

Digital Pressure Sensor 31& 32 with 3-color dual display

30 x 30 mm square 3-Color Dual Display Sensor for Positive/Negative Pressure

Safety instructions for this product

Safety instructions, Common safety instructions for each product category and Detailed safety instructions for each product are in the end of this catalog and our website.

Model Designation (Example)



(1) Digital Pressure Sensor 31& 32 with 3-color dual display

Code	VUS-31R	VUS-32R	VUS-31	VUS-32	SEU-31	SEU-32
Rated pressure range	-100.0 to 100.0kPa (Compound press.)		-101.3 to 0.0kPa (Negative press.)		0.000 to 1.000MPa (Positive press.)	

(2) Switch output

Code	N	P (* 32 series only)
Type	NPN open collector output	PNP open collector output

(3) Switch specification

Code	V	2
Specifications	31 series: 1 point SW output + Analog output (1 to 5V) 32 series: 2 points SW output + Analog output (1 to 5V)	31 series: 2 points SW output 32 series: 2 points SW output + copy function

(4) Connection type and sizes

Code	01	NTU (* 32 series only)	G1 (* 32 series only)
Type/size	O.D.: Taper pipe male thread R1/8 I.D.: Metric female thread M5x0.8	O.D.: National pipe taper male thread NPT1/8 I.D.: Unified female thread No.10-32UNF	O.D.: Parallel pipe male thread G1/8 I.D.: Metric female thread M5x0.8

(5) Cable length / Connector spec.

Code	No code	-CON (* 31 series only)
Specifications	2m cable	M8, 4pins, with male connector

Model Designation of Accessory (Example)



* Accessories of Pressure Sensor 31 series (except Female connector : C42) can be also used for Digital Pressure Gauge (page 177)

(1) Sensor type or Accessory type

Code	ACPG-31	ACPG-32
Used for	Accessory for 3-color Dual Display Digital Pressure Sensor 31 & 32	Bracket for 3-color Dual Display Digital Pressure Sensor 32

(2) Accessory type

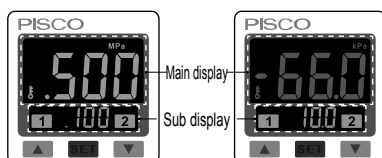
Code	Type
B1	For 31 series
B2	Bracket
C42	Wall bracket including M3×0.5 male screws 2 pcs. Upright bracket including M3×0.5 male screws 2 pcs.
B12	For 32 series
B13	Female connector (M8, 4 pins)
P1	For 31& 32 series
P2	Bracket
	Wall bracket including M3×0.5 male screws 2 pcs. Upright bracket including M3×0.5 male screws 2 pcs.
	Panel-mounting bracket set
	Without protection cover With protection cover

Characteristics

Clear 3-color LCD dual displays

The main display uses 2-colors, according to the output.

Main display: Pressure indication (Red/Green), Sub display: Pressure setting value (Orange)



Power-saving mode can reduce power consumption by 30%

The main display will turn off if any button is not pushed for 30 seconds at power-saving mode.

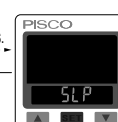
■ Normal mode

■ Power-saving mode



The main display will turn off if any button is not pushed for 30 seconds.

Push any button to return to normal mode.

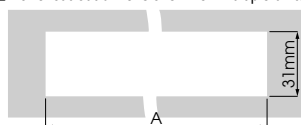


When the main display is off, "SLP" (SLEEP) blinks on the sub display.

Compact body size

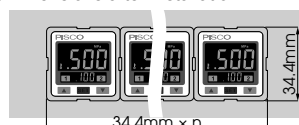
■ Panel cut-out dimensions when multiple units are installed

■ Dimensions after installation



Calculation: (A) = (34.4 × n) - 3.4

n: No. of pressure sensor

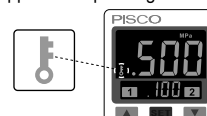


Rich optional parts.

Lock function is equipped.

For prevention of operation errors such as mis-typing keys.

Key icon appears at operating mode.



32 series

Connectorized wire for easier wiring and maintenance.

Settings details can be copied to slave sensors by copy function.

RoHS2 (2011/65/EU+EU2015/863) compliant



Specifications

Type	VUS-31R, VUS-32R (Compound press.)	VUS-31, VUS-32 (Negative press.)	SEU-31, SEU-32 (Positive press.)
Rated pressure range	-100.0 to 100.0kPa	-101.3 to 0.0kPa	0.000 to 1.000MPa
Proof pressure	300kPa		1.5MPa
Fluid medium	Air, non-corrosive / non-flammable gas		
Power supply	12 to 24 VDC Ripple $\pm 10\%$ or less		
Current consumption	40mA or less (at No-loaded)		
Switch output (*2)	NPN open collector output, PNP open collector output (32 series only)		
	Max. load current: 125mA		
	Max. supply voltage: 30 VDC		Max. supply voltage: 24 VDC
	Internal voltage drop: Max 1.5 V		
Repeatability	$\pm 0.2\%$ F.S. ± 1 digit or less		
Hysteresis	Adjustable (*1)		
Response time	2.5ms or less (Malfunction protection function: Selection from 25 ms, 100 ms, 250 ms, 500 ms, 1000 ms, 1500 ms)		
Overload protection	Equipped		
Digital display	3 colors (Red, Green, Orange) indication (Sampling rate: 5 times / 1sec.)		
Pressure unit	-kPa/+MPa, +kgf/cm ² , +bar, +psi, -inHg, -mmHg		
Indication accuracy	$\pm 0.2\%$ F.S. ± 1 digit or less (at Ta = 25 $\pm$ 3°C)		
Operation indicator	Orange 1&2 indicator		
Analog output (Voltage output)	Output voltage: 1 to 5 V $\pm 2.5\%$ F.S. or less (within rated pressure range), Linearity: $\pm 1\%$ F.S. or less, Output impedance: 1 k Ω		
Environment proof	Protective structure	IP40 equiv.	
	Ambient temp. range	Operation: 0 to 50°C, Storage: -10 to 60°C (no dew condensation or freezing)	
	Ambient humidity range	Operation/Storage: 35 to 85% RH (no dew condensation)	
	Voltage proof	1000 VAC 1 min. (between the lead wire and the case)	
	Insulation proof	50 M Ω or more (500VDC) (between the lead wire and the case)	
	Vibration resistance	Total amplitude 1.5 mm or 100 m/s ² 10Hz-150Hz-10Hz scan for 1 min., 2 hours each direction of X, Y and Z	
Shock resistance		100m/s ² , 3 times each in direction of X, Y and Z	
Temperature characteristics		$\pm 2\%$ F.S. max. (at Ta = 25°C, temp. range 0 to +50°C)	
Cable spec.		Oil-resistance cable (0.15mm ²)	

*1 Hysteresis value is adjustable within 1 to 8 digits for one point set mode and window comparator mode.

*2 Switch output: PNP open collector output is available only for 32 series.

Display and part names



31 Series			
With 2 m cable		With M8, 4-pins male connector	
Type	Model code	Type	Model code
VUS Compound 	VUS-31R-NV-01 VUS-31R-N2-01	VUS Compound 	VUS-31R-NV-01-CO VUS-31R-N2-01-CO
Type	Model code	Type	Model code
VUS Negative 	VUS-31-NV-01 VUS-31-N2-01	VUS Negative 	VUS-31-NV-01-CO VUS-31-N2-01-CO
Type	Model code	Type	Model code
SEU Positive 	SEU-31-NV-01 SEU-31-N2-01	SEU Positive 	SEU-31-NV-01-CO SEU-31-N2-01-CO

32 Series			
Type	Model code	Type	Model code
VUS Compound 	VUS-32R-NV- <u>4</u> VUS-32R-N2- <u>4</u> VUS-32R-PV- <u>4</u> VUS-32R-P2- <u>4</u>	VUS Negative 	VUS-32-NV- <u>4</u> VUS-32-N2- <u>4</u> VUS-32-PV- <u>4</u> VUS-32-P2- <u>4</u>
Type	Model code		
SEU Positive 	SEU-32-NV- <u>4</u> SEU-32-N2- <u>4</u> SEU-32-PV- <u>4</u> SEU-32-P2- <u>4</u>		

Accessories

For 31 series

Type	Model code	Type	Model code	Type	Model code
Wall bracket ACPG	ACPG-31-B1	Upright bracket ACPG	ACPG-31-B2	Female connector (M8, 4 pins) ACPG	ACPG-31-C42

CAD data is available at PISCO website.

Packaging specifications 1 pc. / bag

For 32 series

Type	Model code	Type	Model code
Wall bracket ACPG	ACPG-32-B12	Upright bracket ACPG	ACPG-32-B13

For 31& 32 series

Type	Model code	Type	Model code
Panel mount bracket set ACPG	ACPG-31-P1	Panel-mount bracket set with front protection cover ACPG	ACPG-31-P2

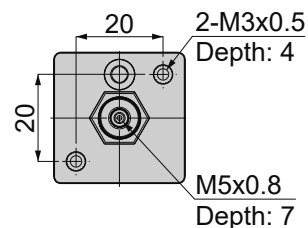
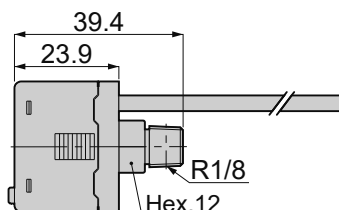
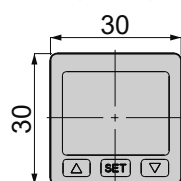
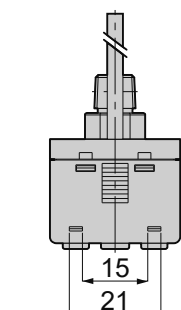
■ Dimensional Drawings

VUS31 Negative pressure type/Compound pressure type

SEU31 Positive pressure type



Unit: mm



Model code	Weight (g)
VUS-31R-NV-01	73
VUS-31R-N2-01	73
VUS-31-NV-01	73
VUS-31-N2-01	73
SEU-31R-NV-01	73
SEU-31R-N2-01	73

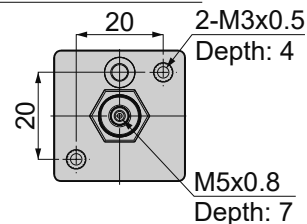
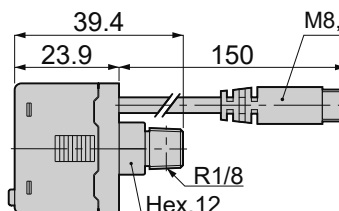
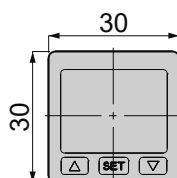
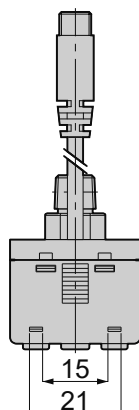
VUS31 With M8, 4-pin male connector,

Negative pressure type/Compound pressure type



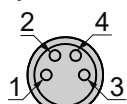
SEU31 With M8, 4-pin male connector, Positive pressure type

Unit: mm



Model code	Weight (g)
VUS-31R-NV-01-CON	36
VUS-31R-N2-01-CON	36
VUS-31-NV-01-CON	36
VUS-31-N2-01-CON	36
SEU-31R-NV-01-CON	36
SEU-31R-N2-01-CON	36

Pin array



- 1: Brown (+)
- 2: White (OUT2/Analog output)
- 3: Blue (-)
- 4: Black (OUT1)

VUS32 Negative pressure type/Compound pressure type

SEU32 Positive pressure type



Unit: mm

Model code	R1	R2	Weight (g)
VUS-32R- 2 3 -01	R1/8	M5×0.8	80 (*1)
VUS-32R- 2 3 -N1U	NPT1/8	No.10-32UNF	80 (*1)
VUS-32R- 2 3 -G1	G1/8	M5×0.8	80 (*1)
VUS-32- 2 3 -01	R1/8	M5×0.8	80 (*1)
VUS-32- 2 3 -N1U	NPT1/8	No.10-32UNF	80 (*1)
VUS-32- 2 3 -G1	G1/8	M5×0.8	80 (*1)
SEU-32R- 2 3 -01	R1/8	M5×0.8	80 (*1)
SEU-32R- 2 3 -N1U	NPT1/8	No.10-32UNF	80 (*1)
SEU-32R- 2 3 -G1	G1/8	M5×0.8	80 (*1)

*1 The weight includes the lead wire (2 m).

*2 For 2 in the model code, please select a code for the switch output type, and for 3, select a code for a switch specification, referring to Model Designation (Example) of Digital Pressure Sensor 31 & 32 with 3-color Dual Digital Display.

