

Digital Multimeter

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

HDM3065 Series



Accessories



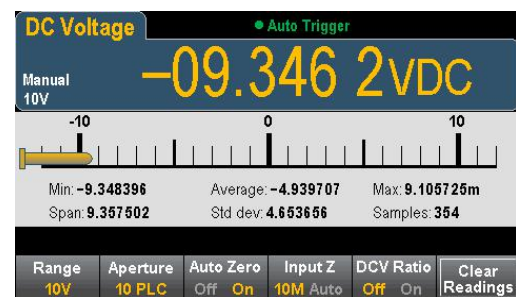
Features

- 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.

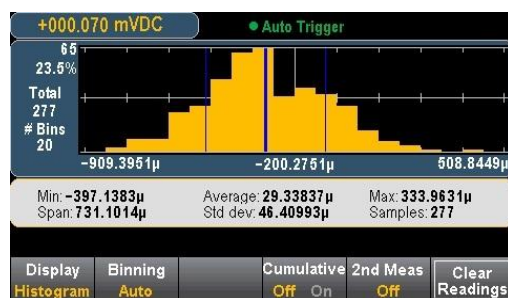
Number mode, the traditional “digits” view of measurements.



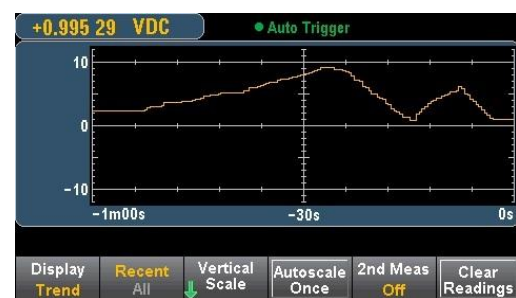
Bar meter mode, the number display along with analog meter to provide a visual view of measurements.



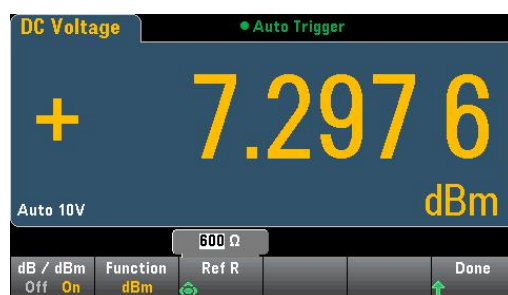
Trend Chart - continuous measurement mode, Provide data trends over time.



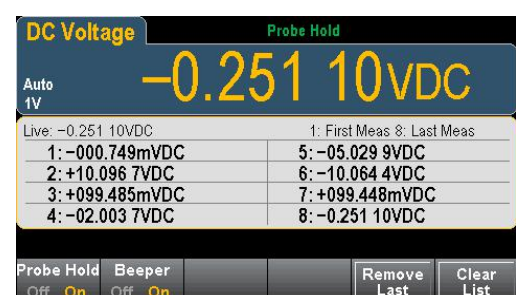
Histogram mode, a statistical view of measurements.



Built-in math functions – dBm



Built-in math functions – Hold



Overview

Model	HDM3065H	HDM3065B	HDM3065A	HDM3065S	HDM3065
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	Available	Available	N/A	Available
Rear Input Terminals	Available	Available	Available	Available	N/A
USB	Available	Available	Available	Available	Available
RS232/485	Available	Available	Available	Available	Available
LAN	Available	Available	N/A	N/A	N/A
GPIB	Available	N/A	N/A	N/A	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
Resistance² (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 k Ω	100 μ A	-	0.050 + 0.005	0.0060 + 0.0005
100 k Ω	10 μ A	-	0.050 + 0.005	0.0060 + 0.0005
1 M Ω	5 μ A	-	0.060 + 0.005	0.0060 + 0.0005
10 M Ω	500 nA	-	0.250 + 0.005	0.0250 + 0.0005
100 M Ω	500 nA 10 M Ω	-	2.000 + 0.005	0.3000 + 0.0005
DC Current (Burden Voltage)				
100 μ A	< 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
Continuity³				
1 k Ω	1 mA	-	0.100 + 0.100	0.005 + 0.005
Diode test⁴				
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 current²				
Range: 100 μA-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 \pm(% reading+3 counts)				
Range¹¹: 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 0.2 Ω 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 \geq 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 input, 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.