

TECHNICAL DATA

# Fluke 789 ProcessMeter™



## Key features

- Compact digital multimeter and mA loop calibrator solution
- Full-featured mA loop calibrator with built-in 24v Loop Power
- Quickly and easily troubleshoot every part of a control loop
- Large, bright dual-measurement display

## Product overview: Fluke 789 ProcessMeter™

Fluke 789 ProcessMeter™ doubles your troubleshooting power

The Fluke 789 ProcessMeter is the ultimate troubleshooting tool for electricians and instrumentation professionals. It combines the functionality of a full-featured loop calibrator with the power of a CAT III 1000 V, CAT IV 600 V safety rated digital multimeter, and the wireless capabilities of Fluke Connect connectivity with optional IR3000FC module. The 789 has a large, dual display with two levels of backlighting and externally accessible fuse and batteries for easy replacement. And its built-in, selectable 250-ohm HART® resistor eliminates the need to carry a separate resistor.

The 789 also has a built-in 24-Volt loop supply, which reduces the need to carry a separate power supply when doing offline transmitter testing. You can also add the wireless data logging capabilities of the Fluke Connect™ mobile app to log data wirelessly to your smart phone and review it from a remote location.

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

Do a lot more while carrying a lot less

The 789 provides all standard DMM capabilities including frequency measurement to 20 kHz, Min/Max/Average/Hold/Relative modes, and diode test and continuity beeper. Combine that with the ability to troubleshoot every part of the loop.

Measure, source, simulate 4-20 mA signals, measure resistance, measure power, provide power to the loop and provide 250-ohm resistance to the loop. The 789 includes SpanCheck; 0% and 100% buttons to toggle between 4 and 20 mA sourcing, while the display can simultaneously show mA and % of scale readings for faster troubleshooting. It also delivers 1200-ohm drive capability on mA source.

### Accuracy

This ProcessMeter offers manual step, 100%, 25%, Coarse, Fine, plus auto step and auto ramp. It also delivers 0.1% DC voltage accuracy and 0.05% DC current accuracy.

## Specifications: Fluke 789 ProcessMeter™

| Specifications                |                                |                                    |
|-------------------------------|--------------------------------|------------------------------------|
| Current measurement           | Range                          | 0-1 A AC or DC                     |
|                               | Resolution                     | 1 mA                               |
|                               | Accuracy                       | 0.2% + 2 LSD (DC)                  |
|                               | Range                          | 0-30 mA                            |
|                               | Resolution                     | 0.001 mA                           |
|                               | Accuracy                       | 0.05% + 2 LSD                      |
| Current sourcing              | Range                          | 0-20 mA or 4-20 mA                 |
|                               | Resolution                     | 0.05% of span                      |
|                               | Drive capability               | 24 V Compliance or 1200 Ω @ 20 mA  |
| Frequency                     | to 19.999 kHz, 0.005% + 1 LSD  |                                    |
| Continuity                    | Beeps for resistance < 100 Ω   |                                    |
| Voltage measurement           | Range                          | 0-1000 V AC (true-rms) or DC       |
|                               | Resolution                     | 0.1 mV to 1.0 V                    |
|                               | Accuracy                       | 0.1% R <sub>dg</sub> + 1 LSD (VDC) |
| Resistance measurement        | to 40 MΩ, 0.2% + 1 LSD         |                                    |
| Diode test                    | 2.0 V shoes diode voltage drop |                                    |
| Display current and % of span | Yes                            |                                    |
| Auto Step, Auto Ramp          | Yes                            |                                    |
| Environmental Specifications  |                                |                                    |
| Operating temperature         | -20°C to 55°C                  |                                    |
| Storage temperature           | -40°C to 60°C                  |                                    |

|                                              |                                                                                             |
|----------------------------------------------|---------------------------------------------------------------------------------------------|
| Humidity (without condensation)              | 95% up to 30°C<br>75% up to 40°C<br>45% up to 50°C<br>35% up to 55°C                        |
| Temperature coefficient                      | 0.05 x (specified accuracy) per °C (for temperatures < 18°C or > 28°C)                      |
| <b>Safety Specifications</b>                 |                                                                                             |
| Electrical safety                            | Designed in accordance with IEC 1010-1, ANSI/ISA S82.01-1994 and CAN/CSA C22.2 No 1010.1-92 |
| Overvoltage category                         | IEC 1010-1 CAT III 1000 V<br>IEC 1010-1 CAT IV 600 V                                        |
| Maximum voltage                              | 1000 V RMS                                                                                  |
| <b>Mechanical and General Specifications</b> |                                                                                             |
| Size (H x W x L)                             | 50 x 100 x 203 mm (1.25 x 3.41 x 7.35 in)                                                   |
| Weight                                       | 610 g (1.6 lbs)                                                                             |
| Batteries                                    | 4 AA alkaline batteries                                                                     |
| Warranty                                     | 3 years                                                                                     |
| Battery life                                 | 140 hours typical (measurement), 10 hours typical (sourcing 20 mA)                          |
| Shock and vibration                          | Random, 2 g, 5-500 Hz<br>1 meter drop test                                                  |

## Ordering information



### Fluke 789

Fluke 789 ProcessMeter™

Includes:

- AC175 Alligator Clips
- Four (4) AA 1.5 V alkaline batteries (installed)
- TL71 safety-designed test lead set

#### Optional accessories

Fluke ir3000 FC Connector

Fluke TPAK ToolPak™ Magnetic Meter Hanger

Fluke 80T-150UA Universal Temperature Probe

Fluke TL220 SureGrip™ Industrial Test Lead Set

#### Description

Connect your Fluke test tool and get all the benefits of the Fluke Connect™ app.

Powerful magnetic strap for safe, hands free measurements.

Compatible with Fluke DMMs, high accuracy and fast reading for low voltage (below 24 V AC, 60 V DC) applications.

This test lead set with test probes works in multiple electrical applications. SureGrip™ feature is designed to do your work with comfort.



### 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.

Find out more at [flukeconnect.com](http://flukeconnect.com)



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

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07/2024

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