

# 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

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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			•

lower current capability than both other models.

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

100nΩ resolution	•	•	
True zero capabilities	•	•	•
Digital calibration	•	•	•
Automatic temperature compensation with programmable coefficients	•	•	•
Open circuit lead warning	•	•	•
	•	•	
Programmable measuring current			
Programmable high/low limits			
Data logging with statistical analysis			
Cable length calculations	•	•	•
Rechargeable batteries built in		•	
RS-232 interface	•	•	•

# DO5000 Series

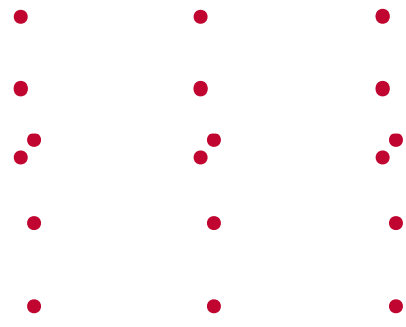
A bench digital microhmmeter with temperature compensation.

Current range from 10 $\mu$ A to 10A

High accuracy 0.05% 10 $\mu$ A to 100mA with red/green lamps on front panel  
Fast measuring capability of 50 measurements per second

Open circuit voltage limit mode 20mV/50mV maximum

Measuring current selection +1/-1 and auto average



1m $\Omega$	10mA	100mA	$\pm$
100 $\mu\Omega$	100mA	1A	$\pm$
10 $\mu\Omega$	1A	10A	$\pm$
1 $\mu\Omega$	1A	10A	$\pm$
100n $\Omega$	1A	10A	$\pm$

## DO5002 Specifications

Range	Resolution	Minimum Current	Maximum Current	Accuracy at Full Rated Current
	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)
	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.

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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 $\Omega$				(0.03% Rdg + 0.01% FS)
3 $\Omega$				(0.03% Rdg + 0.01% FS)
200m $\Omega$				(0.03% Rdg + 0.01% FS)
30m $\Omega$				(0.03% Rdg + 0.01% FS)
3m $\Omega$				(0.03% Rdg + 0.02% FS)

### 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.

### Item

DO5000

DO5001

### Terminals

DO5002

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

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<b>Code</b>	<b>Item</b>
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