DM34460A / DM34461A

(6½ digits) digital multimeter

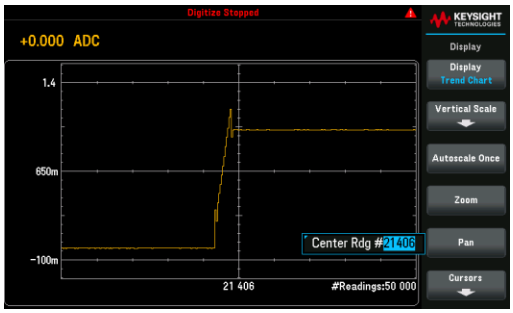
Measure with Confidence

Keysight's DM34460A Series Truevolt Digital Multimeters (DMMs) provide reliable measurements with high levels of accuracy, speed, and data security. The Truevolt technology lets you measure with confidence by eliminating power lines and environmental noise to ensure precise measurement and provide responsive operation.

Measure with True*volt* confidence

True*volt* technology starts with an analog-to-digital converter that enables a patented metrology-grade architecture. Using this architecture, Keysight delivers a good balance of measurement resolution, linearity, accuracy, and speed at a value price.

Accurate and fast measurement



The DM34460A Series handles all measurements you would expect from a benchtop DMM, including temperature and capacitance. Leveraged from Keysight's high-performance DMMs, Truevolt technology in these multimeters eliminates power lines and environmental noise and ensures accurate measurement. The same architecture also delivers responsive operation.

The DM34461A's digitizing feature enables you to capture voltage or current transients in power applications at a programmable digitizing speed of up to 50 k samples/s without requiring an additional instrument.

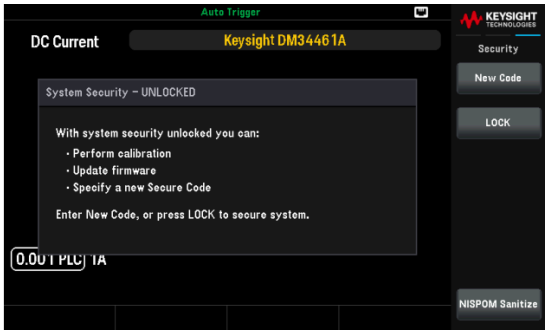
7-inch color display enhances UX for data acquisition and charting

The bright, 7” high-resolution display is a prominent feature of Keysight’s DM34460A Series DMMs.

The most prominent feature of Keysight’s DM34460A Series DMMs is the 7” high-resolution color display.

The large display's dedicated acquisition buttons and soft keys simplify configuring and initiating a data logging or digitizing session. Several display options are available that let you view the instantaneous reading, plot a trend, or create a histogram for statistical analysis. You may save up to 2 million readings into the internal memory or onto a thumb drive for further analysis.

Data security in mind



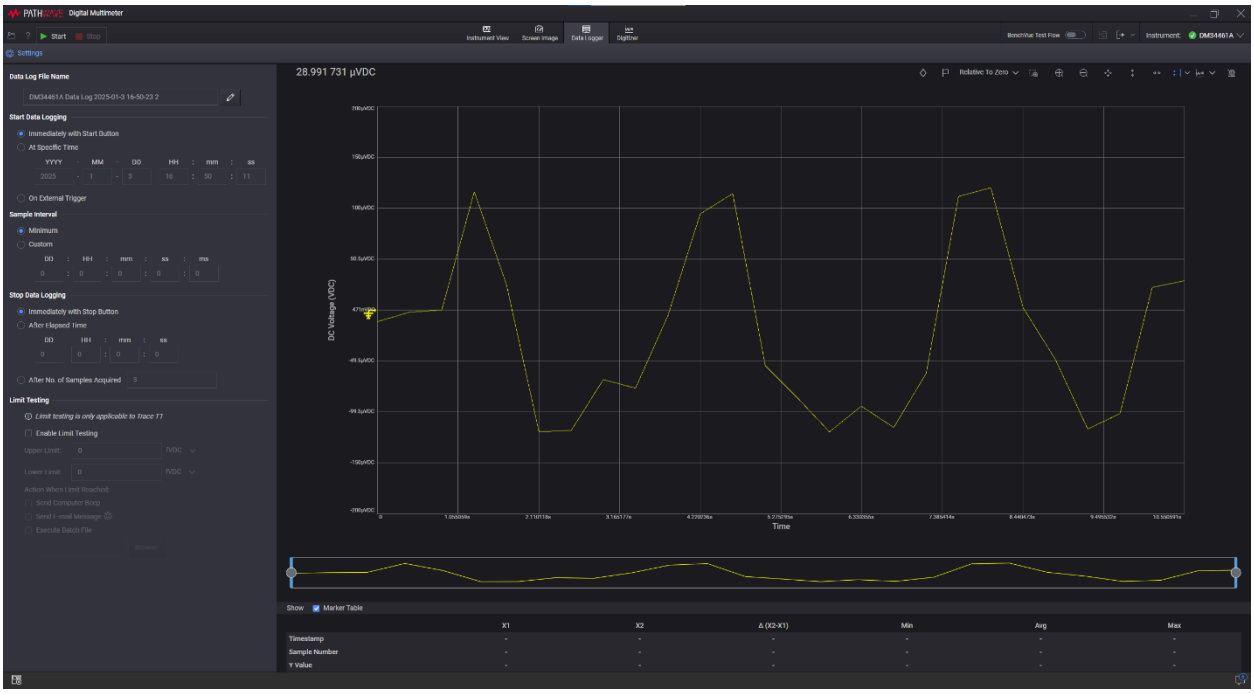
There are instances where you need to share your instrument but want to avoid sharing instrument state or measurement data. The DM34460A Series' NISPOM and file security capability enable you to sanitize all user-accessible instrument memory with a press of a button.

Simplifying data gathering and analysis with PathWave BenchVue DMM software

PathWave BenchVue software for the PC makes it simple to connect, control, capture, and view Keysight DMMs with no additional programming. The PathWave BenchVue software enables you to:

- Easily log data, screenshots, and system state.
- Effortlessly recall the past state for results replication.
- Quickly export measurement data in the desired format.

Download the BenchVue DMM Control app from www.keysight.com/find/benchvueDMM



Overview of Keysight DM34460A Series True*volt* Digital Multimeters

Key specifications	DM34460A	DM34461A
Digits of resolution	6½	6½
Basic DCV accuracy	40 ppm	40 ppm
Max reading rate	1,000 readings/s	50,000 readings/s
Memory	50,000 readings	2 million readings
NISPOM and file security	Yes	Yes
Data logging	Yes	Yes
Display	7" Color, graphical	7" Color, graphical
Statistical graphics	Bar meter	Bar meter, histogram, trend chart
Measurements		
DCV	100 mV to 1,000 V	100 mV to 1,000 V
ACV (RMS)	100 mV to 750 V	100 mV to 750 V
DCI	100 µA to 3 A	100 µA to 3 A
ACI	100 µA to 3 A	100 µA to 3 A
2- and 4-wire resistance	100 Ω to 100 MΩ	100 Ω to 100 MΩ
Continuity, diode	Y, 5 V	Y, 5 V
Frequency, period	3 Hz to 300 kHz	3 Hz to 300 kHz
Temperature	RTD/PT100, thermistor	RTD/PT100, thermistor
Capacitance	1 nF to 100 µF	1 nF to 100 µF
IO interface		
USB	Yes	Yes
LAN/LXI Core	Yes	Yes

Specification Interpretation Guide

The following pages list the technical specifications for the Keysight DM34460A Series DMM. The following explanations and examples clarify how to interpret these specifications:

- Measurement accuracy is specified as the percentage of reading plus the percentage of range, where reading is the actual measured value and range is the name of the scale (1 V, 10 V, and so on) — not the full-scale value (1.2 V, 12 V, and so on).
- Accuracies are listed as 90-day, one-year, and two-year specifications. This refers to the length of time since the instrument's last calibration.

Example 1: Basic DC voltage accuracy

Calculate the accuracy of the following measurements: 9 V DC input, 10 V DC range, one-year accuracy specifications, and standard operating temperature (18 – 28 °C).

From the following page, the one-year accuracy is 0.004% of reading + 0.0005% of range.

It translates to this: (0.004/100 x 9 V) + (0.0005/100 x 10 V) = 0.360 mV + 0.05 mV = 0.41 mV

Total accuracy is **0.41 mV/9 V = 0.0046%**.

Example 2: Extreme operating temperature

When the DM34460A Series operates outside its 18 – 28 °C temperature range, you must consider additional temperature drift errors. Assume the same conditions in Example 1 but at 35 °C operating temperature.

The basic accuracy is again 0.004% of reading + 0.0005% of range = 0.41 mV.

Now, multiply the 10 V temperature coefficient from the DC voltage specifications table by the number of degrees outside of the operating range for additional error:

(0.0005% reading + 0.0001% range) / °C x (35 – 28 °C)

= (0.0005% reading + 0.0001% range) / °C x 7 °C

= 0.0035% reading + 0.0007% range = 0.315 mV + 0.07 mV = 0.385 mV

Total error is **0.41 mV + 0.385 mV = 0.795 mV**

Example 3: AC voltage accuracy

The AC voltage function measures the true RMS value of the input waveform, regardless of waveshape. Listed accuracies assume a sine-wave input.

For this example, assume a ± 1 V sine wave input with a 1 kHz frequency.

Accuracy for 1 V, 1 kHz sinusoid is **0.06% reading + 0.03% range = 0.9 mV**

Specifications

Accuracy specifications: ± (% of reading + % of range) [1]

Range [2] /frequency		90 days T_{CAL} ± 5 °C	1 year T_{CAL} ± 5 °C	2 years T_{CAL} ± 5 °C	Temperature coefficient/°C [3]
DC voltage					
100 mV		0.0040 + 0.0060[7]	0.0050 + 0.0070	0.0065 + 0.0070	0.0005 + 0.0008
1 V		0.0030 + 0.0009	0.0040 + 0.0009	0.0055 + 0.0009	0.0005 + 0.0001
10 V		0.0040 + 0.0005	0.0040 + 0.0005	0.0050 + 0.0005	0.0005 + 0.0001
100 V		0.0100 + 0.0006	0.0125 + 0.0006	0.0160 + 0.0006	0.0010 + 0.0005
1000 V		0.0120 + 0.0010	0.0130 + 0.0010	0.0165 + 0.0010	0.0010 + 0.0005
True RMS AC voltage [4, 5]					
100 mV, 1 V, 10 V, 100 V, and 750 V ranges					
10 Hz to 20 kHz		0.05 + 0.03	0.06 + 0.03	0.13 + 0.03	0.005 + 0.003
20 kHz to 50 kHz		0.29 + 0.05	0.31 + 0.05	0.32 + 0.05	0.011 + 0.005
50 kHz to 100 kHz		0.60 + 0.08	0.60 + 0.08	0.70 + 0.08	0.060 + 0.008
100 kHz to 300 kHz		4.00 + 0.50	4.00 + 0.50	4.00 + 0.50	0.200 + 0.020
Resistance[6]	**Test current**				
100 Ω	1 mA	0.0080 + 0.0070	0.0100 + 0.0080	0.0120 + 0.0090	0.0006 + 0.0010
1 kΩ	1 mA	0.0100 + 0.0010	0.0130 + 0.0010	0.0170 + 0.0012	0.0006 + 0.0001
10 kΩ	100 µA	0.0100 + 0.0010	0.0130 + 0.0010	0.0170 + 0.0010	0.0006 + 0.0001
100 kΩ	10 µA	0.0100 + 0.0010	0.0130 + 0.0010	0.0190 + 0.0010	0.0006 + 0.0001
1 MΩ	5 µA	0.0180 + 0.0010	0.0220 + 0.0010	0.0280 + 0.0010	0.0010 + 0.0002
10 MΩ	500 nA	0.0270 + 0.0010	0.0400 + 0.0010	0.0600 + 0.0010	0.0030 + 0.0004
100 MΩ	500 nA || 10 MΩ	0.8000 + 0.0100	0.8000 + 0.0100	0.8000 + 0.0100	0.1500 + 0.0002
DC current	**Burden voltage**				
100 µA	< 0.011 V	0.0400 + 0.0250	0.0500 + 0.0250	0.0600 + 0.0250	0.0020 + 0.0030
1 mA	< 0.11 V	0.0300 + 0.0060	0.0500 + 0.0060	0.0600 + 0.0060	0.0020 + 0.0005
10 mA	< 0.05 V	0.0300 + 0.0200	0.0500 + 0.0200	0.0600 + 0.0200	0.0020 + 0.0020
100 mA	< 0.5 V	0.0300 + 0.0050	0.0500 + 0.0050	0.0600 + 0.0050	0.0020 + 0.0005
1 A	< 0.7 V	0.0800 + 0.0100	0.1000 + 0.0100	0.1200 + 0.0100	0.0050 + 0.0010
3 A	< 2.0 V	0.2000 + 0.0200	0.2000 + 0.0200	0.2300 + 0.0200	0.0050 + 0.0020
Capacitance					
1 nF (typ)		0.50 + 0.50	0.50 + 0.50	0.50 + 0.50	0.05 + 0.05
10 nF (typ)		0.40 + 0.10	0.40 + 0.10	0.40 + 0.10	0.05 + 0.01
100 nF		0.40 + 0.10	0.40 + 0.10	0.40 + 0.10	0.05 + 0.01
1 µF		0.40 + 0.10	0.40 + 0.10	0.40 + 0.10	0.05 + 0.01
10 µF		0.40 + 0.10	0.40 + 0.10	0.40 + 0.10	0.05 + 0.01
100 µF		0.40 + 0.10	0.40 + 0.10	0.40 + 0.10	0.05 + 0.01

1. For DC: Specifications are for 90-minute warm-up, aperture of 10 or 100 NPLC, and auto zero on. For AC: Specifications are for 90-minute warm-up, slow AC filter, sine wave.
2. 20% over range on all ranges, except 1,000 V DCV, 750 ACV, 3 A Current, and diode test.
3. Add this for each °C outside T_{CAL} ±5°C.
4. Specifications are for sine wave input > 0.3% of range and > 1 mVrms. 750 ACV range limited to 8 x 10^7 V.Hz.
5. Low-frequency performance: three filter settings are available: 3 Hz, 20 Hz, and 200 Hz. Frequencies greater than these filter settings are specified with no additional errors.
6. Specifications are for the 4-wire ohms function or the 2-wire ohms function using math null for offset. Without math null, add 0.2 Ω additional error in the 2-wire ohms function.
7. MATH NULL for 100mV range.

Accuracy specifications: ± (% of reading + % of range) [1].

Range [2] /frequency		90 days T_{CAL} ± 5 °C	1 year T_{CAL} ± 5 °C	2 years T_{CAL} ± 5 °C	Temperature coefficient/°C [3]
True RMS AC current [1, 4]	**Burden voltage**				
100 µA, 1 mA, 10 mA, and 100 mA ranges	**< 0.011, < 0.11, < 0.05, < 0.5 V**				
3 Hz to 5 kHz		0.10 + 0.04	0.10 + 0.04	0.10 + 0.04	0.015 + 0.006
5 kHz to 10 kHz (typ)		0.10 + 0.04	0.10 + 0.04	0.10 + 0.04	0.030 + 0.006
1 A range	**< 0.7 V**				
3 Hz to 5 kHz		0.10 + 0.04	0.10 + 0.04	0.10 + 0.04	0.015 + 0.006
5 kHz to 10 kHz (typ)		0.10 + 0.04	0.10 + 0.04	0.10 + 0.04	0.030 + 0.006
3 A range	**< 2.0 V**				
3 Hz to 5 kHz		0.23 + 0.04	0.23 + 0.04	0.23 + 0.04	0.015 + 0.006
5 kHz to 10 kHz (typ)		0.23 + 0.04	0.23 + 0.04	0.23 + 0.04	0.030 + 0.006
Continuity					
1 kΩ		0.0100 + 0.0300	0.0130 + 0.0300	0.0170 + 0.0350	0.0010 + 0.0020
Diode test [5]					
5 V		0.0100 + 0.0300	0.0130 + 0.0300	0.0170 + 0.0350	0.0010 + 0.0020
DC ratio (typ)					
	(Normalized input accuracy) + (Normalized reference accuracy)				
Temperature (typ) [6]					
PT100 (DIN/IEC 751)	Probe accuracy + 0.05 °C				
Thermistor	Probe accuracy + 0.1 °C				
Frequency: specification ± (% of reading) [7, 8]					
100 mV, 1 V, 10 V, 100 V, and 750 V ranges [9]					
3 Hz to 10 Hz (typical)		0.100	0.100	0.100	0.100
10 Hz to 100 Hz		0.030	0.030	0.030	0.035
100 Hz to 1 kHz		0.008	0.010	0.010	0.015
1 kHz to 300 kHz		0.006	0.010	0.010	0.015
Square wave (typical) [10]		0.006	0.010	0.010	0.015
Additional gate time errors ± (% of reading) [8]					
Frequency	**1 second**	**0.1 second**	**0.01 second**		
3 Hz to 40 Hz	0	0.200	0.200		
40 Hz to 100 Hz	0	0.060	0.200		
100 Hz to 1 kHz	0	0.020	0.200		
1 kHz to 300 kHz	0	0.004	0.030		
Square wave [10]	0	0	0		

1. For DC: Specifications are for 90-minute warm-up, aperture of 10 or 100 NPLC, and auto zero on. For AC: Specifications are for 90-minute warm-up, slow AC filter, sine wave.
2. 20% over range on all ranges, except 1,000 V DCV, 750 ACV, 3 A Current, and diode test.
3. Add this for each °C outside T_{CAL} ±5°C.
4. Specifications are for sine wave input > 1% of range and > 10 µA AC.
5. Specifications are for the voltage measured at the input terminals. The 1 mA test current is typical. Variations in the current source will create some variation in the voltage drop across a diode junction.
6. Actual measurement range and probe errors will be limited by the selected probe. The probe accuracy adder includes all measurement and ITS-90 temperature conversion errors. PT100 Ro settable to 100 Ω ± 5 Ω to remove the initial probe error. Thermistor type: 2.2 kΩ (model number 44004), 5 kΩ (model number 44007) and 10 kΩ (model number 44006).
7. Specifications are for 90-minute warm-up and sine wave input unless stated otherwise. Specifications are for 1-second gate time (7 digits).
8. Applies to sine and square inputs ≥ 100 mV. For 10 mV to < 100 mV inputs, multiply the % of reading error x10.
9. Amplitude 10% to 120% of range and less than 750 ACV.
10. Square wave input specified for 10 Hz to 300 kHz.

Measurement Characteristics

DC voltage	
Measurement method	Keysight patented continuously integrating multi-slope IV A/D converter
A/D linearity [1]	
DM34460/61A	0.0002% of reading + 0.0001% of range
Input resistance	
0.1 V, 1 V, 10 V range 100 V, 1,000 V range	Selectable 10 MΩ or > 10 GΩ
	10 MΩ ± 1%
Input bias current	< 30 pA at 25 °C
Input terminals	Copper alloy
Input protection	1,000 V on all ranges
True RMS AC voltage	
Measurement type	AC–coupled True RMS. Measures the AC component of the input.
Measurement method	Digital sampling with anti-alias filter
Maximum input	400 DCV, 1,100 Vpeak
Input impedance	1 MΩ ± 1%, in parallel with < 100 pF
Input protection	750 Vrms all ranges
DC and True RMS AC current	
AC measurement type	Directly coupled to the fuse and shunt. AC True RMS measurement (Measures the AC component only).
AC measurement method	Digital sampling with anti-alias filter
Input protection 3 A	Externally accessible 3.15 A, 1000 V fuse (front) (Replacement part number DM34460-36201)
AC crest factor and peak input	
Crest factor	10:1 maximum crest factor, (3:1 at full-scale). Measurement bandwidth is limited to 300 kHz for signal plus harmonics.
Peak input	300% of range or maximum input
Overload ranging	Will select higher range if peak input overload is detected during auto range. Overload is reported in manual ranging.
Resistance	
Measurement method	Selectable 4-wire or 2-wire ohms. Current source referenced to LO input.
Maximum lead resistance (4-wire ohms)	10% of range per lead for 100 Ω, 1 kΩ ranges. 1 kΩ per lead on all other ranges.
Input protection	1,000 V on all ranges
Continuity / diode test	
Response time	300 samples/s with audible tone
Continuity threshold	Fixed at 10 Ω
DC ratio	
Measurement method	Input HI-LO/reference (sense) HI-LO
Input HI-LO	100 mV to 1000 V ranges
Reference (sense)	HI-Input LO: 100 mV to 10 V ranges (auto ranged)
Input to reference temperature (sense)	HI and LO reference (sense) terminals reference to LO input < 12 V
Temperature	
PT100 platinum RTD sensor, α = 0.00385 Ω/Ω/°C; DIN/IEC 751. Measurement conversions are limited to -200 °C to 600 °C.	
Thermistor. Measurement conversions are limited to -80 °C to 150 °C.	

Measurement noise rejection	
60 Hz (50 Hz) for 1 kΩ LO lead unbalance (±500 V peak maximum)	
• DCV CMRR: 140 dB [2]	
• ACV CMRR: 70 dB	
Integration time	Normal mode rejection [3]
≥ to 1 PLC	60 dB [4]
< 1 PLC	0 dB
Frequency and period	
Measurement method	Reciprocal-counting technique. Measurement is AC-coupled using AC measurement functions.
Voltage ranges	100 mVrms full scale to 750 Vrms. Auto or manual ranging.
Gate time	10 ms, 100 ms, or 1 s
Measurement considerations	All frequency counters are susceptible to error when measuring low-voltage, low-frequency signals. Shielding inputs from external noise pickup is critical for minimizing measurement errors.
Autozero OFF operation	
Following instrument warm–up at a stable ambient temperature ±1 °C and < 10 minutes.	
Add 0.0002% of range + 5 µV for DCV or + 5 mΩ for resistance.	
Measurement settling considerations	
High-power settling	Applying high-power signals (more than 300 Vrms, 500 VDC, 1 A DC, or 1 Arms) can cause self-heating in the signal-conditioning components. These errors are included in the instrument specifications. Internal temperature changes due to self-heating may cause additional error on other functions or ranges. The additional error will generally dissipate within a few minutes.
DC blocking capacitor	Errors will occur in ACV and Frequency functions when attempting to measure an input following a DC offset voltage change. The input blocking RC time constant must be allowed to fully settle (up to 1 second) before the most accurate measurements are possible.
External connections	Reading settling times are affected by source impedance, cable dielectric characteristics, and thermal EMF of connections. Keysight recommends using PTFE or other high-impedance, low-dielectric absorption wire insulation for these measurements. To maintain low thermal EMF, connectors and wires made of copper are recommended.

1. Applicable to ±100% of the range.
2. Applicable to >= 0.06 NPLC.
3. For power-line frequency ±0.1%
4. For power-line frequency ±1%, the NMR is 40 dB. For ±3%, use 30 dB.

Operating Characteristics

	DM34460A		DM34461A		
DC voltage, DC current, resistance operating characteristics					
Integration time	**Digits**	**Readings/s**	**Digits**	**Readings/s**	**Additional noise error**
100 PLC/1.67 s (2 s)	6½	0.6 (0.5)	6½	0.6 (0.5)	0% of range
10 PLC/167 ms (200 ms)	6½	6 (5)	6½	6 (5)	0% of range
1 PLC/16.7 ms (20 ms)	5½	60 (50)	5½	60 (50)	0.001% of range [2]
0.2 PLC/3 ms (3 ms)	5½	300	5½	300	0.001% of range [3]
0.06 PLC/1ms (1 ms)	-	-	4½	1000	0.01% of range [3]
0.02 PLC/300 µs (300 µs)	4½	1000	4½	3333	0.01% of range [3, 4]
0.006 PLC/100 µs (100 µs)	-	-	3½	10000	0.01% of range [3]
0.002 PLC/40 µs (40 µs)	-	-	3½	20000	0.03% of range [3]
0.001 PLC/20 us (20 µs)	-	-	3½	50000	0.05% of range [3, 5]
AC voltage, AC current [6]	**Digits**	**ACV**	**ACI**	**AC filter**	
DM34460A, DM34461A	6½	0.4/s	0.6/s	Slow	
	6½	1.6/s	4/s	Medium	
	6½	40/s	40/s	Fast	
Frequency, period [7]	**Aperture**	**Digits**	**Readings**		
DM34460A, DM34461A	1 second	6½	1		
	0.1 second	6½	10		
	0.01 second	5½	80		

1. Reading speeds for 60 Hz (and 50 Hz) operation, 2-wire resistance, autozero off, fixed range.
2. Add 5 nA for the 100 µA range, add 0.2 µA for the 10 mA range.
3. Add 20 µV for DCV and 20 mΩ for resistance. Add 0.3 µA for DC current + 10x the above range error for the 10 mA range, + 5x on 100 mA and 3 A ranges. For 0.2 PLC, multiply the above range error by 5x on the 1 A and 10 A ranges and by 10x for the 10 mA range.
4. For resistance, multiply the above range error by 5x for 10 kΩ and 100 kΩ ranges.
5. For DC current, add 0.3 µA + 10x the above range error for the 100 µA, and 3 A ranges.
6. For remote operation using default settling delay (Delay Auto).
7. Fast AC filter, delay 0, math off, display off.

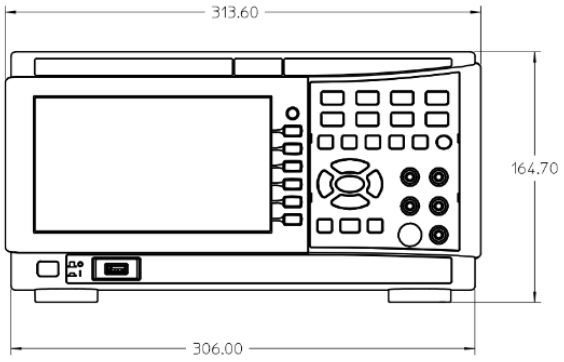
System Speeds (Nom)

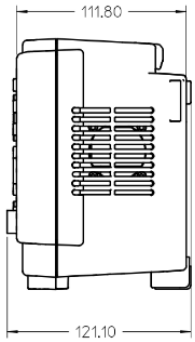
	DM34460A	DM34461A
DC voltage, DC current, resistance [1, 2]		
Autorange time [3]	< 30 ms	< 30 ms
Maximum internal trigger rate	300/s	1,000/s
ASCII readings to bus	300/s	1,000/s
Single reading transaction rate [4]	150/s	150/s
AC voltage, AC current [5]		
Autorange time [3]	10/s	10/s
Maximum internal trigger rate	250/s	250/s
ASCII readings to bus	250/s	250/s
Single reading transaction rate [4]	50/s [5]	50/s
Frequency, period [6]		
Autorange time [3]	10/s	10/s
Maximum internal trigger rate	80/s	80/s
ASCII readings to bus	80/s	80/s
Single reading transaction rate [4]	50/s	50/s

1. Minimum NPLC applied, delay 0, 2-wire resistance, autozero off, math off, and display off.
2. These rates apply to all I/O interfaces.
3. Time to automatically change one range and be ready for new measurement, ≤ 10 V, ≤ 10 MΩ.
4. Includes measurement and IO time (assumes connection via SOCKETS. VXI-11 connections may be slower).
5. Fast AC filter, delay 0, math off, and display off.
6. 10 ms aperture, fast AC filter, delay 0, math off, and display off.

General Characteristics

Line power	
Power supply	100/120 (127)/220 (230)/240 ACV ± 10%, CAT II
Power line frequency	50/60/400 Hz ± 10%
Power consumption	25 VA
Environment	
Operating environment	Full accuracy for 0 °C to 55 °C
	Full accuracy to 80% RH at 40 °C (non-condensing)
	Full accuracy to 40% RH for 41 °C to 55 °C (non-condensing)
Operating altitude	Up to 3,000 m
Pollution Degree	2
Storage temperature	–40 °C to 70 °C
Mechanical	
Bench dimensions	(W x H x D): 313.6 mm x 164.7 mm x 121.1 mm
Weight	3.35 kg
Regulatory	
Safety and EMC Regulatory	Measurement Category II to 300 V
	Other non-MAINS circuits to 1,000 Vpk
	Refer to Declaration of Conformity for the latest revisions of regulatory compliance at: www.keysight.com/go/conformity
Acoustic noise (nominal)	35 dBA
Computer interfaces	
LXI (rev 1.4)	10/100Base-T Ethernet (Sockets, VXI-11 protocol, Web user interface)
USB	USB 2.0 (USB-TMC488 & MTP protocol)
Language	SCPI-1999, IEEE-488.2
Front-panel USB host port (FAT32)	
Supports USB 2.0 high-speed mass storage (MSC) class devices	
Capability: Import/export instrument configuration files, save volatile readings and screen captures	





Triggering and memory	
Samples per trigger	1 to 1,000,000
Trigger delay	0 s to 3600 s (~1 µs step size)
Volatile reading memory	2 million (DM34461A), 50,000 (DM34460A)
Probe hold	
Capture and navigate stable list of readings	
Internal flash file system	
80 MB total capacity	
Save reading memory to non-volatile memory in CSV format	
Store and recall user-defined states, power-off state,3 and preference files	
Save screen captures in BMP or PNG formats	
Math functions	
Per function null, min/max/avg/Sdev, dB, dBm, span, count, limit test, histogram	
Display	
7" color TFT WQVGA	
Supports: Basic number, bar meter, trend chart, histogram views. User-defined power-on message, display label, and selectable screen colors Integrated, context-sensitive system helps through press-and-hold buttons	
Real-time clock / calendar	
Set and read, year, month, day, hour, minute, seconds (Note: Seconds not settable). Battery CR-2032 coin-type, replaceable, > 10-year life (typ)	
Software available	IO Libraries: www.keysight.com/find/IOLibraries BenchVue: www.keysight.com/find/benchvue

1. Rate to change from 2-wire ohms to any other function.
2. Rate to change from one range to the next higher range, ≤ 10 V, ≤ 10 MΩ.
3. Power-off state only when power-down is initiated via front-panel power switch.

Ordering Information

DM34460A Series digital multimeter

DM34460A Series digital multimeter	
DM34460A	Digital multimeter, 6 ½ digits
DM34461A	Digital multimeter, 6 ½ digits, with digitizer

Standard shipped items:

- AC power cord (based on destination country)
- Test leads
- Calibration certificate

Accessories

Optional accessories available	
11059A	Kelvin probe set
11060A	Surface-mount device probe
11062A	Kelvin clip set
34133A	Precision electronic test leads
34134A	DC-coupled current probe
34138A	Test lead set
34151A	Three-signal wedge probe kit
34152A	PT100/RTD 4-wire class A sensor kit
34153A	PT100/RTD 4-wire class sensor elements
34171B	Input terminal block
34172B	Calibration short
34330A	30-A current shunt
E2308A	Thermistor temperature probe

Definitions

Specification (spec)

The warranted performance of a calibrated instrument that has been stored for a minimum of 2 hours within the operating temperature range of 0 °C to 55 °C and after a 90-minute warm up period. All specifications include measurement uncertainty and were created in compliance with ISO-17025 methods. Data published in this document are specifications (spec) only where specifically indicated.

Typical (typ)

The characteristic performance, which 80% or more of manufactured instruments will meet. This data is not warranted, does not include measurement uncertainty, and is valid only at room temperature (approximately 23 °C).

Nominal (nom)

The mean or average characteristic performance, or the value of an attribute that is determined by design such as a connector type, physical dimension, or operating speed. This data is not warranted and is measured at room temperature (approximately 23 °C).

Measured (meas)

An attribute measured during development for purposes of communicating the expected performance. This data is not warranted and is measured at room temperature (approximately 23 °C).

T_{CAL}

The temperature at which the instrument was calibrated.

For more information about Keysight's Digital Multimeters, please visit:
https://www.keysight.com/us/en/products/digital-multimeters-dmm.html

Keysight Services

Smart Bench Essentials Plus products include three years of extended warranty and three years of KeysightCare technical support, which provides unlimited access to technical experts with committed response times. Receive personalized, proactive, and priority support. Find answers in the Knowledge Center, manage service requests, and interact with Keysight experts.

Upgrading to KeysightCare Enhanced can extend your peace of mind and eliminate budgetary surprises for up to five years, and includes a calibration service of choice with prioritized turnaround times. Trust your test results with calibrated in-tolerance instruments and accurate measurements. Available in select countries. Learn more.