HORIBA AdvancedTechno

2-Channel Conductivity Meter

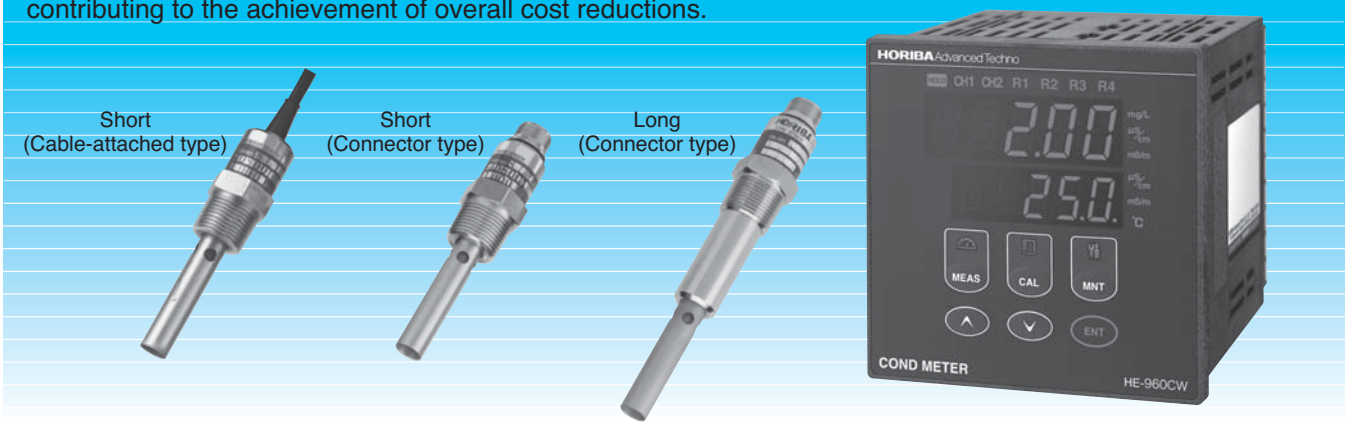
HE-960CW

CE marking compliant

Optimum for Continuous measurement of pure water and boiler water

The HE-960CW is a 2-channel simultaneous measurement resistivity meter that can be connected with two sensors. While maintaining advanced functionality and accuracy, this single converter allows simultaneous measurement and output of the conductivities of two locations, thereby contributing to the achievement of overall cost reductions.

2-Channel Simultaneous Measurement & Simultaneous Output



Converter

Features

●2-channel simultaneous measurement

The HE-960CW employs independent internal circuits for connecting two sensors to a single converter, allowing two independent conductivity measurements as well as the calculation and output of the desalination rate and conductivity differentials for two separate locations.

●2-channel simultaneous output

The HE-960CW includes 4 transmission output circuits built-in, so both the conductivity and temperature data for 2 different locations can be output. The transmission output range can also be set for a selected scale within the range of measurement.

(Repeatability and linearity, however, will remain accurate to the separately set measuring range.)

●Communication device ability (RS-485)

HE-960CW is equipped with an RS-485 interface to allow you to check measurements and check/change the set points by communication.

●Four contact alarms

Four integrated contacts are available as alarm output. Upper and lower conductivity limits and equipment failure alarms can be assigned to each channel. Moreover, contact response delay time can be set as well.

●Icon-based status display & security function

Instrument status on the HE-960CW is indicated through an easy-to-understand icon display that eliminates operational errors. And, by setting a passcode, all key operation can be locked to prevent measurement errors caused by inadvertent operation.

●CE Marking compliant

The HE-960CW is also an environmentally-friendly product that uses lead-free solder for mounting chips on the PCB.

Specifications (Converter)

Model	HE-960CW				
Measurement method	2-electrode method				
Sensor input	2-channel(for concurrent measurement with sensors isolated each other)				
Temperature sensor specifications	Platinum resistance 1000Ω/0°C				
Measuring range	Cell constant	(/cm)	0.01	0.1	1.0
	Conductivity	μS/cm	2.000/20.00	20.00/200.0	200.0/2000
		mS/m	0.2000/2.000	2.000/20.00	20.00/200.0
	TDS conversion	mg/L	2.000/20.00	20.00/200.0	200.0/2000
	Temperature : 0°C to 100°C (Select your desired decimal point from 0, 1, and 2 digits)				
	Desalination rate : 0.0% to 100%				
	Conductivity difference: Depends on measurement range of sensor 2 (CH2)				
Repeatability	Conductivity display : Within ±0.5% of the full scale TDS display : Within±1.5% of the full scale			(in equivalent input)	
Linearity	Conductivity display : Within ±0.5% of the full scale TDS display : Within±1.5% of the full scale				
Transmission output	Number of outputs : 4 4mA to 20mA DC/0mA to 20mA DC : input/output isolated type Maximum load resistance : 900Ω Transmission output range : Freely selectable within the measurement range However, repeatability and linearity will remain accurate to the separately set measuring range. (Negative terminals of each transmission output channel are connected inside and thus have the same electric potential.)				
Contact output	Number of output : 4 points Alarm contact output (R1,R2,R3,R4) Contact type : relay contact, R1, R2, R3 : SPST R4 : SPDT Contact rating : 240V AC 3A and 30V DC, 3A(resistance load) Contact function : selectable from upper/lower limit action (ON/OFF control), delay, and hysteresis Output contents : selectable from the selected measurement, USP assessment, anomaly alarm, and maintenance. (However, R1 and R2, R3 and R4 share the COMMON contacts respectively.)				
Communication output	RS-485 input/output				
Calibration function	Conductivity : Based on the specified compensation coefficient for the cell constant (parameter input) Temperature : Calibrated by comparing with the reference thermometer TDS: Conversion using a user-defined coefficient value(0.30 to 1.00)				
Transmission output hold feature	Selectable from the Previous value hold and the Optional value hold. (However, only the previous value hold is available in the maintenance mode.)				
Self-diagnosis function	・Sensor diagnosis (Short-circuit and disconnection of the temperature sensor) ・Out of the measurement range ・A/D converter scale over ・Converter error				
Temperature compensation	・Temperature characteristic of NaCl (reference temperature : 5°C to 95°C) ・Arbitrary temperature coefficient entry (reference temperature : 5°C to 95°C, temperature coefficient : ±5%/ °C) (In the deionized water area, however, the temperature compensation for deionized Water is automatically performed in both NaCl and arbitrary temperature coefficient Compensation settings.)				
Temperature compensation range	0°C to 100°C				
Ambient environment	Temperature: -5°C to 55°C, Relative humidity: 20% to 85%(without dew condensation)				
Power supply	100V to 240V AC ±10%, 50/60Hz, 25VA(max)				
Protective structure	Panel: IP65, Rear case: IP20, Terminal: IP00 (Indoor-use panel installation type)				
Mass	Approx. 550g				
Conforming standards	CE Marking, FCC Part15				

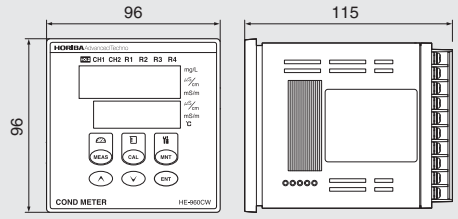
■Conductivity sensor code chart

Model	Cell constant	Connection	Electrode materia	Cell length	Terminal shape	Cable length	Specifications
ESH							Conductivity sensor
	-1						Cell constant : 1/cm
	-01						Cell constant : 0.1/cm
	-001						Cell constant : 0.01/cm
		-L					Cable-attached type
		-C					Connector type
			-S				SUS-316(Acceptable temperature range : 0 to 100?)
			-T				Titanium(Acceptable temperature range : 0 to 80?)
				-ST			Short
				-LG			Long
					-Y		Y terminal (standard)
					-O		Round terminal (special order)
					None		When connector type is selected
						-10	10m (standard)
						-XX	Designated cable length (special order)
						None	When connector type is selected

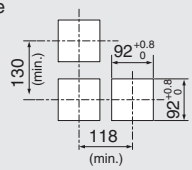
- The maximum cable extension should be 50 meters.
- Do not use a relay box.
- User-definable.

External dimensions Unit: mm (in)

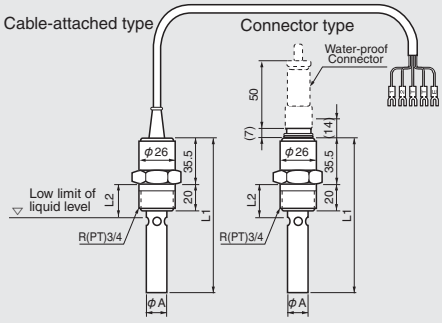
■Converter HE-960CW



Panel Cut Size

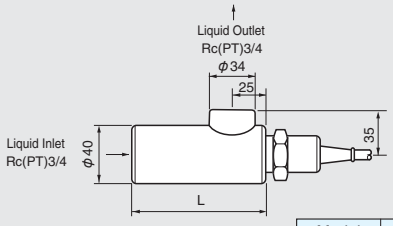


■Conductivity sensor ESH Series



Model	Cell length	L1	L2	φA	Connection
ESH-001/01	Short	115.5	25	φ13.8	Lead wire or connector
ESH-1				φ16	
ESH-001/01	Long	165.5	75	φ13.8	Lead wire or connector
ESH-1				φ16	

■Flow Type Holder EFA-30/31 Series



Model	L
EFA-30	100
EFA-31	150

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

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http://www.horiba-adt.jp/index_e.htm

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