Digital Multimeter

6.5 Digit, 30,000 Readings/s, TrueRMS DMM with histogram, bar chart, trend graph

HDM3065B

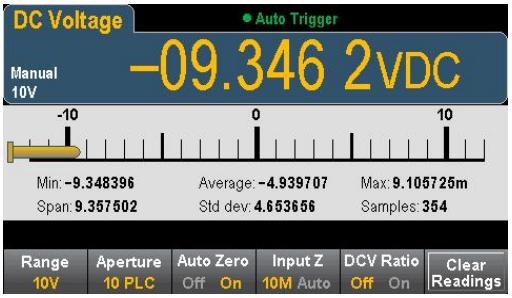
Accessories

Features

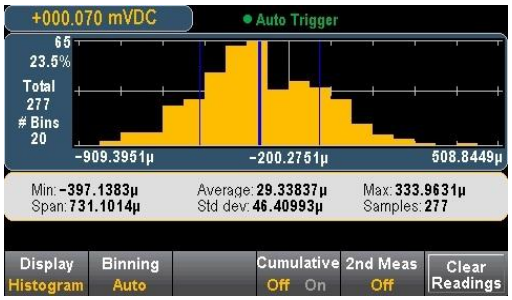
- Up to 10, 000 memory points for data logging.
- Fast reading speed up to 30,000 readings per second.
- 4.3 inch LCD color display. 6½ digit digital DMM with 1 μV resolution.
- Measure DC current down to 10 A range. With 35 ppm basic DCV accuracy.
- Graphical display with built-in bar chart, trend, histogram , and statistics.
- Front and rear input terminals provide ideal connection space for bench and system test.
- Dual display allows clear and quick view of voltage and frequency measurements at the same time.
- True RMS AC (voltage & current) measurement.
- Various measurements: ACV, DCV, ACI, DCI, 2-wire and 4-wire resistance, capacitance, frequency, period, diode, continuity, temperature.
- Multiple connectivity options - USB 2.0, serial interface RS-232/485, and LAN optional, GPIB optional. SCPI commands standard.

Number mode, the traditional "digits" view of measurements.

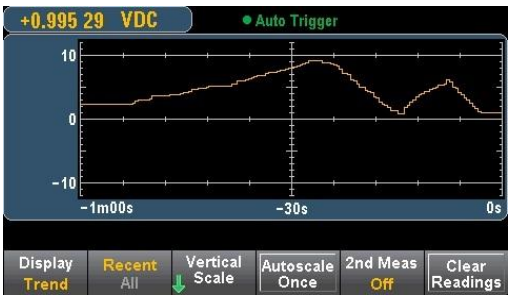
Bar meter mode, the number display along with analog meter to provide a visual view of measurements.



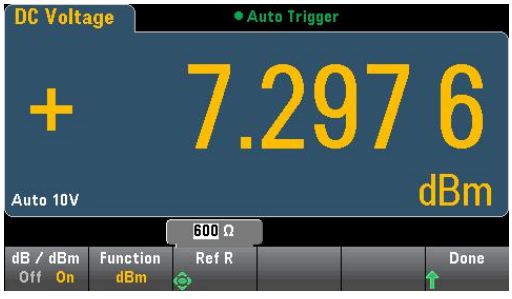
Trend Chart - continuous measurement mode, Provide data trends over time.



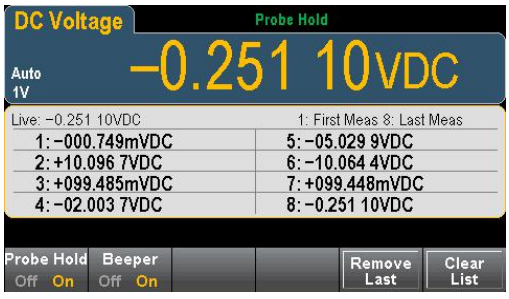
Histogram mode, a statistical view of measurements.



Built-in math functions – dBm



Built-in math functions – Hold



Overview

Model	HDM3065B
Digits of Resolution	6½
Basic DCV Accuracy	35 ppm
Max Reading Rate	30, 000 rdgs/s
Memory	10, 000 rdgs
DCV	100 mV to 1, 000V
ACV (RMS)	100 mV to 750 V
DCI	100 μA to 10 A
ACI	100 μA to 10 A
2-wire and 4-wire Resistance	100 Ω to 100 MΩ
Continuity, Diode	Y, 5V
Frequency, Period	20 Hz to 300 kHz
Temperature	Thermistor
Capacitance	1.0000 nF - 100.0 μF
Dual Line Display	Yes
Display	4.3 inch LCD color display
Statistical Graphics	Histogram, bar chart, trend graph
Front Input Terminals	Available
Rear Input Terminals	Available
USB	Available
RS232/485	Available
LAN	Available
GPIB	N/A

Specification

Accuracy specifications: ± (% reading + % range)

Range[1]/Frequency	Test Current or Burden Voltage	Input Impedance	1 year 23°C ± 5 °C	Temperature Coefficient/°C 0 °C - 18 °C 28 °C - 55 °C
DC voltage				
100 mV	-	10 MΩ or >10 GΩ	0.018 + 0.008	0.0020 + 0.0008
1 V	-	10 MΩ or >10 GΩ	0.015 + 0.005	0.0015 + 0.0008
10 V	-	10 MΩ	0.015 +0.005	0.0020 + 0.0008
100 V	-	10 MΩ	0.015 + 0.005	0.0020 + 0.0008
1000 V	-	10 MΩ	0.015 + 0.005	0.0020 + 0.0008
Resistance[2] (Test Current)				
100 Ω	1 mA	-	0.050 + 0.008	0.0060 + 0.0008

1k Ω	1 mA	-	0.050 + 0.008	0.0060 + 0.0005
10 kΩ	100 µA	-	0.050 + 0.005	0.0060 + 0.0005
100 kΩ	10 µA	-	0.050 + 0.005	0.0060 + 0.0005
1 MΩ	5 µA	-	0.060 + 0.005	0.0060 + 0.0005
10 MΩ	500 nA	-	0.250 + 0.005	0.0250 + 0.0005
100 MΩ	500 nA || 10 MΩ	-	2.000 + 0.005	0.3000 + 0.0005
DC Current (Burden Voltage)				
100 µA	< 0.02 V	-	0.050 + 0.015	0.007 + 0.0015
1 mA	< 0.2 V	-	0.050 + 0.007	0.007 + 0.0010
10 mA	< 0.02 V	-	0.050 + 0.015	0.008 + 0.0015
100 mA	< 0.2 V	-	0.050 + 0.007	0.008 + 0.0010
1 A	< 0.1 V	-	0.100 + 0.015	0.012 + 0.0015
3 A	< 0.3 V	-	0.250 + 0.007	0.015 + 0.0010
10 A	< 0.02 V	-	0.250 + 0.007	0.015 + 0.0010
Cotinuity[3]				
1 kΩ	1 mA	-	0.100 + 0.100	0.005 + 0.005
Diode test[4]				
5 V	1 mA	-	0.05 + 0.03	0.005 + 0.005
True RMS AC voltage [5,6]				
Range: 100 mV				
20 Hz-45 Hz	-	-	1.00 + 0.10	0.02 + 0.02
45 Hz-10 kHz	-	-	0.20 + 0.10	0.02 + 0.02
10 kHz-30 kHz	-	-	1.50 + 0.30	0.05 + 0.02
30 kHz-100 kHz[7]	-	-	3.00 + 0.30	0.10 + 0.02
Range: 1 V, 10 V, 100 V and 750 V				
20 Hz-45 Hz	-	-	1.00+0.10[8]	0.02+0.02
45 kHz-10 kHz	-	-	0.20+0.10	0.02+0.02
10 kHz-30 kHz	-	-	1.50+0.30	0.05+0.02
30 kHz-100 kHz[3]	-	-	3.00+0.30[9]	0.10+0.02
True RMS AC current[2]				
Range: 100 uA-10 A				
20Hz-45 Hz	-	-	1.50 + 0.10	0.02+0.02
45Hz-1 kHz	-	-	0.50 + 0.10	0.02+0.02
1 kHz-10 kHz[10]	-	-	2.00 + 0.20	0.02+0.02
Frequency: specification ±(% reading+3 counts)				
Range[11] : 100 mV,1 V,10 V,100 V and 750 V				
20 Hz – 300 kHz[12]	-	-	0.02+3	0.005

Frequency Resolution	Frequency	Resolution
Range[13]: 100 mV,1 V,10 V,100 V and 750 V	119.999 Hz	0.001 Hz
	1.19999 kHz	0.00001 kHz
	11.9999 kHz	0.0001 kHz
	119.999 kHz	0.001 kHz
	1.00000 MHz	0.00001 MHz

Capacitance[1]				
1.000 nF	5 μA	-	1 + 0.5	0.02 + 0.001
10.00 nF	5 μA	-	1 + 0.5	0.02 + 0.001
100.0 nF	10 μA	-	1 + 0.5	0.02 + 0.001
1.000 μF	100 μA	-	1 + 0.5	0.02 + 0.001
10.000 μF	1 mA	-	1 + 0.5	0.02 + 0.001
100.00 μF	1 mA	-	1 + 0.5	0.02 + 0.001
Temperature[14]				
– 80.0 °C to 150 °C	5 kΩ thermistor probe	-	Thermistor accuracy + 0.2 °C	0.002 °C
– 110.0 °F to 300.0 °F	5 kΩ thermistor probe	-	Thermistor accuracy + 0.2 °F	0.0036 °F

These specifications are valid in the following conditions: warm up for 90 minutes, aperture of 10 or 100NPLC, and auto zero on. The temperature for the calibration should be within 18°C-28°C.

1. Except 1,000 V DCV and 3A/10A AC, 20% overrange on all ranges.
2. Specifications are for 4-wire ohms function or 2-wire ohms using math null for offset. Without math null, add 0.2Ω additional error in 2-wire ohms function.
3. Continuous threshold value is fixed <10 Ω and only available in the fast measurement mode.
4. Specifications are for the voltage measured at the input terminals and only available in the fast measurement mode.
5. Except 750VAC and 3A/10A ACI, 20% overrange on all ranges.
6. If the range is not 750 V, specifications are for sine wave input amplitude > 5% of range.
When in 750 V range, the input must be > 50 Vrms.
7. When input frequency > 30 kHz, and the input amplitude < 10% of range, an additional error will occur. If the frequency is 30 kHz ~ 100 kHz, each 1kHz will increase the additional error by 0.003% of range.
8. Input < 200Vrms.
9. Input < 300Vrms.
10. Specifications are for frequency < 5 kHz. The frequency ≥ 5KHz is typical on all true RMS AC current range.
11. For 0.5Vrms at 100 mV / 1 V inputs, a frequency up to 1 MHz can be measured.
12. Specifications are for all inputs > 10% of range, except for specially specified gears. The specifications for 100 mV range when applies the input from 100 mV to 120 mV. For 10 mV to 100 mV inputy, multiply specification by 10.
13. For 0.5Vrms at 100 mV / 1 V inputs, a frequency up to 1 MHz can be measured.
14. 20% overrange on all ranges.