



## Pot 16 Data Sheet

### Applications:

- Cathodic Protection
- Coating Disbondment
- Cracking
- Metal Leaching
- Quality Control
- Standard Tests (including ASTM G42 and G8)



Fixed potentials for parallel potentiostatic tests.

This instrument provides 16 potentiostats for long term testing of electrodes at a fixed potential.

Each channel has a fixed current measurement range, selected on purchase for the type of testing to be performed. The standard range is 350mA with a resolution of 5 micro Amps.

Output potential can either be fixed, selected by a switch, or variable via a 10-turn dialled knob. Extra optional potential selectors may be added and channels grouped. Typical configurations would be all channels set by a two position switch selecting 1.5V or 3V, or channels 1-8 set from -5V to +5V via a 10 turn dialled knob and channels 9-16 set by their own dialled knob. Most standard Cathodic Disbondment tests (e.g. ISO15711, or ASTM G8, G42, G80, G95 or CSA Z-245) require 1.05V, 1.5V, 3V or 3.5V; however a galvanostat option can be added for the 3mA Australian and New Zealand standards (AS-3862, AS/NZS4352).

Measurement of the current flowing from each potentiostat and the voltage between RE and WE (as a check on operation) is performed by a pair of 21 bit converters, running at a maximum read rate of 4 channels per second.

The software supplied allows for simple set up of data file name and read rate and displays the latest data recorded. The data is stored on the PC's hard disc as the test progresses. In the event of a power cut the data will be added to the earlier data on resumption of the power supply.

An example of the use of a Pot 16 is in performing tests on coated steel to study the likelihood of Cathodic Disbondment at a fixed potential.

A dedicated and powerful instrument offering very cost effective fixed potentiostats for long term measurement.

### Pot 16 Features

**Channels** - 16 independent 350mA potentiostats, fixed or variable potentials.

**Low Noise Susceptibility** - optically Isolated from PC, fully shielded, mains rejection measurement, filters on mains power supply

**Self Calibration** - active self calibration at the start of each test to remove thermal induced offsets.

**Power** - 110/240vac 50/60Hz

**Manuals** - A full manual including application notes on CD.

**Warranty** - 2 years return to base, can be extended to 8 years.

**Delivery** - to any part of the world typically covered by courier companies.

## Options

**Channels** – Configurations from 4 channels (Pot 4) to 30 channels (Pot 30) available. Custom versions available with as many channels as required.

**Potential controls** – Output potential can be either factory set, selectable via a switch or via a dialled knob for full control.

**Channel Groups** – groups of channels may be specified with their own potential control.

**Cables** - longer, shorter, different probe connections.

**Galvanostat** – a 3mA galvanostat option is available for Australian and New Zealand standards (AS-3862, AS/NZS4352).

**Pot 16 Iso** – same specification as the Pot 16, but each channel is isolated allowing samples to be in the same solution.

**Pot 16 Mono** – a variation on the standard Pot 16, with only one potentiostat and 16 ZRAs it is possible to reduce cell costs and use a single bath for all 16 test samples.

**Pot 16 Quad** – similar to the Pot 16 Mono, but with 4 potentiostats and 16 ZRAs, configured in a 4x4 configuration. Each group of one potentiostat and 4 ZRAs can be configured independently.

**Higher power, more channels** – the Pot 16 originated from our task master range and as such can be easily customised for any requirements.

**Training** - On site or off site, including installation.

**Warranty** - extendable to 8 years.

## Included Accessories



Install CD  
(software and manual)



Electrode Cables



Mains Cable



Serial Cable



USB to Serial  
adapter

## Software Overview

Cell	Enabled	Log File	I (mA)	V (mV wrt RE)
1	Yes		-15.09	-1501.0
2	No		791.606	-1313.7
3	No		792.264	-1472.0
4	No		794.019	-70.6
5	No		794.321	-401.6
6	No		793.522	-158.8
7	No		793.607	-1436.2
8	No		0.099	-1499.8
9	No		791.934	-411.8
10	No		793.48	-754.0
11	No		790.859	-1474.0
12	No		791.76	-82.9
13	No		793.217	-1477.5
14	No		793.628	-113.5
15	No		790.254	-125.5
16	No		795.309	-98.7

The Pot 16 comes with the MultiPot software for data acquisition. From a single page the user can enable or disable channels, change file names, set the read rate and view the last measurements.

Data is stored as Tab Separated Variables (TSV) in an ASCII file, suitable for use with spreadsheets, such as Excel.

The Taskmaster analysis is also included for viewing data files.

<b>Technical Specifications</b>	
<b>Case Dimensions</b>	53 * 18 * 32 cm
<b>Power Supply</b>	110 / 230 VAC 50-60Hz
<b>Weight</b>	10 Kg
<b>Electrode Cable Length</b>	2.5 Meters (can be increased)
<b>Noise &amp; Ripple</b>	Less than 4 $\mu$ V
<b>Measurement Accuracy</b>	21 Bit A/D (full mains rejection)
<b>Measurement Resolution</b>	1 $\mu$ V $\pm$ 0.0015% non-linearity
<b>Potentiostat</b>	
<b>Compliance Voltage</b>	$\pm$ 18 V
<b>Current Output</b>	$\pm$ 350 mA
<b>RE Input Impedance</b>	Greater than 10 <sup>12</sup> Ohms
<b>Operational Temperature</b>	-5 °C to 72 °C
<b>Calibrated Temperature</b>	25 °C

## Requirements

**Operating System** - Windows XP SP3, Vista, 7, 8, 10 and 11

**Minimum PC Requirements** – Any PC capable of running Microsoft Windows with a free USB port or COM/RS232 port.



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