

## UP-100 Specifications

Product name	Micro Volume Sampling pH Monitor
Model name	UP-100
Measurement principle	Glass electrode
Monitoring object	Sample for semiconductor wet process (Not contain particles that may clog the flow line, Not contain the component that may corrode the wetted material described below)
Wetted material	PVC, PTFE, Glass, ETFE, PEEK, Olefinic resin, THV, PFA, Kalrez 6190, Kalrez 4079, Pharmed BPT
Configuration	Controller Electrode unit Sensor unit Cable
Information shown on the display	pH or electrode voltage (selectable) Sample temperature
Measurable range	pH 0.00 to pH 14.00
Repeatability performance	±0.10 pH (when monitoring pH 4 standard calibration solution, within ±1.0°C)
Stability	±0.10 pH/hour (when monitoring pH 4 standard calibration solution, within ±1.0 °C)
Display range	pH: -9.99 pH to 99.99 pH Electrode voltage: -999.9 mV to 999.9 mV
Sample temperature	18°C to 60°C ±1°C (temperature at sensor unit inlet)
Display resolution	pH: 0.01, electrode potential: 0.1, temperature: 0.1
Data output	RS-485
Current output	Allocate 4 mA to 20 mA CH1: pH 0 to pH 14 or -500 mV to 500 mV (changed by key operation) CH2: 0°C to 100°C <ul style="list-style-type: none"> <li>● 4 mA to 20 mA allocation value can be selectable for pH -1.00 to pH 15.00 range.</li> <li>● Electrode potential allocation value can be changeable within upper range.</li> <li>● Whether to output the value lower than 4 mA and higher than 20 mA is selectable by key operation.</li> <li>● Maximum load resistance 500 Ω</li> <li>● Current output during no measurement is selectable from 1.5 mA, last output value held or 21 mA.</li> </ul>
Input signal	Voltage input by photo coupler insulation (12 V to 30 V DC) *Signal for controlling auto sequence ON/OFF
Output signal	Open collector output by photo coupler insulation (common emitter) Maximum current at ON: 5 mA DC (no internal protective resistance) Maximum applied voltage at OFF: 30 V DC *Auto sequence state signal, effective data output, E-100s output, E-200s output, E-300 output, E-400 output, current output 1, current output 2, RS-485 output
Serial input	pH, electrode potential, temperature, Sequence ID, Error status (E-100s, E-200s, E-300s, E-400s)
Serial output	Response to the request

Measurement interval	1 min to 11 min (changed by key operation)
Calibration	2 points or 1 point calibration: Selectable before purchase 2 point calibration: pH 4 and 7 1 point calibration: pH 4
DIW flow function	Available for 1-point calibration model
Ambient condition	Temperature: 20°C to 40°C ±1.0°C Humidity: 40% to 70% No corrosive condition
Sample pressure	0.0 MPa to 0.2 MPa
Pump tube	Pharmed BPT
External dimensions	Controller unit: 96 mm (W) × 96 mm (H) × 135 mm (D) Sensor unit: 200 mm (W) × 269 mm (H) × 118 mm (D) (excluding projected items)
Mass	Sensor unit: 2.6 kg (without reagent) Electrode unit: 0.2 kg One reagent bottle: 0.3 kg (1 point calib. mode use 2 bottles, 2 point calib. mode use 3 bottles) Controller 0.45 kg
Cable length	5 m or 10 m (selectable)
Fitting	Sample Inlet: NIPPON PILLAR SUPER 300 TYPE PILLARFITTING 3 mm O.D./2 mm I.D. Sample Drain: NIPPON PILLAR SUPER 300 TYPE PILLARFITTING 6 mm O.D./4 mm I.D. Air Purge: USHIO PMMZ-4-4(PP) DIW Inlet: NIPPON PILLAR SUPER 300 TYPE PILLARFITTING 3 mm O.D./2 mm I.D. (available only 1- point calibration model, this fitting is not attached on 2-point model) Leak Drain: Flowell 30 series 6 mm O.D.
Display	LED 7 segment
Wiring terminal	Terminal screw size: M3.5, width 6.8 mm
Purge air condition	20°C to 30°C, pressure more than 0.1 MPa, Dry air, oil and mist are removed
Power supply	24 V DC ±10%, approx. 12 W
Starter pack items	Controller, Sensor cable, Sensor unit, Electrode unit, Reagent (KCl, pH4 and pH7) (pH7 is not bundled in case of 1-point calibration model.)
Consumables	Reagent: pH 4, pH 7 (JIS standard), KCl 3.33M (AgCl Saturated) Use genuine reagents for UP-100, which are supplied by HORIBA Advanced Techno Co., Ltd.
Electrode storage condition (unopened)	Storage temperature: 5°C to 40°C, Humidity: Lower than 85%
Reagent storage condition (unopened)	Storage temperature: 5°C to 30°C, Store at dark place