



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



PRESSURE INDICATORS

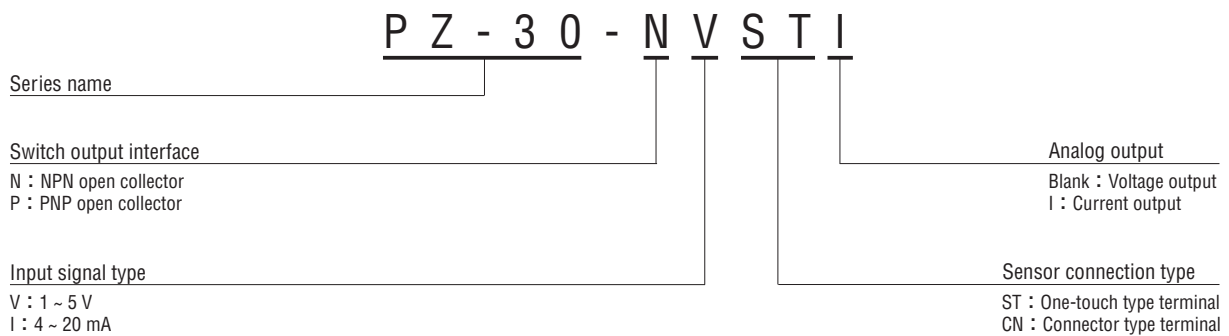
PZ-30



FEATURES

- Pressure indicators separated from sensor
 - Can be used with variety of sensors
- Wide range of applications such as pneumatic equipment or semiconductor equipment
- Any range of pressure sensors is available
- Low power consumption by non display mode
- Set data protection by panel lock function

MODEL NUMBER DESIGNATION



LIST OF MODEL NUMBERS

Analog output	Switch output type	Input signal type	Sensor connection type	
			One-touch type terminal	Connector type terminal
Analog output	NPN	1 ~ 5 V	PZ-30-NVST	PZ-30-NVCN
		4 ~ 20 mA	PZ-30-NIST	PZ-30-NICN
	PNP	1 ~ 5 V	PZ-30-PVST	PZ-30-PVCN
		4 ~ 20 mA	PZ-30-PIST	PZ-30-PICN
Analog Current output	NPN	1 ~ 5 V	➡ PZ-30-NVSTI	
		4 ~ 20 mA	➡ PZ-30-NISTI	
	PNP	1 ~ 5 V	➡ PZ-30-PVSTI	
		4 ~ 20 mA	➡ PZ-30-PISTI	

※ Verify the above model numbers when placing orders.

Marked ➡ is manufactured upon receipt of order basis.

PZ-30

PRESSURE INDICATORS

STANDARD SPECIFICATIONS

● Unless otherwise specified, the specs are defined at an ambient temperature of 25±5 °C and excitation voltage of 24 V DC.

Item		Model number	PZ-30
General specifications	Operating temp. range	°C	- 10 ~ 50
	Operating humidity	%RH	35 ~ 85
	Protection grade		IP40
	Storage temp.	°C	- 20 ~ 70
	Net weight	g	Approx. 80 (Including 2 m cable)
	Insulation resistance		100 MΩ minimum
	Dielectric strength		500 V DC 1 minute
	Supply voltage		10.8 ~ 30 V DC (ncluding ripple percentage) ※
	Consumption current		50 mA maximum
Input	Input signal		1 ~ 5 V (V) / 4 ~ 20 mA (I)
	Input impedance		10 kΩ (V) / 250 Ω (I)
Display	No. of digit		3
	Display element		LED
	Display cycle		Approx. 4 times/s
	Negative pressure display		"-" LED is ON
	Display accuracy		± 1 %F.S. (Without sensor's error)
	Thermal error		± 0.5 % (0 ~ 50 °C, Reference temp. 25 °C)
	Resolution		1 count
Switch	Output status		NPN/PNP 2-point output (Transistor, Open collector output)
	Switching capacity		30 V DC 100 mA maximum
	Residual voltage		1.2 V maximum (NPN), 2.2 V maximum (PNP)
	Hysteresis setting		0 ~ 300 counts Adjustable
	Repeatability		± 0.2 %F.S. ± 1 count
	Short circuit protection		With protection function
	Response		Approx. 5 ms ("F - 0") (Selectable 5 ms ~ 2.5 s)
	Thermal error		± 0.5 %F.S. (0 ~ 50 °C, Reference temp. 25 °C)
	State indication		Output 1 (Green LED), Output 2 (Red LED) Lighted when output is ON.
Analog output	Voltage output		1 ~ 5 V
	Current output		4 ~ 20 mA (Load resistance 500 Ω maximum)

※When analog current output type of PZ30 is chosen or when a sensor of current output type is connected, supply voltage is 24 V DC ± 10%

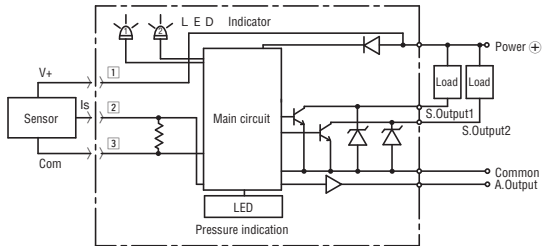
ENVIRONMENTAL CHARACTERISTICS

Test item	Test conditions	Permissible change
Vibration	10 ~ 500 Hz, 98.1 m/s ² or 1.5 mm P-P, 3 directions for 2 hours each	Pressure indication, switch operating points and analog output variation : ± 1 %F.S. maximum each after test
Shock	490 m/s ² , 3 directions for 3 times each	
Moisture resistance	40 °C, 90 ~ 95 %RH, 240 hrs.	
EMC	EMI : EN55011: 2007, A2 : 2007 Group 1, class B EMS : EN61326-1: 2006 Table 2	Pressure indication, switch operating pressure and analog output : ± 5 %F.S. maximum during test

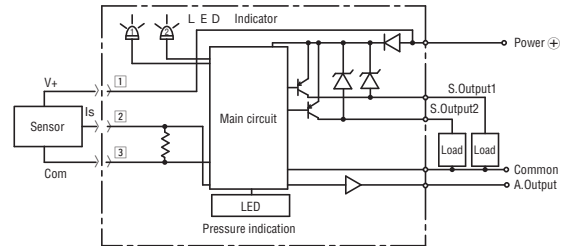
INTERNAL ELECTRICAL SCHEMATICS

● Voltage analog output

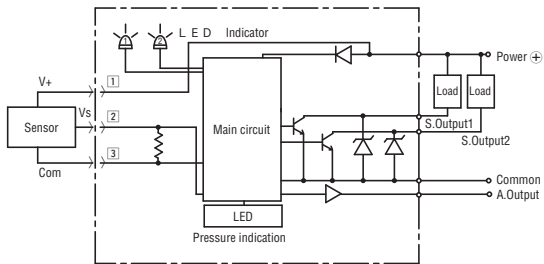
• Current input NPN output



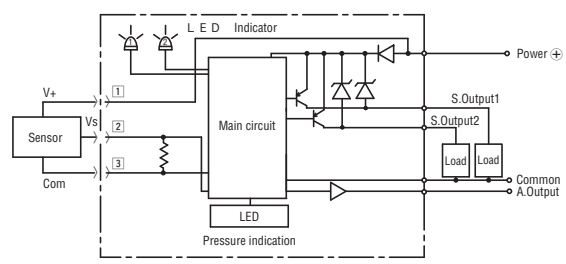
• Current input PNP output



• Voltage input NPN output



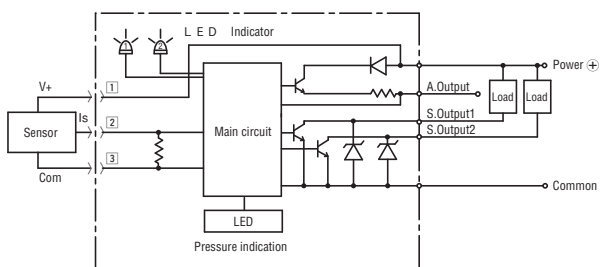
• Voltage input PNP output



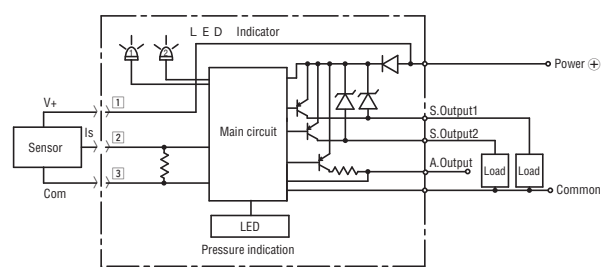
※When connecting the 2-wire type of current output sensors, please do not connect the 3 (Com.) terminal.

● Current analog output

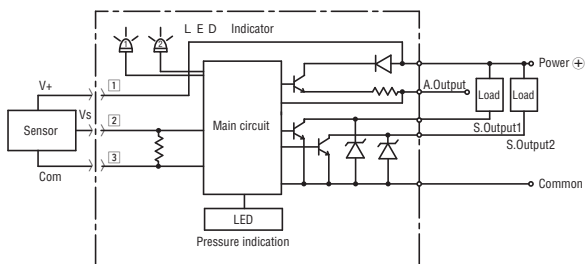
• Current input NPN output



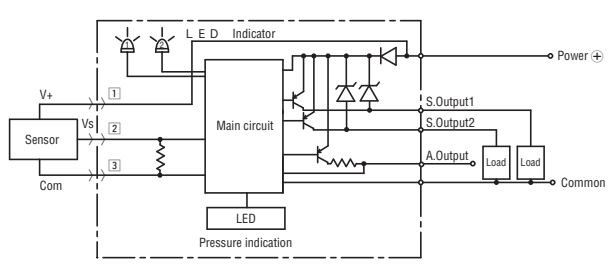
• Current input PNP output



• Voltage input NPN output



• Voltage input PNP output



※When connecting the 2-wire type of current output sensors, please do not connect the 3 (Com.) terminal.

PZ-30

PRESSURE INDICATORS

ANALOG OUTPUT MODE

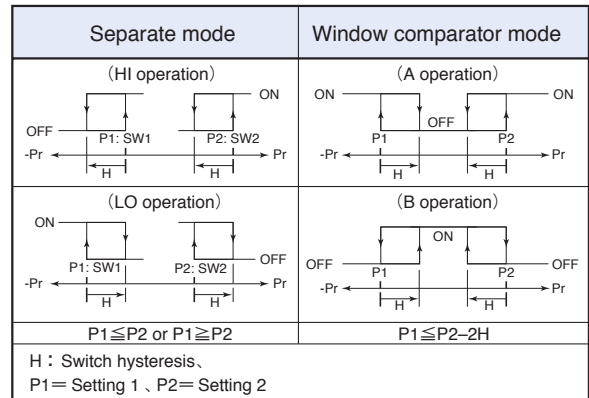
- Analog output setting : The second figure in triple digits LED indicates output mode in the initial setting.
Output mode is fixed by rated pressure.

Analog output		-Pr	0	Pr
Code	Output mode	←—————→		
"1"	R mode (Compound)	1 V (4 mA)	(Vzero)	5 V (20 mA)
"2"	G mode (Positive)		1 V (4 mA)	5 V (20 mA)
"3"	V mode (Negative)	5 V (20 mA)	1 V (4 mA)	

SWITCH OUTPUT MODE

- Switch output can be set when blinking red LED indicates (SW2) in the initial setting.
- The mode is set at "Separate (H/H), 1" prior to shipment. The mode is initialized at "Separate (L/L), 4" when rated pressure is set at "-12P" or "-12F" (negative pressure).

Output	SW1				SW2			
	Separate		Window comparator		Separate		Window comparator	
Mode	HI	LO	A	B	HI	LO	A	B
Operation	HI	LO	A	B	HI	LO	A	B
S-1	○				○			
S-2	○					○		
S-3		○				○		
S-4		○				○		
C-5			○				○	
C-6			○				○	
C-7				○				○
C-8				○				○
Pressure setting (Operating point)	Setting 1		(Lower limit) : Setting 1 (Upper limit) : Setting 2		Setting 2		(Lower limit) : Setting 1 (Upper limit) : Setting 2	



Note 1. In the Separate Mode, setting 1 corresponds to SW1, and Setting 2 corresponds to SW2.

Note 2. In the Window Comparator Mode, the minimum value for SW1 and SW2 corresponds to Setting 1 and the maximum value corresponds to Setting 2.

SELECTION OF DISPLAY MULTIPLIER/RATED PRESSURE

● Selection of display multiplier

- Please set any code when blinking red LED indicates negative pressure in the initial setting.
- Display multiplier is set at "1" (kPa) prior to shipment.

● Selection of rated pressure

- Please set any code when blinking red LED indicates negative pressure, SW1, SW2 in the initial setting.
- Rated pressure is set at "12P" (0 ~ 100 kPa) prior to shipment.

Mode (1/3)		Pressure reference	Gauge/Absolute										
		Pressure unit	kPa										MPa
Display multiplier		Rated pressure range	0 ~ 10	0 ~ 35	0 ~ 50	0 ~ -100	0 ~ 100	0 ~ 350	0 ~ 500	0 ~ 600	0 ~ 700	0 ~ 1000	0 ~ 2.00
Code	Multiplier	Setting code	"11P"	"41P"	"51P"	"-12P"	"12P"	"42P"	"52P"	"62P"	"72P"	"13P"	"23P"
"1"	× 1 (kPa)	Rated pressure display (P _L ~ P _H)	0.00 9.99	0.0 35.0	0.0 50.0	0.0 -99.9	0.0 99.9	0 350	0 500	0 600	0 700	0 999	/
"2"	× 0.0102		0.00 0.10	0.00 0.35	0.00 0.51	0.00 -1.02	0.00 1.02	0.00 3.57	0.00 5.10	0.00 6.12	0.00 7.14	0.00 9.99	0.0 20.4
"3"	× 10.2		0.0 99.9	0 357	0 510	0 -999	0 999	/	/	/	/	/	/
"4"	× 7.501		0.0 75.0	0 262	0 375	0 -750	0 750	/	/	/	/	/	/
"5"	× 102		0 999	/	/	/	/	/	/	/	/	/	/
"6"	× 0.01		0.00 0.10	0.00 0.35	0.00 0.50	0.00 -1.02	0.00 1.02	0.00 3.50	0.00 5.00	0.00 6.00	0.00 7.00	0.00 9.99	0.0 20.0
"7"	× 10		0.0 99.9	0 350	0 500	0 -999	0 999	/	/	/	/	/	/
"8"	× 0.145		0.00 1.45	0.00 5.07	0.00 7.25	0.0 -14.5	0.0 14.5	0.0 50.7	0.0 72.5	0.0 87.0	0 101	0 145	0 290
"9"	× 0.000145		/	/	/	/	/	/	/	/	/	/	0.00 0.29
"A"	× 0.001 (MPa)		/	/	/	/	/	/	/	/	/	/	0.00 1.00
"b"	× 0.2953		0.00 2.95	0.0 10.3	0.0 14.7	0 -29.5	0 29.5	0 103	0 147	0 177	0 206	0 295	0 590

Mode (2/3)		Pressure reference	Gauge/Absolute					Compound						
		Pressure unit	MPa					kPa						
Display multiplier		Rated pressure range	0 ~ 3.50	0 ~ 5.00	0 ~ 10.0	0 ~ 20.0	0 ~ 35.0	-10 ~ 10	-100 ~ 100	-100 ~ 200	-100 ~ 300	-100 ~ 500	-100 ~ 600	-100 ~ 1000
Code	Multiplier	Setting code	"43P"	"53P"	"14P"	"24P"	"44P"	"11r"	"12r"	"22r"	"32r"	"52r"	"62r"	"13r"
"1"	× 1 (kPa)	Rated pressure display (P _L ~ P _H)	/	/	/	/	/	-9.99 9.99	-99.9 99.9	-100 200	-100 300	-100 500	-100 600	-100 999
"2"	× 0.0102		0.0 35.7	0.0 51.0	0 102	0 204	0 357	-0.10 0.10	-1.02 1.02	-1.02 2.04	-1.02 3.06	-1.02 5.10	-1.02 6.12	-1.02 9.99
"3"	× 10.2		/	/	/	/	/	-99.9 99.9	-999 999	/	/	/	/	/
"4"	× 7.501		/	/	/	/	/	-75.0 75.0	-750 750	/	/	/	/	/
"5"	× 102		/	/	/	/	/	-999 999	/	/	/	/	/	/
"6"	× 0.01		0.0 35.0	0.0 50.0	0.0 99.9	0 200	0 350	-0.10 0.10	-1.00 1.00	-1.00 2.00	-1.00 3.00	-1.00 5.00	-1.00 6.00	-1.00 9.99
"7"	× 10		/	/	/	/	/	-99.9 99.9	-999 999	/	/	/	/	/
"8"	× 0.145		0 507	0 725	/	/	/	-1.45 1.45	-14.5 14.5	-14.5 29.0	-14.5 43.5	-14.5 72.5	-14.5 87.0	-14 145
"9"	× 0.000145		0.00 0.50	0.00 0.72	0.00 1.45	0.00 2.90	0.00 5.07	/	/	/	/	/	/	-0.01 0.14
"A"	× 0.001 (MPa)		0.00 3.50	0.00 5.00	0.00 9.99	0.00 20.0	0.00 35.0	/	-0.10 0.10	-0.10 0.20	-0.10 0.30	-0.10 0.50	-0.10 0.60	-0.10 1.00
"b"	× 0.2953		0 999	/	/	/	/	-2.95 2.95	-29.5 29.5	-29.5 59.0	-29.5 88.5	-29 147	-29 177	-29 295

PZ-30

PRESSURE INDICATORS

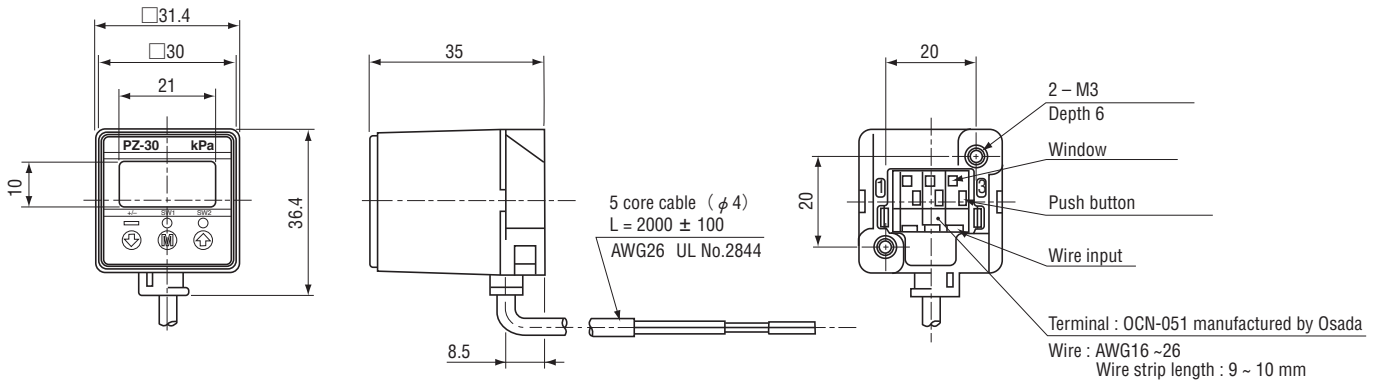
SELECTION OF DISPLAY MULTIPLIER/RATED PRESSURE

Mode (3/3)		Pressure reference	Gauge/Absolute									
		Pressure unit	($\times 1 / 0.0102$) kPa									
Display multiplier		Rated pressure range	0 ~ 0.10	0 ~ 0.35	0 ~ 0.50	0 ~ -1.00	0 ~ 1.00	0 ~ 3.50	0 ~ 5.00	0 ~ 7.00	0 ~ 10.0	
Code	Multiplier	Setting code	"11F"	"41F"	"51F"	"-12F"	"12F"	"42F"	"52F"	"72F"	"13F"	
"1"	$\times 1$ (kPa)	Rated pressure display ($P_L \sim P_H$)	0.00 9.80	0.0 34.3	0.0 49.0	0.0 -98.0	0.0 98.0	0 343	0 490	0 686	0 980	
"2"	$\times 0.0102$		0.00 0.10	0.00 0.35	0.00 0.50	0.00 -1.00	0.00 1.00	0.00 3.50	0.00 5.00	0.00 7.00	0.00 9.99	
"3"	$\times 10.2$		0.0 99.9	0 350	0 500	0 -999	0 999					
"4"	$\times 7.501$		0.0 73.5	0 257	0 367	0 -735	0 735					
"5"	$\times 102$		0 999									
"6"	$\times 0.01$		0.00 0.09	0.00 0.34	0.00 0.49	0.00 -0.98	0.00 0.98	0.00 3.43	0.00 4.90	0.00 6.86	0.00 9.80	
"7"	$\times 10$		0.0 98.0	0 340	0 490	0 -980	0 980					
"8"	$\times 0.145$		0.00 1.42	0.00 4.97	0.00 7.10	0.0 -14.2	0.0 14.2	0.0 49.7	0.0 71.0	0.0 99.5	0 142	
"9"	$\times 0.000145$											
"A"	$\times 0.001$ (MPa)										0.00 0.98	
"b"	$\times 0.2953$			0.00 2.89	0.0 10.1	0.0 14.4	0.0 -28.9	0.0 28.9	0 101	0 144	0 202	0 289

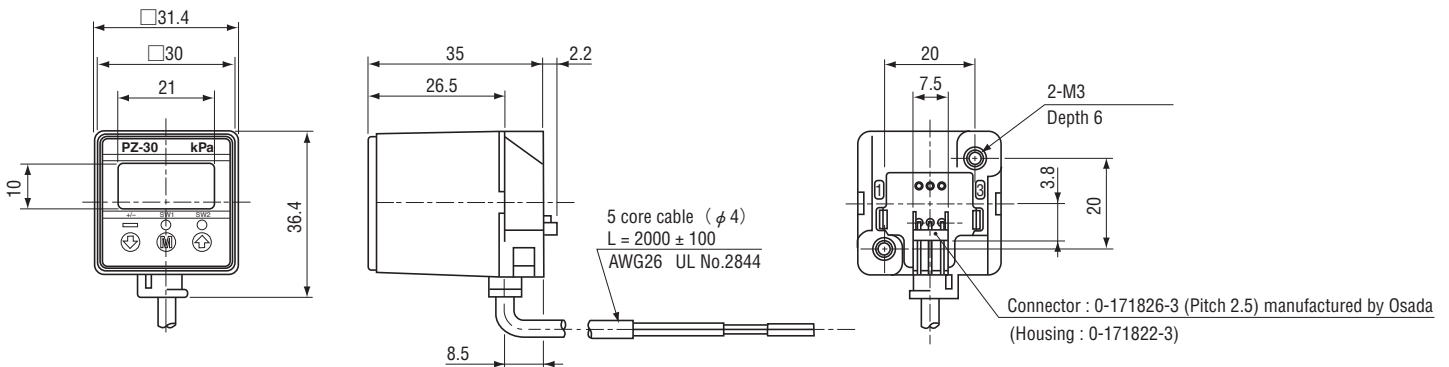
OUTLINE DIMENSION

Unless otherwise specified, tolerance: ± 0.5 (Unit: mm)

PZ-30 One-touch type terminal



PZ-30 Connector type terminal

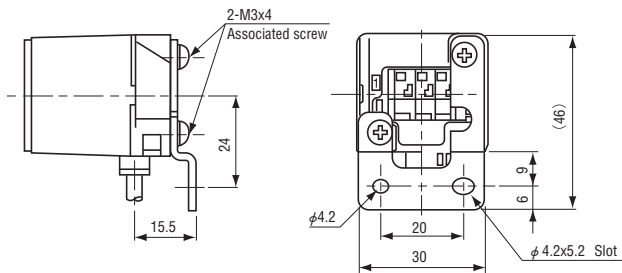
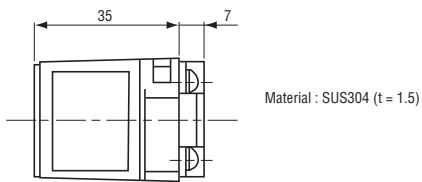


Wire color	Connection
Brown	Power \oplus
Gray	Analog output
Black	Switch output 1
White	Switch output 2
Blue	Common

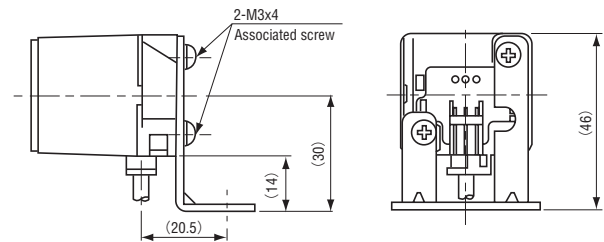
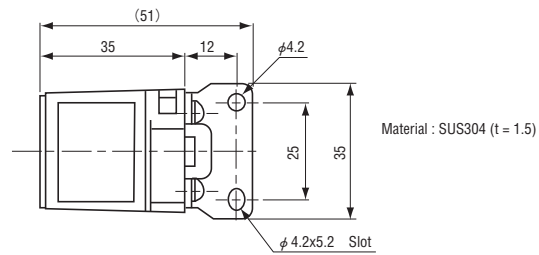
HOW TO MOUNT OPTIONAL ACCESSORIES <SOLD SEPERATELY>

Unless otherwise specified, tolerance: ± 0.5 (Unit: mm)

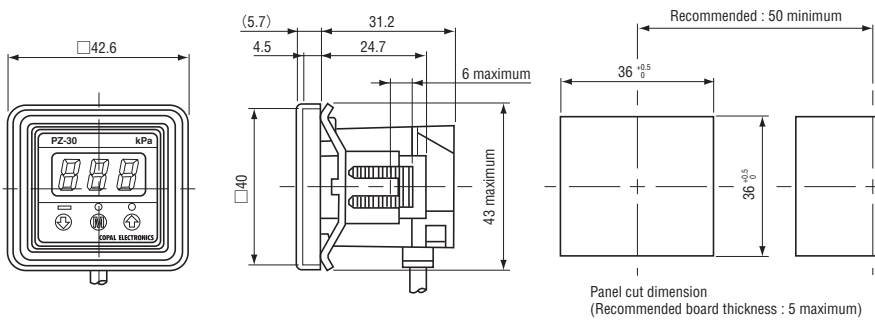
● Rear panel mounting bracket set



● Panel mounting bracket set



● Panel holder set



Name	Series Name	Contents
Panel holder set (PG-30/PG-35)	ACPG-003	Panel holder cover Panel holder Panel stopper (2 pcs.)
Holder cover set	ACPG-004	Panel holder cover Panel holder
Holder stopper set	ACPG-007	Panel holder Panel stopper (2 pcs.)
Rear panel bracket set (Z)	ACPG-011	Rear panel bracket set (Z) and M3 × 4, male screw (2 pcs.)
Panel bracket set (Z)	ACPG-012	Panel panel bracket set (Z) and M3 × 4, male screw (2 pcs.)