

DO7PLUS

Rugged Digital Microhmmeter for low resistance measurement,
with built in temperature compensation



The DO7Plus is a 10A Microhmmeter, suitable for applications within Aerospace, Utilities, Cable or Machine Manufacturers or where a cooling curve is required to plot peak resistance. Sealed in an IP67 case (when closed or IP53, lid open) it is ruggedly constructed to ensure durability.

The DO7Plus has a backlit LCD graphics panel, full QWERTY keyboard, temperature compensation via optional PT100 probe, and built in coefficients for Copper and Aluminium as well as user defined. Full cooling curve facilities are built in, with real time graphical plotting on the LCD. Data log memory contents can be plotted and a curve fitted to calculate the peak resistance value when $t=0$.

The unit has a display length of 60000 counts and auto averaging of forward and reverse measurement removes thermal emf differences. Connectivity is improved with both USB and RS232 for data downloading. The internal memory holds up to 1000 date and time stamped readings and which can be viewed on the LCD or downloaded with the free software provided, as CSV file to a PC for further analysis.

The data log memory using the latest FRAM technology which offers unlimited read/write cycles and over 10 years of data retention, without relying on internal batteries.

The unit has built in rechargeable batteries which will provide up to 1 hour of continuous use at 10A, and up to 20 hours at all other ranges.

Key Features

- On screen real time graphical plotting cooling curve facilities with peak resistance value calculator
- It's fast, reading rate of 2 readings per second
- Measuring ranges from 6 mohm to 6 Kohm
- Resolution 100 nohm to 6 mohm range
- Backlit LCD graphic panel with programmable timer for battery conservation
- Single pulse measurement for fast resistance tests
- Continuous measurement current for inductive tests
- Full test lead continuity testing and diagnostic display
- Multi lingual - Display available in English, French, German, Spanish or Italian



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DO7PLUS SPECIFICATION

Measurement:

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

Display:

60,000 count + sign LCD graphics panel with backlight
Select display value of °C or °F

Ranges:

7 resistance ranges

Terminals:

4mm safety sockets

Working temperature:

0 deg C to 40 deg C

Storage Temperature:

-20 deg C to +50 deg C

Safety:

Conforms to EN 61010-1:2001 600V Cat 3

Dimensions and weight:

358mm X 269mm X 155mm

Mass:

<5Kg (instrument only)

Calibration:

Digital
Password protected, manual or via remote interface

Battery:

Internal, fixed NiMH battery pack, Gas Gauge circuits to monitor battery capacity. Internal automatic FAST / TRICKLE battery Charger. DC input from 9V to 36V.

Mains Supply:

External mains psu 90V – 253V, 47Hz to 63Hz with interchangeable plugs.

Resistance Measurement:

| Range | Current | Resolution | FSV | Uncertainty |
|-----------|---------|------------|--------|--------------------|
| 6.0000 mΩ | 10 A | 100 nΩ | 60 mV | 0.05% Rdg +0.01%FS |
| 60.000 mΩ | 1 A | 1 μΩ | 60 mV | 0.05% Rdg +0.01%FS |
| 600.00 mΩ | 100 mA | 10 μΩ | 60 mV | 0.05% Rdg +0.01%FS |
| 6.0000 Ω | 10 mA | 100 μΩ | 60 mV | 0.05% Rdg +0.01%FS |
| 60.000 Ω | 1 mA | 1 mΩ | 60 mV | 0.05% Rdg +0.01%FS |
| 600.00 Ω | 100 μA | 10 mΩ | 60 mV | 0.05% Rdg +0.01%FS |
| 6.0000 kΩ | 100 μA | 100 mΩ | 600 mV | 0.05% Rdg +0.01%FS |

Optional Extras:

- Pt100 probe
- UKAS calibration certificate (must be ordered at time of order)
- Additional test leads and clamps (see table below)
- RS232 printer
- 12 / 24V DC car type charger lead
- RS232 waterproof cable
- USB waterproof cable
- MTS calibration standard
- Remote measure /stop foot switch

Software Capabilities:

- Windows[©]

Supplied With:

- Measurement leads
- CD-ROM which includes: Data logger, USB drivers and pdf manual
- Universal, external main charger
- Standard USB cable
- Printed manual
- External Pouch for leads

Additional test leads and clamps

| | |
|--------|--|
| 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 |
| LS03-P | Lead set with 3 metre leads and terminated with large Kelvin clips type KC3 |
| LS04-P | Lead set with 3 metres and 15 metres lead length terminated in large Kelvin clips type KC3 |
| HS01-P | 2 x Duplex handspike with 3 metre lead length |
| HS02-P | Duplex handspikes with 3 and 15 metre lead length |
| CH01 | Concentric handspikes 3M lead length |
| MTS 5 | Calibration Standard Note: Lead sets can be supplied in different lengths to order |
| C02 | 1 metre cable clamp with metal base for the precise measurement of 1 metre cable samples 0.1...100mm ² |
| CO2A | 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 |



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