

Fluke 787 ProcessMeter™

Specifications

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Technical Data

| | |
|---|---|
| DC Current Output (Internal battery operation) | Range and Resolution 0.000 to 20.000 mA or 4.000 to 20.000 mA (selectable at power-up). Over-range to 24.000 mA Drive Capability 12 V compliance, or 500 ohms @20 mA Accuracy (% of span) 0.05 % |
| DC Current Simulate (External 24 volt loop supply) | Range and Resolution 0.000 to 20.000 mA or 4.000 to 20.000 mA (selectable at power-up). Over-range to 24.000 mA Drive Capability 1000 ohms @20 mA Accuracy (% of span) 0.05 % |
| Current Adjustment Modes | Range and Resolution Manual: Coarse Fine: 25% step Automatic: Slow Ramp, Fast Ramp, 25% step |

Measurement Accuracy

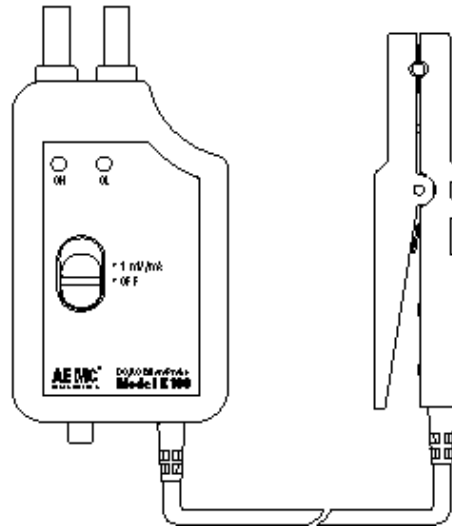
| | |
|-----|---|
| VDC | Range and Resolution: 400.0 mV, 4.000V, 40.00V, 400.0V, 1000V Best Accuracy (% of reading + LSD): 0.1% + 1 |
|-----|---|

DC/AC MicroProbe Model K100

K Series Probes

| | |
|-----------------|--------------------|
| Current: | 4.5 A DC 3 Arms |
| Output: | 1 mV/mA |

Model K100 measures as low as 100 μ A AC or DC. The unit has proportional mV output for direct readings on multi-meters, loggers and oscilloscopes.



ELECTRICAL SPECIFICATIONS

Current Range:

0 to \pm 4.5 A DC

0 to 3 Arms (sinusoidal)

0 to 2 A peak, square and step-discontinuous waveforms

Output (Vout): 1 mV/mA

Resolution:

DC: 50 μ A typical

AC: 100 μ A typical

Accuracy:

DC: 1% of reading \pm 200 μ A

AC: 2% of reading \pm 200 μ A

Output Noise:

< 100 μ V, DC to 3 kHz

Frequency Response:

DC to 2 kHz (@ -3 dB sine)

Output Impedance: 200

Probe Inductance: < 1 μ H

Rise Time: < 200 μ S, 10% to 90% Vout

Fall Time: < 200 μ S, 90% to 10% Vout

Influence of Adjacent Conductor

(50 Hz at 23 mm of the probe): < 100 μ A/A

Influence of Earth's Field:

< 120 μ A, null to maximum

(Reference Conditions: 23°C \pm 3°C, 20 to 75% RH; battery voltage 9 V \pm 0.1 V; earth's magnetic field < 40 A/m; absence of AC fields; input impedance of display device 1 M / 100 pF; DC or sinusoidal AC current 45 to 65 Hz.)

Battery: 9 V alkaline, NEDA 1604, 6LR61 or IEC 6 LF22

Low Battery: Green LED on when battery voltage 6.5 V

Battery Life: 20 hours approx.

Overload: Red LED indicates momentary or continuous overload

MECHANICAL SPECIFICATIONS

Operating Temperature:

-14° to 131°F (-10° to 55°C)

Storage Temperature:

-40° to 176°F (-40° to 80°C)

Temperature Influence:

1000 ppm/°K or 1%/10°C

Humidity:

< 95% @ 35°C, 75% @ 55°C

Altitude:

Operating: 0 to 2000

Non-operating: 0 to 12,000 m

Zero Adjust:

\pm 25 mA approx. by 10 turn knob at base of case

Maximum Conductor Diameter:

3/16", 0.180" (4.5 mm)

Protection Index: IP 40 per IEC 529

Drop Test: 1.0 m on 38 mm of oak on concrete; test according to IEC 1010

Shocks: 100 G per IEC 68-2-27

Vibration: Test per IEC 68-2-6,

Frequency Range:

5 to 15 Hz, Amplitude: 1.5 mm

15 to 25 Hz, Amplitude: 1 mm

25 to 55 Hz, Amplitude: 0.25 mm

Dimensions (Electronic Module):

4.9 x 2.5 x 1.1" (124 x 64 x 28 mm)

Dimensions (Probe): 4.4 x 0.6 x 1.0" (111

x 15 x 25 mm)

Cable Length: 5 ft (1.5 m)

Weight: 9 oz (250 g)

Color: dark grey

Output: Two 4 mm safety banana jacks, standard 3/4" (19 mm) spacing

SAFETY SPECIFICATIONS

Working Voltage:

300 V per IEC 1010-1 Cat. II

CE Mark:

1996 CE mark for Electromagnetic Compatibility

Immunity (EN 50082.1), IEC 1000-4-3

aptitude criteria A:

DC: 15 mV @ 0, AC (60 Hz): 2 dB from 10 mA to 4.5 A

Emmissivity (EN 50081.1): negligible

Electromagnetic Compatibility:

EN 50082-1 class A EN 50081-1

ORDERING INFORMATION

CATALOG NO.

DC/AC MicroProbe Model K100 includes 9 V battery and instruction manual Cat. #1200.67

| | |
|---------------------------------|---|
| VAC (true RMS) to 1 kHz * | Range and Resolution: 400.0 mV, 4.000V, 40.00V, 400.0V, 1000V Best Accuracy (% of reading + LSD): 0.7% + 2 |
| mA DC | Range and Resolution: 30.000 mA Best Accuracy (% of reading + LSD): 0.05% + 2 |
| A DC | Range and Resolution: 1.000 A (0.440 A continuous) Best Accuracy (% of reading + LSD): 0.2% + 2 |
| A AC | Range and Resolution: 1.000 A (0.440 A continuous) Best Accuracy (% of reading + LSD): 1% + 2 |
| Resistance | Range and Resolution: 400.0 Ohms, 4.000 kOhms, 40.00 kOhms, 400.0 kOhms, 4.000 MOhms, 40.00MOhms Best Accuracy (% of reading + LSD): 0.2% + 1 |
| Frequency (0.5 Hz to 20 kHz) | Range and Resolution: 199.99 Hz, 1999.9 Hz, 19.999 kHz, 199.99 kHz Best Accuracy (% of reading + LSD): 0.005% + 1 |
| Diode Test | Range and Resolution: 2.400 V (measures diode voltage drop) Best Accuracy (% of reading + LSD): 2% + 1 |
| Continuity | Range and Resolution Beeps for resistance < approx. 100 ohms |

*For measurement of adjustable speed motor drive output, consider the Fluke 39, 41 or 43 power quality analyzers.

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, 2g, 5-500 Hz |
| Shock | 1 meter drop test |
| Safety | Designed in accordance with IEC 1010-1, ANSI/ISA S82.01-1994 and CAN/CSA C22.2 No. 1010.1-92 Overvoltage Category III |
| Size | 32 mm H x 87 mm W x 187 mm L (1.25 in H x 3.41 in W x 7.35 in L) |
| Size, with holster and Flex-Stand | 52 mm H x 98 mm W x 201 mm L (2.06 in H x 3.86 in W x 7.93 in L) |
| Weight | 369 g (13 oz); with holster and Flex-Stand 638 g (22.5 oz) |
| Battery | Single 9V Alkaline battery (ANSI/NEDA 1604A or IEC 6LR61) |
| Battery Life | 50 hours typical (measurement), 12 hours typical (sourcing 12 mA) |
| Warranty | 3 years |

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