GPS LTD.

GPS-3065X

Benchtop Multimeter

Six And A Half Digits, At Your Pace.

A 6½-digit bench multimeter with a 2 200 000 count dual display, true RMS on both AC paths, and two-wire and four-wire resistance with offset compensation. Basic DC voltage accuracy is ±(0.0035% + 0.0006) over a year.

Resolution is bought with integration time, and there are six settings to buy it at. At 100 NPLC a reading takes two seconds and carries 0.035 ppm of range in noise, and that is where every accuracy figure here is specified. At the fastest setting it reads ten thousand times a second with 2.7 ppm.

Four-wire resistance takes the leads out of the reading, and offset compensation on the three lowest ranges takes out thermal EMF as well. On the 200 mV, 2 V and 20 V ranges the DC input impedance lifts from 10 MΩ to above 10 GΩ.

Pre-trigger or post-trigger, internal or external, with a delay from zero to a thousand seconds and up to 599 999 999 samples on one trigger. USB device, USB host and 10/100 LAN are standard, and the command set is SCPI.

KEY FEATURES

- 2 200 000 count dual display, 4.3 inch colour
- True RMS AC voltage and AC current
- Four-wire resistance with offset compensation
- 10 MΩ or 10 GΩ DC input impedance
- Trend chart, histogram and bar views
- USB, LAN and SCPI control

IDEAL FOR

- Calibration and reference measurement
- Research and characterisation work
- Production and end-of-line testing
- Automated and sequenced test rigs
- Metrology teaching laboratories

MEASUREMENT RANGES

Range	Accuracy	Resolution	Notes
Measurement ranges · 2 200 000 count dual display · true RMS AC · figures at 100 NPLC			
DC voltage 200 mV to 1000 V	±(0.0035% + 0.0006) on 2 V	0.1 µV	Five ranges · 10 MΩ, or above 10 GΩ on 200 mV, 2 V and 20 V
AC voltage 200 mV to 750 V	±(0.06% + 0.03), 10 Hz to 20 kHz	0.1 µV	Five ranges · true RMS · 3 Hz to 300 kHz · three filter bands
DC current 200 µA to 10 A	±(0.050% + 0.002) on 2 mA and 200 mA	0.1 nA	Six ranges · above 7 A, thirty seconds on and thirty off
AC current 200 µA to 10 A	±(0.10% + 0.04), 10 Hz to 5 kHz	0.1 nA	Six ranges · true RMS · crest factor to 3 at full scale
Resistance 200 Ω to 100 MΩ	±(0.010% + 0.001) on 2 kΩ to 200 kΩ	0.1 mΩ	Seven ranges · offset compensation on the three lowest
Capacitance 2 nF to 100 mF	±(1% + 0.1), 20 nF to 20 mF	—	Nine ranges · ±(2% + 2.4) on the 2 nF range
Frequency 3 Hz to 1 MHz	±0.007% above 40 Hz	—	Measured on the 200 mV to 750 V AC ranges · 1 s gate
Period 1 µs to 333.33 ms	±0.007% above 40 Hz	—	Same input ranges as frequency
Temperature, RTD −200 to 660 °C	0.16 °C	—	Platinum, α = 0.00385 · four-wire, or two-wire with REL
Temperature, thermocouple −150 to 1820 °C	0.5 °C on types E, J, K, N, R and T	—	Eight types · built-in cold junction, ±3.5 °C
Continuity, fixed 2 kΩ	±(0.010% + 0.020)	—	1 mA test current · threshold adjustable 1 Ω to 2 kΩ
Diode, 0 to 4 V	±(0.010% + 0.020)	—	1 mA test current · threshold adjustable across the range

Accuracy is specified for one year, at the calibration temperature ± 5 °C, after ninety minutes of warm-up and at 100 NPLC integration, in the form ±(% of reading + % of range). Each figure is the best across that function's ranges; below 100 NPLC an RMS noise adder applies. All ranges give 10% over-range except 1000 V DC, 750 V AC and the 10 A ranges.

WHAT'S IN THE BOX

- GPS-3065X meter
- Two test lead sets with alligator clips
- USB cable and AC power cord
- Quick start guide
- Calibration certificate
- EasyDMM software

AVAILABLE SEPARATELY · A USB to GPIB adapter, for benches already on a GPIB bus. Test leads, fuses and recalibration are available from GPS.

GENERAL SPECIFICATIONS

Code	Item	Part Number
GPS-3065X	Benchtop multimeter, 6½ digit, 2 200 000 count dual display, true RMS, four-wire resistance	**TBC**

DISPLAY
4.3 inch colour TFT, 480 × 272 · dual display · number, bar meter, trend chart and histogram views

RANGING
Automatic or manual on every function · 10% over-range except 1000 V DC, 750 V AC and the 10 A ranges

MEMORY
10 000 readings held while powered · 1 Gb flash for settings and data · USB drive supported

TRIGGER
Pre-trigger or post-trigger, internal or external, rising or falling edge · delay 0 to 1000 s · 1 to 599 999 999 samples · TTL trigger in and voltmeter complete out on the rear

COMPLIANCE
IEC 61010-1, EN 61010-1, UL 61010-1 and CAN/CSA-C22.2 No. 61010-1 · CAT I 1000 V and CAT II 600 V · EN 61326-1:2013

ENVIRONMENT AND SIZE
Full accuracy 0 °C to 50 °C · up to 3000 m · 345 × 260 × 107 mm · 3.38 kg

INTEGRATION AND RATE
Six settings, 0.005 to 100 NPLC · ten thousand readings a second down to one every two seconds · noise 0.035 ppm of range at 100 NPLC, where accuracy is specified, and 2.7 ppm at the fastest

MATH
Maximum, minimum, average and standard deviation · dBm and dB · relative · pass and fail · hold

INTERFACE
USB device, USB host and 10/100 LAN · SCPI, compatible with mainstream multimeter command sets · USB to GPIB adapter optional

TERMINALS AND PROTECTION
HI, LO, HI sense, LO sense and I · 1000 V on the voltage, resistance and capacitance ranges · 750 V rms on AC · rear 10 A 250 V time-lag fuse, 12 A inside

POWER
100 to 120 V or 200 to 240 V AC on a rear selector · 45 to 66 Hz · 25 VA maximum · line frequency detected at power-on

WARRANTY
1 year, subject to product registration with GPS