

Process Multimeter (CA450)

◆ 2-wire transmitter loop check (mA LOOP POWER)

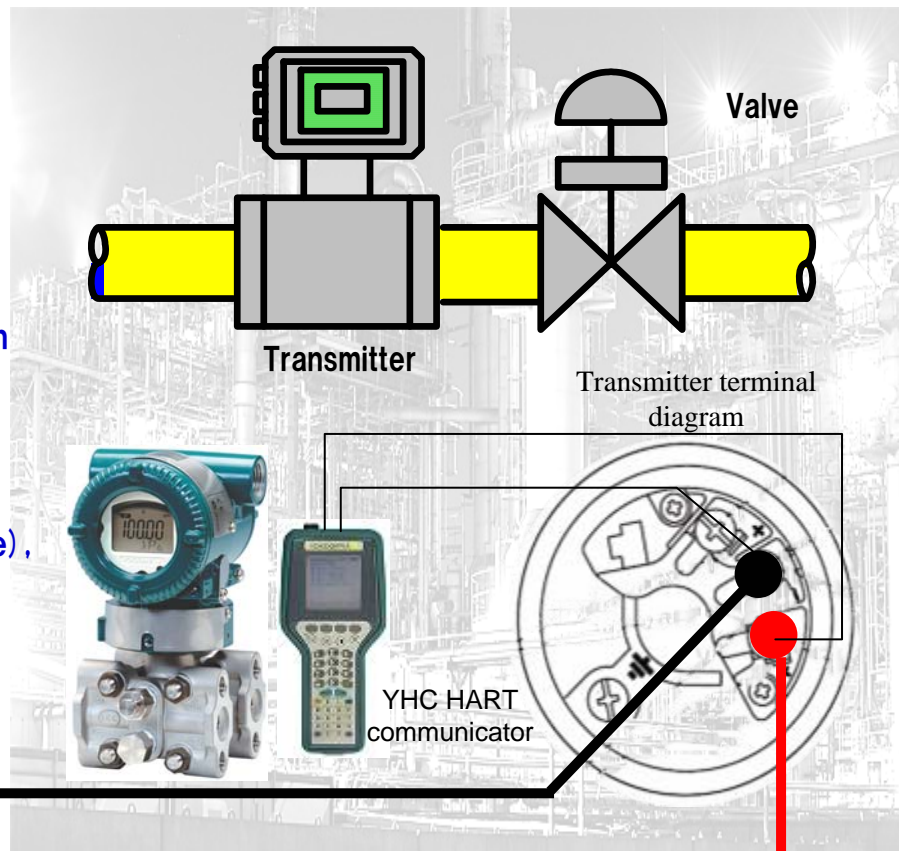


Example connection for a pressure transmitter

- Loop check function
- Supplies 24 VDC power to the transmitter, and measures mA DC output
- Precisely measures instrumentation signals:

DC mA 0.05%/30.000 mA

Using the setting for HART mode with loop power (250 Ω resistance), enables HART communications and brain communications



4-20 mA current signal

24 V loop power supply

Process Multimeter (CA450)



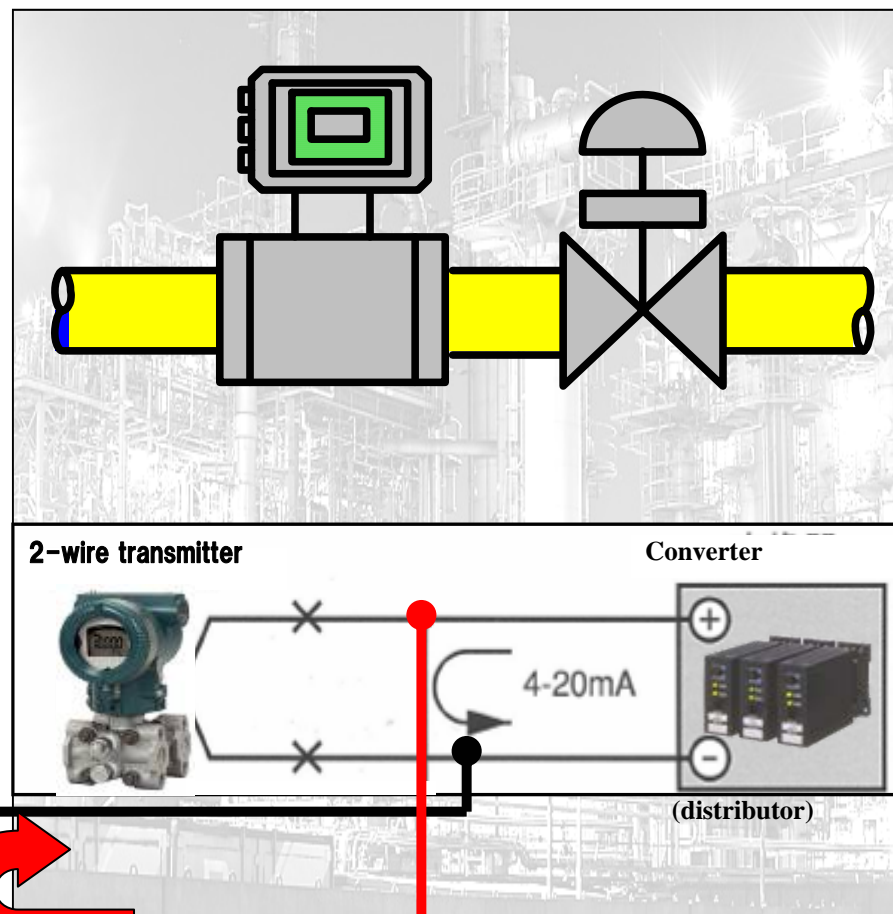
◆ 2-wire transmitter simulator (20 mA SINK)



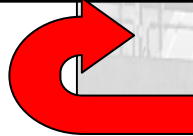
Transmitter simulator

• With the CA450, transmitter I/O can be checked (simulated) by drawing in designated currents (SINK) from the external voltage generators (distributors) of your instrumentation.

* As in the figure on the right, applied voltage is polar: take care not to apply voltage in the opposite direction.



Constant current output of 4-20 mA



Process Multimeter (CA450)

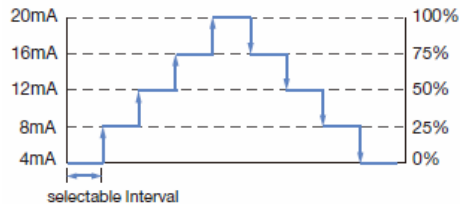
◆ Operating check and adjustment for valve and positioner

Valve positioner recovery work

- Zero span adjustment
Using Span check function
- Step response
Response test with auto-step function
- Hunting
Response test with auto-step (FAST)
- Stick-slip
Response test with sweep output
- Valve open/close error
Input output error test with 25% step output

Complete all these tasks with a single process multimeter !

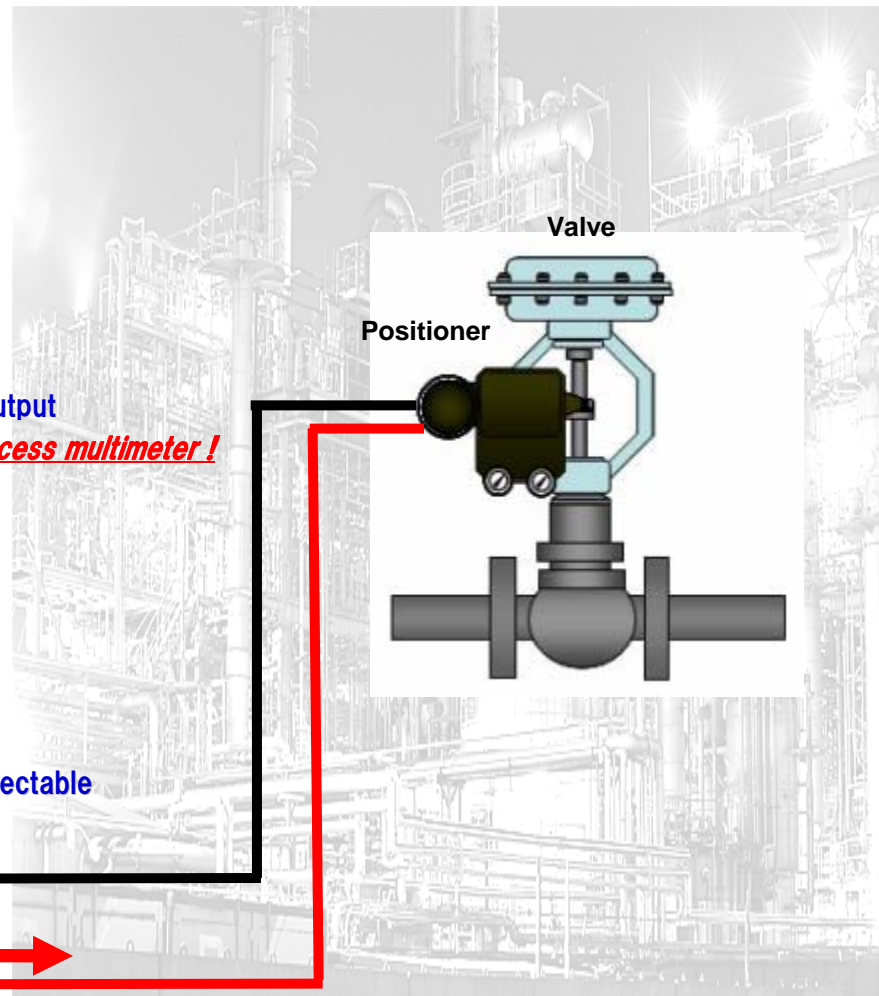
Auto-step output



Fast: 5sec, Slow: 15/30/45/60 sec selectable



Constant current output of 4-20 mA



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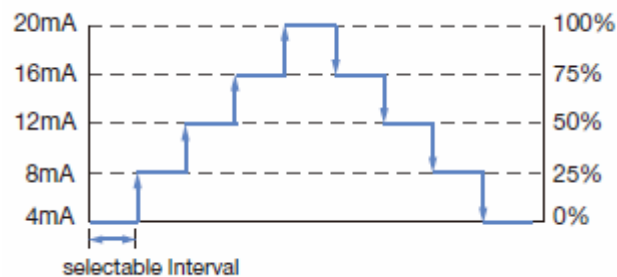
◆ 4–20 mA step/Auto-step/sweep output



Checking controller programs

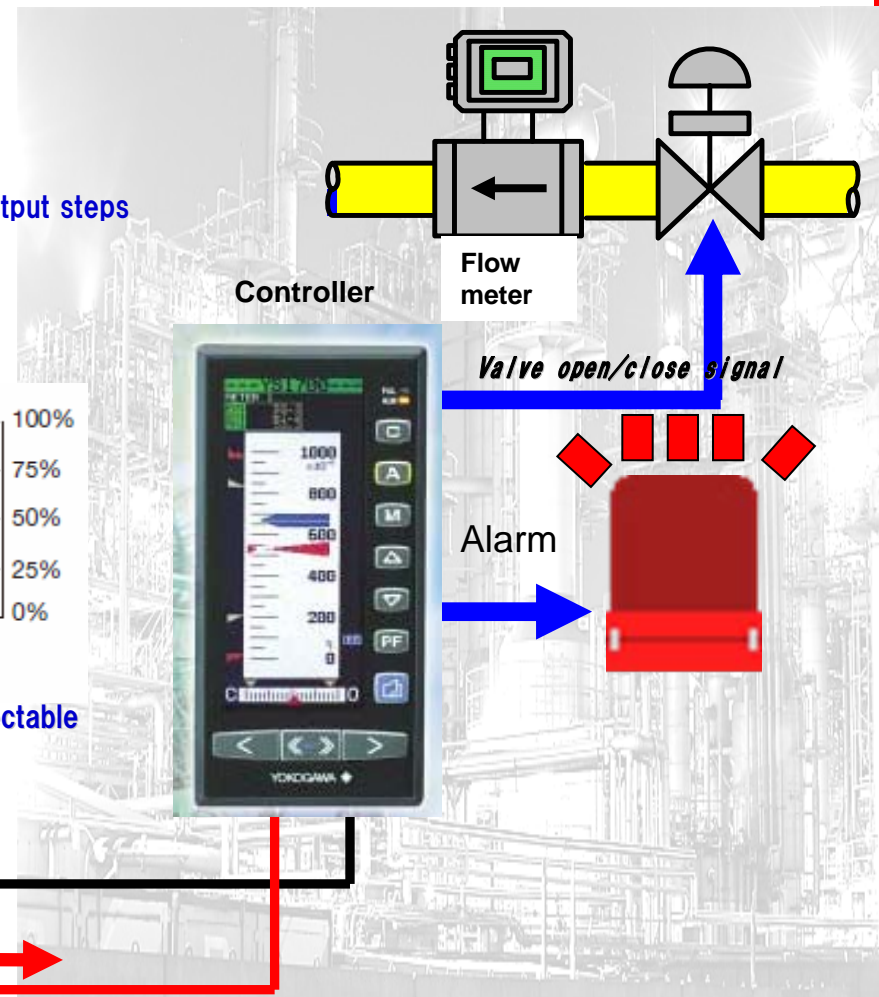
4–20 mA step generation

- Switches between 4 and 20mA in 4mA output steps making work more efficient.
- Ideal for checking controller programs.



Fast: 5sec, Slow: 15/30/45/60 sec selectable

Constant current output of 4–20 mA



Process Multimeter (CA450)

◆ Power supply peak-to-peak measurement (peak hold)



Measuring power supply peak-to-peak

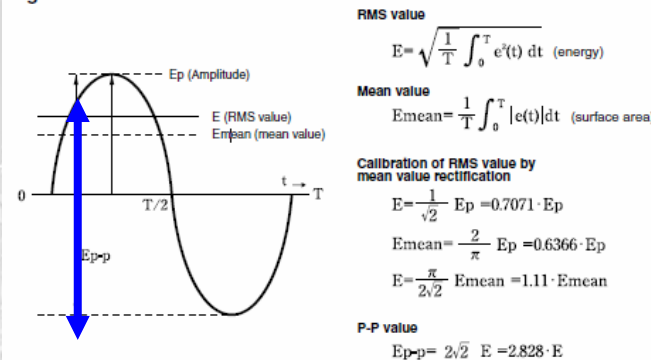
• With the CA450, peak value (instantaneous) detection is possible in DC voltage measurement (DCV) mode.

This enables easy measurement of power supply peak-to-peak during DCS inspection.

* The value relative to a reference value can also be displayed during peak value measurement.

Power supply

Figure 1. RMS and Mean Values of Sine Wave



P-P measurement: 6 ms or higher



Process Multimeter (CA450)



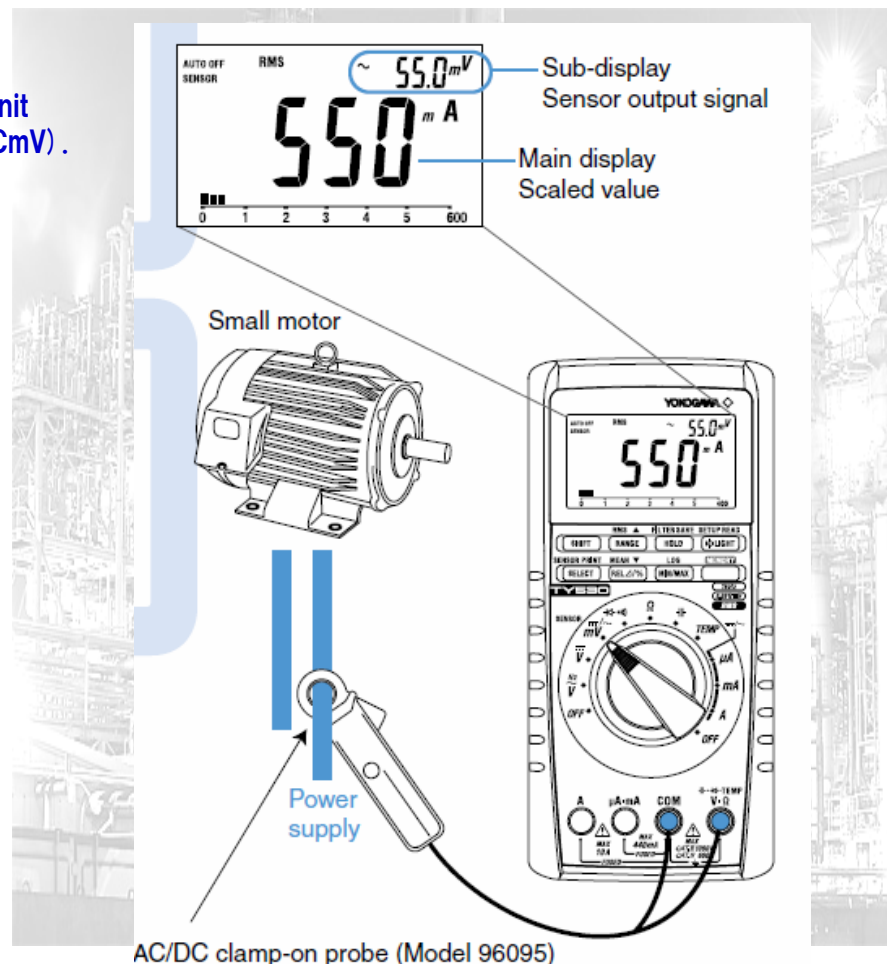
◆ AC/DC current measurement (sensor mode)



Sensor mode

- Enables scaling to any coefficient and unit relative to the input voltage (ACmV or DCmV).
- From the DCV range, easily set with the SHIFT+SELECT keys.
- Measurable ranges:
 DCA 0–180 A (96035)
 ACA 0.1–3000 A (960 series)

ACmV or DCmV



Process Multimeter (CA450)

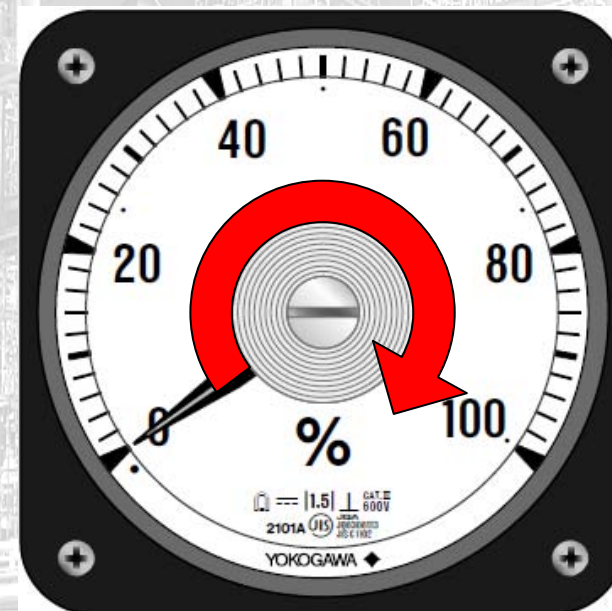
◆ Panel meter inspection



Connection, reproducibility test, error test

- 4–20 mA sweep
(SLOW 15 s/FAST 40 s)
- Zero point adjustment of a suppressed meter
- Step function for checking error at each point

Suppressed meter 2101A36



4–20 mA sweep/step output

