



GPS-176

Handheld Multimeter



KEY FEATURES

- 6000 count display with analogue bargraph
- Backlit LCD, automatic and manual ranging
- 1000 V protection on every range
- IP67, double moulded, two metre drop
- Type K temperature, -45 to 750 °C
- CAT IV 600 V and CAT III 1000 V

Built For The Van, Not The Bench.

A 6000 count autoranging handheld with a 61-segment analogue bargraph and a backlit display, reading to 1000 V, 10 A and 60 MΩ. Basic DC voltage accuracy is $\pm(0.09\% + 2)$.

Built for the conditions rather than the bench. Double moulded housing, IP67 against dust and water, and a two metre drop rating. Every range carries 1000 V protection, and the current paths are fused at 800 mA and 10 A, both 1000 V ceramic.

One switch position covers resistance, capacitance, continuity and diode, with the MODE key selecting between them, which keeps the rotary switch short and the meter narrow. Frequency reads to 40 MHz, capacitance to 1 mF, and a Type K probe and adapter are supplied for temperature.

Hold, MAX/MIN and a relative mode are on the front panel rather than buried. Ranging is automatic from power-up and manual on the RANGE key, and the meter powers itself down after fifteen minutes unless the timer is disabled at switch-on.

IDEAL FOR

- Field and plant maintenance
- Solar and wind installations
- Automotive and EV electrical work
- Panel and switchgear diagnostics
- Training and teaching laboratories

MEASUREMENT RANGES

Range	Accuracy	Resolution	Notes
Measurement ranges · 6000 count display with analogue bargraph · automatic or manual ranging			
DC voltage 600 mV to 1000 V	$\pm(0.09\% + 2)$ to 600 V	0.1 mV	Five ranges · input impedance above 10 M Ω · $\pm(0.2\% + 2)$ on the 1000 V range
AC voltage 6 V to 1000 V	$\pm(1\% + 3)$, 50 to 60 Hz	1 mV	Four ranges · 40 Hz to 1 kHz · $\pm(2\% + 3)$ outside 50 to 60 Hz
DC current 600 μ A to 10 A	$\pm(1\% + 3)$ to 600 mA	0.1 μ A	Six ranges · $\pm(1.5\% + 3)$ on the 6 A and 10 A ranges
AC current 600 μ A to 10 A	$\pm(1.5\% + 3)$ to 600 mA	0.1 μ A	40 Hz to 1 kHz · $\pm(2\% + 5)$ on the 6 A and 10 A ranges
Current, 20 A range	Not specified	10 mA	Thirty seconds maximum, and fifteen minutes between measurements
Resistance 600 Ω to 60 M Ω	$\pm(0.3\% + 4)$ to 6 M Ω	0.1 Ω	Six ranges · $\pm(0.5\% + 20)$ on the 60 M Ω range · leads add 0.1 to 0.2 Ω
Capacitance 60 nF to 1 mF	$\pm(3.5\% + 4)$ to 600 μ F	10 pF	Six ranges · $\pm(5\% + 5)$ on the 1 mF range
Frequency 9.999 Hz to 40 MHz	$\pm(0.1\% + 1)$	0.001 Hz	Eight ranges · specified to 10 MHz
Duty cycle 0.1% to 99.9%	$\pm(1.2\% + 2)$	0.1%	Measured on the frequency path
Temperature -45 to 750 °C	$\pm(3\% + 5)$	1 °C	Type K, probe and adapter supplied · probe error not included
Continuity, below 35 Ω	—	—	Test current under 0.35 mA · beeper
Diode	—	—	Test current 0.9 mA · open circuit 2.8 V

Accuracy is stated as $\pm$ (% of reading + digits) with the ambient temperature stable to within 1 °C. After a change of 5 °C the rated figure is reached about two hours later. Temperature accuracy excludes the error of the thermocouple probe. The 20 A range carries no stated accuracy and is limited to thirty seconds at a time.



WHAT'S IN THE BOX

- GPS-176 meter
- Test lead set
- Type K temperature probe and adapter
- 9 V 6F22 battery, fitted
- Soft carrying case
- User manual

AVAILABLE SEPARATELY · Spare fuses, 800 mA/1000 V and 10 A/1000 V ceramic, and replacement test leads are available from GPS.

GENERAL SPECIFICATIONS

Code	Item	Part Number
GPS-176	Handheld multimeter, 6000 count autoranging, analogue bargraph, backlit, IP67, CAT IV 600 V	402176

DISPLAY

6000 count LCD with a 61-segment analogue bargraph · backlight held on from the HOLD key · OL shown on over-range

FUNCTION SELECTION

One switch position covers resistance, capacitance, continuity and diode · the MODE key selects between them, and between DC and AC on the voltage and current positions

TERMINALS

μ A/mA, 10 A, COM, and a combined Ω / CAP / V / °F / °C / Hz% input

CURRENT LIMITS

6000 μ A on the μ A range · 600 mA on the mA range · 20 A on the 10 A socket, thirty seconds at a time

COMPLIANCE

EN 61010-1 · CAT IV 600 V and CAT III 1000 V · 1000 V maximum between any terminal and earth

ENVIRONMENT AND SIZE

Operating 5 °C to 40 °C · storage -20 °C to 60 °C · 183 × 82 × 55 mm · 0.36 kg

RANGING

Automatic from power-up · manual on the RANGE key, held for two seconds to return to automatic

MATH AND HOLD

Hold · MAX and MIN, held for two seconds to exit · relative, referenced to any stored reading until the range is changed

PROTECTION

1000 V DC or AC rms on all ranges · 800 mA 1000 V ceramic fuse on the μ A and mA path · 10 A 1000 V ceramic on the 10 A path

INGRESS AND DROP

IP67 against dust and water · two metre drop · double moulded housing

POWER

9 V 6F22 battery · automatic power off after fifteen minutes, defeatable at switch-on · low battery indicator

WARRANTY

1 year, subject to product registration with GPS