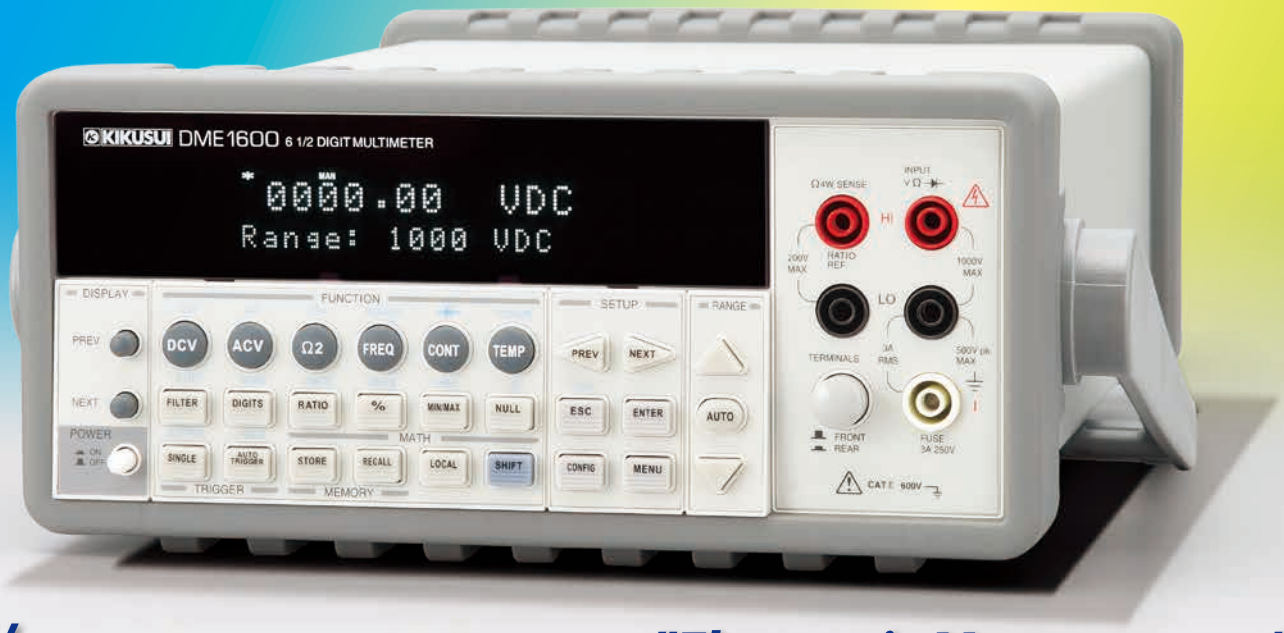
KIKUSUI



6 1/2 digit resolution, Essential device of "Electronic Measurement"

Supporting basic measurement with variety of options

D I G I T A L M U L T I M E T E R

DME1600

- ***DME1600***
- ***DME1600GC*** *(with GPIB)*

The DME1600 is a digital multi-meter with a resolution of 6 1/2 digit. It can be performed up to 2000 times per second at the setting condition of 4 1/2 digit as fastest measurement, and it can measures 50 times per second when it is set for the 6 1/2 digit. The DME1600 offers fully function of measurement for the voltage, current, resistance, frequency and temperature which can be used various application of measurement and evaluation in design, development and debugging of electronics devices. The DME1600 provides USB and GPIB interface* as standard feature for automated measurement besides manual operation. Furthermore, the DME1600 offers wide range of options such as 20-channel multi-point scanner card supporting the basic measurement.

- Resolution : 6 1/2 digit
- Display : 5 x 7 dot matrix VFD, dual display with 3-color
- Basic measurement function

  DC voltage : 0.1 V, 1 V, 10 V, 100 V, 1000 V
  AC voltage : 0.1 V, 1 V, 10 V, 100 V, 750 V
  DC current : 10 mA, 100 mA, 1 A, 3 A
  AC current : 1 A, 3 A
  2-wire / 4-wire resistance : 100 Ω, 1 kΩ, 10 kΩ, 100 kΩ, 1 MΩ, 10 MΩ, 100 MΩ
  Frequency : 3 Hz to 300 kHz
  Continuity test
  Diode test
  Temperature test

- Built-in USB Interface (GPIB Interface*: selected model)

  *Model with GPIB Interface : DME1600GC

Options

20-channel multi-point scanner card
[DME1600-OPT09]

10-channel multi-point scanner card
[DME1600-OPT01]

10-channel thermocouple multi-point scanner card
[DME1600-OPT12]

Kelvin probe
(for 4-wire resistance measurement)
[DME1600-OPT07]

4-wire test lead
[DME1600-OPT08]

Thermocouple adapter
[DME1600-OPT02]

K type thermocouple cable
[DME1600-OPT11]

Specifications

DC Characteristics

Accuracy

- ±(% of reading + % of range)
- The specifications are for the following conditions: 6 1/2 digit resolution, minimum two-hour warm up, and auto trigger mode.
- Use the null function for the 2-wire / 4-wire resistance measurement method.

DC voltage			
Range	Resolution	Input resistance	1 year (23 °C ± 5 °C)
100.0000 mV	0.1 µV	> 10 GΩ	0.0050+0.0035
1.000000 V	1.0 µV	> 10 GΩ	0.0040+0.0007
10.00000 V	10 µV	> 10 GΩ	0.0035+0.0005
100.0000 V	100 µV	10 MΩ	0.0045+0.0006
1000.000 V	1 mV	10 MΩ	0.0045+0.0010
DC current			
Range	Resolution	Input resistance	1 year (23 °C ± 5 °C)
10.00000 mA	10 nA	5.1 Ω	0.050+0.020
100.0000 mA	100 nA	5.1 Ω	0.050+0.005
1.000000 A	1 µA	0.1 Ω	0.100+0.010
3.000000 A	10 µA	0.1 Ω	0.120+0.020
Resistance			
Range	Resolution	Input resistance	1 year (23 °C ± 5 °C)
100.0000 Ω	100 µΩ	1 mA	0.010+0.004
1.000000 kΩ	1 mΩ	1 mA	0.010+0.001
10.00000 kΩ	10 mΩ	100 µA	0.010+0.001
100.0000 kΩ	100 mΩ	10 µA	0.010+0.001
1.000000 MΩ	1 Ω	5 µA	0.010+0.001
10.00000 MΩ	10 Ω	500 nA	0.040+0.001
100.0000 MΩ	100 Ω	500 nA‖10 MΩ	0.800+0.010
Diode test			
Range	Resolution	Test current	1 year (23 °C ± 5 °C)
1.0000 V	10 µV	1 mA	0.010+0.020
Continuity test			
Range	Resolution	Test current	1 year (23 °C ± 5 °C)
1 kΩ	10 mΩ	1 mA	0.010+0.030

Measurement characteristics

Item	Specification
DC voltage measurement : Overrange	Permits voltages that are up to 20 % over the range except when the 1000 V range is in use
DC voltage measurement : Input bias current	Less than 30 pA (at 25 °C)
DC voltage measurement : Input voltage protection	1000 V for all ranges
DC current measurement : Overrange	Permits currents that are up to 20 % over the range except when the 3 A range is in use
Resistance measurement : Maximum test lead resistance	10 Ω (100 Ω range), 100 Ω (1 kΩ range), 1 kΩ (other ranges)
Resistance measurement : Input voltage protection	1000 V for all ranges

Frequency and period characteristics

Accuracy

- ±(% of reading)
- The specifications are for the following conditions: 6 1/2 digit resolution and minimumtwo-hour warm up.

Range	Frequency	1 year (23 °C ± 5 °C)
100 mVrms to 750 Vrms	3 Hz to 5 Hz	0.10
	5 Hz to 10 Hz	0.05
	10 Hz to 40 Hz	0.03
	40 Hz to 300 kHz	0.01

Measurement characteristics

Item	Specification
Overrange	Permits voltages that are up to 20 % over the range except when the 750 Vrms range is in use
Measurement frequency	The maximum frequency for the 750 Vrms range is 100 kHz.

AC Characteristics

Accuracy

- ±(% of reading + % of range)
- The specifications are for the following conditions: 6 1/2 digit resolution, minimum two-hour warm up, and slow AC filter (3 Hz to 300 kHz bandwidth).
- Measured using a sine wave input whose amplitude is greater than 5% of range.

AC voltage (true rms value)			
Range	Resolution	Frequency	1 year (23 °C ± 5 °C)
100.0000 mV	0.1 µV	3 Hz to 5 Hz	1.00+0.04
		5 Hz to 10 Hz	0.35+0.04
		10 Hz to 20 kHz	0.06+0.04
		20 kHz to 50 kHz	0.12+0.05
		50 kHz to 100 kHz	0.60+0.08
		100 kHz to 300 kHz	4.00+0.50
1.000000 V to 750.000 V	1.0 µV to 1 mV	3 Hz to 5 Hz	1.00+0.03
		5 Hz to 10 Hz	0.35+0.03
		10 Hz to 20 kHz	0.06+0.03
		20 kHz to 50 kHz	0.12+0.05
		50 kHz to 100 kHz	0.60+0.08
		100 kHz to 300 kHz	4.00+0.50
AC current (true rms value)			
Range	Resolution	Frequency	1 year (23 °C ± 5 °C)
1.000000 A	1 µA	3 Hz to 5 Hz	1.00+0.04
		5 Hz to 10 Hz	0.30+0.04
		10 Hz to 5 kHz	0.10+0.04
3.000000 A	10 µA	3 Hz to 5 Hz	1.10+0.06
		5 Hz to 10 Hz	0.35+0.06
		10 Hz to 5 kHz	0.15+0.06

Measurement characteristics

Item	Specification
Overrange	Permits voltages that are up to 20 % over the range except when the 750 Vrms range is in use
Measurement frequency	The maximum frequency for the 750 Vrms range is 100 kHz.

General specifications

Item	Specification
Input voltage range	100 Vac/120 Vac/220 Vac/240 Vac±10 %, single phase
Input frequency range	50 Hz/60 Hz ± 10 %
Power consumption	25 VAmax
Operating temperature range	0 °C to 50 °C
Operating humidity range	80 %rh or less (0 °C to 31 °C, no condensation)
Storage temperature range	-40 °C to 70 °C (80 %rh or less, no condensation)
Operating altitude	Up to 2000 m
Dimensions/Weight	224(8.82)W×113(4.45)H×373(14.69)D mm(inch) Approx. 3.7 kg (8.2 lb)
Interface	USB 2.0, GPIB (factory option)
Accessories	"Power cord" 1 pc. (with three-pronged plug), "Standard test leads" (1 red, 1 black), "USB cable" 1pc., "Fuse"(spare) 1pc., "CD-ROM" *7 1pc., "Packing list,safety precautions" (1 English, 1 Japanese)
Electromagnetic compatibility (EMC) *1, *2	Complies with the requirements of the following directive and standard. EMC Directive 2014/30/EU EN 61326-1 (Class A *5) EN 55011 (Class A *5, Group 1 *6) EN 61000-3-2, EN 61000-3-3
Safety *1	Complies with the requirements of the following directive and standard. Low Voltage Directive 2014/35/EU *2 EN 61010-1 (Class I *3, Pollution degree 2 *4), EN 61010-2-030

*1 Does not apply to specially made or modified DME1600s. *2 Limited to products that have the CE/UKCA mark on their panels. *3 This is a Class I equipment. Be sure to ground this product's protective conductor terminal. The safety of this product is only guaranteed when the product is properly grounded. *4 Pollution is addition of foreign matter (solid, liquid or gaseous) that may produce a reduction of dielectric strength or surface resistivity. Pollution Degree 2 assumes that only non-conductive pollution will occur except for an occasional temporary conductivity caused by condensation. *5 This is a Class A equipment. This product is intended for use in an industrial environment. This product may cause interference if used in residential areas. Such use must be avoided unless the user takes special measures to reduce electromagnetic emissions to prevent interference to the reception of radio and television broadcasts. *6 This is a Group 1 equipment. This product does not generate and/or use intentionally radio-frequency energy, in the form of electromagnetic radiation, inductive and/or capacitive coupling, for the treatment of material or inspection/analysis purpose. *7 Contains the User's Manual and the Remote Interface Manual.

KIKUSUI

KIKUSUI ELECTRONICS CORPORATION

1-1-3, Higashiyamata, Tsuzuki-ku, Yokohama, Kanagawa, 224-0023, Japan
Phone:(+81)45-593-0200, Facsimile:(+81)45-593-7591, https://global.kikusui.co.jp/

KIKUSUI AMERICA, INC. 1-310-214-0000 | www.kikusuiamerica.com
3625 Del Amo Blvd., Suite 160 Torrance, CA90503
Phone: 310-214-0000, Facsimile: 310-214-0014

KIKUSUI TRADING (SHANGHAI) Co., Ltd. | www.kikusui.cn
Room 305, Shenggao Building, No.137, Xianxia Road, Shanghai City, China
Phone: 021-5887-9067, Facsimile: 021-5887-9069

KIKUSUI ELECTRONICS EUROPE GmbH
Grossenbaumer Weg 8, 40472 Duesseldorf, Germany
Phone: +49(211)54257600, E-mail: support@kikusui-europe.com

For our local sales distributors and representatives, please refer to "sales network" of our website.

■ Distributor:

Issue:Jun.2024 202406PDFEC51