

DO5000 SERIES

A COMPREHENSIVE RANGE OF MAINS AND BATTERY POWERED DIGITAL MICROHMMETERS WITH TEMPERATURE COMPENSATION

The DO5000 series of digital micro ohmmeters offer flexibility of measurement with high accuracy and exceptional functionality. The DO500 series encompass all the features required in an ohmmeter in one practical instrument.

This series of instruments have programmable measuring current in 100 steps, ensuring that we have a model in the range suitable for your application.

Automatic temperature compensation references the measurement to 20°C and Hi / Lo limits permits sorting of components with the minimum of fuss. The DO5000 series all have the ability to take an external PRT 100 sensor, this is easily plugged into the socket on the front of the unit.

All these functions are available as standard as well as a data logging function which stores up to 4000 date and time stamped readings. Statistical analysis of these values allows you to display the Max / Min / Average values as well as the peak to peak and standard deviation.

The range of DO5000 instruments is ideally suited for laboratory testing of samples, production line testing, and with the addition of the IEEE-48 or PLC interfaces, the DO5000 series may be remotely controlled and integrated into an automated testing system.

When the units are used in the fast measuring mode they can easily do 50 measurements per second.

These features are available on all of the models in the range. The DO5001 only differs from the DO5000 in that it can be mains and battery powered. The DO5002 has a lower current capability than both of the other models.

| KEY FEATURE | DO5000 | DO5001 | DO5002 |
|--|--------|--------|--------|
| True 4 terminal measurement eliminates lead resistance errors | ■ | ■ | ■ |
| Measuring range from 3 milli ohm to 30 kilo ohm | ■ | ■ | |
| Measuring range from 200 milli ohm to 30 kilo ohm | | | ■ |
| 10 micro ohm resolution | | | ■ |
| 100 nano ohm resolution | ■ | ■ | ■ |
| True zero capabilities | ■ | ■ | ■ |
| Digital Calibration | ■ | ■ | ■ |
| Automatic temperature compensation with programmable coefficients | ■ | ■ | ■ |
| Open circuit lead warning LED | ■ | ■ | ■ |
| Current range from 10mA to 10A | ■ | ■ | |
| Current range from 10 micro Amp to 10mA | | | ■ |
| Programmable measuring current 10% to 100% in 1% steps | ■ | ■ | ■ |
| High Accuracy 0.03% | ■ | ■ | ■ |
| Fast measuring capability of 50 measurements per second | ■ | ■ | ■ |
| Programmable High Low Limits with red / green lamps on front panel | ■ | ■ | ■ |
| Open Circuit voltage limit mode 20mV / 50mV maximum | ■ | ■ | ■ |
| Measuring current selection +I / -I and Auto average | ■ | ■ | ■ |
| Data logging with statistical analysis | ■ | ■ | ■ |
| Cable length calculations | ■ | ■ | ■ |
| Rechargeable batteries built in | | ■ | |



DO5000/DO5001 SPECIFICATIONS

| Range | Resolution | Minimum Current | Maximum Current | Accuracy at Full Rated Current |
|-------|------------|-----------------|-----------------|--------------------------------|
| 30kΩ | 1Ω | 10μA | 100μA | ±(0.03% Rdg +0.02% FS) |
| 3kΩ | 100mΩ | 100μA | 1mA | ±(0.03% Rdg +0.01% FS) |
| 300Ω | 10mΩ | 1mA | 10mA | ±(0.03% Rdg +0.01% FS) |
| 30Ω | 1mΩ | 10mA | 100mA | ±(0.03% Rdg +0.01% FS) |
| 3Ω | 100μΩ | 100mA | 1A | ±(0.03% Rdg +0.01% FS) |
| 200mΩ | 10μΩ | 1A | 10A | ±(0.03% Rdg +0.01% FS) |
| 30mΩ | 1μΩ | 1A | 10A | ±(0.03% Rdg +0.01% FS) |
| 3mΩ | 100nΩ | 1A | 10A | ±(0.03% Rdg +0.02% FS) |

DO5002 SPECIFICATIONS

| Range | Resolution | Typical Current | Maximum Current | Accuracy at Full Rated Current |
|-------|------------|-----------------|-----------------|--------------------------------|
| 30kΩ | 1Ω | 10μA | 100μA | ±(0.03% Rdg +0.02% FS) |
| 3kΩ | 100mΩ | 100μA | 1mA | ±(0.03% Rdg +0.01% FS) |
| 300Ω | 10mΩ | 1mA | 10mA | ±(0.03% Rdg +0.01% FS) |
| 30Ω | 1mΩ | 10mA | 100mA | ±(0.03% Rdg +0.01% FS) |
| 3Ω | 100μΩ | 10mA | 100m A | ±(0.03% Rdg +0.01% FS) |
| 200mΩ | 10μΩ | 10mA | 100m A | ±(0.03% Rdg +0.01% FS) |

Measurement

4 terminal Kelvin/Thomson principle eliminates errors due to lead resistance

Display

LCD graphics panel with backlit 30,000 count

Ranges

8 automatic or manual selection

Terminals

4mm safety sockets

Working Temperature

0°C to +45°C rel. humidity 80% max. non-condensing

Storage Temperature

-20°C to +60°C

Mains Supply

115/230V +10% -10%
47Hz to 163Hz 20VA

Safety

EN 61010-1 EMC-EN 61236

Dimensions

339mm x 324mm x 131mm (W H D) approx

Mass

12kg approx. 12kg packed in carton

Auto Zero

Permits the zero of measurement values

Average

Automatic average and display of measurement with forward and reverse current

Auto Temperature Compensation

Automatically references measurement to temperature of 20°C or user defined temperature. User coefficients may be used. External Pt100 senses temperature manual value can be used

Hi / Lo Limits

Limit values can be set over entire measurement range

Calibration

Digital pass code protected

Protection

415 Vrms maximum at the measuring terminals will blow internal protection fuse

| CODE | ITEM | DO5000 SERIES OPTIONS |
|----------|------|--|
| C02 | | 1 metre cable clamp with metal base for the precise measurement of 1 metre cable samples 0.1...100mm ² |
| C02A | | 1 metre cable clamp with metal base for the precise measurement of 1 metre cable samples 1...1000mm ² |
| C03 | | 1 metre cable clamp with water bath for the precise measurement of 1 metre cable samples 1...1000mm ² |
| DO500-CS | | Calibration standard |
| HS01-P | | Duplex handspikes with 3 metre lead length |
| HS02-P | | Duplex handspikes with 3 and 15 metre lead length |
| IEEE-DO5 | | Interface IEEE-488 |
| IEEE-L01 | | IEEE-488 cable 1 metre |
| LS03-P | | Lead set with 3 metre leads terminated in large Kelvin clips type KC3 |
| LS04-P | | Lead set with 3 metre and 15 metre lead length terminated in large Kelvin clips type KC3 |
| LS05 | | Lead set with 4 x 1 metre leads terminated in banana plugs, 4 x Crocodile clips, 4 x test probes and 2 x Kelvin clips type KC1 |
| LS06-P | | Lead set with 1 metre leads terminated in miniature Kelvin clips type KC2 |
| PLC-DO5 | | Interface PLC |
| PT02-DO5 | | Temperature probe with 2 metre lead length |
| CHO1 | | Concentric handspikes |