

Optimum measurement system for all types of application

Industrial Water Quality Measuring Instruments

Field-installation type

H-1 Series

4-Wire Transmitter 2-Wire Transmitter



Panel mount type

SLIM48/96 Series

4-Wire Transmitter



Measurement item



Total support for all types of application from purified water



HORIBA H-1 and SLIM48/96 series of industrial water quality measuring instruments include a total array of measurement points for the broad applications required controlling of water quality. With sensors, cleaners, and various accessories, these water quality measuring instruments are applicable to all kinds of water treatment and reduce the maintenance load.

Series Lineup of Industrial Water Quality Instruments

Series	Installation Location	Type	Power Supply	pH	ORP	Resistivity	Conductivity		Residual Chlorine	DO	NH ₄ -N	F	MLSS	Turbidity	Color
H-1	Field installation type	2-Wire Transmitter	24 V DC	HP-300	HO-300	HE-300R	HE-300C	—	—	HD-300	—	HC-300F	—	—	—
		2-Wire Multi-Parameter	24 V DC	HQ-300	HQ-300	HQ-300	HQ-300	—	—	HQ-300	—	HQ-300	—	—	—
		4-Wire Transmitter	90 to 264 V AC	HP-200	HO-200	HE-200R	HE-200C	HE-200H	HR-200	HD-200 HD-200FL	HC-200NH	HC-200F	HU-200SS	HU-200TB-W HU-200TB-H HU-200TB-EH HU-200TB-IM	HU-200CL
SLIM 48/96	Panel mount type	4-Wire Transmitter	90 to 264 V AC	HP-480 HP-960FTP	HO-480	HE-480R HE-960RW	HE-480C HE-960CW	HE-480H HE-960HI	HR-480P	HD-480	—	—	—	—	—

monitoring to waste water monitoring



Field-installation Type

H-1 Series

The Field installation type H-1 series Transmitters offer a rainproof structure. This has been newly developed under the concepts of “durability”, “functionality”, and “maintainability”

in order to stand the severe environmental conditions of on-site processes. This series of units comprehensively can use all kinds of water treatment from purified water monitoring to waste water monitoring.

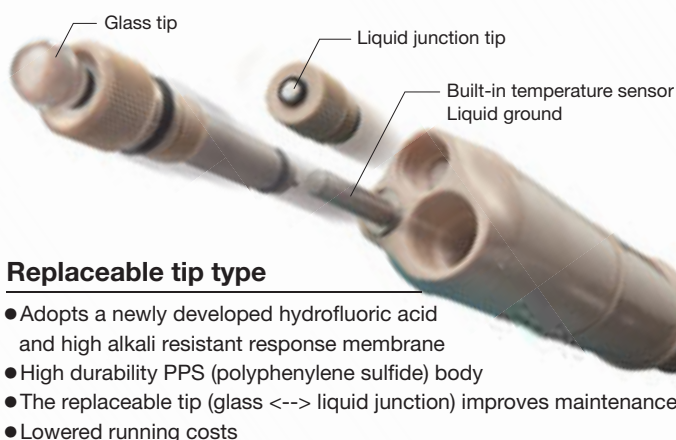


Panel mount type

SLIM48/96 Series

The panel mount type SLIM48/96 series instruments are the optimum Analyzers for incorporation in an instrumentation system. Their compact design means minimal space requirements for systems that combine multi-item measurement instruments. We recommend this series for automatic all-purpose monitoring of sewerage, factory effluent, factory processes, etc.

Industrial pH electrode



Longer life
Almost
double
(compared with other HORIBA products)

Maintenance
cost and load
1/2
(compared with other HORIBA products)

Replaceable tip type

- Adopts a newly developed hydrofluoric acid and high alkali resistant response membrane
- High durability PPS (polyphenylene sulfide) body
- The replaceable tip (glass <--> liquid junction) improves maintenance cost.
- Lowered running costs

Liquid junction: Porous ceramic; Temperature: -10 to 60°C; Pressure: 0 to 0.03 MPa (through internal liquid pressurization)
Liquid contact material: glass, ceramic, fluorine rubber, polyphenylene sulfide resin, and titanium (for hydrofluoric acid resistance: Nickel chrome alloy)

pH electrode HF

Combination with replaceable tip
Model: 6171-50B



Resistant to the waste fluids of semiconductor processes and strong acids, including hydrofluoric acid.

pH electrode Alkali

Combination with replaceable tip
Model: 6172-50B



Resistant to the water used in brine electrolysis processes and high alkali waste fluids.

pH electrode Oil

Combination with replaceable tip
Model: 6173-50B



Resistant to oil contamination in petroleum refinery processes and boiler circulation water that includes petroleum.

Standard electrode

Dome-shaped tough electrode

Integrated combination
Model: 6108-50B



Fixed sleeve tough electrode

Integrated combination
Model: 6109-50B



Hydrofluoric-acid resistant

Integrated combination
Model: 6151-50B



High-alkali resistant

Integrated combination
Model: 6152-50B



pH electrode standard

Combination with replaceable tip
Model: 6174-50B



ORP

HO-200 (4-Wire Transmitter)



HO-300 (2-Wire Transmitter)



HO-200 Specifications

Measuring method	Metal electrode method	
Measuring range	ORP: -2,000 to 2,000 mV Temperature: 0 to 100°C	Resolution: 1 mV Resolution: 0.1°C
Repeatability	ORP: ±5 mV or less Temperature: ±0.3°C	(for equivalent input)
Linearity	ORP: ±5 mV or less Temperature: ±0.3°C	(for equivalent input)
Transmission output	Two points 4 to 20 mA DC	Input/output isolated type Maximum load resistance 900 Ω
Contact output	Three points No-voltage contact output Relay contact, SPDT (1c) Contact function: R1, R2: Selectable from upper limit alarm, lower limit alarm, ON/OFF control, transmission output hold operation, cleaning output FAIL: Malfunction alarm Control operation: Control width: 2 to 400 mV (±1 to ±200 mV)	
Contact input	One point Contact format: Open collector non-voltage a contact Contact function: Cleaning operation external input	
Communication function	RS-485 Two wire systems, Input/output isolated type (not isolated from transmission output)	
Ambient temperature	-20 to 55°C	
Temperature measurement element	Pt 1000 (0°C) Positive temperature sensitive resistor element: 500 Ω (25°C), 6.8 kΩ (25°C), 10 kΩ (25°C)	
Calibration method	Manual adjustment (offset) Correction (-200 to 200 mV) Manual sensitivity correction (0.500 to 1.500)	
Self-diagnosis function	Electrode diagnosis error, Analyzer malfunction	
Power supply	100 to 240 V AC 50/60 Hz Power consumption 15 VA (max.)	
Construction	Outdoor installation type: IP65 protection level Mounting method: 50 A pole or wall mounted Case: Aluminum alloy Mount fitting/hood: SUS304	
Weight	Approx. 4.5 kg	
Regulatory certification	CE marking, FCC rules	

HO-300 Specifications

Measuring method	Metal electrode method	
Measuring range	ORP: -2,000 to 2,000 mV Temperature: 0 to 100°C	Resolution: 1 mV Resolution: 0.1°C
Repeatability	ORP: ±5 mV or less Temperature: ±0.3°C	(for equivalent input)
Linearity	ORP: ±5 mV or less Temperature: ±0.3°C	(for equivalent input)
Transmission output	4 to 20 mA DC Input/output isolated type Maximum load resistance 600 Ω	
Contact input	One point Contact format: No-voltage a contact Contact function: Transmission output is held for closed contact input.	
Ambient temperature	-20 to 60°C	
Temperature measurement element	Pt 1000 (0°C) Positive temperature sensitive resistor element: 500 Ω (25°C), 6.8 kΩ (25°C), 10 kΩ (25°C)	
Calibration function	Manual adjustment (offset) Correction (-200 to 200 mV) Manual sensitivity correction (0.500 to 1.500)	
Self-diagnosis function	Electrode diagnosis error, Transmitter malfunction	
Power supply	24 V DC (operational voltage range: 21 to 32 V DC) 0.6 W (max.)	
Construction	Outdoor installation type: IP65 protection level Mounting method: 50 A pole or wall mounted Case: Aluminum alloy Mount fitting/hood: SUS304	
Weight	Approx. 4 kg	
Regulatory certification	CE marking, FCC rules	

ORP Electrodes



ORP electrode
(Pt) 6805-50B

Type	Model	Sample temperature range	Sample pressure range	Combined holder
General use (Pt)	6805-50B	0 to 80°C	0 to 0.03 MPa	CH-101 CF-251 CF-301
General use (Au)	6815-50B			
Tip replaceable (Pt)	6870-60B	0 to 105°C	0 to 0.03 MPa	HIBP HIBS CF-501

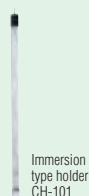
ToughH
(Tough electrode)

Impact-resistant,
splinterless glass electrode

Pb Free

Lead free glass is used in both
the sensitive glass areas and
main body.

Holder



Immersion
type holder
CH-101



Flow type holder
CF-301
(Pressurized type)

	Application	Model	Main materials	Measurement solution conditions*			Interface
				Temperature	Pressure	Flow rate	
Immersion type	General use type	CH-101	PP	-5 to 80°C	Atmospheric pressure	2 m/sec or less (flow velocity)	—
	Tip replaceable type	HIBP	PP	-10 to 80°C			
Flow type	General use type	CF-251	PP	-5 to 80°C	Atmospheric pressure	0.3 to 10 L/min	JIS 10K 25A FF flange (Input port/ output port)
	General use internal solution tank mounted type	CF-251-T	PP	-5 to 80°C			
	General use pressurized type	CF-301	PP	-5 to 80°C	0.3 MPa		
	Tip replaceable type	CF-501	PP	-5 to 80°C	Atmospheric pressure		

* Usage conditions vary according to the combination of electrodes. Refer to the specifications document of each product for details.

HO-480

(4-Wire Transmitter)



HO-480 Specifications

Measuring method	Metal electrode method
Measuring range	ORP: $\pm 2,000$ mV Resolution: 1 mV
Repeatability	ORP: ± 5 mV or less (for equivalent input)
Linearity	ORP: ± 5 mV or less (for equivalent input)
Transmission output	4 to 20 mA DC Input/output isolated type Maximum load resistance 900 Ω
Transmission output range	Freely settable within measuring range
Calibration function	Sensitivity correction Adjustment ± 200 mV Span variable range 50.0 to 150.0%
Contact output	Output points: Two points (R1, R2) Contact format: Relay contact SPDT (1c) Contact capacity: 240 V AC 3 A, 30 V DC 3 A (resistance load) Contact function: Selectable from upper, lower limit operation (ON/OFF control) and malfunction alarm, maintenance operation
Self-diagnosis function	· Outside measuring range · Analyzer malfunction
Power supply	100 to 240 V AC 50/60 Hz Power consumption 10 VA (max.)
Ambient temperature	-5 to 45°C
Weight	Approx. 400 g
Regulatory certification	CE marking, FCC rules

Accessories

ORP sensor extension cable

- C-2A (Temperature compensation non-electrode type)

Used to connect transmitter and relay box.



Model	C-2A
Outer diameter	$\varnothing 5$
Max. extendable distance	50 m

Relay box

- CT-50pH

If the distance between the electrode holder and analyzer or transmitter main unit is longer than the electrode cable, use the relay box as a cable repeater. Connect the relay box and analyzer or transmitter main unit using a specialized extension cable.



Calibration standard solution

- ORP standard powder (10 packs)

Other powders are also available in addition to solutions.

Mount fitting

- BA-2A (ABS)
- BA-1S (SUS)

Attachment/detachment can be performed in one step using the specialized mount fitting. Standard solution calibration and maintenance are also straightforward. The fitting is available in two types of material: either ABS resin or stainless steel (SUS304).













[Loose flange]

This is an adapter for attaching the CH-101 series immersion type holder to the flange.



Model	Material	Interface
FK-1	PP	JIS 10K 50A
FK-1P	PVC	
FK-1S	SUS	

Lineup of Cleaners

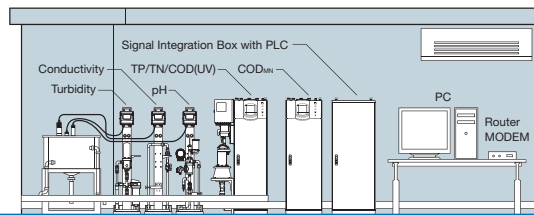
Ultrasonic Cleaner UCH-1X1 UCF-3X1	Jet Cleaner JCH-1X1 JCF-3X1	Jet Driven Brush Cleaner BH-1X1	Brush Cleaner BCH-1X1	Brush/Jet Cleaner BCH-1X1J	Chemical Cleaner CCH-1X1	Chemical Brush Cleaner CBCH-1X1	pH Meter with Auto Calibration Function AH-151
The use of original burst oscillation method enables continuous cleaning, as measurement values are not affected during cleaning.	Cleans with water or air jet. Effective physical cleaning to remove adhered substances.	Cleaner with a brush rotated by water or air jet. Can be used in an explosion-proof area, as power supply is not required as long as jet source is available.	Motor-driven brush cleaner. Effective physical cleaning to remove adhered substances.	Composite type cleaner, combining a motor-driven brush cleaner and a jet cleaner.	Chemical cleaner using dilute hydrochloric acid. Optimum for removing coating materials such as calcium.	Composite type cleaner, combining a chemical cleaner using dilute hydrochloric acid and a motor-driven brush cleaner.	pH meter with automatic functions to clean electrodes with chemicals and calibrate standard solutions and to measure pH, which significantly reduces man-hours required for maintenance. Regular cleaning and calibration enable stable and reliable pH measurement.
 [Immersed type] UCH series	 [Immersed type] JCH series	 [Immersed type] BH series	 [Immersed type] BCH series	 [Immersed type] BCH series	 [Immersed type] CCH series	 [Immersed type] CBCH series	 [Immersed type] AH-151-GH
 [Circulation type] UCF series	 [Circulation type] JCF series						

Comparison Table of Automatic Cleaners

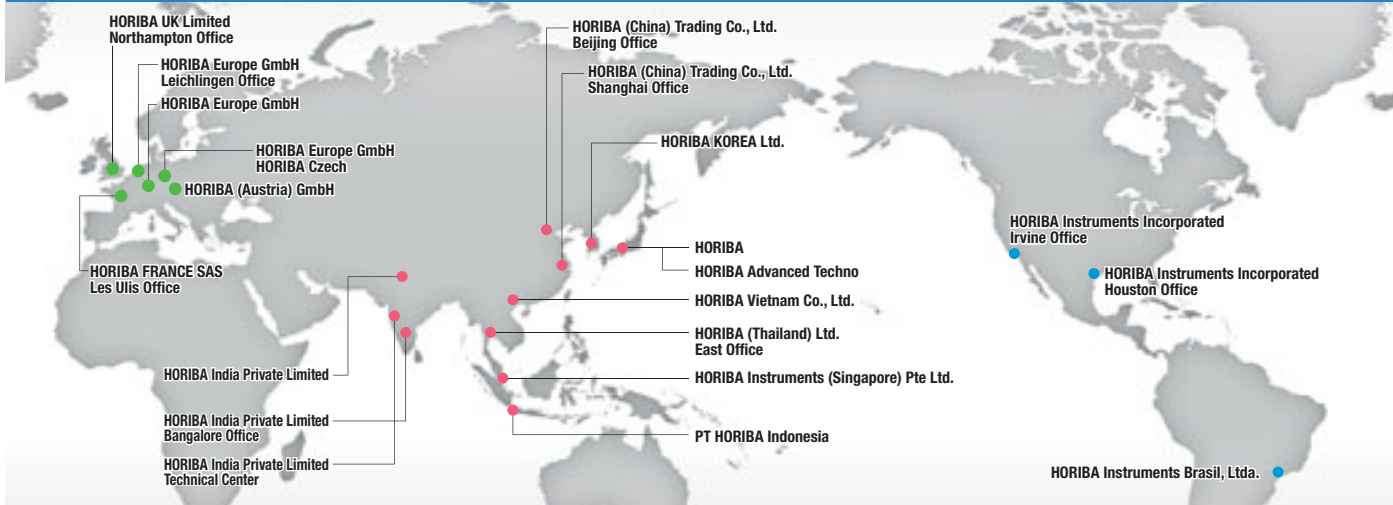
	Ultrasonic Cleaner	Jet Cleaner	Jet Driven Brush Cleaner	Brush Cleaner	Brush/Jet Cleaner	Chemical Cleaner	Chemical Brush Cleaner	pH Meter Auto Calibration Function
pH	○	○	○	○	○	○	○	○
ORP	○	○	○	○	○	○	○	×
DO(Polarography)	×	○	×	×	×	×	×	×
DO (Optical)	○	○	×	×	×	×	×	×
NH ₄ -N	○	○	×	×	×	×	×	×
F	×	○	×	×	×	○	×	×
MLSS	×	○	×	×	×	×	×	×

Water Quality Monitoring System

As the item to watch water quality, we offer the following automatic analytical instruments.



HORIBA Global Network



The HORIBA Group adopts IMS (Integrated Management System) which integrates Quality Management System ISO9001, Environmental Management System ISO14001, and Occupational Health and Safety Management System OHSAS18001. We have now integrated Business Continuity Management System ISO22301 in order to provide our products and services in a stable manner, even in emergencies.



Please read the operation manual before using this product to assure safe and proper handling of the product.

- The specifications, appearance or other aspects of products in this catalog are subject to change without notice.
- Please contact us with enquiries concerning further details on the products in this catalog.
- The color of the actual products may differ from the color pictured in this catalog due to printing limitations.
- It is strictly forbidden to copy the content of this catalog in part or in full.
- The screen displays shown on products in this catalog have been inserted into the photographs through compositing.
- All brand names, product names and service names in this catalog are trademarks or registered trademarks of their respective companies.

HORIBA

Head Office
2 Miyano Higashi, Kisshoin Minami-ku, Kyoto, Japan
Phone: 81 (75) 313-8123 Fax: 81 (75) 321-5725
http://www.horiba.com e-mail: info@horiba.co.jp

Manufactured by
HORIBA Advanced Techno

HORIBA (China) Trading Co., Ltd. **China**

Unit D, 1F, Building A, Synnex International Park, 1068 West Tianshan Road, Shanghai, 200335, China
Phone: 86 (21) 6289-6060 Fax: 86 (21) 6289-5553
Beijing Office
12F, Metropolis Tower, No.2, Haidian Dong 3 Street, Beijing, 100080, China
Phone: 86 (10) 8567-9966 Fax: 86 (10) 8567-9066

HORIBA (Thailand) Limited **Thailand**

East Office
850 / 7 Soi Lat Krabang 30 / 5, Lat Krabang Road, Lat Krabang, Bangkok 10520, Thailand
Phone: 66 (0) 2734 4434 Fax: 66 (0) 2734 4438

HORIBA Instruments (Singapore) Pte Ltd. **Singapore**

3 Changi Business Park Vista #01-01 Akzonobel House, Singapore 486051
Phone: 65 (6) 745-8300 Fax: 65 (6) 745-8155

HORIBA Vietnam Co., Ltd. **Vietnam**

Unit 6, 10 Floor, CMC Tower, Duy Tan Street, Dich Vong Hau Ward, Cau Giay District, Hanoi, Vietnam
Phone: 84 (24) 3795-8552 Fax: 84 (24) 3795-8553

PT HORIBA Indonesia **Indonesia**

Jl. Jalur Sutera Blok 20A, No.16-17, Kel. Kunciran, Kec. Pinang Tangerang-15144, Indonesia
Phone: 62 (21) 3044-8525 Fax: 62 (21) 3044-8521

HORIBA KOREA Ltd. **Korea**

Seoul Branch
10, Dogok-Ro, 6-Gil, Gangnam-Gu, Seoul-Si, 06259, Korea
Phone: 82 (2) 753-7911 Fax: 82 (2) 756-4972

HORIBA India Private Limited **India**

246, Okhla Industrial Estate, Phase 3 New Delhi-110020, India
Phone: 91 (11) 4646-5000 Fax: 91 (11) 4646-5020
Technical Center
D-255, Chakan MIDC Phase-II, Bhamboli Village, Pune-410501, India
Phone: 91 (21) 3567-6000
Bangalore Office
No.55, 12th Main, Behind BDA Complex, 6th sector, HSR Layout, Bangalore South, Bangalore-560102, India
Phone: 91 (80) 4127-3637

HORIBA Instruments Incorporated **USA**

9755 Research Drive, Irvine, CA 92618, U.S.A.
Phone: 1 (949) 250-4811 Fax: 1 (949) 250-0924
Houston Office
5390 Bay Oaks Drive, Pasadena, TX 77505
Phone: 1 (281) 482- 4334 Fax: 1 (281) 674-6058

HORIBA Instruments Brasil, Ltda. **Brazil**

Rua: Presbitero Plinio Alves de Souza, 645, Loteamento Polo Multivias Bairro Medeiros-Jundiai Sao Paulo CEP 13.212-181 Brazil
Phone: 55 (11) 2923-5400 Fax: 55 (11) 2923-5490

HORIBA FRANCE SAS **France**

Les Ulis Office
12, Av des Tropiques Hightec Sud, F-91955 Les Ulis, France
Phone: 33 (1) 69-29-96-23 Fax: 33 (1) 69-29-95-77

HORIBA UK Limited **UK**

Northampton Office
Kyoto Close Moulton Park, Northampton NN3 6FL, UK
Phone: 44 (1604) 542-500 Fax: 44 (1604) 542-699

HORIBA Europe GmbH **Germany**

Hans-Mess-Str.6 D-61440 Oberursel Germany
Phone: 49 (6172) 1396-0 Fax: 49 (6172) 1373-85
Leichlingen Office
Julius-kronenberg Str.9 D-42799 Leichlingen Germany
Phone: 49 (2175) 8978-0 Fax: 49 (2175) 8978-50

HORIBA Czech **Czech**

Prague Office
Prumyslova 1306 / 7, CZ-10200, Praha 10, Czech Republic
Phone: 420 (2) 460-392-65

HORIBA (Austria) GmbH **Austria**

Kaplanstrasse 5 A-3430 Tulln, Austria
Phone: 43 (2272) 65225 Fax: 43 (2272) 65230