

# DO5000 Series

A bench digital microhmmeter with temperature compensation.



A comprehensive range of mains and battery powered low resistance digital microhmmeters with temperature compensation.

The **DO5000** series of digital microhmmeters offer flexibility of measurement, high accuracy and exceptional functionality. The series incorporates all the features required in an ohmmeter in an easy-to-use instrument.

This series of instruments have programmable measuring currents spread and can measure a large range of resistances ensuring that we have a model in the range suitable for your application.

Automatic temperature compensation references the measurement to 20°C; the **DO5000** series all have the ability to take an external Pt100 sensor, this is easily plugged into the socket on the front of the unit. The option to set Hi / Lo limits means measurements are automatically checked to your specifications.

All these functions are available as standard as well as a data logging function which stores up to 4,000 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 an optional PLC interface, the **DO5000** 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 perform 50 measurements per second, allowing you to monitor the change in resistance due to heat increase or other factors to a high degree of accuracy.

These features are available on all 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 other models.

## Key Features:

- > Data logging function for up to 4000 date and time stamped readings
- > When the units are used in the fast measuring mode they can easily perform 50 measurements per second
- > 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 in the series

## Ideal for:

- > Production / Manufacturing engineers
- > Laboratory technicians / Engineers

To see the **DO5000 Series** for yourself, request your live online demonstration today at [seaward.com/DO5000](http://seaward.com/DO5000)



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Key Features	DO5000	DO5001	DO5002
True 4 terminal measurement eliminates lead resistance errors	•	•	•
Measuring range from 3mΩ to 30kΩ	•	•	
Measuring range from 200mΩ to 30kΩ			•
10μΩ resolution			•
100nΩ 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 100mA			•
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 +1/-1 and auto average	•	•	•
Data logging with statistical analysis	•	•	•
Cable length calculations	•	•	•
Rechargeable batteries built in		•	
RS-232 interface	•	•	•



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## Technical Specification:

### DO5000/DO5001 Specifications

Range	Resolution	Minimum Current	Maximum Current	Accuracy at Full Rated Current
30k $\Omega$	1 $\Omega$	10 $\mu$ A	100 $\mu$ A	$\pm$ (0.03% Rdg + 0.02% FS)
3k $\Omega$	100m $\Omega$	100 $\mu$ A	1mA	$\pm$ (0.03% Rdg + 0.01% FS)
300 $\Omega$	10m $\Omega$	1mA	10mA	$\pm$ (0.03% Rdg + 0.01% FS)
30 $\Omega$	1m $\Omega$	10mA	100mA	$\pm$ (0.03% Rdg + 0.01% FS)
3 $\Omega$	100 $\mu\Omega$	100mA	1A	$\pm$ (0.03% Rdg + 0.01% FS)
200m $\Omega$	10 $\mu\Omega$	1A	10A	$\pm$ (0.03% Rdg + 0.01% FS)
30m $\Omega$	1 $\mu\Omega$	1A	10A	$\pm$ (0.03% Rdg + 0.01% FS)
3m $\Omega$	100n $\Omega$	1A	10A	$\pm$ (0.03% Rdg + 0.02% FS)

### DO5002 Specifications

Range	Resolution	Minimum Current	Maximum Current	Accuracy at Full Rated Current
30k $\Omega$	1 $\Omega$	10 $\mu$ A	100 $\mu$ A	$\pm$ (0.03% Rdg + 0.02% FS)
3k $\Omega$	100m $\Omega$	100 $\mu$ A	1mA	$\pm$ (0.03% Rdg + 0.01% FS)
300 $\Omega$	10m $\Omega$	1mA	10mA	$\pm$ (0.03% Rdg + 0.01% FS)
30 $\Omega$	1m $\Omega$	10mA	100mA	$\pm$ (0.03% Rdg + 0.01% FS)
3 $\Omega$	100 $\mu\Omega$	10mA	100mA	$\pm$ (0.03% Rdg + 0.01% FS)
200m $\Omega$	10 $\mu\Omega$	10mA	100mA	$\pm$ (0.03% Rdg + 0.01% FS)

## General Specification:

### 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



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## Dimensions

33.9cm x 32.4cm x 13.1cm (w x h x d) approx.

## Shipping Information

DO5000 46 x 47 x 31 12kg

DO5001 46 x 47 x 31 15kg

DO5002 46 x 47 x 31 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 the entire measurement range.

## Calibration

Digital pass code protected, 12 month warranty subject to product registration with Seaward. Visit [seaward.com/register](http://seaward.com/register)

Service and calibration by Calibrationhouse.

## Protection

415 Vrms between any of the measuring terminals.

## Part Numbers:

Code	Item
930076	DO5000
930077	DO5001
930078	DO5002

## Optional Accessories

Code	Item
HS01-P	Duplex handspike with 3 metre lead length
HS02-P	Duplex handspikes with 3 and 15 metre lead length
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 4x 1 metre leads terminated in banana plugs, 4x crocodile clips, 4x test probes and 2x Kelvin clips type KC1
LS06-P	Lead set with 1 metre leads terminated in miniature Kelvin clips type KC2
PLC-DO5	PLC interlace and analogue output
PT02-DO5	Temperature probe with 2 metre lead length
CHO1	Concentric handspikes
RSL-02	RS232 Download cable



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Rev 2.2