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## M1000-16DA

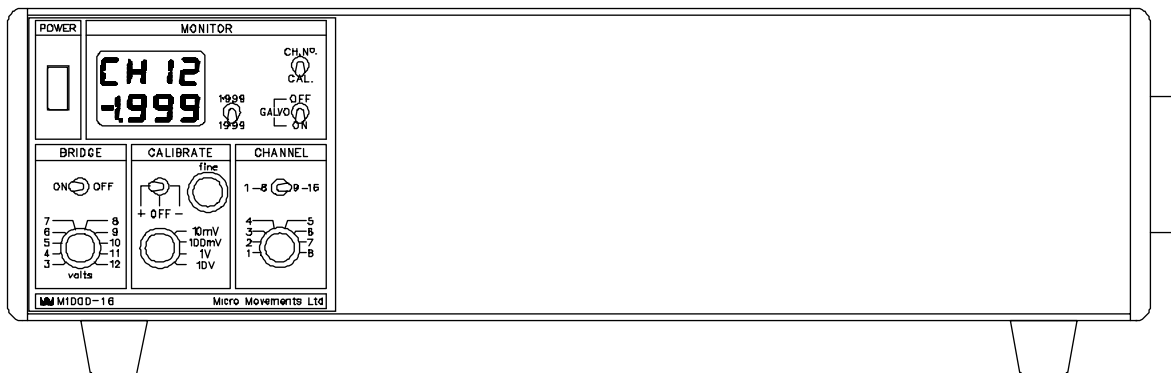


Our traditional 16 Channel Signal Conditioning Housing is now a complete DATA RECORDER! With an in-built analogue to digital signal converter all signals can be saved to a 60Gb hard disk and viewed on the free data acquisition software running under Windows XP the only thing you need to add is a display, keyboard and mouse and 12V DC. The basic model is no slouch either with the ability to sample at 5KHz per channel continuously.

The system offers the flexibility of our wide range of well proven and economical signal conditioning amplifiers, these seem to be future proof as they have continued to be widely used whilst other fashions have come and gone. A cost effective and reliable purchase.

Of course the system can be enhanced by the addition of our Snap-Master Data Acquisition Software, which is available at discount when bought with the system.

The base model is priced at £3700.00 and upgrades such as our well proven Snap-Master software, higher sampling rates, higher resolution A to D, TFT screens, larger hard disk drives and wide range Automotive power supplies are available on request.



*Front View of M1000-16DA*

## Basic Unit Specification

### Signal Input

7 pin lockable DIN connector, one for each channel

### Power Supply

12 volts DC (11v to 14v)

### Power Consumption

80VA maximum

### Operating Temperature

-10°C to 50°C

### Storage Temperature

-20°C to +70°C

### Digital Monitor

3 1/2 digits

Range 1 - 1.999 volts

Range 2 - 19.99 volts

Dual range LED display shows channel number, calibration input and voltage output for each channel.

### Calibration

±1mV through ±10 V continuously variable (Four switched attenuator ranges and Fine interpolation control).

Attenuator accuracy - 0.5%

Stability - 200 p.p.m./°C

### Transducer Power Supply

3-12 VDC in 1V steps

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**Processor**

VIAC3/EDENEBGA

**Main Memory**

256 MB DDR (Option for up to 1 GB)

**Hard Disk**

60 GB standard (Larger sizes available)

**BIOS**

AwardBIOS with 2 x 4Mbit flash memory

**Operating System**

Windows XP

**Software**

Operating System plus Universal Library hardware driver interface  
C++, Delphi and Visual Basic programming examples  
Lab-View Drivers and examples  
Tracer Daq, acquisition, plotting and data storage software

**System Connectors**

1 x PS2 mouse port  
1 x PS2 keyboard port  
1 x Parallel port  
1 x RJ-45 LAN port  
1 x Serial port  
2 x USB 2.0 ports  
1 x VGA port  
1 x RCA port; 1 x S-Video port  
3 x Audio jacks

**Analog to Digital Configuration**

2 x 8 channel Analog to Digital Converters

**Resolution**

12 Bit (16 bit optional)

**Sample Rates**

48 K Samples/Sec maximum throughput for each 8 channel A/D  
Typical 5 K Samples/ Sec on each channel for 16 channels  
Maximum on 1 channel, 48 K Samples/Sec

**Overall System Accuracy**

Using Zero and Gain controls on Signal Conditioning can typically achieve  
Zero offset and  $\pm 0.1\%$  total accuracy.

**Bandwidth**

Dependant on Signal Conditioning Module, up to 100 KHz (-3 dB)

**Signal Conditioning**

Accepts up to 16 x M1000 Series Signal Conditioners in any combination

**Size**

112 mm high x 325 mm wide x 325 mm deep

**Weight**

6.3 Kg maximum when fully fitted with 16 x Signal Conditioner

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## Signal Conditioning Modules

The following signal conditioning modules are available for use with the M1000 Series.

### **M1020 Designers Module**

A matrix-pattern printed circuit card contained within a standard amplifier module which enables non-standard circuits, “specials”, etc. to be utilised within the system. Input, output, power supplies, calibration, etc. are all accessed via the module connector.

### **M1043 Synchro/Resolver to DC Converter**

Double width module for monitoring Synchro/Resolver outputs and providing DC proportional to angle. Rate output also available. May require external isolating or Scott transformers.

### **M1049 Oscillator/Amplifier/Demodulator/Filter**

For energising and conditioning of variable reluctance transducers, differential transformers, AC-excited LVDTs, etc. With built-in continuously variable, stored calibration facility.

### **M1060 High Gain DC Amplifier**

Differential Amplifier for use with most types of low-level transducers, e.g. strain gauges in 1, 2, or 4 active arm configuration, bonded and unbonded strain gauge transducers and load cells.

### **M1061 Thermocouple Amplifier**

For use with thermocouples and similar low-level devices. Full scale output for 1 mV to 100mV input. Internal reference junction compensation with C1061K

### **C1061/K Connector**

Special connector with integral cold junction compensation for above.

### **M1064 High Bandwidth Amplifier**

Differential Amplifier for use with most types of low-level transducers, e.g. strain gauges in 1, 2, or 4 active arm configuration, bonded and unbonded strain gauge transducers and load cells. High gain-bandwidth. 100 KHz at gains of up to 1000.

### **M1070 Attenuator/Amplifier**

General purpose unit for medium to high level inputs, e.g. potentiometric transducers, DC/DC LVDTs, servo accelerometers, tape replay amplifiers.

### **C1070/H Adaptor**

High impedance adaptor, for operation of M1070 with piezo-electric sensors or signals with very high source impedance.

### **C103 High Voltage Connector**

With 60dB balanced attenuator network for measuring high input voltages (up to 1000V RMS).

### **C104 High Voltage Connector**

With 80dB balanced attenuator network for measuring high input voltages (up to 1000V RMS).

### **C/NA Shunt Connector**

For current measurement (N specifies the current). Range 0.1 to 10 amps.

### **M1073 RMS/DC Converter**

Precision rectifier unit for monitoring amplitude changes in AC waveforms.

### **M1080 Frequency/DC Converter**

For use with impeller flowmeters, magnetic or photo-electric RPM pickups, tachometers, vibration pickups.

### **M1085 Oscillator Module**

Nine calibrated ranges from 20Hz to 10kHz (crystal controlled), for calibration of M1080.

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## M1000-16DA Options

- Larger Hard Disk Drive
- Larger Main Memory
- Keyboard
- Mouse
- VGA Screen
- External Mains Power unit
- External 24 v DC Power unit
- Digital I/O
- Snap-Master Data Acquisition Software (SM-DA)
- Snap-Master Waveform Analyser Software (SM-WA)
- Snap-Master Frequency Analyser Software (SM-FA)
- User defined Signal Input connectors
- User defined special Signal Conditioning modules
- Bespoke application software

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