



Time Electronics

5065B Digital Multimeter Module



- **6½ digit resolution**
- **Accuracy 0.005% DC Voltage**
- **Temperature measurements**
- **RS232 and USB interface**
- **Optional GPIB interface**
- **SCPI command set**
- **High sample rate**
- **10 channel scanner card option**
- **PC/laptop control via EasyCal software**

DESCRIPTION

The 5065B is a high performance, versatile 6½ digit multimeter module with 19 measurement functions. Low cost, simple operation, stability, and high accuracy make the 5065B an ideal DMM for a variety of applications. In addition high speed means both the sampling rate and the data transfer rate can achieve 2000 readings per second.

The comprehensive range of features makes the 5065B suitable for test engineers, R&D, service, and calibration technicians.

The front panel features a two-line, colour-coded display for easy to read measurements and functions. Control is simple, with common functions selected from a single button press.

The 5065B measures AC/DC voltage, AC/DC current, 2/4 wire resistance, frequency, period, diode, continuity, thermocouples and RTD.

In addition to standard functions many other capabilities such as Min/Max, Ratio/% and Null are included. Memory functions with up to 2000 readings can be stored and recalled. Limit testing with an external output can be configured to signal pass or fail.

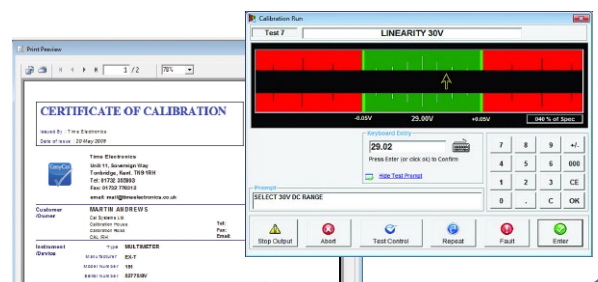
The USB interface enables connectivity to a PC. A basic setup and graphing application is supplied as standard. Add-in utilities for Microsoft Excel and Word allow simple data collection directly into a spreadsheet or document.

An optional 10 channel scanner card is available which allows multiple inputs to be measured. Further options include test lead sets, GPIB interface, and an RTD probe adaptor.

CALIBRATION MADE EASY

To automate the calibration process the 5065B can be controlled using Time Electronics' EasyCal software. This provides increased speed of calibration and consistency of results.

Easily produce calibration certificates and reports to ISO 9001, ISO 17025, and other international quality standards.



5065B Specifications

Specifications are for 1 year ± (% of reading + % of range) (23 °C ±5 °C)

TECHNICAL SPECIFICATION

DC Voltage

| Range | Resolution | Input Resistance | Accuracy |
|------------|------------|------------------|-----------------|
| 100.0000mV | 0.1µV | > 10GΩ | 0.0050 + 0.0035 |
| 1.000000V | 1.0µV | > 10GΩ | 0.0040 + 0.0007 |
| 10.00000V | 10µV | > 10GΩ | 0.0035 + 0.0005 |
| 100.0000V | 100µV | 10MΩ | 0.0045 + 0.0006 |
| 1000.000V | 1µV | 10MΩ | 0.0045 + 0.0010 |

DC Current

| Range | Resolution | Shunt Resistance | Accuracy |
|-------------|------------|------------------|--------------|
| 10.000000mA | 10nA | 5.1Ω | 0.05 + 0.02 |
| 100.00000mA | 100nA | 5.1Ω | 0.05 + 0.005 |
| 1.000000A | 1µA | 0.1Ω | 0.1 + 0.01 |
| 3.00000A | 10µA | 0.1Ω | 0.12 + 0.02 |

Resistance

| Range | Resolution | Test Current | Accuracy |
|------------|------------|--------------|--------------|
| 100.0000Ω | 100µΩ | 1mA | 0.01 + 0.004 |
| 1.000000kΩ | 1mΩ | 1mA | 0.01 + 0.001 |
| 10.00000kΩ | 10mΩ | 100µA | 0.01 + 0.001 |
| 100.0000kΩ | 100mΩ | 10µA | 0.01 + 0.001 |
| 1.000000MΩ | 1Ω | 5µA | 0.01 + 0.001 |
| 10.00000MΩ | 10Ω | 500nA | 0.04 + 0.001 |
| 100.0000MΩ | 100Ω | 500nA | 0.8 + 0.01 |

Diode Test

| | | | |
|---------|------|-----|-------------|
| 1.0000V | 10µV | 1mA | 0.01 + 0.02 |
|---------|------|-----|-------------|

Continuity

| | | | |
|-----------|------|-----|-------------|
| 1000.00KΩ | 10mΩ | 1mA | 0.01 + 0.03 |
|-----------|------|-----|-------------|

AC Voltage

| Range | Resolution | Frequency (Hz) | Accuracy |
|-----------------------|--------------|----------------|-------------|
| 100.0000mV | 0.1µV | 3 to 5 | 1.00 + 0.04 |
| | | 5 to 10 | 0.35 + 0.04 |
| | | 10 to 20k | 0.06 + 0.04 |
| | | 20 to 50k | 0.12 + 0.05 |
| | | 50K to 100k | 0.60 + 0.08 |
| | | 100K – 300k | 4.00 + 0.50 |
| 1.000000V to 750.000V | 1.0µV to 1mV | 3 to 5 | 1.00 + 0.03 |
| | | 5 to 10 | 0.35 + 0.03 |
| | | 10 to 20k | 0.06 + 0.03 |
| | | 20 to 50k | 0.12 + 0.05 |
| | | 50K to 100k | 0.60 + 0.08 |
| | | 100K to 300k | 4.00 + 0.50 |

AC Current

| Range | Resolution | Frequency (Hz) | Accuracy |
|-----------|------------|----------------|-------------|
| 1.000000A | 1µA | 3 to 5 | 1.00 + 0.04 |
| | | 5 to 10 | 0.30 + 0.04 |
| | | 10 to 5k | 0.10 + 0.04 |
| 3.000000 | 10µA | 3 to 5 | 1.10 + 0.06 |
| | | 5 to 10 | 0.35 + 0.06 |
| | | 10 to 5k | 0.15 + 0.06 |

Frequency and Period

| Range | Frequency (Hz) | Accuracy (% of reading) |
|---------------|----------------|-------------------------|
| 100mV to 750V | 3 to 5 | 0.1 |
| | 5 to 10 | 0.05 |
| | 10 to 40 | 0.03 |
| | 40 to 300k | 0.06 |

RTD Types PT100, D100, F100, PT385 or PT3916. (Best Accuracy ±0.08°C)

Thermocouple Types J, K & T (Accuracy ±0.5°C). E (Accuracy ±0.6°C). R, S & B (Accuracy ±5°C)

GENERAL SPECIFICATION

Standard Interfaces RS-232 and USB (GPIB optional)

Dimensions W295 x H201mm (primary console fitting only)

ORDERING INFORMATION

| | |
|-------|------------------------------------------------------------------------------|
| 5065B | 6.5 digit DMM Module |
| 9714 | 10 Channel Scanner card |
| 9715 | GPIB Interface (replaces standard fitted RS232 interface) |
| 9717 | RTD Probe Adaptor |
| 9541 | 5 piece Test Lead Set |
| 9796 | 12 piece Premium Test Lead Set |
| 9747 | EasyCal Calibration Software (for additional options see separate datasheet) |
| C173 | Factory Calibration Certificate (NPL) |
| C117 | UKAS Calibration Certificate (ISO 17025) |

Due to continuous development Time Electronics reserves the right to change specifications without prior notice.

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