



Process Multimeter

CA450

Loop Power and 4 to 20mA Output function in a DMM

From daily inspection to troubleshooting of measurement instruments—all in a single unit!

Features

- **■** Loop check functions
 - Simultaneous 24 V loop power and mA measurement
 - HART mode setting with loop power (250 OHM resistance)
- Generation functions
 - SIMULATE (SINK) function simulates transmitters
 - · 4-20 mA span/step/auto-step/sweep output
- **Measurement functions**
 - High accuracy signal measurement: DC mA 0.05%/30.000 mA
 - Handheld DMM function
 - Peak/Hold function for DCS power peak-to-peak measurement
 - Dedicated sensor modes for direct reading of many sensor signal types
- Safer—helps eliminate electric shocks
 - Current terminal shutter prevents incorrect connections
 - Sensor function handles AC load current measurement
 - Meets 600 V CAT. IV, 1000 V CAT. III safety standards
- Linking with a PC
 - Transfer data to a PC via IR-USB







Accessories (Sold separately)

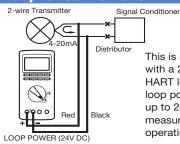
Name	Model Code	Detail	
1to5V Adapter set	99031	Converts 4-20mA to 1-5V	
DMM Communication Package	92015	USBcommunication adapter + USBcommunication cable + Application Software	
Alligator Test Lead	99014	1000V CAT III, 600VCAT IV Red Black 1 set	
Carrying case	93029	Capable for communication package	
AC/DC Current clamp probe	96095	DC180A, AC130A output 10mV/A	
	96001	AC400A	
	96030	AC200A	
	96031	AC500A	
Current Clamp Probe	96032	AC700A	
	96033	AC50A	
	96034	AC3000A	
	96035	AC3000A	

Spare parts

Test Lead	98015	1000V CAT III, 600VCAT IV Red Black 1 set
Lead Cable	98064	Alligator clip, Cat I, for control signal only (under 50V)
Fuse	99042	440mA/1000V 10kAcut off 1piece

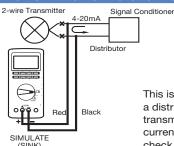
Main Functions

Loop Check function



This is an example of a connection with a 2-wire transmitter. When the HART load resistance is ON with a loop power of 24 V, there is a load of up to 20 mA. Therefore, you can measure outputs of 4-20 mA while operating the 2-wire transmitter.

Transmitter simulator function



This is an example of a connection to a distributor used with a 2-wire transmitter. You can simulate (sink) current of an up to 48 V supply to check the loop circuit.

Span/Step/Sweep Output function

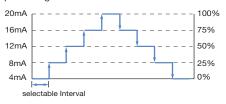
4-20 mA span generator function

Switch output settings from 4 to 20 mA with the touch of a button for easy operational checks on valves and other devices.

4-20 mA step generator function

You can switch the output setting value between

4 and 20mA in 4mA steps. at the touch of a button or automatically with selectable interval time to improve efficiency.



Product Model code

Name	Model Code	Suffix code
Process Multimeter	CA450	-E

Main Specifications

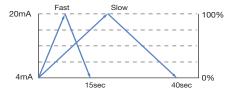
Operating Environment

Ambient temp.: 23°C $\pm 5^{\circ}\text{C}$, relative humidity: 45 to 75% no condensation) Measuring accuracy: $\pm (\% \text{ of reading} + \text{ digits})$

	Specification	Accuracy and Range	
	DC voltage	0.09% rdg+1 dgt	
	DC voltage	600.0 mV to 1000 V	
		0.5% rdg+5 dgt	
	Current voltage (true rms value)	600.0 mV to 1000 V	
		(45 to 500 Hz)	
	DC current (mA)	0.05% rdg+2 dgt/30.000 mA	
	DC current (IIIA)	0.05% rdg+2 dgt/100.00 mA	
S	Impedance	0.2% rdg + 1 dgt	
Measurement	impedance	600.0 Ω to 60.00 M Ω	
ure	Frequency	0.005% rdg + 1 dgt	
me	Frequency	199.99 Hz to 19.999 kHz	
Ä	Diode test	1% rdg + 2 dgt	
	Diode test	2.000 V	
	Continuity	Beeps under 50 ±30 Ω	
	Display update rate (times/sec.)	2.5 to 5	
	Data hold	0	
	Peak hold (DCV)	0	
	Standard deviation	0	
	Max/min	0	
	DC current (mA)	0.05% to span of 20.000mA	
	Do current (IIIA)	0.001mA to 25.000mA, Max. load 28 V	
	Simulate (Sink)	0.05% to span of 20.000mA	
Sot	Simulate (Sink)	0.001mA to 25.000mA, Ext. power 15 to 48 Vdc	
Source	Loop power function	24V with 250 Ω resistance ON/OFF function	
	Auto-step	0	
	Auto-sweep	0	
	Step (manual)	0	
	Safety standard	EN61010/1000VCAT III, 600VCAT IV	
	Communication (optional)	IR-USB	
90	Backlight	0	
General	Operating temperature	-20 to +55°C	
	Storage temperature	-40 to +70°C	
	Current terminal shutter	0	
	prevents incorrect connections		

4-20 mA sweep generator function (sweep)

Increases/decreases the output value at a constant rate until reaching a set value. Switch between step and sweep, and between 15/40 second speeds.



IR-USB communication function (dedicated adapter sold separately)

Using the IR-USB communication function, you can send measured values to a PC, or transfer settings for measurement of generated current from the PC to the main unit.

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Yokogawa Meters & Instruments Corporation

World Wide Web site at http://www.yokogawa.com/MCC

NOTICE
Before using the product, read the instruction manual carefully to ensure proper and safe operation.





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