

D05000 Series

A comprehensive range of mains and battery powered low resistance digital micro ohmmeters with temperature compensation

The D05000 series of digital micro ohmmeters offer flexibility of measurement with high accuracy and exceptional functionality. The D05000 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 the option to set Hi / Lo limits allows you to sort the components with ease. The D05000 series all have the ability to take an external Pt100 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 D05000 instruments is ideally suited for laboratory testing of samples, production line testing, and with the addition of the IEEE-48 or PLC interfaces, the D05000 series may be remotely controlled and integrated into an automated testing system. RS-232 fitted as standard.

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

These features are available on all of the models in the range. The D05001 only differs from the D05000 in that it can be mains and battery powered. The D05002 has a lower current capability than both of the other models.

	D05000	D05001	D05002
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	■	■	■
Current range from 10µA to 10A	■	■	
Current range from 10µA 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 + / - and auto average	■	■	■
Data logging with statistical analysis	■	■	■
Cable length calculations	■	■	■
Rechargeable batteries built in		■	
RS-232 interface	■	■	■

D05000 Users

- Production / Manufacturing Engineers
- Laboratory Technicians / Engineers



Duncan Instruments Canada Ltd.

216 Rivermede Road, Units 1 & 2, Concord Ontario L4K3M6 Canada Tel:

416-742-4448 Fax:416-749-5053

Email: sales@duncaninstr.com Web: www.duncaninstr.com

Technical Specifications

DO5000/DO50001 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)

DO50002 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	10mA	100mA	± (0.03% Rdg +0.01% FS)
200mΩ	10μΩ	10mA	100mA	± (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%, 47Hz to 63Hz, 250VA

Safety

EN 61010-1 EMC-EN 61236

Dimensions

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

Mass

DO5000 46x47x31 12kg
DO5001 46x47x31 15kg
DO5002 46x47x31 11kg

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 or manual value can be used.

High/Low Limits

Limit values can be set over entire measurement range

Calibration

Digital pass code protected. 12 month warranty subject to product registration with Seaward. Visit www.seaward.co.uk/register-product Service and calibration by Calibrationhouse.

Protection

415 Vrms between any of the measuring terminals.

DO5000 Series Options

Code	Item
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
HS01-P	Duplex handspike with 3 metre lead length
HS02-P	Duplex handspikes with 3 and 15 metre lead length
IEEE-DO5	Interface IEEE-488
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	PLC Interace and Analogue output
PT02-DO5	Temperature probe with 2 metre lead length
CHO1	Concentric handspikes
RSL-02	RS232 Download cable