

## 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



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