TECHNICAL DATA

# Fluke 787B and 789 ProcessMeter™

## KEY DMM MEASUREMENTS

Measure ac and dc volts, ac and dc current, resistance, continuity, and frequency

## KEY mA LOOP FUNCTIONS

20mA current source/simulate, simultaneous mA and % scale readout, and 24 V loop power supply (789 only)

## SAFETY RATED FOR INDUSTRIAL APPLICATIONS

CAT IV 600 V/CAT III 1000 V

## Double the troubleshooting power so you can do more, while carrying a lot less

The Fluke 787B and 789 ProcessMeter™ double troubleshooting capabilities by combining the power of a safety rated digital multimeter and mA loop calibrator into a single, compact test tool. Whether you only need to source and simulate mA, or need a 24V loop power supply, Fluke has a ProcessMeter™ test tool designed specifically to meet your needs. Based on the trusted measurement capabilities of the Fluke 87 DMM, the 787B and 789 add the ability to measure, source and simulate mA with the accuracy and resolution you would expect from a Fluke mA loop calibrator, giving you the ideal tool for troubleshooting and calibrating current loop applications.

With Fluke Connect® mobile app and desktop software compatibility technicians can wirelessly monitor, log, and share data from the field with their team anytime, from anywhere*.

### 787B and 789 key features

- 20 mA dc current source/measure/simulate
- Simultaneous mA and % of scale readout
- DMM designed to meet 1000 volt IEC 61010 CAT III and 600 V CAT IV standards
- Fluke Connect® compatibility for wireless data logging (with IR3000FC module)*
- 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
- Manual step (100 %, 25 %, Coarse, Fine) plus Auto Step and Auto Ramp
- Externally accessible battery for easy battery changes

### 789 additional features

- 24 V Loop power supply
- HART mode setting with loop power (adds 250 ohm resistor)

*Requires Fluke IR3000FC module (not included)
Not all models are available in all countries. Check with your local Fluke representative.

| 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. 15 V to 48 V 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
*24 V Loop Supply available on 789 ProcessMeter™ only

| 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 | IEC61010-1, Pollution Degree 2/IEC61010-2-033, CAT IV 600 V/CAT III 1000 V |
| Size (HxWxL) | 50 mm x 100 mm x 203 mm (1.97 in x 3.94 in x 8.00 in) |
| Weight | 600 g (1.3 lbs) |
| Battery: | Four AA alkaline batteries |
| Battery life | 140 hours typical (measurement), 10 hours typical (sourcing 12 mA) |
| Warranty | Three years |

## Ordering information

**789** ProcessMeter
**787B** ProcessMeter

### Included

TL71 Premium Test Lead Set plus AC72 Alligator Clips, Four AA alkaline batteries (installed), and Quick Reference Guide

### Optional accessories

**IR3000FC** Fluke Connect® Adapter
**80TK** Thermocouple Module
**TL20 / TL22 / TL24 / TL26 / TL28 / TL40A** Test Lead Sets
**AC20 / AC80** Clips
**TP220** Industrial Test Probes
**i400** AC Current Clamp*
**i410** AC/DC Current Clamp**
**i1010** AC/DC Current Clamp**
**C25 / C100** Cases
**PV350** Pressure Vacuum Module
**TPAK** ToolPak Meter Hanging Kit

***Above 50 A ac**

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

FLUKE CONNECT®

### Preventive maintenance simplified. Rework eliminated.

Save time and improve the reliability of your maintenance data by wirelessly syncing measurements using the Fluke Connect® system.

- Eliminate data-entry errors by saving measurements directly from the tool and associating them with the work order, report or asset record.
- Maximize uptime and make confident maintenance decisions with data you can trust and trace.
- Access baseline, historical and current measurements by asset.
- Move away from clipboards, notebooks and multiple spreadsheets with a wireless one-step measurement transfer.
- Share your measurement data using ShareLive™ video calls and emails.
- 787B and 789 ProcessMeter is part of a growing system of connected test tools and equipment maintenance software. Visit the website to learn more about the Fluke Connect® system.

Find out more at **flukeconnect.com**

Download on the App Store

ANDROID APP ON Google Play

All trademarks are the property of their respective owners. WiFi or cellular service required to share data. Smartphone, wireless service and data plan not included with purchase. First 5 GB of storage is free. Phone support details can be viewed at **fluke.com/phones**.

**Smart phone wireless service and data plan not included with purchase. Fluke Connect is not available in all countries.**

**Fluke.** *Keeping your world up and running.®.*

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