



Time Electronics

5065B Digital Multimeter Module



- **6½ digit resolution**
- **Accuracy 0.005% DC Voltage**
- **Temperature measurements**
- **RS-232 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.

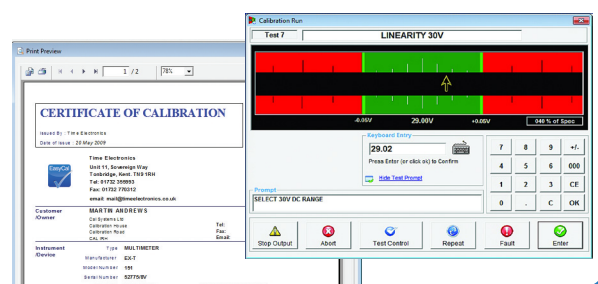
The USB interface enables connectivity to a CalBench control centre (integral PC). A basic setup and graphing application is supplied as standard. Add-in utilities for Microsoft Excel and Word allow simple data collection directly into a spreadsheet or document.

An optional 10 channel scanner card is available which allows multiple inputs to be measured. In the CalBench the 5065 can be utilised with the 7085A Temperature Distribution Module.

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	1mV	10MΩ	0.0045 + 0.0010

DC Current

Range	Resolution	Shunt Resistance	Accuracy
10.00000mA	10nA	5.1Ω	0.05 + 0.02
100.0000mA	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

Specification applies to 4 wire mode. 2 wire specifications are x2 the stated accuracy and do not include external lead resistance.

Diode Test

1.0000V	10µV	1mA	0.01 + 0.02
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Continuity

1000.00KΩ	10mΩ	1mA	0.01 + 0.03
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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
		20k to 50k	0.12 + 0.05
		50k to 100k	0.60 + 0.08
		100k to 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
		20k to 50k	0.12 + 0.05
		50k to 100k	0.60 + 0.08
		100k to 300k	4.00 + 0.50

750 V AC range is limited to 100 kHz.

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
3.000000A	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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