

Ideal for Desktop/Laptop use



USB-30-73 Front



USB-30-73 Back



## DESCRIPTION

The **MicroDAQ USB-30-73** is a multi function data acquisition device for the USB bus. The unit has a 14-bit resolution and is the perfect measurement device for portable, laboratory or classroom use.

The MicroDAQ USB-30-73 has two interface options and sample speeds. The A variant is a USB 1.1 device with a sampling rate of 250kHz. The B variant is one of our first data acquisition products featuring the high speed USB 2.0 interface. The 480Mbps bandwidth which USB 2.0 offers allows this unit to have an analog sampling rate of 400kHz across the analog input channels\*. This speed is unprecedented in external USB data acquisition products.

Featuring 16 analog inputs and 16 Thermocouple inputs, the unit can be used to measure voltage signals from sensors, transducers, accelerometers, Thermocouples and much more. It also features four analog outputs which can be used as reference voltages and many other applications. The digital I/O is available in 3 sets of 8 channels which can be programmed as inputs or outputs.

All standard type J / K / E / T / R / S / B / C / N thermocouples are supported, providing a temperature accuracy of better than 1 degree. A special cold-junction compensation module is provided with each unit to ensure accurate temperature measurements. This plugs into one of the USB30-73's DB-25 connector(s) and has screw terminals fitted for easily interfacing thermocouple wires.

The USB-30-73 is the perfect measurement tool for customers who wish to do temperature measurement, but do not want the hassle or investment of PLC or SCADA systems. Typical applications include monitoring of furnaces, cold storage, computer server rooms and environmental monitoring to name but a few.

## FEATURES

- USB Interface
- 16 Single Ended Analog Input Channels
- 14-bit A/D Resolution
- 250kHz / 400kHz (model dependent) Total Sampling Speed
- Onboard 16K FIFO
- 4 x 14-bit Analog Outputs
- 24 x DIO Lines (3 x 8-bit ports)
- 16 Thermocouple Inputs
- Thermocouple Accuracy: 1 Degree
- Thermocouples Supported: Type J, K, E, T, R, S, B, C, N
- I/O Connector 4 x DB25-Male (1 for A/D, 1 for DIO & 2 for TC)
- LED Indication for power & USB connection
- Ideal for Portable/Laptop use
- Housing: Plastic ABS with rubber feet
- Operating Temp: 0 to 70 Deg. Celcius
- O/S Support for Windows 98/ME/XP/2000 & Linux
- Includes EDRE SDK, EDRE-Labview, EDRE-Testpoint & WaveView for Windows.
- Power: Supplied with 1A 9VDC External PSU
- Power Consumption: 900mA typ. @ 9VDC
- Dimensions: 65(H) x 80(W) x 148(L) mm

## Specifications

### Analog Inputs (A/D)

#### Input Characteristics

Input Channels:	16 Single Ended
Input Ranges:	$\pm 2.5V$ $\pm 5V$ $\pm 10V$ 0-5V 0-10V
Gain Scale:	1 / 10 / 100
Resolution:	14-bit
Input Coupling:	DC
Max Sampling Rate:	250kHz / 400kHz (Model Dependent)
Clock Source:	Internal 10MHz

Gate Source:	External – Convert (EXT_CLK)
Input Impedance:	1M Ohm
System Noise:	$\pm 1$ LSB

### Analog Outputs (D/A)

#### Output Characteristics

Output Channels:	4
Output Range:	$\pm 10V$
Resolution:	14-bit
Full Scale Error:	$\pm 2$ LSB
Settling Time:	1mS to 0.1% of full scale
Output Drive	$\pm 10V$ @ 5mA
Power-On State:	0V

### Digital I/O (DIO)

No. of TTL Lines:	24
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### Logic Levels:

Input Low Voltage:	-0.5V to 0.8V
Input High Voltage:	2.0V to 5.0V
Output High Voltage Min:	2.4V
Output Low Voltage Max:	0.45V
Maximum Output Current:	2mA

### Temperature Inputs (TC)

Input Channels:	16
TC Range:	$\pm 75mV$
Gain:	Hardware TC
Resolution:	14-bit
Input Coupling:	DC
Input Impedance:	1M Ohm
System Noise:	1 LSB

## Ordering Information

Supplied with EDR Enhanced Software, 1.8Mtr USB Cable, Universal Switch Mode 9V PSU & CJC Screw Terminal Adaptor

USB-30A16-73T16	USB1.1 16 (SE) or 8 (DIFF) Channel 250KHz 14-bit A/D, 4 x 14-bit DACS, 16 Channel 14-bit Thermocouple Input Unit; 24 DIO
USB-30B16-73T16	USB2.0 16 (SE) or 8 (DIFF) Channel 400KHz 14-bit A/D, 4 x 14-bit DACS, 16 Channel 14-bit Thermocouple Input Unit; 24 DIO

### Please Note:

\* Please note that a PC with a USB 2.0 compliant interface is required to achieve these speeds.