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Fluke 789 ProcessMeter™

Technical Data

Double your power.

The Fluke 787 ProcessMeter was the first tool to combine a loop calibrator with a DMM to give process technicians double the power in one tool. Now it's even better—the ultimate loop calibration multimeter—the Fluke 789 ProcessMeter.

The 789 has a display that's not only twice as large, but also twice as bright with two levels of backlighting. And with its built-in, selectable 250 ohm HART® resistor, it eliminates the need to carry a separate resistor with you.

Now process technicians can do a lot more while carrying a lot less.



Key new features of the Fluke 789

- 24 V Loop power supply
- HART mode setting with loop power (adds 250 ohm resistor)
- 100 % larger dual display
- 1200 ohm drive capability on mA source
- Enhanced backlight with two brightness settings
- 0 % to 100 % mA *Span Check* buttons to toggle between 4 and 20 mA
- Infrared I/O serial port compatible with FlukeView® Forms Software Version 2.1
- Externally accessible fuses for easy replacement

These 787 features are also included in the 789

- DMM designed to meet 1000 volt IEC 1010 CAT III standards
- Precision 1000 V, 440 mA true-rms digital multimeter
- Frequency measurement to 20 kHz
- Min/Max/Average/Hold/Relative modes
- Diode test and continuity beeper
- Simultaneous mA and % of scale readout
- 20 mA dc current source / loop calibrator / simulator
- Manual step (100 %, 25 %, Coarse, Fine) plus Auto Step and Auto Ramp
- Externally accessible battery for easy battery changes

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Measurement function	Range and resolution	Best accuracy (% of reading + LSD)
V dc	400.0 mV, 4.000 V, 40.00 V, 400.0 V, 1000 V	0.1 % + 1
V ac (true-rms)	400.0 mV, 4.000 V, 40.00 V, 400.0 V, 1000 V	0.7 % + 2
mA dc	30.000 mA	.05 % + 2
A dc	1.000 A (0.440 A continuous)	0.2 % + 2
A ac	1.000 A (0.440 A continuous)	1 % + 2
Resistance	400.0 Ohms, 4.000 k, 40.00 k, 400.0 k, 4.0 M, 40 M	0.2 % + 1
Frequency (0.5 Hz to 20 kHz)	199.99 Hz, 1999.9 Hz, 19.999 kHz	.005 % + 1
Diode Test	2.000 V (shows diode voltage drop)	2 % + 1
Continuity	Beeps for resistance < approx. 100 ohms	

Output function	Range and resolution	Drive capability	Accuracy (% of span)
DC Current Output (Internal battery operation)	0.000 to 20.000 mA or 4.000 to 20.000 mA (selectable at power-up) Over-range to 24.000 mA	24 V compliance, or, 1,200 Ohms, @ 20 mA	.05 %
DC Current Simulate (Ext. 24 Volt loop supply)	0.000 to 20.000 mA or 4.000 to 20.000 mA, (selectable at power-up) Over-range to 24.000 mA	1000 Ohms, @ 20 mA	.05 %
24 V Loop Supply	Minimum 24 V	250 Ohms @ 20 mA	> 24 V
Current Adjustment Modes	Manual: Coarse, Fine, 25 % and 100 % step Automatic: Slow Ramp, Fast Ramp, 25 % step		

Temperature range of 18 °C to 28 °C, for one year after calibration

General specifications

Maximum voltage applied between any jack and earth ground: 1000 V RMS

Storage temperature: -40 °C to 60 °C

Operating temperature: -20 °C to 55 °C

Temperature coefficient: 0.05 x (specified accuracy) per °C (for temperatures < 18 °C or > 28 °C)

Relative humidity: 95 % up to 30 °C; 75 % up to 40 °C; 45 % up to 50 °C; 35 % up to 55 °C

Vibration: Random, 2 g, 5-500 Hz

Shock: 1 meter drop test

Safety: Designed in accordance with EN61010, ANSI/ISA S82.01-1994 and CAN/CSA C22.2 No. 1010..1-92 Over-voltage Category III

Size: 50 mm H x 100 mm W x 203 mm L (1.97 in H x 3.94 in W x 8.00 in L)

Weight: 600 g (1.3 lbs)

Battery: Four AA alkaline batteries

Battery life: 140 hours typical (measurement), 10 hours typical (sourcing 12 mA)

Warranty: 3 years

Optional accessories

80T-IR Infrared Temperature Probe
80TK Thermocouple Module
80T-150U Universal Temperature Probe
TL20 / TL22 / TL24 / TL26 / TL28 / TL40A Test Lead Sets
AC20 / AC80 Clips
TP20 Industrial Test Probes
80i-400 AC Current Clamp*
i-410 AC/DC Current Clamp**
i-1010 AC/DC Current Clamp**
C25 / C100 Cases
80K-6 and 80K-40 High Voltage Probes
85RF High Frequency Probes
PV350 Pressure Vacuum Module
Fiber Optic Meter FOM
LPAK80-4 LockPak
TPAK ToolPak Meter Hanging Kit

*Above 50 A ac
**Above 1 A dc or 20 A ac

Ordering information

Model
Fluke-789 ProcessMeter
Including:
TL71 Premium Test Lead Set plus AC72 Alligator Clips, Four AA alkaline batteries (installed), Users Manual and Quick Reference Guide

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