Plug-in Type Digital Indicating Conductivity Meter
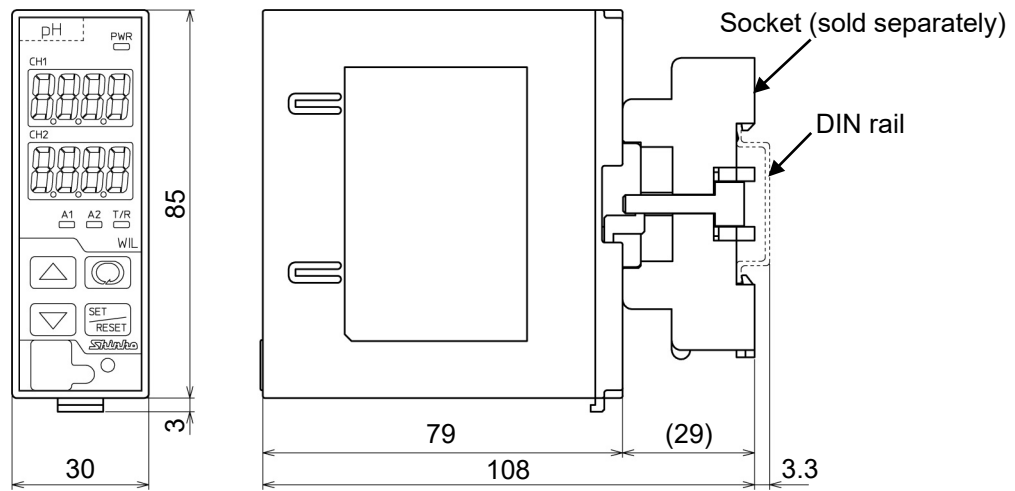WIL-102- ECH (High Concentration)

• DIN rail mounted type

• Various settings, calibration operable via software communication (RS-485)

• 24 V power supply available (user-specified)

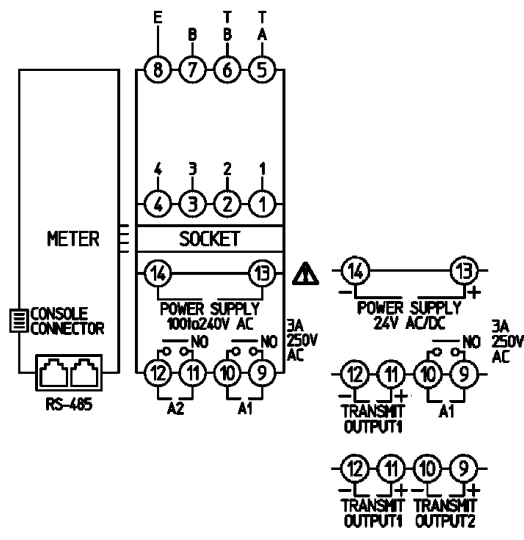• Transmission output 1 and 2 (optional)

Name	Plug-in type digital indicating conductivity meter
Model	

W I L - 1 0	2	-EC	H		, ☐☐☐	
Input points	2					2 points
Input		EC				4-electrode conductivity sensor (Temperature element: Pt100) (*1)
						4-electrode conductivity sensor (Temperature element: Pt1000) (*1)
Concentration			H			High concentration
Power supply voltage						100 to 240 V AC (standard)
				1		24 V AC/DC (*2)
Option					EVT	2-points Contact output
					TA	1-point Transmission output 1-point Contact output
					TA2	2-points Transmission output

(*1) This input temperature specification was specified at the time of ordering.

(*2) Supply voltage 100 to 240 V AC is standard.
    When ordering 24 V AC/DC, enter 1 in Power supply voltage, after 'ECH'.

Accessories sold separately: Socket: ASK-001-1 (Finger-safe, Ring terminals unusable)

Measurement range (Rated scale)					

Input			Scale Range	Resolution
Conductivity	Conductivity	Cell constant 1.0/cm	0.00 to 20.00 mS/cm	0.01 mS/cm
			0.0 to 200.0 mS/cm	0.1 mS/cm
			0.0 to 500.0 mS/cm	0.1 mS/cm
			0 to 500 mS/cm	1 mS/cm
			0.000 to 2.000 mS/cm	0.001 mS/cm
			0.000 to 5.000 mS/cm	0.001 mS/cm
			0.00 to 50.00 mS/cm	0.01 mS/cm
			0 to 2000 μS/cm	1 μS/cm
			0 to 5000 μS/cm	1 μS/cm
			0.000 to 2.000 S/m	0.001 S/m
			0.00 to 20.00 S/m	0.01 S/m
			0.00 to 50.00 S/m	0.01 S/m
			0.0 to 50.0 S/m	0.1 S/m
			0 to 2000 mS/m	1 mS/m
			0.000 to 5.000 S/m	0.001 S/m
			0.0 to 200.0 mS/m	0.1 mS/m
			0.0 to 500.0 mS/m	0.1 mS/m
			0.0 to 20.0 g/L	0.1 g/L
			0 to 200 g/L	1 g/L
			0 to 500 g/L	1 g/L
			0 to 2000 mg/L	1 mg/L
			0 to 5000 mg/L	1 mg/L

	Input			Scale Range	Resolution
Conductivity	Conductivity	Cell constant 10.0/cm		0.0 to 200.0 mS/cm	0.1 mS/cm
				0.0 to 500.0 mS/cm	0.1 mS/cm
				0 to 2000 ms/cm	1 mS/cm
				0.00 to 20.00 S/m	0.01 S/m
				0.00 to 50.00 S/m	0.01 S/m
				0.0 to 200.0 S/m	0.1 S/m
				0 to 200 g/L	1 g/L
				0 to 500 g/L	1 g/L
				0 to 2000 g/L	1 g/L
	Seawater salinity			0.00 to 4.00%	0.01%
	NaCl salinity			0.00 to 20.00%	0.01%
	Temperature (Pt100 or Pt1000)			0.0 to 100.0℃	0.1℃

Decimal point place is selectable for temperature indication.

Repeatability	Conductivity: ±0.5% of input span Salinity conversion: ±1% of input span TDS conversion: ±1.5% of input span
Linearity	Conductivity: ±0.5% of input span Salinity conversion: ±1% of input span TDS conversion: ±1.5% of input span
Conductivity adjustment	Conductivity Zero adjustment: Zero adjustment value range: -10% of input span to 10% of input span Conductivity Span adjustment: Span adjustment value range: 0.700 to 1.300
Temperature adjustment	Adjustment range: -10.0 to 10.0℃
Self-diagnosis	The CPU is monitored by a watchdog timer, and if an abnormal status occurs, the instrument is switched to warm-up status.
Temperature compensation element	4-electrode conductivity sensor (Temperature element: Pt100) 4-electrode conductivity sensor (Temperature element: Pt1000)
Temperature compensation range	0 to 100.0℃
Ambient temperature	0 to 50℃ (32 to 122℉)
Ambient humidity	35 to 85 %RH (Non-condensing)
Power supply (user-specified)	WIL-102-ECH: 100 to 240 V AC 50/60 Hz Allowable fluctuation range: 85 to 264 V AC WIL-102-ECH 1: 24 V AC/DC 50/60 Hz Allowable fluctuation range: 20 to 28 V AC/DC
Structure	DIN rail mounted Case: Flame-resistant resin, Color: Light gray Front panel: Membrane sheet
Protection structure	Overvoltage category Ⅱ, Pollution degree 2 (IEC61010-1)
Safety standards	RoHS directive compliant
Dimensions	W30 x H88 x D108 mm (including socket)
Weight	Approx. 200 g (including socket)
Contact output (EVT option)	Relay contact 1a (Bit reading via 2 status flags for 1 output in Serial communication) 2-points Contact output, Control capacity: 3 A 250 V AC (Resistive load), 1 A 250 V AC (Inductive load, cosϕ=0.4), Electrical life: 100,000 cycles, Control action: ON/OFF control
Transmission output 1 (TA option)	Converting pH or temperature to analog signal every input sampling period, outputs the value in current. (Factory default: Conductivity) If Transmission output 1 high limit and low limit are set to the same value, Transmission output 1 will be fixed at 4 mA DC. Resolution: 12000, Current: 4 to 20 mA DC (Load resistance: Max 550 Ω) Output accuracy: Within ±0.3% of Transmission output 1 span 1-point Contact output: See 'Contact output (EVT option)'.
Transmission output 2 (TA2 option)	Converting pH or temperature to analog signal every input sampling period, outputs the value in current. (Factory default: Transmission output 1: Conductivity, Transmission output 2: Temperature) If Transmission output 2 high limit and low limit are set to the same value, Transmission output 2 will be fixed at 4 mA DC. Resolution: 12000, Current: 4 to 20 mA DC (Load resistance: Max 550 Ω) Output accuracy: Within ±0.3% of Transmission output 2 span

Dimensions (Scale: mm)	 Socket (sold separately) DIN rail 85 3 30 79 (29) 108 3.3
Terminal arrangement	 METER SOCKET CONSOLE CONNECTOR RS-485 E B T B T A 8 7 6 5 4 3 2 1 4 3 2 1 14 13 POWER SUPPLY 100to240V AC 3A 250V AC 14 13 POWER SUPPLY 24V AC/DC 3A 250V AC 12 11 10 9 A2 A1 12 11 10 9 TRANSMIT OUTPUT1 A1 12 11 10 9 TRANSMIT OUTPUT1 TRANSMIT OUTPUT2 Modular Jack Pin (WIL-102-ECH side arrangement) No. 1 No. 6 No. 1 No. 6 RS-485 | No. 1	COM
No. 2	NC
No. 3	YB(+)
No. 4	YA(−)
No. 5	NC

No. 6	COM |
	
	1, 2, 3, 4: Conductivity sensor terminal 1, 2, 3, 4 (①-②-③-④)
	A, B: Temperature compensation sensor terminals (⑤-⑥) Pt100 (2-wire) or Pt1000
	A, B, B: Temperature compensation sensor terminals (⑤-⑥-⑦) Pt100 (3-wire)
	E: Shield wire terminal (⑧)
	POWER SUPPLY: Power terminals (⑬-⑭)
	When EVT option is ordered:
	  A1: A1 output terminals (⑨-⑩)
	  A2: A2 output terminals (⑪-⑫)
	When TA option is ordered:
	  A1: A1 output terminals (⑨-⑩)
	  TRANSMIT OUTPUT1: Transmission output 1 terminals (⑪-⑫)
	When TA2 option is ordered:
	  TRANSMIT OUTPUT2: Transmission output 2 terminals (⑨-⑩)
	  TRANSMIT OUTPUT1: Transmission output 1 terminals (⑪-⑫)
	RS-485: Serial communication modular jack
	• When no option is ordered, A1, A2, TRANSMIT OUTPUT1 and TRANSMIT OUTPUT2 terminals are not equipped.