

General Specifications

PG400 Pulse Generator for Clean Unit

GS 19C01B05-01EN

■ General

In a continuous water-quality sampling process, contamination adhering to sensor of the analyzer may adversely affect the measurement result. Therefore, sensor cleaning is an indispensable factor for many water-quality measurement. Ultrasonic cleaning method has the advantage of being able to perform continuously while measuring with an efficient cleaning to most of the contaminants.

Used in combination with an ultrasonic oscillator, The PG400 composes an ultrasonic cleaning device, supplying the operating power to the oscillator via cabling.

The ultrasonic oscillator combined with PG400 is a piezoelectric ceramic-type vibrator mainly composed of lead zirconate titanate.

The ultrasonic oscillator is built into sensor holders and detectors of the following instruments.

PH8HS, PH8HF: sensor holders with ultrasonic cleaner

TB820D: Right Angle Scattered Light Turbidity Detector

*TB810D: Transmission Scattering Light Turbidity Detector

TB750G: Right Angle Scattered Light Turbidimeter

*TB700G: Scattered Light Turbidimeter

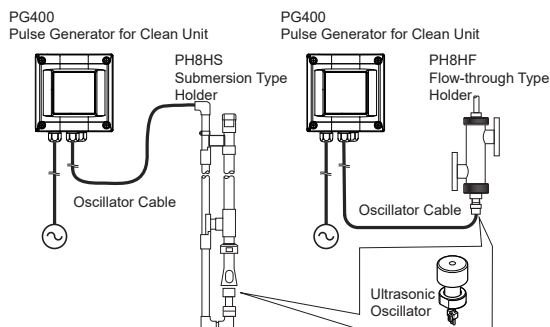
For further information on the holders and detectors/sensors, refer to the respective specifications.

* : TB810D and TB700G are sold only in Japan.

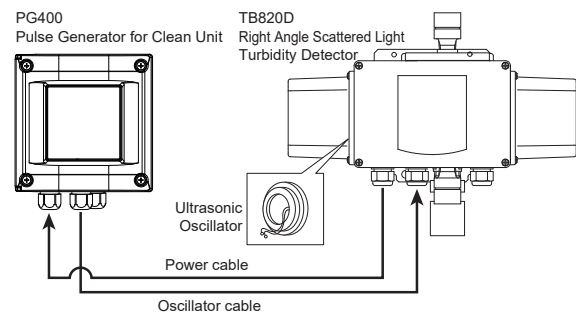


■ System Configuration

● Connection to PH8HF, PH8HS (example)



● Connection to TB820D, TB750G (example)



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■ General Specifications

● Combination

PH8HS, PH8HF	Holders with ultrasonic cleaner
TB820D	Right Angle Scattered Light Turbidity Detector
TB810D	Transmission Scattering Light Turbidity Detector
TB750G	Right Angle Scattered Light Turbidimeter
TB700G	Scattered Light Turbidimeter

Select the output according to the device to be combined.

Output	- PU combination with PH8HS, PH8HF
	- TU combination with TB820D, TB810D, TB750G, TB700G

● Electrical

Wash method: Ultrasonic continuous-wave method (frequency-sweeping method)

Output adjustment function: Yes

Distance from the ultrasonic oscillator:

Output - PU	Maximum 20 m
- TU	Maximum 15 m

It is recommended to install as close as possible to facilitate maintenance.

Power Supply : AC Power Supply

Nominal Voltage: 100 to 240 V AC

Tolerance; 90 to 264 V AC

Nominal Voltage: 50/60 Hz

Tolerance; 50 Hz \pm 5%, 60 Hz \pm 5%

Power consumption: 30 VA

● Mechanical and others

Case, Cover:

- Aluminum alloy cast + urethane coating
- Aluminum alloy cast + high anti-corrosion coating

Color: Silver gray

Protection: IP66 (except Canada), Type 4X (CSA, UL)

Note: If the product is installed outdoors and exposed to direct sunlight, the sunshade hood (Option) is recommended.

Dimensions: 165 × 165 × 155 mm (W × H × D)
(without cable gland)

Weight: maximum 2.5 kg

Mounting bracket (Option):

Pipe, Panel, wall mounting: Stainless Steel

Hood (Option):

Stainless steel, chemically coat stainless steel

Wiring terminal block: For M4 screw (ground terminal: M4)

Cable gland: 3 Holes, three M20 cable glands
(Applicable cable O.D. 6 to 12 mm)

Note: It is not assembled into the main unit when shipped. Customers need to install by themselves.

Conduit adapter (Option): G1/2, 1/2NPT or M20 × 1.5

Note Add the required number according to the specifications.

Stainless steel tag plate (Option):

When the option code/SCT is specified, the tag plate with the tag number printed on is shipped with the product. The tag plate is a hanging type.

Warm-up time: Approx. 1 minute (after the output switch is turned on)

Environmental conditions:

Ambient temperature ; -15 to 55°C

Storage temperature ; -30 to 70°C

Ambient humidity ; 10 to 90% RH (at 40°C)
(no condensation)

● Safety, EMC and RoHS Compliance

Safety: UL 61010-1
CAN/CSA-C22.2 No.61010-1
EN 61010-1
GB30439

Installation altitude: 2000 m or less

Category based on IEC 61010: II (Note 1)

Pollution degree based on IEC 61010: 2 (Note 2)

Note 1: Installation category, called over-voltage category, specifies impulse withstand voltage.

Category II is energy-consuming equipment to be supplied from the fixed installation.

Note 2: Pollution degree indicates the degree of existence of solid, liquid, gas or other inclusions which may reduce dielectric strength. Degree 2 is the normal indoor environment.

EMC: RCM: EN 61326-1 Class A, Table 2
Korea Electromagnetic Conformity
Standard Class A 한국 전자파적합성 기준

Model & Suffix Codes

Model	Suffix code	Option code	Description
PG400	.....	.....	Pulse generator for clean unit
Power supply	-A	.....	AC power supply
Housing (*1)	-B	.....	Aluminum alloy cast + urethane coating
	-D	.....	Aluminum alloy cast + high anti-corrosion coating
Type	-AG	.....	General purpose for KC, RCM
	-AJ	.....	General purpose (*2)
Output	-PU	.....	for PH8HS,PH8HF (*3)
	-TU	.....	for TB820D,TB810D, TB750G,TB700G (*4)
—	-00	.....	Always -00
Country (*5)	-N	.....	Global except Japan
	-J	.....	Japan
Assembled in stanchion	-NN	.....	Not assembled in stanchion
	-ST	.....	Assembled in stanchion (*6)
Option		/UM	Universal mounting kit (stainless steel) (*7)
		/U	Pipe and wall mounting hardware (stainless steel)
		/U1	Wall mounting hardware for replace (from PUS400G/TUS400G)
		/PM	Panel mounting hardware (stainless steel)
		/PM1	Panel mounting hardware for replace (from PUS400G/TUS400G)
		/H6	Hood, stainless steel
		/H7	Hood, stainless steel + urethane coating
		/SCT	Stainless steel tag plate
		/CB	Conduit adapter (G1/2 x 2 pcs)
		/CD	Conduit adapter (1/2NPT x 2 pcs)
		/CF	Conduit adapter (M20 x 1.5 x 2 pcs)

Notes:

- For high anti-corrosion coating, urethane coating and epoxy coating which is for alkali resistance are applied.
- "-AJ" is recommended for use in Japan and region not requiring standards.
- Oscillator cables are supplied with PH8HS or PH8HF when a code for ultrasonic cleaning is specified. When replacing from a PUS400G, use the existing cable.
- When connecting to TB820D or TB810D with "-NN", a dedicated oscillator cable and a power cable are required separately. Refer to the "Oscillator cable, Power cable for the turbidity detector TB820D, TB810D" table. When connecting to TB810D with "-ST", an arrangement of the oscillator cable and the power cable is not required. When connecting to a TB750G or TB700G (when replacing from a TUS400G), use the existing cable. Also, since the existing cable is not compatible with the safety standards, select "-AJ" or "-AG".
- When using in Japan, be sure to select "-J"
- Select "-TU". In addition, order a TB810D with the specific suffix code for ultrasonic cleaning. /UM, /U, /U1, /PM, /PM1, /H6, /H7 cannot be selected.
- Universal mounting kit includes the pipe, wall mounting hardware (/U) and panel mounting hardware (/PM).

Accessories

Name	Q'ty	Remarks	
Cable gland	3 pieces	1 rubber plug is attached.	
Plate	1 piece	For cable gland connection	
Option	Mounting bracket	1 set	Option / UM, /U, /U1, /PM, /PM1
	Hood	1 set	Option /H6, /H7
	Stainless steel tag plate	1 set	Option /SCT, tag plate, wire.
	Tag plate	1 sheet	Other than /SCT, TAG No.is specified
	Conduit adapter setting	1 set (2 pack/1 set)	Option /CB, /CD, /CF
User's Manual	1 book		

Oscillator cable, Power cable for the turbidity detector TB820D, TB810D

Required for connection to the turbidity detector TB820D, TB810D.

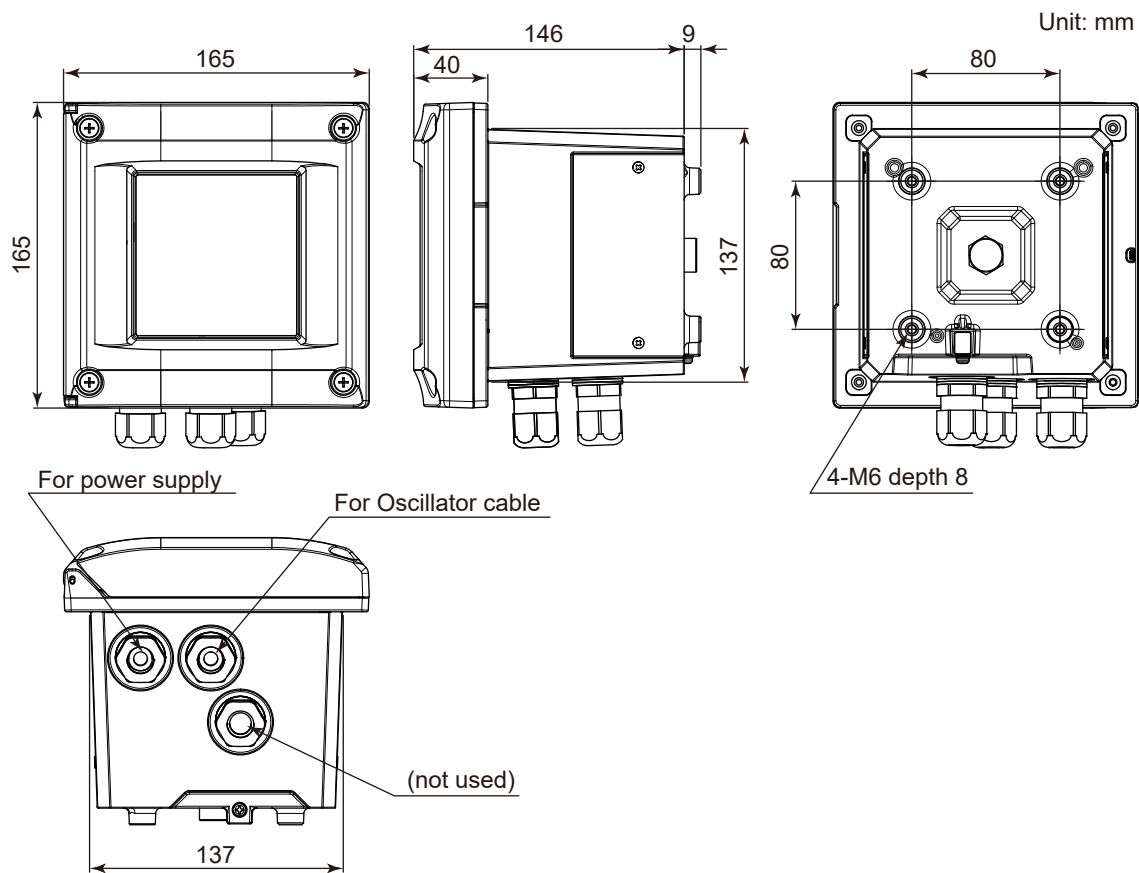
The Power cable is required along with the oscillator cable. Please prepare cables of the same length.

Cable Length	Oscillator cable Part No.	Power cable Part No.
1 m	K8008AW	K8008BW
5 m	K8008AX	K8008BX
10 m	K8008AY	K8008BY
15 m	K8008AZ	K8008BZ

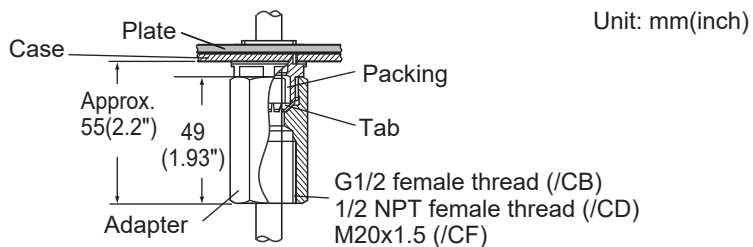
- Option parts

Name		Part No.	Remarks
Rubber plug		K9703ZN	for cable gland
Fuse		A1109EF	250V/1.0A (minimum 5 pcs)
Conduit adapter	G1/2	K8008GF	for Option code /CB
	1/2NPT	K8008GG	for Option code /CD
	M20×1.5	K8008GH	for Option code /CF
Hardware	Pipe and wall mounting hardware	K9703SS	same as Option code /U
	Panel mounting hardware	K9703ZD	same as Option code /PM
	Wall mounting hardware for replace	K8008GN	same as Option code /U1
	Panel mounting hardware for replace	K8008GA	same as Option code /PM1
Hood	Stainless steel	K9698WK	same as Option code /H6
	Stainless steel with urethane coating	K9698WL	same as Option code /H7

■ Dimensions and Mounting

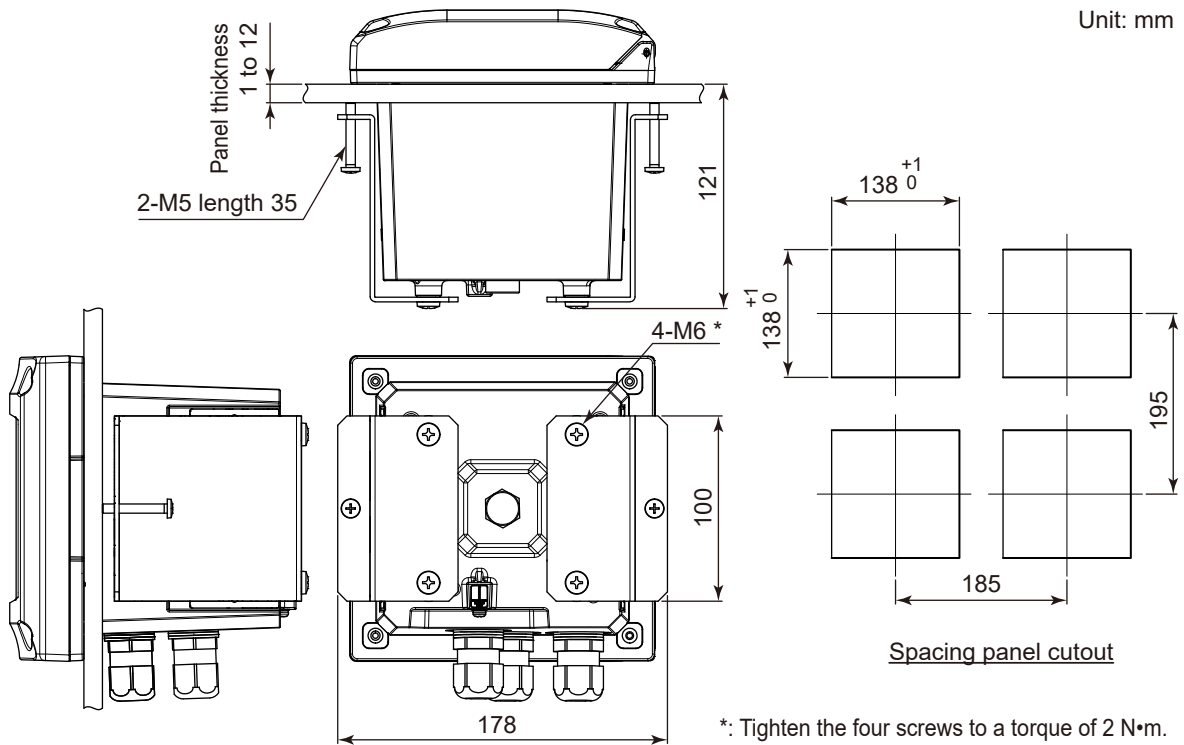


● Conduit Adapter (Option code: /CB, /CD, /CF)

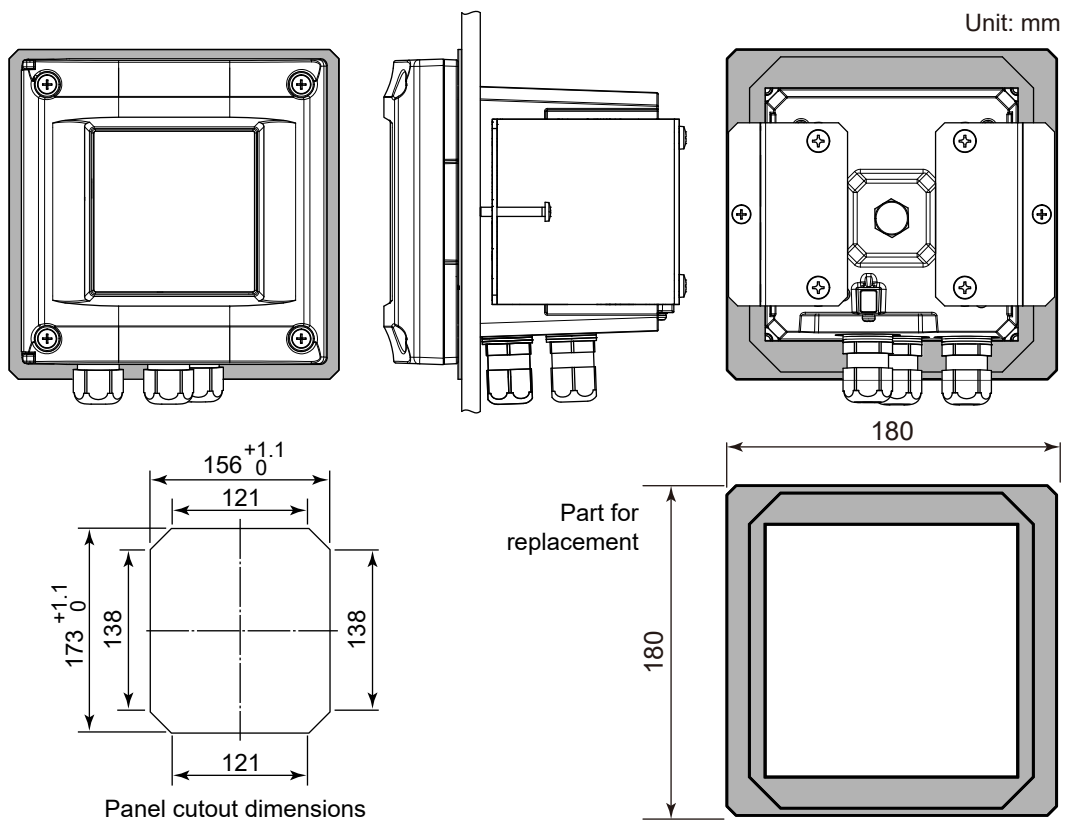


(Note) The universal mounting kit (/UM) contains the pipe and wall mounting hardware (/U) and the panel mounting hardware (/PM).

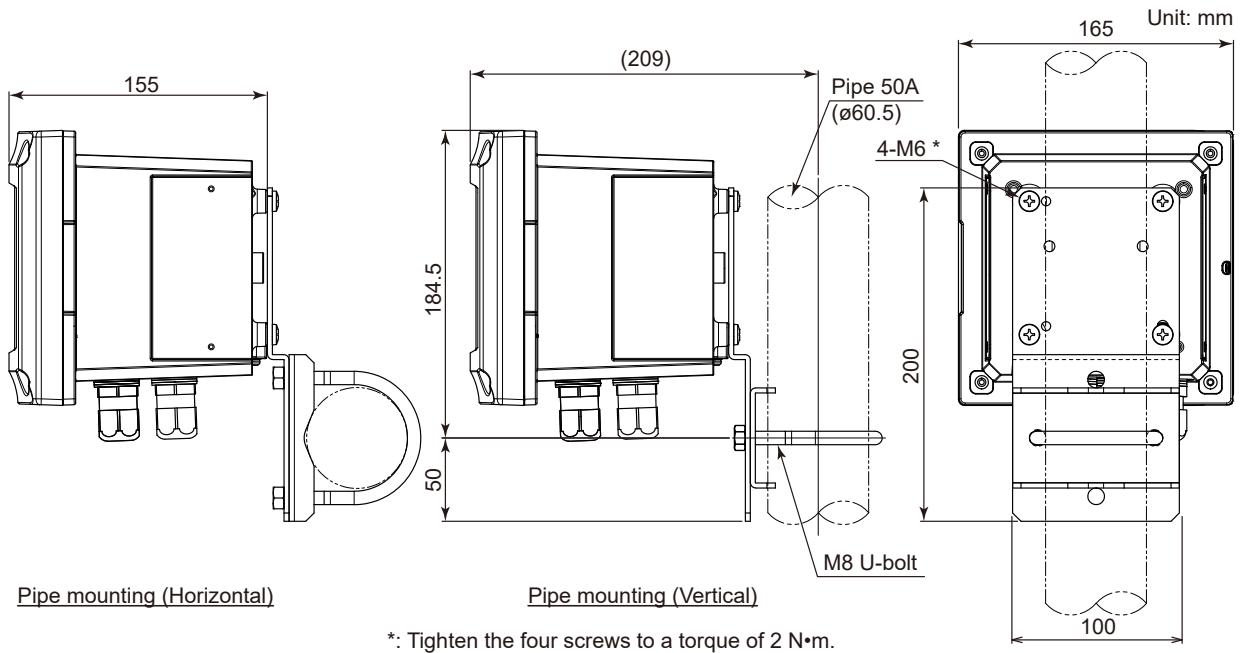
• Panel mounting hardware (Option code: /PM, /UM)



• Panel mounting hardware for replace (from PUS400G/TUS400G) (Option code: /PM1)



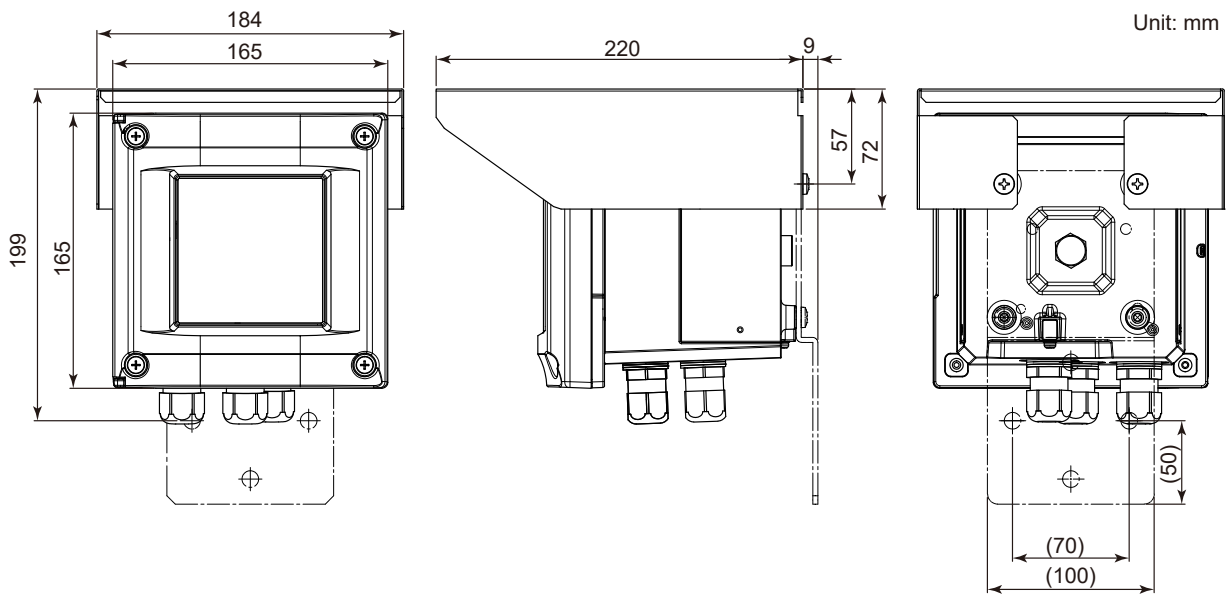
● Pipe mounting hardware (Option code: /U, /UM)



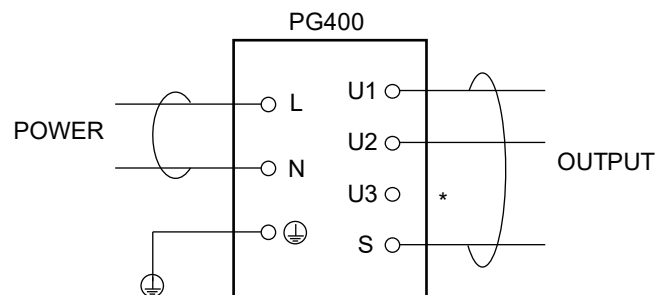
Pipe mounting (Horizontal)

Pipe mounting (Vertical)

● Stainless steel hood (Option code: /H6, /H7)



■ Wiring Diagrams



*: U3 needs to be wired for TB750G.