

HORIBA

Self-cleaning^{*} pH Electrode

Gel-filled Self-cleaning pH Electrode 6122 series

Troubled by the manual and
frequent cleaning of electrodes?

Look no further...

HORIBA has developed a new Gel-filled

Self-cleaning pH Electrode to liberate you from
your heavy maintenance burdens.

Prolonged cleaning, calibration cycle and reduced on-site
workload are no longer a pipedream.

JP Patent No.5121012
JP Patent No.4824609
JP Patent No.4876123
JP Patent No.6603135
JP Patent No.4857281
JP Patent No.7014652

*The effect varies depending on the customer's usage
environment. Effective against organic stains.

Specifications

| Product name | | Gel-filled Self-cleaning pH Electrode | |
|---|--|--|--|
| Model | 6122S <small>(Immersion holder type/ Flow through type/ Drop-in holder type)</small> | 6122SA (Direct screw-in thread) | |
| Measurement range | 0 – 14 pH ※1 ※2 | | |
| Temperature range | 0 – 40 °C ※3 | | |
| Pressure range | 0 – 0.1 MPa | | |
| Measuring solution condition | Electric conductivity range | 500 μS/cm or higher | |
| Electrode structure | GRT composite electrode | | |
| Liquid junction | Open pore | | |
| Internal solution for reference electrode | Water-insoluble polymer gel Potassium chloride supersaturated | | |
| Wetted material | Glass, TiO ₂ | | |
| Cable length | 5 m / 10 m | | |
| Terminal connection | Please contact us for other cable length. | | |
| Temperature compensation element | Square destination opening crimp terminals (4 mm) G, S, R, T, E, LED+, LED- Pt 1000 Ω (at 0 °C) | | |
| Standard accessories | · Instruction manual · Spacer · Electrode packing | · Instruction manual · O-ring | |
| Compatible transmitter | HP-200/ HP-300/ HP-480 series / HP-960FTP | | |
| Relay box | CT-302 | | |
| Compatible holder/ adapter | · CH-101 series (Immersion type) ※4 · CF-251 series (Flow through type) ※4 · NH-10 series (Drop-in) ※5 | · Direct screw-in thread (S-R3/4-SUS-6122SA, S-NPT3/4-SUS-6122SA) ※6 | |

- 6122S and 6122SA electrodes are resistant against organic foulants. Inorganic foulants may not be effective.
- Even an organic foulants may not be effective for clean water where algae is likely to grow, or for samples containing solid oils and fats. Also, fine particles of alumina or zirconia may scrape the photocatalyst, the antifouling may not be possible.
- When using this electrode, a relay box with a constant current source (CT-302) and a relay cable (C-5A) are required separately.

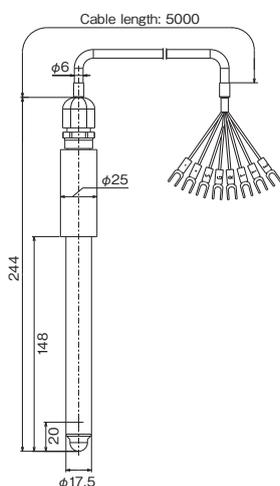
| Product name | | Relay box with constant-current source | |
|-------------------------------------|---|--|--|
| Model | CT-302 | | |
| Operating temperature range | -20°C to 55°C (Do not freeze) | | |
| Operating humidity range | Relative humidity 5% to 90% (Do not freeze) | | |
| Storage temperature | -25°C to 65°C | | |
| Power requirement | 100 V to 240 V AC±10% (50/60 Hz) | | |
| Power consumption | 8.0 VA (Max) | | |
| Structure | Outdoor installation type: IP65 ※7 Mounting method: 50 A pole or wall mounting Case: Aluminum alloy Mounting bracket: SUS304 | | |
| Mass | 3.0 kg (Does not include U-bolt) | | |
| LED current output (switched by SW) | 0 mA, 50 mA, 100 mA, 150 mA, 200 mA (Initial value: 100 mA) | | |
| External dimensions | 180 (W) ×234 (H) ×170 (D) mm (Does not include U-bolt) | | |
| Compatible electrode | 6122 series | | |

- ※1 When used in the range of 0 pH to 2 pH or 12 pH to 14 pH, the electrode life will be shortened.
- ※2 Composite type pH electrode 6108 is recommended when a high accuracy is required for strong acid and strong alkaline aqueous solutions.
- ※3 At sample temperatures above 30 °C, the electrode life will be shortened.
- ※4 When combined with immersion type or flow type, separate arrangement of protective cover for 6122S combination is required.
- ※5 An adapter is required when using the 6122SA as a drop-in type.
- ※6 A direct screw-in thread adapter is required when using the 6122SA as a direct insertion type.
- ※7 About protection class (IP rating)
IP65: Dust-proof and waterproof protection from water jets only apply when all the cable glands are tightly screwed, and the cables/seal pins are tightened.

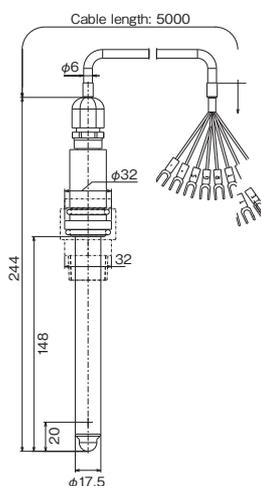
External Dimensions

(unit: mm)

6122S

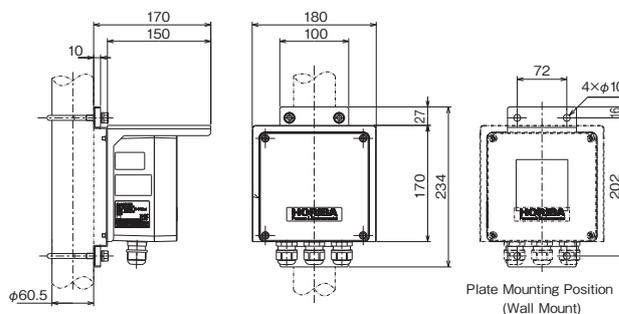


6122SA



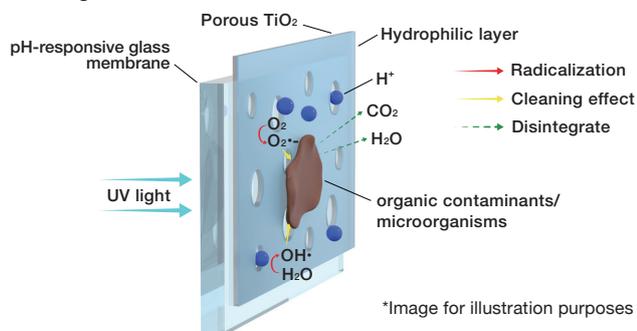
CT-302

MAINTENANCE SPACE 500 or more



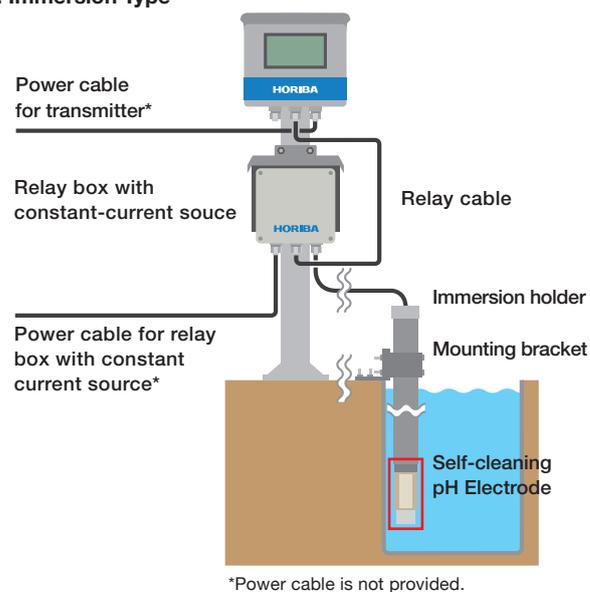
Self-cleaning Mechanism

The pH-responsive glass membrane is coated with porous TiO₂ and irradiated with UV light from within the electrode. This process activates the TiO₂ coating, resulting in photocatalytic hydrophilicity and the formation of a water film (hydrophilic layer) on the surface, effectively preventing the adhesion of organic contaminants. Furthermore, the activated TiO₂ facilitates the radicalization of water (H₂O) and oxygen, enabling the disintegration of organic contaminants adhering to the external surface of the electrode.



Installation Image

e.g. Immersion Type



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Worldwide locations of HORIBA