



GPS-276

Digital Clamp Meter



KEY FEATURES

- 1000 A AC and DC · true RMS on both
- 3999 count display · 52 mm jaw
- Inrush current, true RMS over 80 ms
- Temperature -50 to 1000 °C
- Frequency to 40 MHz · duty cycle
- CAT II 1000 V · IEC 61010-1

IDEAL FOR

- Motor and compressor starting current
- Air conditioning and refrigeration
- Variable frequency drive supplies
- Electroplating and DC welding
- Installation and maintenance work

True RMS, Including The Inrush.

A handheld clamp meter reading AC and DC current to 1000 A through a 52 mm jaw, on a 3999 count display, true RMS on both the current and the voltage paths. Ranging is automatic with a manual override on voltage, current and resistance.

The inrush function is the reason to choose it over something simpler. It captures the true RMS of an 80 millisecond window rather than a peak, which is what a motor or compressor start actually looks like, and it sits on its own key alongside the DC current zero. A starting current you can put a number to is the difference between sizing a protection device and guessing at one.

Beyond current it is a full meter: AC and DC volts from 400 mV, resistance to 40 MΩ, capacitance to 10 mF, frequency to 40 MHz with duty cycle, and temperature from -50 to 1000 °C on the supplied K type bead. For air conditioning and refrigeration work that is most of a service kit in one hand, with data hold, a backlight and a clamp head light, and a ten-minute power off that can be defeated at switch-on for a measurement you need to leave running.

MEASUREMENT RANGES

Range	Accuracy	Resolution	Notes
Measurement ranges · 3999 count display · true RMS			
DC voltage 400 mV to 1000 V	$\pm(0.8\% + 2)$	0.1 mV	Five ranges · about 10 M Ω · $\pm(1\% + 3)$ on 1000 V
AC voltage 400 mV to 700 V	$\pm(1.2\% + 5)$	0.1 mV	True RMS · 10 Hz to 1 kHz · $\pm(1.5\% + 5)$ on 700 V
DC current 40, 400 and 1000 A	$\pm(2\% + 10)$ on 40 A	10 mA	Through the jaw · zero key before measuring
AC current 40, 400 and 1000 A	$\pm(2\% + 10)$ on 40 A	10 mA	True RMS · 50 Hz to 60 Hz
Inrush current	—	—	True RMS of an 80 ms window · same ranges as AC current
Resistance 400 Ω to 40 M Ω	$\pm(1\% + 3)$	0.1 Ω	Six ranges · $\pm(1.5\% + 5)$ on 40 M Ω
Capacitance 10 nF to 10 mF	$\pm(3\% + 20)$ on 10 nF	1 pF	Seven ranges · about 20 pF cannot be read on the 10 nF range
Frequency 100 Hz to 40 MHz	$\pm(0.5\% + 3)$	0.01 Hz	Seven ranges · 1 V rms sensitivity
Duty cycle 1% to 99%	$\pm(0.5\% + 3)$	0.1%	1 V rms sensitivity
Temperature -50 to 1000 °C	$\pm 1\% \pm 5$ to 300 °C	1 °C	K type bead supplied · -58 to 1832 °F
Diode, forward voltage	—	—	1.5 mA forward · about 3 V reverse
Continuity	—	—	Buzzer below 90 $\pm 20 \Omega$ · open circuit about 0.5 V

Accuracy is specified for one year after calibration, at 23 °C ± 5 °C and 70% relative humidity or less, in the form $\pm(a\% \text{ of reading} + \text{digits})$. Two limits worth knowing before relying on the figures: AC voltage accuracy on a square wave is specified only from 10 Hz to 400 Hz, against 10 Hz to 1 kHz on a sine; and AC current is specified at 50 Hz to 60 Hz only. Above 30 V, measure frequency through the AC voltage function, stepping to Hz with SELECT, rather than at the frequency position, to avoid damaging the instrument.



WHAT'S IN THE BOX

- GPS-276 clamp meter
- Test lead set
- K type temperature probe
- 9 V battery
- Carrying case
- Operation manual

BEFORE MEASURING · Zero the DC current range before clamping: the reading drifts with the earth's field and whatever it shows unzeroed is added to the measurement. Hold the instrument in the orientation you intend to measure in, then press zero. Test leads must be out of the instrument before any current measurement.

GENERAL SPECIFICATIONS

Code	Item	Part Number
GPS-276	Digital clamp meter, 1000 A AC/DC true RMS, 3999 count, with temperature, frequency and inrush current	622276

DISPLAY

3999 count LCD · automatic polarity · overload shown as OL · low battery indication · backlight and clamp head light

JAW

Opens to 52 mm · single conductor, centred in the jaw

HOLD AND POWER OFF

Data hold · automatic power off after ten minutes, defeated by holding the hold key while switching on

OVERLOAD PROTECTION

1000 V DC or AC peak on the volt ranges · 250 V rms on the millivolt, capacitance, frequency, duty cycle and temperature ranges · 220 V rms on resistance

POWER

One 9 V battery, IEC 6F22, NEDA 1604, JIS 006P or equivalent

SIZE AND WEIGHT

249 × 89 × 38 mm · about 360 g with the battery fitted

RANGING

Automatic, with a manual override on voltage, current and resistance

INRUSH

True RMS of an 80 ms window, on a key shared with the DC current zero

TEMPERATURE SENSOR

K type bare-bead thermocouple, supplied

COMPLIANCE

IEC 61010-1 · CAT II 1000 V

ENVIRONMENT

Operating 0 °C to 40 °C below 75% relative humidity · storage -10 °C to 60 °C below 85% relative humidity

WARRANTY

1 year, subject to product registration with GPS LTD · service and calibration available