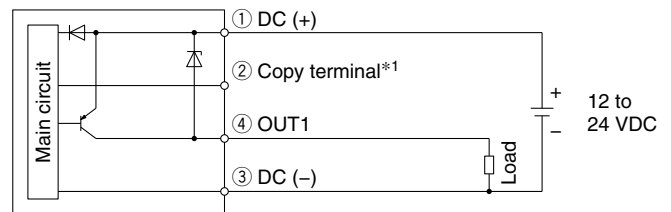
-T: PNP (1 output) + Auto-shift input
-V: PNP (1 output) + Auto-shift input



-R: NPN (1 output) + Copy function
-S: NPN (1 output) + Copy function



-T: PNP (1 output) + Copy function
-V: PNP (1 output) + Copy function



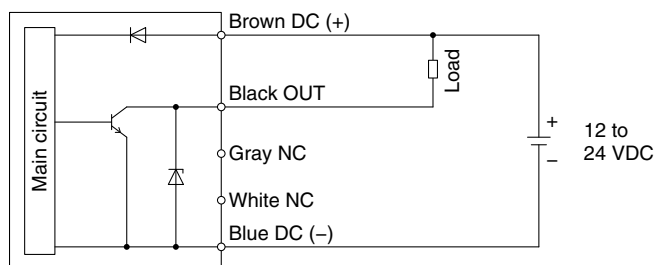
* Refer to page 41.

ZSE20B(F) -  -  -  -   
ISE20B

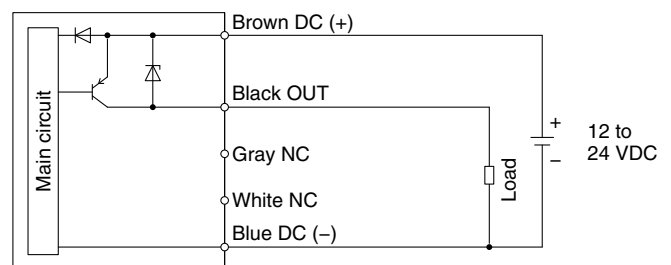
● Output specification

-L: (IO-Link/Switch: 1 output)

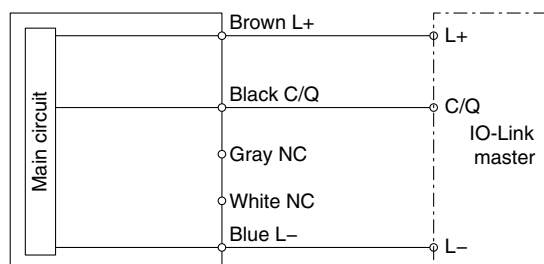
When used as a switch output device (When not used as an IO-Link device = When in SIO mode)
NPN open collector 1 output setting



PNP open collector 1 output setting



When used as an IO-Link device



ZSE20□(F)/ISE20□ Series

Internal Circuits and Wiring Examples

ZSE20B(F) – **L** – □ – □ – **S** □ □
ISE20B

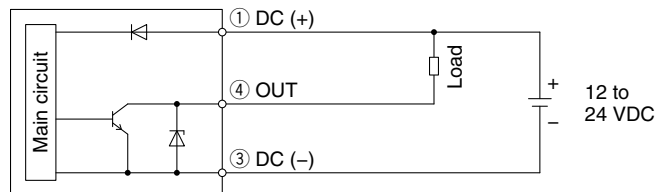
* The numbers in the circuit diagram indicate the connector pin numbers.

• Output specification

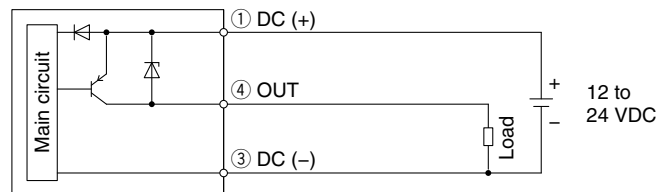
-L: (IO-Link/Switch: 1 output)

When used as a switch output device (When not used as an IO-Link device = When in SIO mode)

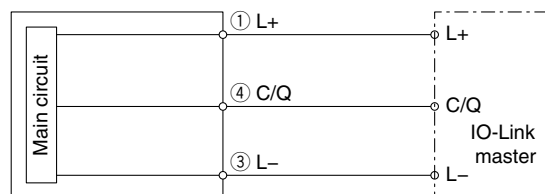
NPN open collector 1 output setting



PNP open collector 1 output setting



When used as an IO-Link device



3-Screen Display High-Precision Digital Pressure Switch **ZSE20□(F)/ISE20□ Series**

Dimensions

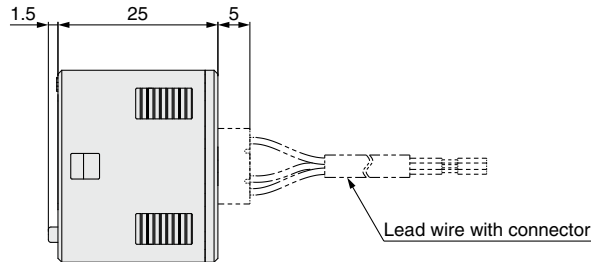
ZSE20□(F) - □ - □ - □ - □ - □
ISE20□

• Piping specification

M5

M5 female thread

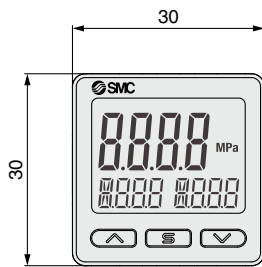
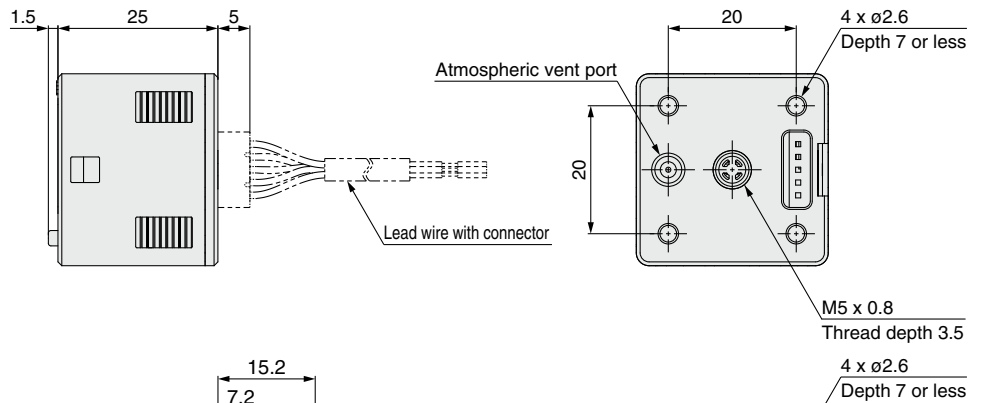
For 20



If there is a possibility that the atmospheric vent port of the switch will be exposed to water or dust, insert a tube into the atmospheric vent port and route the other end of the tube to a safe place away from water or dust. (Z/ISE20B)

* For tubing, please use the SMC TU0425 (polyurethane, O.D. ø4, I.D. ø2.5) for the pressure switch.

For 20A/20B



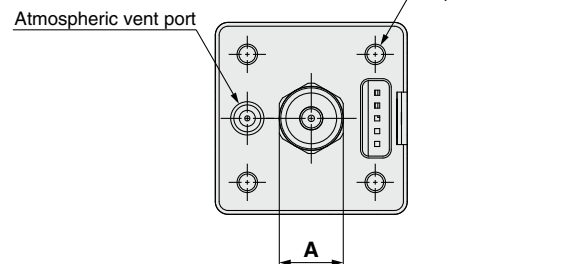
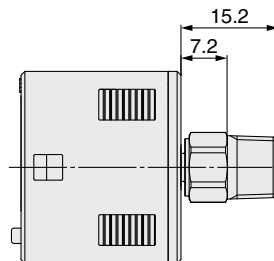
01

R1/8

N01

NPT1/8

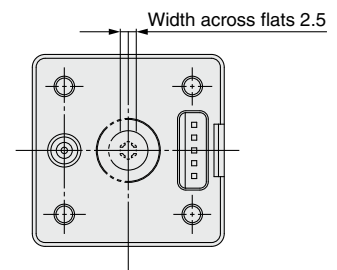
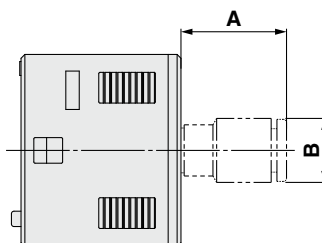
Piping specification	Port size	A
01	R1/8	Width across flats 10
N01	NPT1/8	Width across flats 12



C4H, C6H, N7H

One-touch fitting Straight type
ø4 mm, ø6 mm, ø1/4 inch

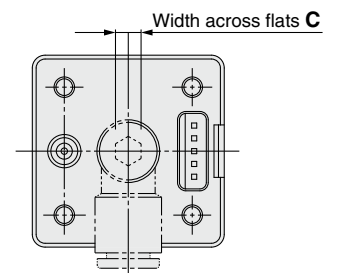
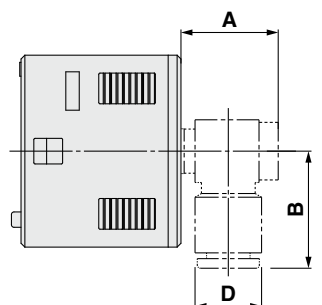
Piping specification	A	B
C4H	15.6	ø8
C6H	16.5	ø10
N7H	16	ø10.3



C4L, C6L, N7L

One-touch fitting Elbow type
ø4 mm, ø6 mm, ø1/4 inch

Piping specification	A	B	C	D
C4L	15.2	17.5	4	ø8.2
C6L	15.2	18.3	4	ø10.4
N7L	20.9	20.6	6	ø11.1



ZSE20(F)
ISE20

ZSE20A(F)
ISE20A

ZSE20B(F)
ISE20B

ZSE20B(F)-L
ISE20B-L

ZSE20C(F)
ISE20C(H)

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

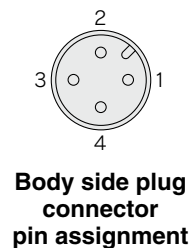
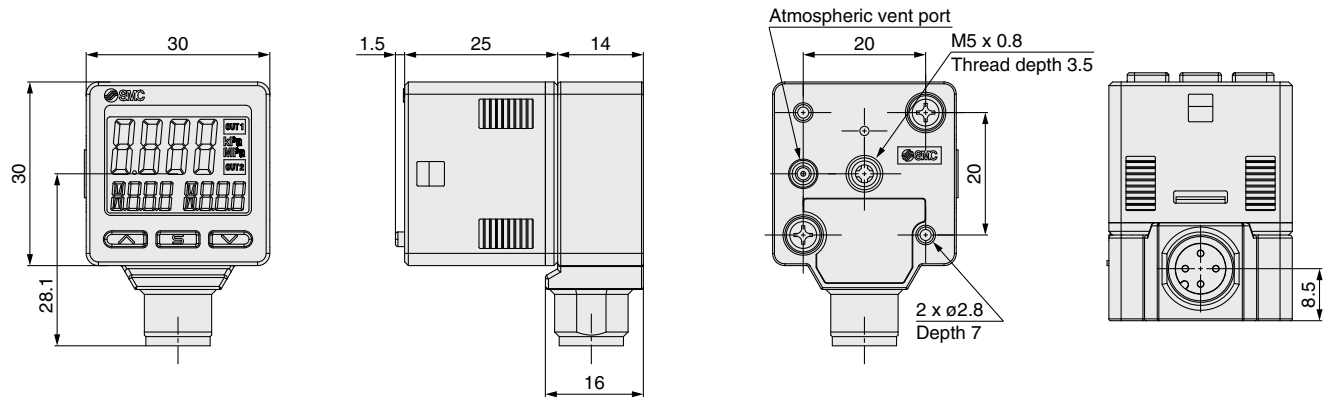
Function
Details

Made to
Order

ZSE20□(F)/ISE20□ Series

Dimensions

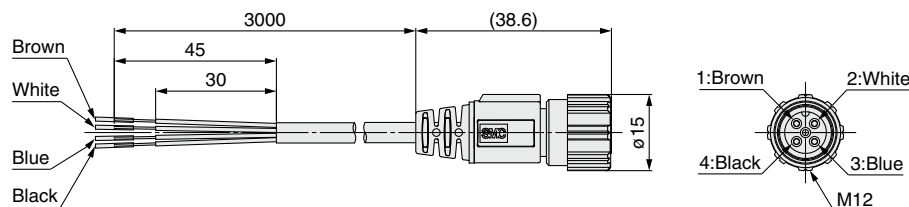
ZSE20B(F) -□-□-□- S□□
ISE20B



Pin no.	Output specification		
	X, Y	R, S, T, V	L
1	DC (+)		
2	OUT (2)	FUNC	N.C.
3	DC (-)		
4	OUT (1)	OUT1 (C/Q)	

The M12 connector type has an internal waterproof seal that prevents the entry of water. However, if there is a possibility that the atmospheric vent port will be constantly exposed to water or dust, insert a tube (sold separately) all the way into the atmospheric vent port and route the other end of the tube to a safe place away from water or dust. (Z/ISE20B)
* For tubing, please use the SMC TU0425 (polyurethane, O.D. ø4, I.D. ø2.5) for the pressure switch.

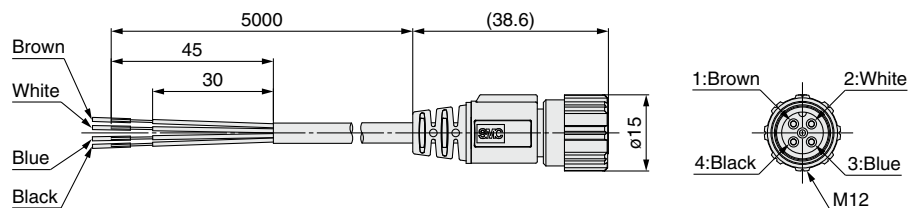
Lead wire with M12 connector, Straight (Part no.: ZS-37-A)



Cable Specifications

Conductor	Nominal cross section	AWG23
	Outside diameter	0.72 mm
Insulator	Material	Cross-linked vinyl
	Outside diameter	1.14 mm
Sheath	Material	Oil-resistant vinyl
	Finished outside diameter	ø4

Lead wire with M12 connector, Straight (Part no.: ZS-31-B)

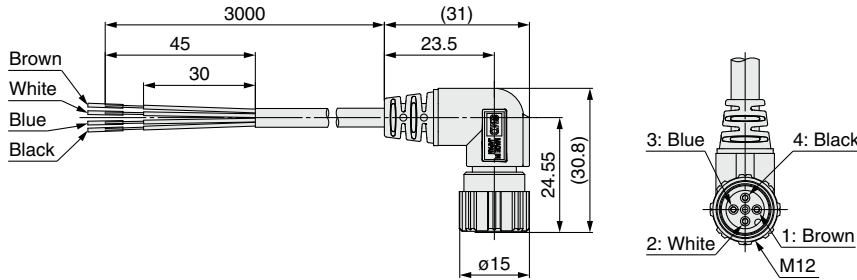


Cable Specifications

Conductor	Nominal cross section	AWG23
	Outside diameter	0.72 mm
Insulator	Material	Cross-linked vinyl
	Outside diameter	1.14 mm
Sheath	Material	Oil-resistant vinyl
	Finished outside diameter	ø4

Dimensions

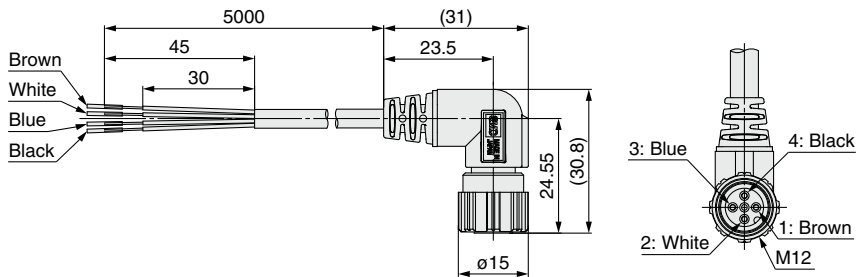
Lead wire with M12 connector, Right-angle (Part no.: ZS-37-B)



Cable Specifications

Conductor	Nominal cross section	AWG23
	Outside diameter	0.72 mm
Insulator	Material	Cross-linked vinyl
	Outside diameter	1.14 mm
	Number of cores	4
Sheath	Material	Oil-resistant vinyl
	Finished outside diameter	ø4

Lead wire with M12 connector, Right-angle (Part no.: ZS-31-C)



Cable Specifications

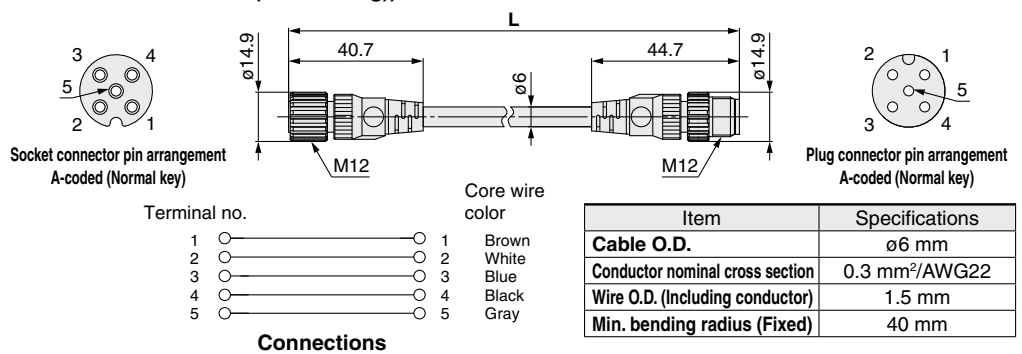
Conductor	Nominal cross section	AWG23
	Outside diameter	0.72 mm
Insulator	Material	Cross-linked vinyl
	Outside diameter	1.14 mm
	Number of cores	4
Sheath	Material	Oil-resistant vinyl
	Finished outside diameter	ø4

Lead wire and M12 connector (Connector on both sides)

EX9-AC 005 -SSPS (With connector on both sides (Socket/Plug))

• Cable length (L)

005	500 mm
010	1000 mm
020	2000 mm
030	3000 mm
050	5000 mm
100	10000 mm



ZSE20□(F)/ISE20□ Series

Dimensions

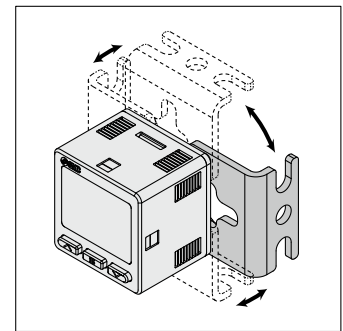
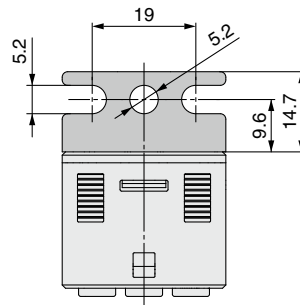
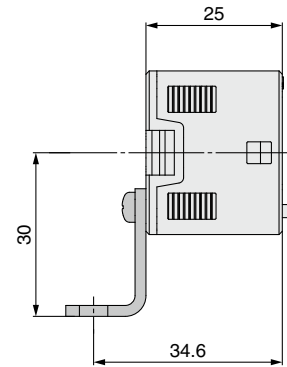
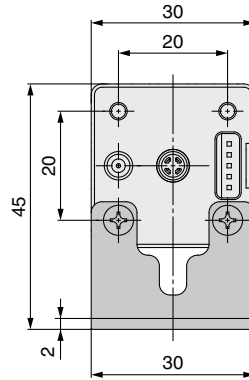
With bracket

ZSE20□(F) — □ — □ — □ — □ — □
ISE20□

• Option 2

A1

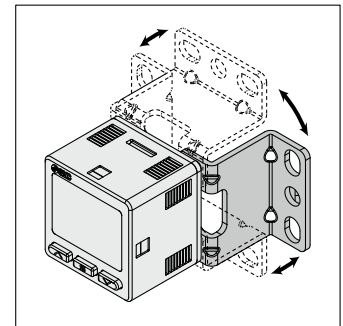
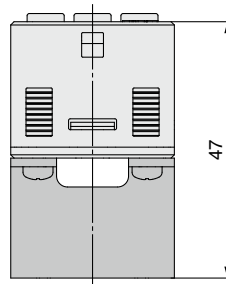
Bracket A
(Part no.: ZS-46-A1)



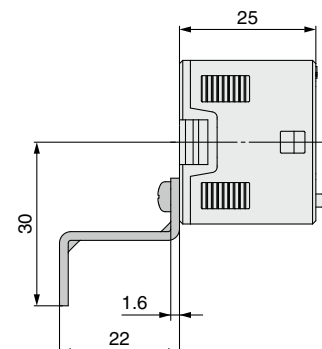
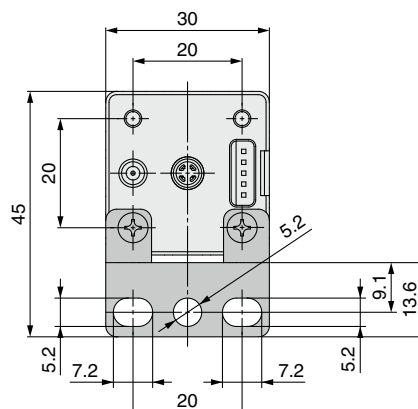
* The bracket configuration allows for mounting in four orientations.

A2

Bracket B
(Part no.: ZS-46-A2)



* The bracket configuration allows for mounting in four orientations.



* When using the bracket B, install it by taking the dimensions of the piping part into consideration.

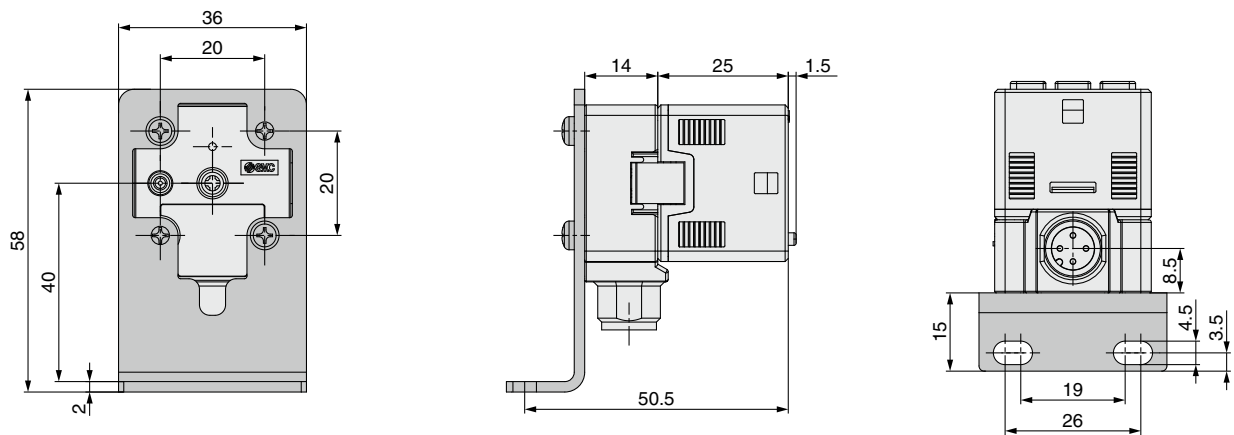
Dimensions

ZSE20B(F) - □ - □ - □ - S □ □
ISE20B

• Option 2

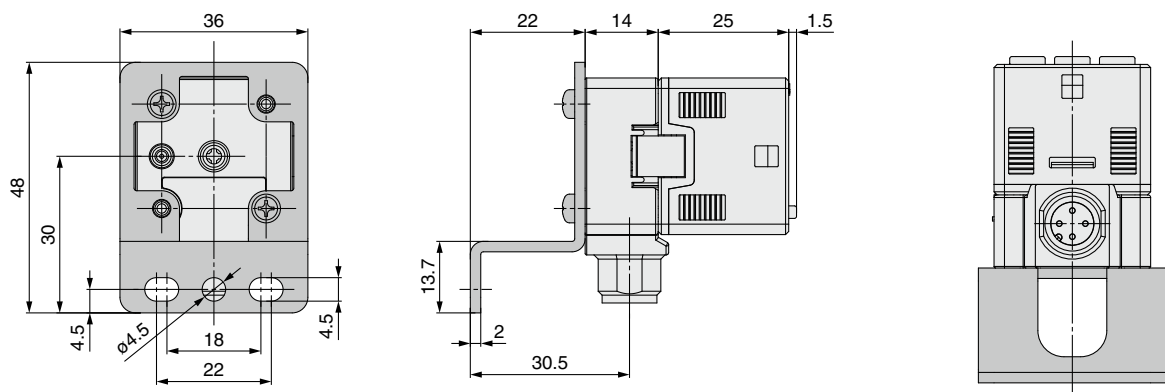
A4

Bracket D (For M12 connector type)
(Part no.: ZS-46-A4)



A5

Bracket E (For M12 connector type)
(Part no.: ZS-46-A5)



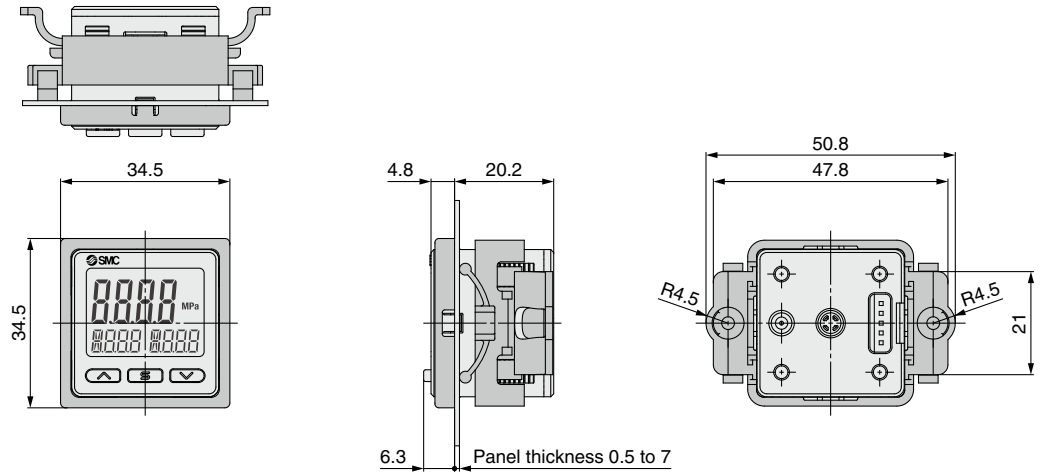
Dimensions

Panel mount adapter

ZSE20□(F) – □ – □ – □ – □ – **Option 2**
ISE20□

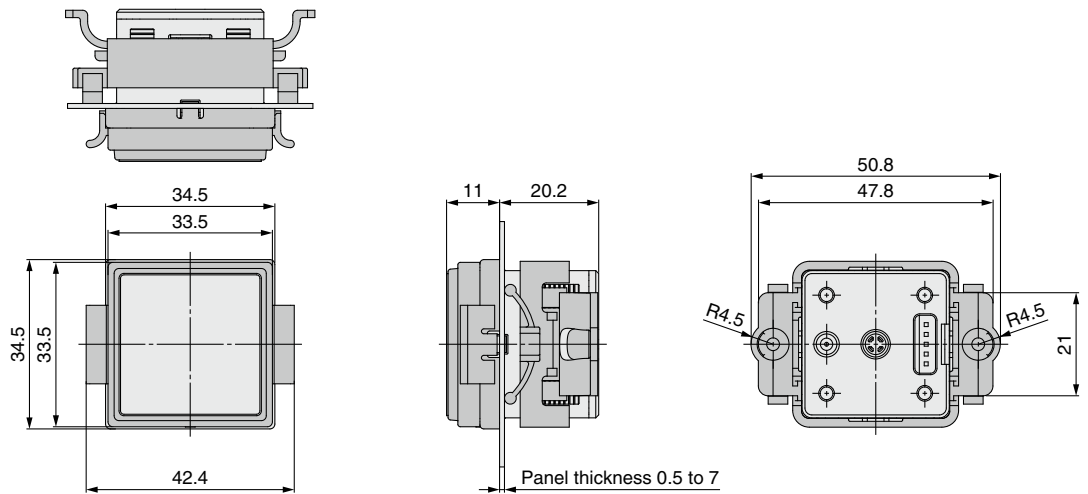
B

Panel mount adapter
(Part no.: ZS-46-B)



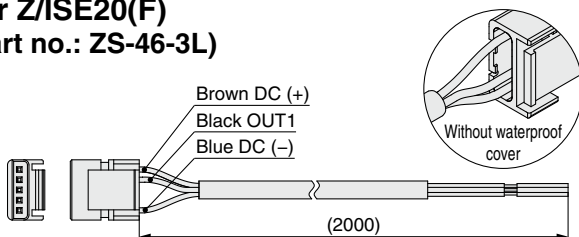
D

Panel mount adapter + Front protection cover
(Part no.: ZS-46-D)

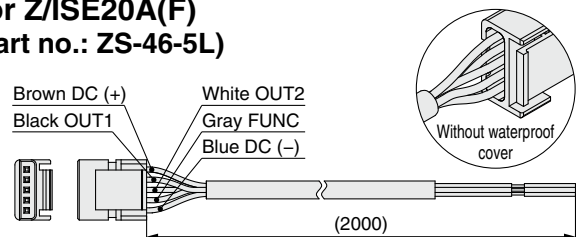


Lead wire with connector

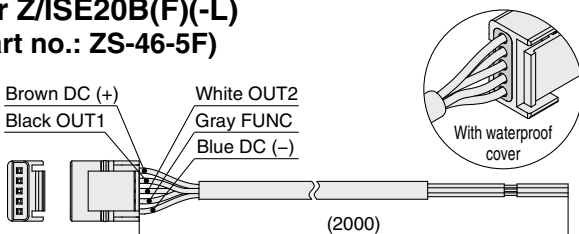
For Z/ISE20(F)
(Part no.: ZS-46-3L)



For Z/ISE20A(F)
(Part no.: ZS-46-5L)



For Z/ISE20B(F)(-L)
(Part no.: ZS-46-5F)



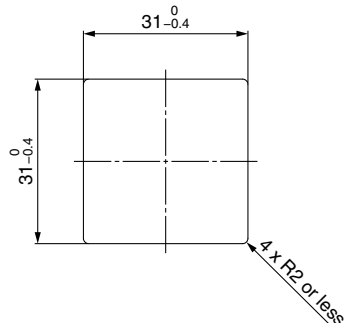
* For the lead wire with M12 connector, refer to page 43.

ZSE20□(F)/ISE20□ Series

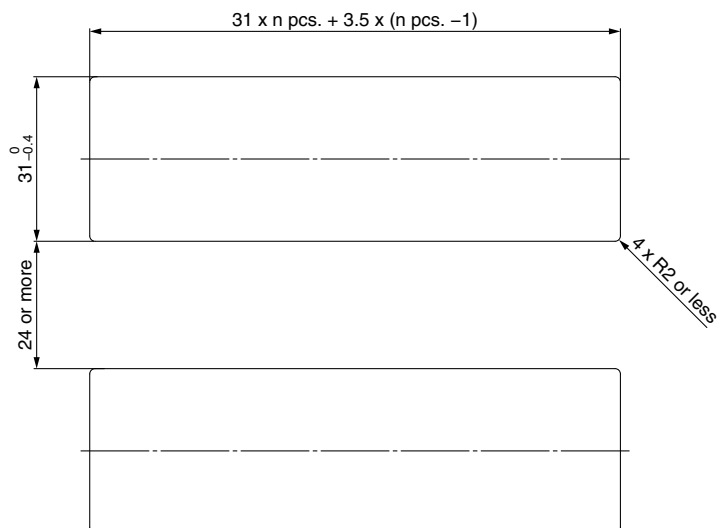
Dimensions

Panel fitting dimensions

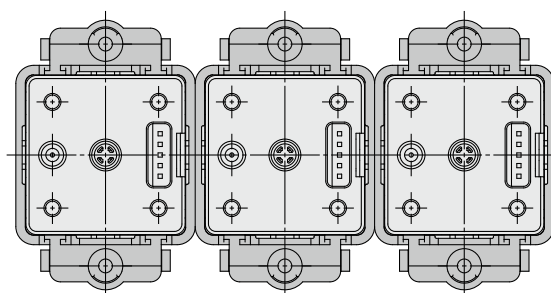
Individual mounting



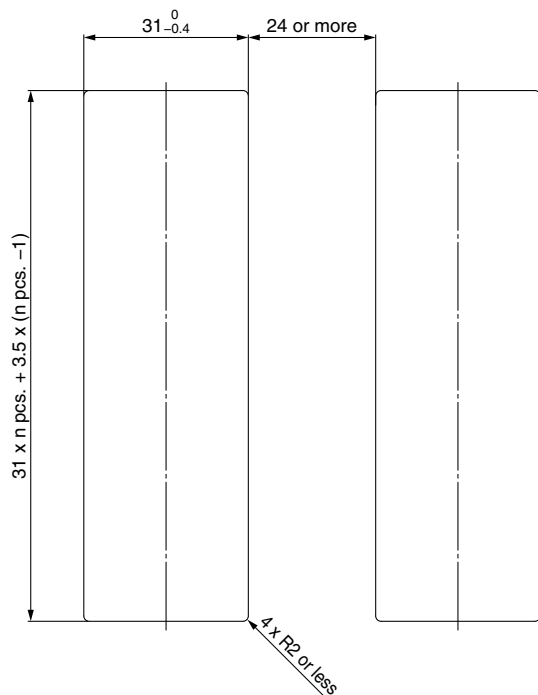
Multiple (2 pcs. or more) secure mounting <Horizontal>



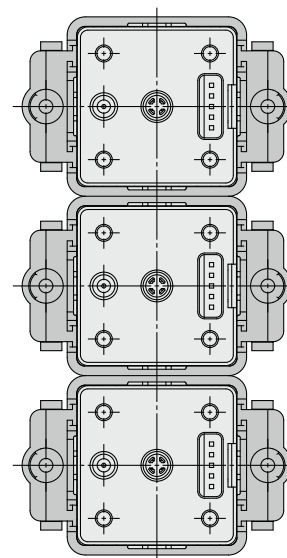
Panel mount example <Horizontal>



<Vertical>



Panel mount example <Vertical>

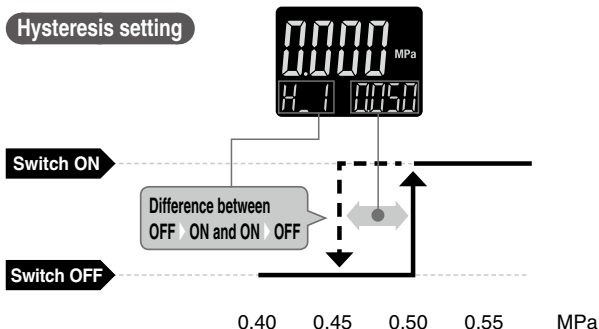
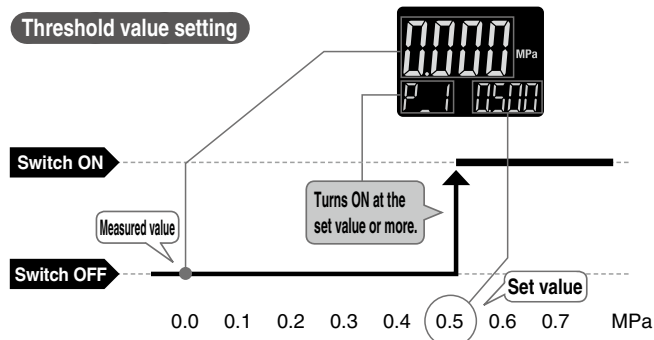


ZSE20□(F)/ISE20□ Series

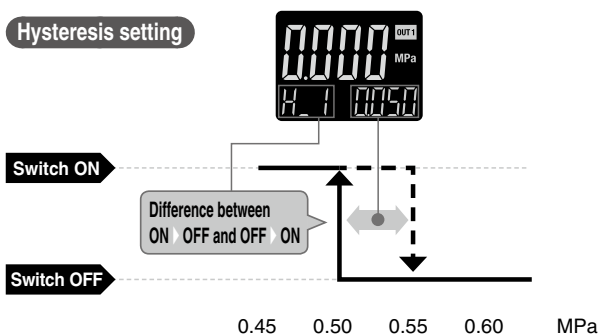
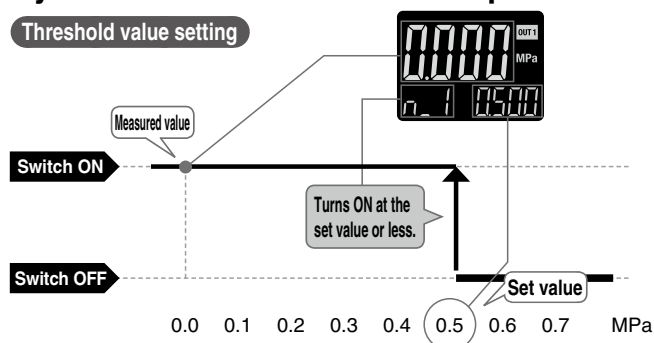
Function Details

Display examples of the main and sub (set value) screens of each mode. (For ISE20□ (for Positive pressure))

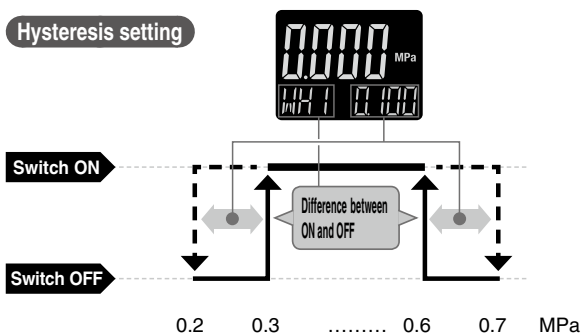
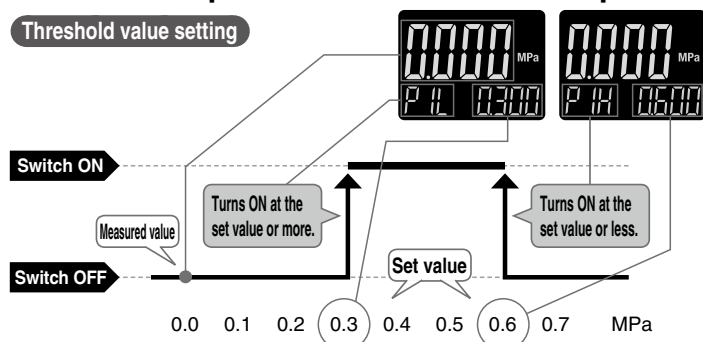
Hysteresis mode Normal output



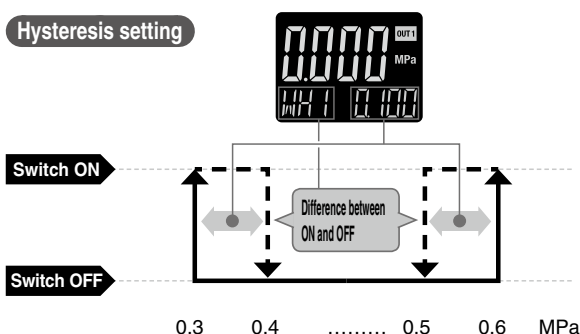
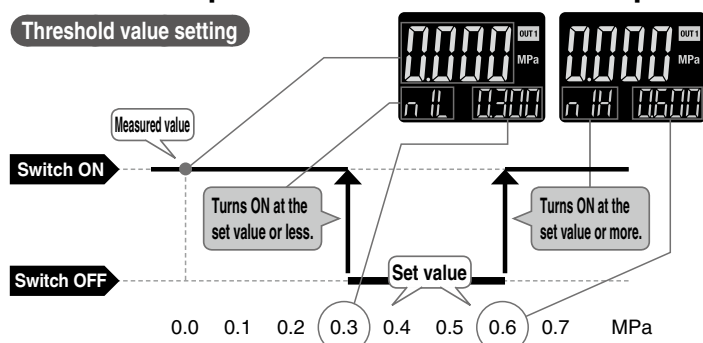
Hysteresis mode Reversed output



Window comparator mode Normal output



Window comparator mode Reversed output



ZSE20(F)
ISE20

ZSE20A(F)
ISE20A

ZSE20B(F)
ISE20B

ZSE20B(F)-L
ISE20B-L

ZSE20C(F)
ISE20C(H)

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

Function
Details

Made to
Order

The F□ in () shows the function code number. For details about operation procedures and function codes, refer to the “Operation Manual” on the SMC website.

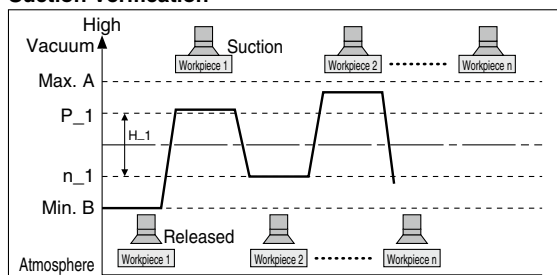


Function Details

A Auto-preset function (F4)

This function, when selected in the initial setting, calculates and stores the set value from the measured pressure. For example, if this function is used for suction verification, the optimum set value is determined automatically by performing suction and release of several workpieces.

Suction Verification



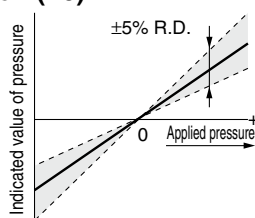
* When using with IO-Link, the set values cannot be changed by communication.

Formula for Obtaining the Set Value

P_1 or n_1	H_1
$P_1 = A - (A - B) / 4$ $n_1 = B + (A - B) / 4$	$H_1 = (A - B) / 2 $

B Display value fine adjustment function (F6)

Fine adjustment of the indicated value of the pressure sensor can be made within the range of $\pm 5\%$ of the read value. (This eliminates wide variations of the indicated value.)



— Indicated value at the time of shipment
 [Shaded Area] Adjustable range of display value fine adjustment function

* When the display value fine adjustment function is used, the set pressure value may change ± 1 digit.

C Peak/Bottom value display

This function constantly detects and updates the maximum (minimum) pressure when the power is supplied, and allows to hold the maximum (minimum) pressure value.

The held value is maintained even if the power supply is cut.

When the and buttons are simultaneously pressed for 1 second or longer, while “holding”, the held value will be reset.

D Key-lock function

This function prevents operation errors such as accidentally changing setting values.

E Zero-clear function

This function clears and resets the zero value on the display of measured pressure.

The indicated value can be adjusted within $\pm 7\%$ F.S. of the pressure at the time of shipment from the factory. (ZSE20□F (for compound pressure): $\pm 3.5\%$ F.S.)

F Error display function

When an error or abnormality arises, the location and contents are displayed.

Error name	Error code	Description	Action
Over current error		A load current of 80 mA or more is applied to the switch output.	Eliminate the cause of the over current by turning off the power supply and then turn it on again.
Residual pressure error		During zero-clear operation, pressure over $\pm 7\%$ F.S. ($\pm 3.5\%$ F.S. for compound pressure) is present. Note that the mode is returned to measurement mode automatically 1 second later. The zero-clear range varies by $\pm 1\%$ F.S. due to variation between individual products.	Perform zero-clear operation again after restoring the applied pressure to an atmospheric pressure condition.
Applied pressure error		Supply pressure exceeds the maximum set pressure.	Reset applied pressure to a level within the set pressure range
		Supply pressure is below the minimum set pressure.	
System error	 	An internal data error has occurred.	Turn the power off and then on again. If the error cannot be solved, please contact SMC for investigation.
Copy error		The copy function does not operate properly.	After clearing the error by pressing the and buttons simultaneously for a minimum of 1 second, check the wiring and the model, and then attempt to copy again.
IO-Link master version error		The IO-Link version does not match that of the master.	Ensure that the master IO-Link version matches the device version.

If the error cannot be solved after the instructions above are performed, or errors other than those above are displayed, please contact SMC for investigation.



The **F□** in () shows the function code number. For details about operation procedures and function codes, refer to the “Operation Manual” on the SMC website.

Function Details

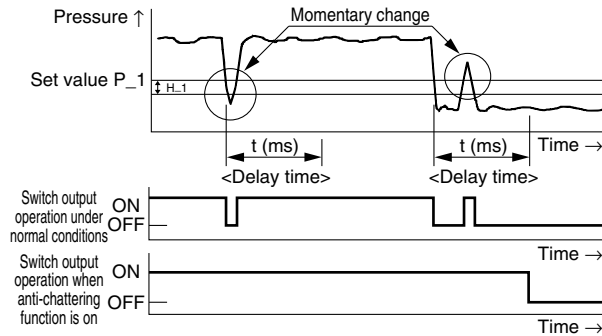
G Anti-chattering function (Simple setting mode or F1, F2)

A large bore cylinder or ejector consumes a large volume of air during operation and may experience a temporary drop in the supply pressure. This function prevents detection of such temporary drops in the supply pressure as an error by changing the delay time setting.

Available delay time settings
1.5 ms or less, 20 ms, 100 ms, 500 ms, 1000 ms, 2000 ms, 5000 ms

<Principle>

This function averages pressure values measured during the response time set by the user and then compares the average pressure value with the pressure set point value to output the result on the switch.



H Units selection function (F0)

Display units can be switched with this function.

Display unit	MPa	kPa	kGF	bAr	PSi	inCH	mmHG
Smallest settable increment	MPa*1	kPa	kgf/cm ²	bar	psi	inHg	mmHg
ZSE20□ (Vacuum pressure)	0.001	0.1	0.001	0.001	0.01	0.1	1
ZSE20□F (Compound pressure)	0.001	0.1	0.001	0.001	0.02	0.1	1
ISE20□ (Positive pressure)	0.001	1	0.01	0.01	0.1		
ISE20□H (Positive pressure)	0.001	1	0.01	0.01	0.2		

*1 The ZSE20□ (vacuum pressure) and ZSE20□F (compound pressure) will have different setting and display resolution when the unit is set to MPa.

I Selection of power saving mode (F80)

The power saving mode can be selected.

With this function, if no buttons are pressed for 30 s, it shifts to power saving mode.

At the time of shipment from the factory, the product is set to the normal mode (the power saving mode is turned off).

(During power saving mode, [ECo] will flash in the sub screen and the operation light will be ON (only when the switch is ON).)

J Setting of security code (F81)

The user can select whether a security code must be entered to release the key lock.

At the time of shipment from the factory, it is set such that a security code is not required.

ZSE20(F)
ISE20

ZSE20A(F)
ISE20A

ZSE20B(F)
ISE20B

ZSE20B(F)-L
ISE20B-L

ZSE20C(F)
ISE20C(H)

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

Function
Details

Made to
Order

ZSE20□(F)/ISE20□ Series

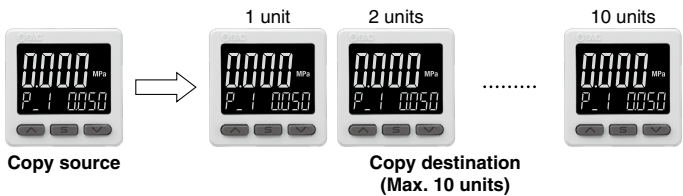


The F□ in () shows the function code number. For details about operation procedures and function codes, refer to the “Operation Manual” on the SMC website.

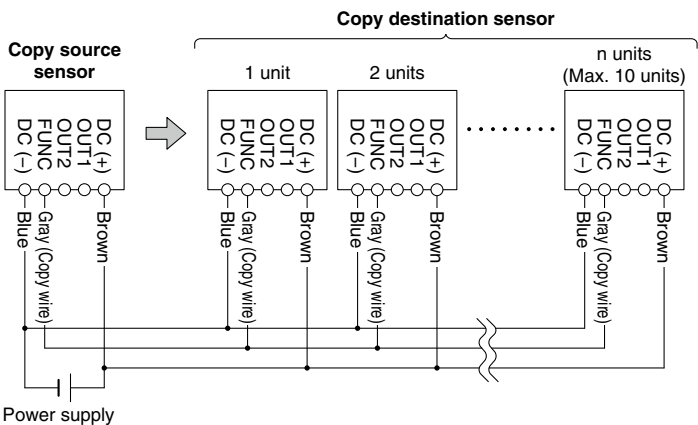
Function Details

K Copy function (F97) (Z/ISE20A, 20B, 20C series only)

The set values of the sensor can be copied.
This can reduce setting labor and minimize the risk of setting mistakes.
The set value can be copied to up to 10 switches simultaneously.
(Maximum transmission distance: 4 m)



* This function is not provided with the IO-Link compatible type.

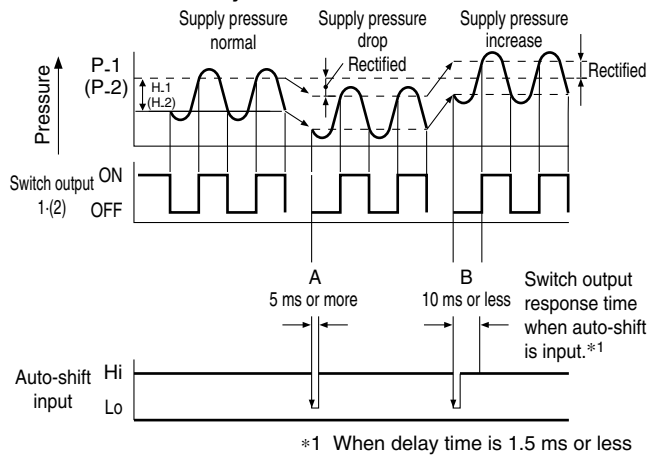


- 1) Wire as shown in the figure on the left.
- 2) All sensors are set to copy destination when first purchased. (Default condition is the sensor to be copied to.)
- 3) Press the **S** button on the source sensor to start copying.

L Auto-shift function (F5) (Z/ISE20A, 20B, 20C series only)

When there are large fluctuations in the supply pressure, the switch may fail to operate correctly. The auto-shift function compensates for such supply pressure fluctuations. It measures the pressure at the time of auto-shift signal input and uses it as the reference pressure to correct the set value on the switch.

Set value correction by auto-shift function



*1 When delay time is 1.5 ms or less

When the auto-shift function is selected, “P5 in 000” will be displayed on the sub screen for about 1 second, and the pressure value at that point will be saved as reference value “P5.” Based on the saved reference value, output on-off points controlled by set values*2 such as “P1,” “H1,” “P2,” and “H2” will also be rectified.

*2 When an output is reversed, output on-off points displayed at “n1,” “H1,” “n2,” and “H2” will be rectified.
The above is an example in hysteresis mode. On-off points are similarly rectified in window comparator mode. Outputs that enable the auto-shift function can be changed via the settings.

* This function is not provided with the IO-Link compatible type.

Settable Range for Auto-Shift Input

	Set pressure range	Settable range
Compound pressure	–105.0 to 105.0 kPa	–210 to 210 kPa
Vacuum pressure	10.0 to –105.0 kPa	115.0 to –115.0 kPa
Positive pressure	–0.105 to 1.050 MPa	–1.155 to 1.155 MPa
Positive pressure*3	–0.105 to 2.100 MPa	–2.20 to 2.205 MPa

*3 Z/ISE20C series only

Auto-shift zero

The basic function of auto-shift zero is the same as that of auto-shift. However, it corrects values on the display based on a pressure value of “0,” which is set as the reference value when auto-shift function is selected.

ZSE20□(F)/ISE20□ Series Made to Order



Please contact SMC for detailed dimensions, specifications, and delivery times.

1 Parts in Contact with Fluid: Stainless Steel 316L

20C

This pressure switch has better corrosion resistance because it uses stainless steel 316L for the parts in contact with fluid (pressure sensor and fitting).

How to Order

ZSE20C(F)/ISE20C - □ - □ - □ - □ - □ - X500

Enter the standard product number. (p. 25) ●

- * Not applicable to the rated pressure -0.1 to 2 MPa specifications (ISE20CH)
- * A restrictor (equivalent to -X510) is installed inside the fitting. (Piping specifications A2(L) and B2(L) are excluded.)

Specifications

Model	ZSE20C(F)	ISE20C
Withstand pressure	500 kPa	1.5 MPa
Applicable fluid	Liquids and gases that do not corrode stainless steel 316L	

Models other than those above have the same specifications as the standard product.

2 Restrictor-installed Fitting

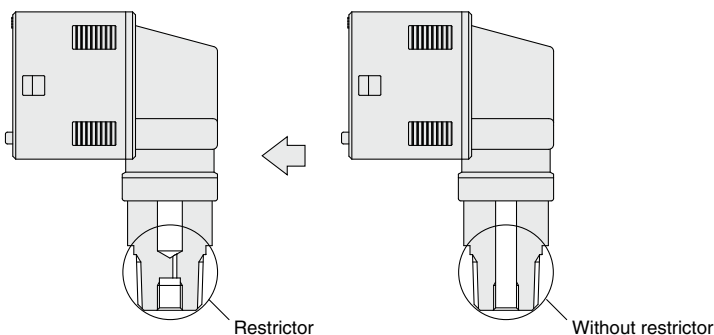
20C

A restrictor is installed inside the fitting in order to reduce the effects of water collision with inertia force in the piping when adsorption is broken.

How to Order

ZSE20C(F)/ISE20C(H) - □ - □ - □ - □ - □ - X510

Enter the standard product number. (p. 25) ●



Made to Order: "-X510"

Standard

- * Not applicable for piping specifications A2(L) and B2(L)
- * There are cases in which this product will not effectively suppress the effects of water hammer. It is advised that other measures be taken in such cases.

3 Grease-free

20

20A

20B

This is a grease-free product.

- * The grease-free specification does not intentionally apply grease to the parts in contact with fluid.

ZSE20(F)/ISE20 - □ - □ - □ - □ - □ - X2
ZSE20A(F)/ISE20A - □ - □ - □ - □ - □ - X2
ZSE20B(F)/ISE20B - □ - □ - □ - □ - □ - X2

Enter the standard product number. (pp. 9, 11, 13) ●

- * The ZSE20C(F) and the ISE20C(H) are grease-free specifications as standard.

ZSE20(F)
ISE20

ZSE20A(F)
ISE20A

ZSE20B(F)
ISE20B

ZSE20B(F)-L
ISE20B-L

ZSE20C(F)
ISE20C(H)

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

Function
Details

Made to
Order

ZSE20□(F)/ISE20□ Series

Please contact SMC for detailed dimensions, specifications, and delivery times.

4 3 m Lead Wire

20B

20C

This product features a lead wire which is 3 m in length.

ZSE20B(F)/ISE20B - □ - □ - □ - W □ □ - X500

ZSE20C(F)/ISE20C - □ - □ - □ - W □ □ - X502

Enter the standard product number. (pp. 13, 25) •

5 M8 3-pin Pre-wired Connector (Lead wire length: 500 mm)

20B

ZSE20B(F)/ISE20B - X - □ - □ - W □ □ - X503

Output specification •

• Enter the standard product number. (p. 13)

Symbol	Description
X	NPN 2 outputs (+ Copy function)
Y	PNP 2 outputs (+ Copy function)

* As the product body is shipped with the copy function enabled, simply replace the standard product cable with this cable.

6 M12 4-pin Pre-wired Connector (Lead wire length: 100 mm)

20A

20B

20C

ZSE20A(F)/ISE20A - X - □ - □ - J □ □ - X505

ZSE20B(F)/ISE20B - X - □ - □ - W □ □ - X505

ZSE20C(F)/ISE20C - X - □ - □ - W □ □ - X505

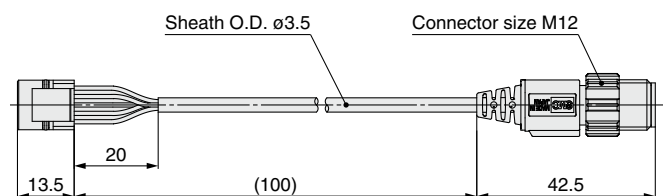
Output specification •

• Enter the standard product number. (pp. 11, 13, 25)

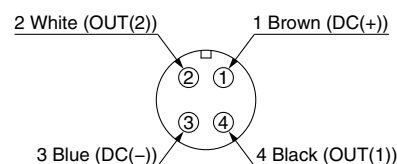
Symbol	Description
X	NPN 2 outputs (+ Copy function)
Y	PNP 2 outputs (+ Copy function)

* As the product body is shipped with the copy function enabled, simply replace the standard product cable with this cable.

Optional lead wire part number: ZS-46-5FM12 (ZS-46-5LM12: Non-waterproof type)



Connector pin assignment



7 Lead Wire with Connector (Terminal cover)

20

20A

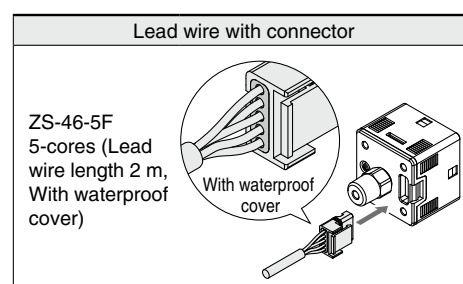
By using a waterproof lead wire for the connector portion, terminal exposure can be prevented.

* The -X531 enclosure is IP40.

ZSE20(F)/ISE20 - □ - □ - □ - L □ □ - X531

ZSE20A(F)/ISE20A - □ - □ - □ - J □ □ - X531

Enter the standard product number. (pp. 9, 11) •



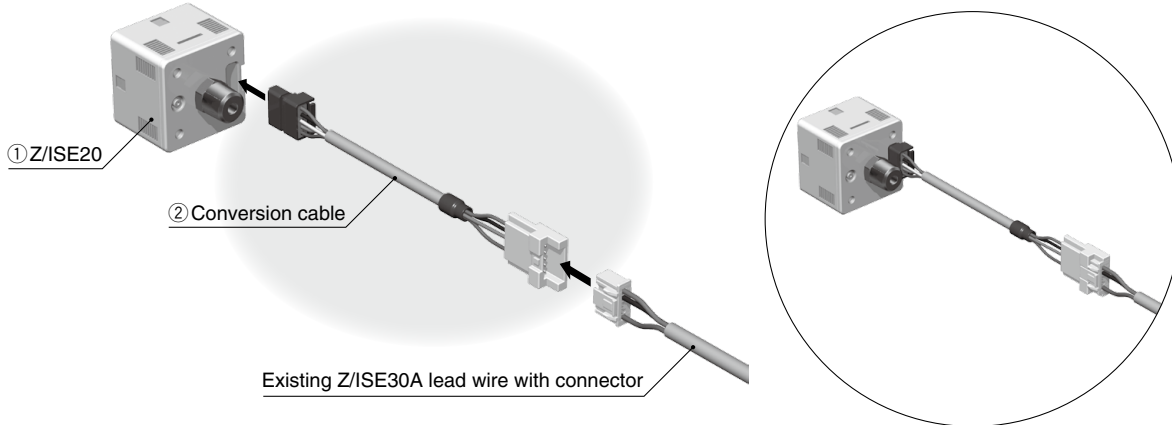
Please contact SMC for detailed dimensions, specifications, and delivery times.

8 Conversion Cable for the Z/ISE30A Lead Wire with Connector

20

20A

The conversion cable allows for connection between the existing Z/ISE30A lead wire with connector and the Z/ISE20.



The output specification symbol may vary from that of the existing pressure switch.

Z/ISE30A → Z/ISE20 + Conversion Cable Correspondence Table

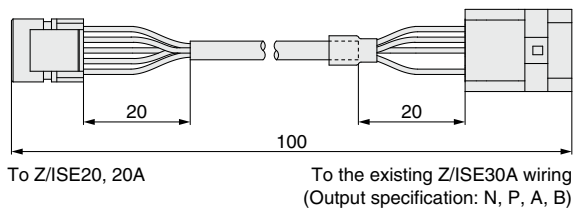
Existing digital pressure switch model	Output specification	① Pressure switch part no.	② Conversion cable part no.
Z/ISE30A-□-N-□□□□	NPN open collector 1 output	Z/ISE20-N-□-□-□□□	ZS-46-5LA-X424*1
Z/ISE30A-□-P-□□□□	PNP open collector 1 output	Z/ISE20-P-□-□-□□□	
Z/ISE30A-□-A-□□□□	NPN open collector 2 outputs	Z/ISE20A-X-□-□-□□□	
Z/ISE30A-□-B-□□□□	PNP open collector 2 outputs	Z/ISE20A-Y-□-□-□□□	
Z/ISE30A-□-C-□□□□	NPN open collector 1 output + Analog voltage output	Z/ISE20A-R-□-□-□□□	ZS-46-5LB-X424*1
Z/ISE30A-D-□□□□	NPN open collector 1 output + Analog current output	Z/ISE20A-S-□-□-□□□	
Z/ISE30A-E-□□□□	PNP open collector 1 output + Analog voltage output	Z/ISE20A-T-□-□-□□□	
Z/ISE30A-F-□□□□	PNP open collector 1 output + Analog current output	Z/ISE20A-V-□-□-□□□	

*1 While this conversion cable allows for use of the existing wiring, output and functions other than that of the Z/ISE30A will be invalid (not wired).

ZS-46-5LA-X424

Brown: 5
Black: 4
White: 3
Gray: 2
Blue: 1

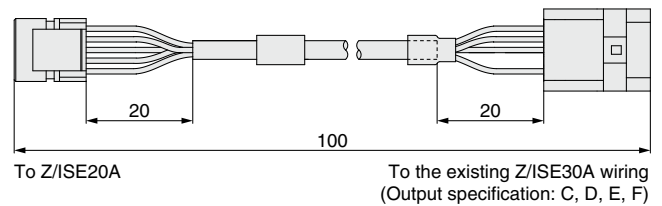
5: Brown
4: Black
3: White
2: N.C.
1: Blue



ZS-46-5LB-X424

Brown: 5
Black: 4
White: 3
Gray: 2
Blue: 1

5: Brown
4: Black
3: Gray
2: N.C.
1: Blue



9 With Spacer for Fitting Extension

20

20A

20B

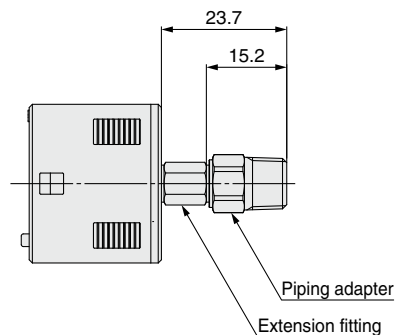
Allows for the easier insertion and removal of the lead wire with connector by extending the piping fitting
Part number for the spacer for extension: **ZS-46-M5A**

ZSE20(F)/ISE20 - □ - □ - **01** - □ □ □ - **X532**
ZSE20A(F)/ISE20A - □ - □ - **01** - □ □ □ - **X532**
ZSE20B(F)/ISE20B - □ - □ - **01** - □ □ □ - **X532**

Enter the standard product number.
(pp. 9, 11, 13)

• Piping specification

Symbol	Description
01	R1/8
N01	NPT1/8



ZSE20□(F)/ISE20□ Series

Please contact SMC for detailed dimensions, specifications, and delivery times.

10

□36 mm Panel Hole (Compatible with the panel holes of the Z/ISE40A and Z/ISE80)

20B

20C

This specification includes a panel mount adapter for the mounting holes of the panel mount used by the Z/ISE40A and Z/ISE80.

Option 2	
Symbol	Description
B	Panel mount adapter
D	Panel mount adapter + Front protection cover

ZSE20B(F)/ISE20B – □ – □ – □ – □ B □ – X521

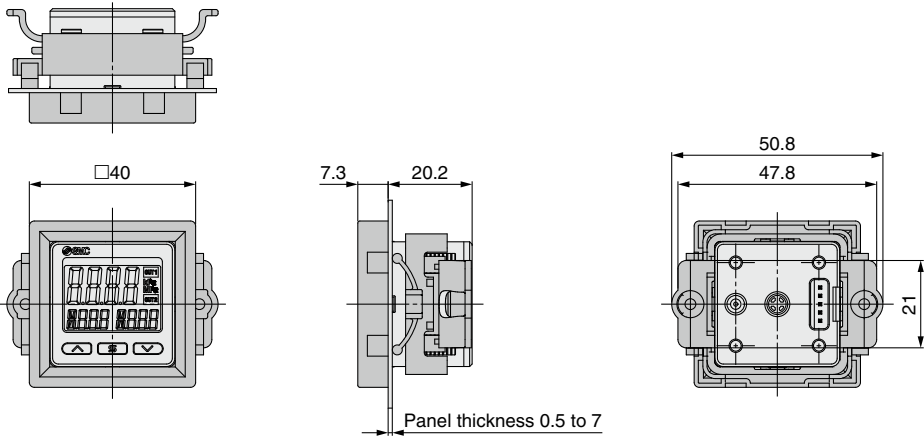
ZSE20C(F)/ISE20C – □ – □ – □ – □ B □ – X521

Enter the standard product number. (pp. 13, 25)

Compatible with the panel holes of the Z/ISE40A

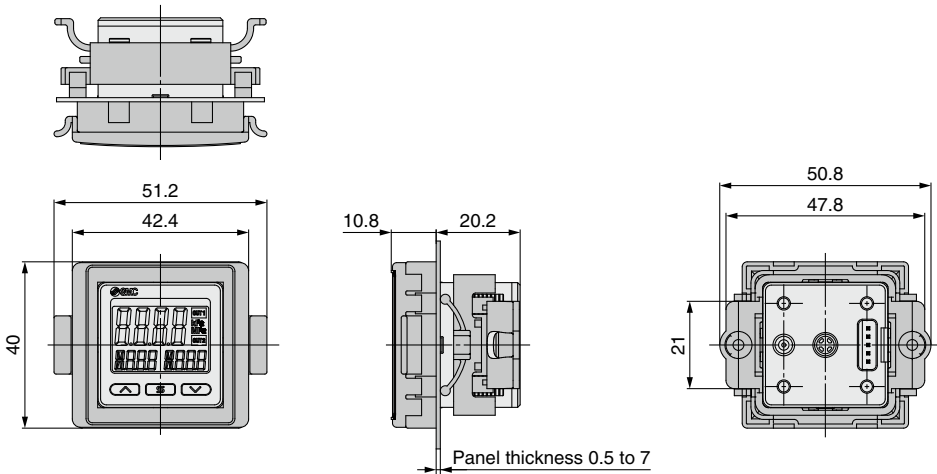
B

Panel mount adapter
(Part no.: ZS-46-F)



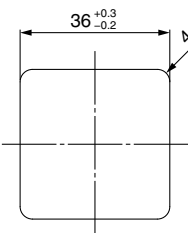
D

Panel mount adapter +
Front protection cover
(Part no.: ZS-46-G)

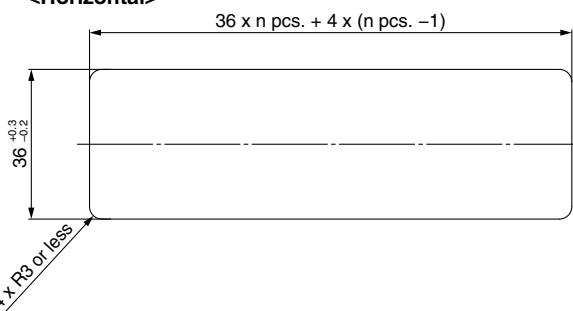


Panel fitting dimensions

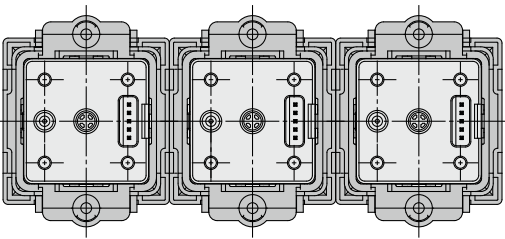
Individual mounting



Multiple (2 pcs. or more) secure mounting
<Horizontal>



Panel mount example
<Horizontal>



Please contact SMC for detailed dimensions, specifications, and delivery times.

10 □36 mm Panel Hole (Compatible with the panel holes of the Z/ISE40A and Z/ISE80)

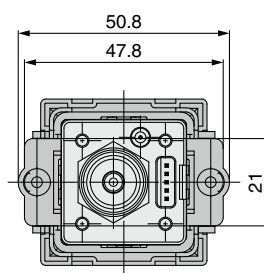
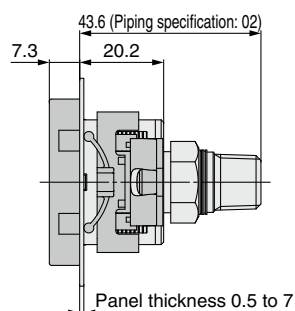
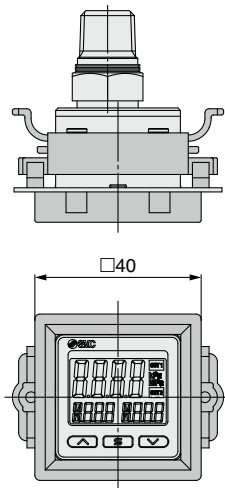
20B

20C

Compatible with the panel holes of the Z/ISE80

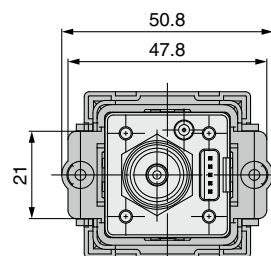
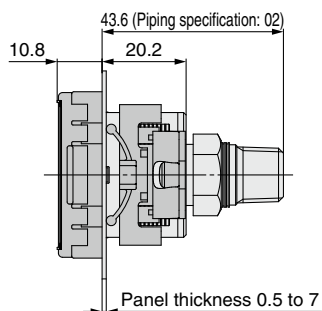
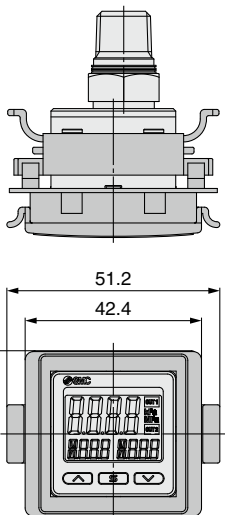
B

Panel mount adapter
(Rear ported)
(Part no.: ZS-46-F)



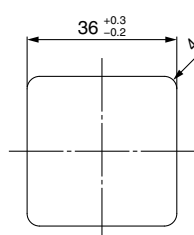
D

Panel mount adapter +
Front protection cover
(Rear ported)
(Part no.: ZS-46-G)

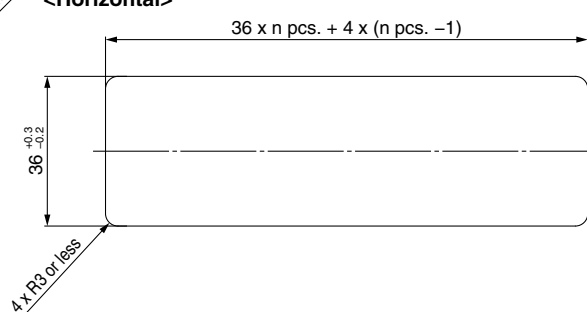


Panel fitting dimensions (Rear ported)

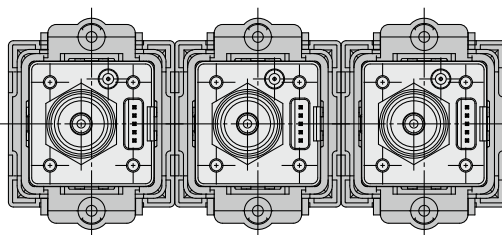
Individual mounting



Multiple (2 pcs. or more) secure mounting
<Horizontal>



Panel mount example
<Horizontal>



ZSE20(F)
ISE20

ZSE20A(F)
ISE20A

ZSE20B(F)
ISE20B

ZSE20B(F)-L
ISE20B-L

ZSE20C(F)
ISE20C(H)

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

Function
Details

Made to
Order

ZSE20□(F)/ISE20□ Series

Please contact SMC for detailed dimensions, specifications, and delivery times.

11 With Bracket Mounting Holes with Metal Insert Fittings 20 20A 20B 20C

This type features metal insert fittings inside the bracket mounting holes on the back of the product.

This allows for the bracket to be attached and detached when needed and for the product to be directly attached and detached from the back of the panel using M screws.

* The dimensions of the dedicated bracket (which uses special mounting screws, rendering it incompatible with the standard product) are the same as those of the standard product. (Refer to page 21.)

ZSE20(F)/ISE20 – □ – □ – □ – □ □ □ – X561
 ZSE20A(F)/ISE20A – □ – □ – □ – □ □ □ – X561
 ZSE20B(F)/ISE20B – □ – □ – □ – □ □ □ – X561
 ZSE20C(F)/ISE20C(H) – □ – □ – □ – □ □ □ – X561

Enter the standard product number. (pp. 9, 11, 13, 25) •

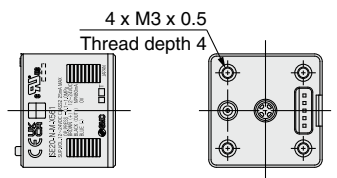
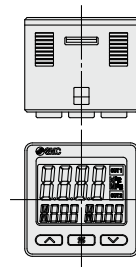
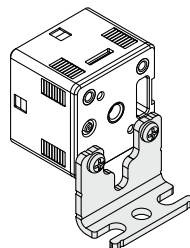
ZSE20(A, B) (F)/ISE20(A, B) with metal insert fittings

With dedicated bracket

ZSE20□(F) – □ – □ – □ – □ **A1** □ – X561
 ISE20□
 • Option 2

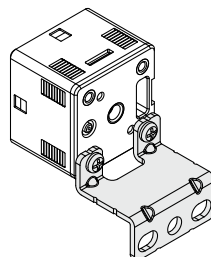
A1

Bracket A (Vertical mounting)
 (Part no.: ZS-46-A1-X549)



A2

Bracket B (Horizontal mounting)
 (Part no.: ZS-46-A2-X549)



Please contact SMC for detailed dimensions, specifications, and delivery times.

11 With Bracket Mounting Holes with Metal Insert Fittings

20

20A

20B

20C

ZSE20C(F)/ISE20C(H) with metal insert fittings

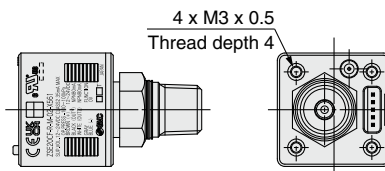
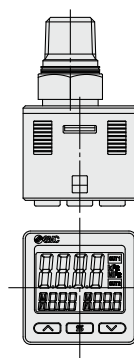
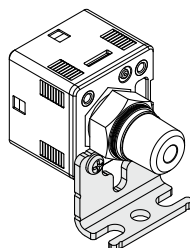
With dedicated bracket

ZSE20C(F)
ISE20C(H) - □ - □ - □ - □ - **A1** - X561

• Option 2

A1

Bracket A (Rear ported)
(Part no.: ZS-46-A1-X549)



ZSE20(F)
ISE20

ZSE20A(F)
ISE20A

ZSE20B(F)
ISE20B

ZSE20C(F)/ISE20C(H)-L with metal insert fittings

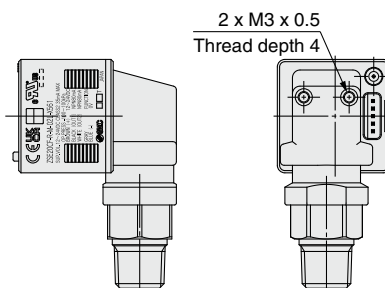
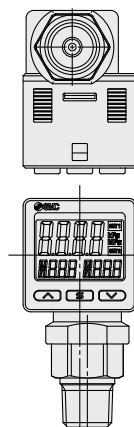
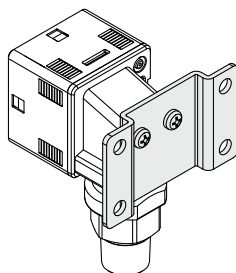
With dedicated bracket

ZSE20C(F)
ISE20C(H) - □ - □ - □ - **L** - **A3** - X561

• Option 2

A3

Bracket C (Bottom ported)
(Part no.: ZS-46-E-X549)



ZSE20B(F)-L
ISE20B-L

ZSE20C(F)
ISE20C(H)

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

Function
Details

Made to
Order

ZSE20□(F)/ISE20□ Series

Please contact SMC for detailed dimensions, specifications, and delivery times.

12 Integrated R1/8 Fitting with Bottom Wiring Entry

20

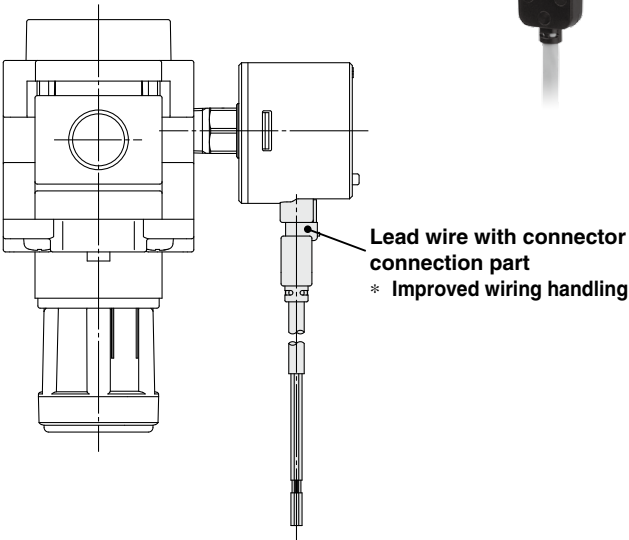
20A

20B

This is a product with an R1/8 fitting integrated into the product body, with the lead wire with connector entry on the bottom of the product.

The lead wire with connector entry being located on the bottom of the product has the following merits.

- No need for space at the back of the product for wiring connection and handling
- Allows for the avoidance of interference with peripheral components (when the connector entry is at the back of the product)
- Piping port: R1/8 (With M5 female thread)
- Insert nuts can be used for the tightening part of the bracket mounting screws.
- A lead wire with molded connector cover (waterproof type) can be used.

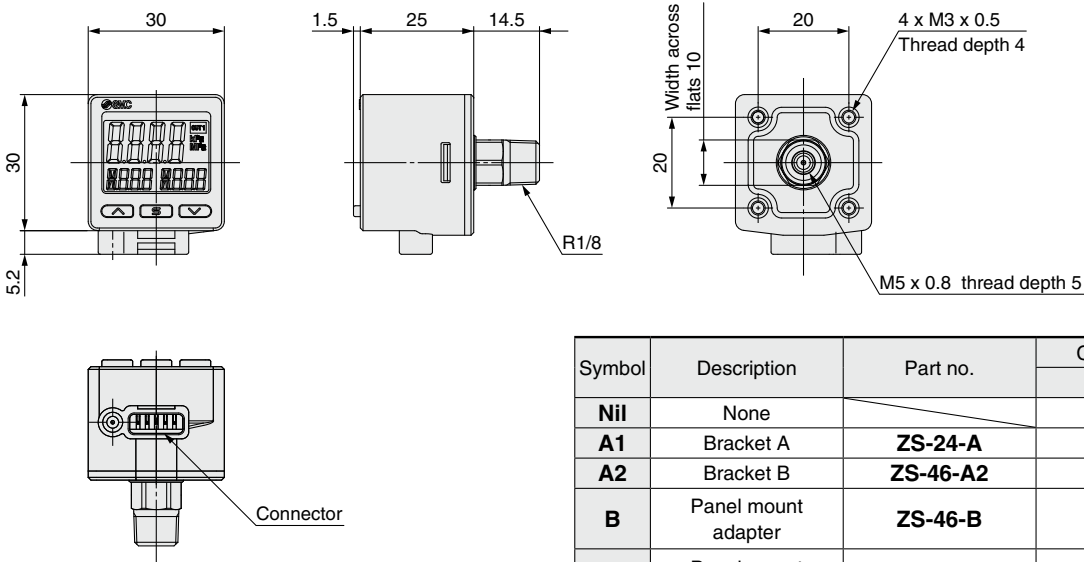


Non-waterproof type

ZSE20(F) /ISE20 - □ - □ - 01 - □ □ □ - X610
ZSE20A(F) /ISE20A - □ - □ - 01 - □ □ □ - X610

Enter the standard product number. (pp. 9, 11) •

* It is not selectable for the panel mount type. For option 2 selection, refer to the compatibility table below.



Symbol	Description	Part no.	Compatibility
			X610
Nil	None		○
A1	Bracket A	ZS-24-A	○
A2	Bracket B	ZS-46-A2	×
B	Panel mount adapter	ZS-46-B	×
D	Panel mount adapter + Front protection cover	ZS-46-D	×

Please contact SMC for detailed dimensions, specifications, and delivery times.

12 Integrated R1/8 Fitting with Bottom Wiring Entry

20

20A

20B

Waterproof type

ZSE20B(F)/ISE20B - □ - □ - 01 - W □ □ - X615

Enter the standard product number. (p. 13) ●

* It is not selectable for the panel mount type. For option 2 selection, refer to the compatibility table below.



ZSE20(F)
ISE20

ZSE20A(F)
ISE20A

ZSE20B(F)
ISE20B

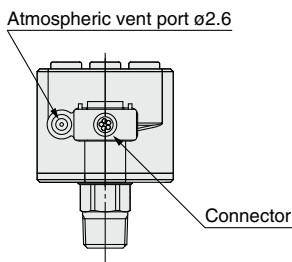
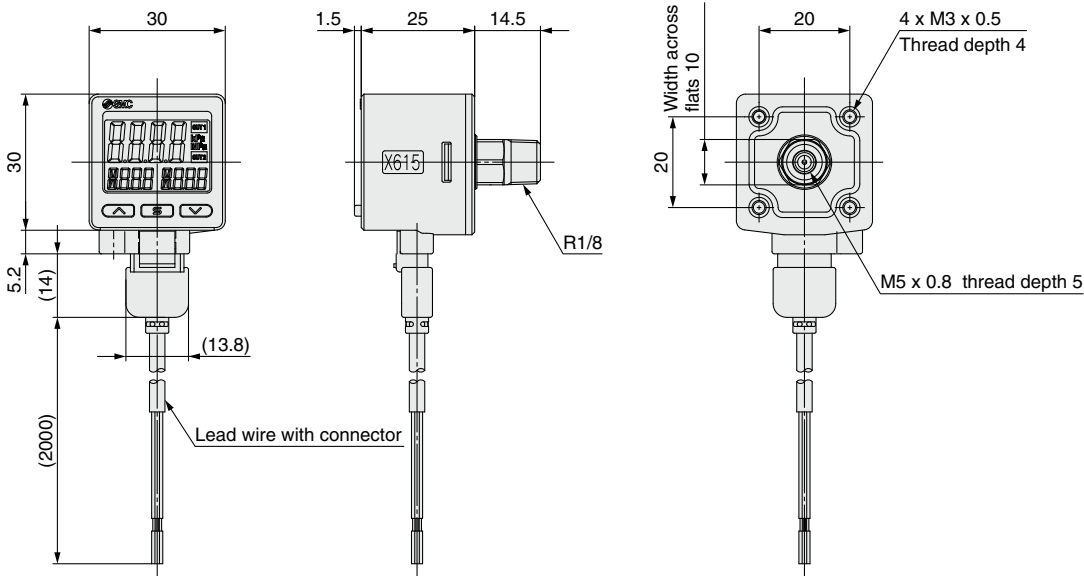
ZSE20B(F)-L
ISE20B-L

ZSE20C(F)
ISE20C(H)

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

Function
Details

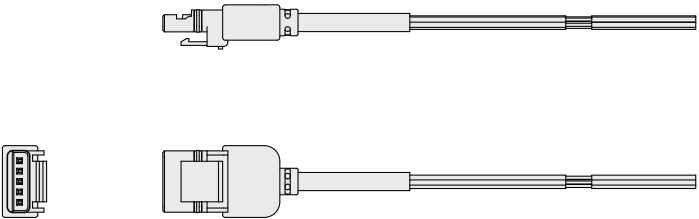
Made to
Order



Symbol	Description	Part no.	Compatibility
			X615
Nil	None		○
A1	Bracket A	ZS-24-A	○
A2	Bracket B	ZS-46-A2	×
B	Panel mount adapter	ZS-46-B	×
D	Panel mount adapter + Front protection cover	ZS-46-D	×

Accessory (for the X615): Lead wire with molded connector cover

Straight type ZS-46-5F-X525



ZSE20□(F)/ISE20□ Series

Please contact SMC for detailed dimensions, specifications, and delivery times.

13 Lead Wire with Connector and Rubber Cover

This waterproof lead wire with a connector features a rubber cover for the connector part. It covers the separate lines of the connector part.

- * Note that the rubber cover itself is not waterproof.
- * Note that the ZSE20(F)/ISE20 and ZSE20A(F)/ISE20A series product body enclosures are IP40. Therefore, the waterproof lead wire with a connector will not make them waterproof.
- * As ZSE20(F)/ISE20 series products are 3-wire type products, wiring is not required for the 2-core wires (white wire, gray wire). Therefore, the terminals of these wires should be processed.

13-1 Lead Wire Length 2 m

20

20A

20B

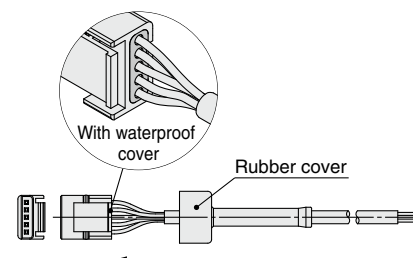
20C

ZSE20(F)/ISE20 — □ — □ — □ — □ L □ — X556

ZSE20A(F)/ISE20A — □ — □ — □ — □ J □ — X556

ZSE20B(F)/ISE20B — □ — □ — □ — □ W □ — X556

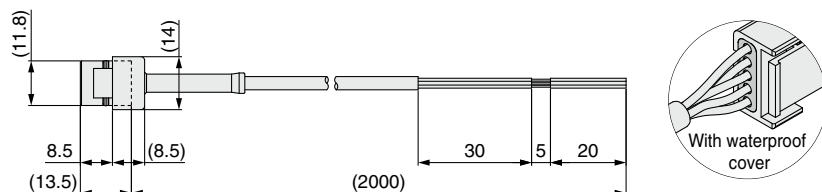
ZSE20C(F)/ISE20C(H) — □ — □ — □ — □ W □ — X556



Enter the standard product number. (pp. 9, 11, 13, 25) ●

Option Waterproof lead wire with connector and rubber cover Model: **ZS-46-5F-X499**

When required separately, order with the part number listed above.



* For cable specifications, refer to page 16.

13-2 Lead Wire Length 3 m

20A

20B

20C

ZSE20A(F)/ISE20A — □ — □ — □ — □ J □ — X560

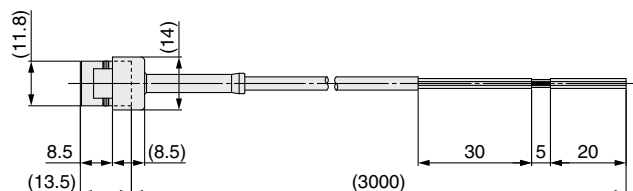
ZSE20B(F)/ISE20B — □ — □ — □ — □ W □ — X560

ZSE20C(F)/ISE20C(H) — □ — □ — □ — □ W □ — X560

Enter the standard product number. (pp. 11, 13, 25) ●

Option Waterproof lead wire with connector and rubber cover Model: **ZS-46-5F-X502**

When required separately, order with the part number listed above.



* For cable specifications, refer to page 16.

Please contact SMC for detailed dimensions, specifications, and delivery times.

13-3 Lead Wire Length 0.1 m with M12 Connector

20A

20B

20C

ZSE20A(F)/ISE20A — **X** — □ — □ — J □ □ — X557
 ZSE20B(F)/ISE20B — **X** — □ — □ — W □ □ — X557
 ZSE20C(F)/ISE20C(H) — **X** — □ — □ — W □ □ — X557

Output specification

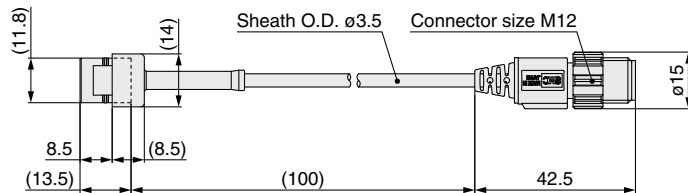
Symbol	Description
X	NPN 2 outputs (+ Copy function)
Y	PNP 2 outputs (+ Copy function)

* As the product body is shipped with the copy function enabled, simply replace the standard product cable with this cable.

Enter the standard product number. (pp. 11, 13, 25)

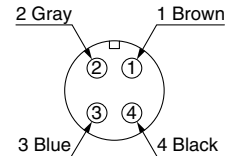
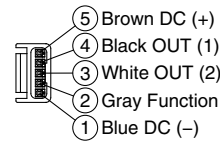
Option Waterproof lead wire with connector and rubber cover Model: ZS-46-5F-X472

When required separately, order with the part number listed above.



* For cable specifications, refer to page 16.

Connector pin assignment



13-4 Lead Wire Length 0.1 m with M8 Connector

20A

20B

ZSE20A(F)/ISE20A — **X** — □ — □ — J □ □ — X567
 ZSE20B(F)/ISE20B — **X** — □ — □ — W □ □ — X567

Output specification

Symbol	Description
X	NPN 2 outputs (+ Copy function)
Y	PNP 2 outputs (+ Copy function)

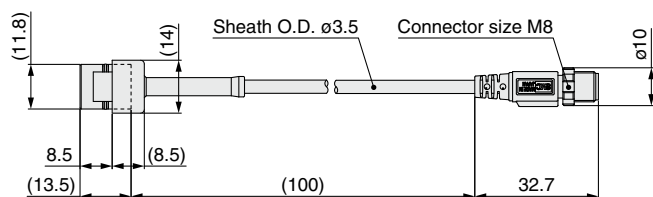
* As the product body is shipped with the copy function enabled, simply replace the standard product cable with this cable.

Enter the standard product number. (pp. 11, 13, 25)

* The model may have 2 outputs, but the connector is limited to 1 output due to its specifications.

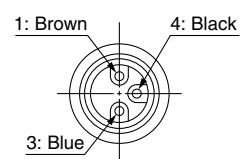
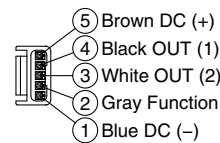
Option Waterproof lead wire with connector and rubber cover Model: ZS-46-5F-X506

When required separately, order with the part number listed above.



* For cable specifications, refer to page 16.

Connector pin assignment



ZSE20(F)
ISE20

ZSE20A(F)
ISE20A

ZSE20B(F)
ISE20B

ZSE20B(F)-L
ISE20B-L

ZSE20C(F)
ISE20C(H)

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

Function
Details

Made to
Order

ZSE20□(F)/ISE20□ Series

Please contact SMC for detailed dimensions, specifications, and delivery times.

14 With Bracket Mounting Holes with Metal Insert Fittings + Lead Wire with Connector and Rubber Cover Combination

- 20
- 20A
- 20B
- 20C

This type features a combination of bracket mounting holes with metal insert fittings (-X561) and a lead wire with connector and rubber cover (-X556/-X557/-X560/-X567).
Refer to the table below for individual specifications.
Note that due to the specifications, the product may not be compatible with some series and models.

[With Bracket Mounting Holes with Metal Insert Fittings and Lead Wire with Connector and Rubber Cover Specifications List]

Special order symbol	Compatible series				Special order specifications				
					Lead Wire with connector and rubber cover				With bracket mounting holes with metal insert fittings
	20	20A	20B	20C	Length 2 m	Length 3 m	M12 connector Length 0.1 m	M8 connector Length 2 m	
X556	●	●	●	●	●	—	—	—	—
X560	—	●	●	●	—	●	—	—	—
X557	—	●	●	●	—	—	●	—	—
X567	—	●	●	—	—	—	—	●	—
X561	●	●	●	●	—	—	—	—	●
X563	●	●	●	●	●	—	—	—	●
X564	—	●	●	●	—	●	—	—	●
X565	—	●	●	●	—	—	●	—	●
X568	—	●	●	—	—	—	—	●	●