ADC-20 and ADC-24 Precision Data Loggers

When you need the ultimate in precise and accurate data acquisition, the high–resolution ADC-20 and ADC-24 data loggers are what you need.

- 24–bit resolution
- Accurate to within 0.1%
- Up to 8 true differential inputs
- Up to 16 single–ended inputs
- Fast conversion time
- Digital output for control
- Galvanic isolation from the PC to eliminate noise pickup
- Data acquisition software included

The ultimate in resolution and accuracy

With up to 24–bit resolution the ADC-20 and ADC-24 USB data loggers are able to detect small signal changes. Features such as true differential inputs, galvanic isolation, and software selectable sampling rates, all contribute to a superior noise free resolution, and ensure that your measurements are reliable and are accurate to within 0.1%.

Flexible, multi–channel data acquisition

Both the ADC-20 and ADC-24 feature true differential inputs for excellent noise rejection. To give you a very flexible system each differential input can also be configured as two single–ended inputs. With up to eight differential or 16 single–ended inputs on the ADC-24, this flexibility gives you complete control on what type of inputs you use. For example, you may configure the ADC-24 to use four differential and eight single–ended inputs, or two differential and 12 single–ended inputs, and so on…the choice is yours.

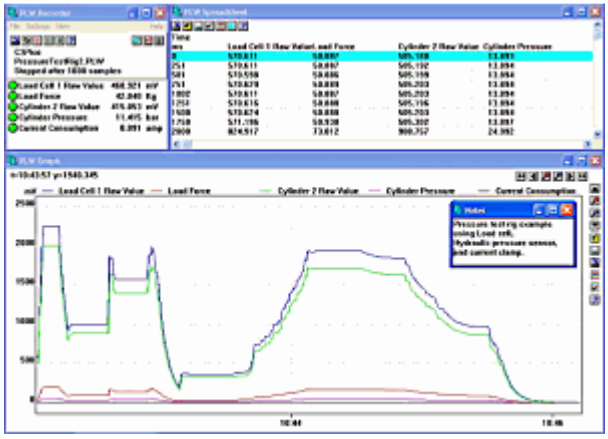
With as many as seven bipolar voltage ranges, the ADC-20 and ADC-24 are also flexible enough to be used with a wide range of sensors and signal types. Whilst the optional terminal board provides screw terminals to allow you to quickly connect and disconnect different sensors.

Additionally, the ADC-24 has four configurable digital input/output channels that can be used to control alarms or other devices. You can configure these I/O channels in any combination. For example, three digital inputs could be used with 1 digital output.

The flexibility of these precision data loggers allows you to use the ADC-20 and ADC-24 as an advanced multi–channel data acquisition system with a low cost per channel.

No need for power supplies or batteries

The high–resolution ADC-20 and ADC-24 are powered directly by your PC — eliminating the need for batteries or a separate power supply, and making them ideal when you need a portable data logger.



Easy–to–use data acquisition software

All Pico data acquisition products come complete with PicoLog — this powerful, yet flexible, data acquisition software allows you to collect, manipulate, analyse, and display and export data. With PicoLog you can sample up to one million readings at selectable sampling rates; and using PicoLog, or our driver with your own software, you can connect up to four units to one PC.

Updates to PicoLog are available for free from our website, and you can download a demo of PicoLog to see just how versatile it is.

The answer to your data acquisition needs

The high–resolution ADC-20 and ADC-24 provide you with a multi–channel, precision data acquisition device. High resolution, true differential inputs, galvanic isolation, and selectable sampling rates combine to

ensure your measurements are always precise and accurate. Configurable inputs, digital inputs and outputs, and programmable voltage ranges give you a truly flexible answer to your data acquisition needs.

When you need the ultimate in high–resolution and accuracy, the versatile ADC-20 and ADC-24 provide you with a portable answer with the performance and flexibility you need.

Buy your ADC-20/ADC-24 online or from your local Pico distributor.

Specifications

	ADC-20	ADC-24
Resolution	20 bits	24 bits
Number of channels[#]	4 differential / 8 single-ended	8 differential / 16 single-ended
Conversion time (per channel)	660 ms, 340 ms, 180 ms, 100 ms, 60 ms	
Voltage ranges	±2500 mV ±1250 mV	±2500 mV ±1250 mV ±625 mV ±312 mV ±156 mV ±78 mV ±39 mV
Accuracy	0.2%	0.1% (±39 mV to 1250 mV range) 0.2% (±2500 mV range)
Noise rejection	120 dB typical at 50/60 Hz	
Input impedance	Differential: 2 MΩ Single ended: 1 MΩ	
Overload protection	±30 V	
Digital I/O	none	4 bi-directional (3.3 V CMOS)
Reference output	+2.5 V ±2.5 mV @ 2 mA +5 V ±1.0 V @ 2 mA -5 V ±1.5 V @ 2 mA	

PC Requirements	
Minimum	**Processor**: Pentium II processor, or equivalent **Memory**: 64 MiB (XP) / 512 MiB (Vista) / 1 GiB (Windows 7 and 8) **Operating system**: 32– or 64–bit edition of Microsoft Windows XP SP2, Vista, Windows 7 or Windows 8 (not Windows RT) **Ports**: USB 1.1 compliant port
Recommended	**Processor**: 2 GHz Pentium IV processor, or equivalent **Memory**: 256 MiB (XP) / 1 GiB (Vista, Windows 7 and 8) **Operating system**: 32– or 64–bit edition of Microsoft Windows XP SP2 (or above), Vista, Windows 7 or Windows 8 (not Windows RT) **Ports**: USB 2.0 compliant port

Environmental	
For quoted accuracy	20 °C to 30 °C
General operation	0 °C to 45 °C

Environmental	
Relative humidity	5% to 80% RH
Physical Properties	
Dimensions	135 x 184 x 36 mm (5.31 x 7.24 x 1.41 in)
Software	
PicoLog for Windows	PicoLog data acquisition software can collect up to 1 million samples. Features include: **Multiple views** — view data as a graph, spreadsheet or text **Parameter scaling** — convert raw data into standard engineering units **Math functions** — use mathematical equations to calculate additional parameters **Alarm limits** — program an alert if a parameter goes out of a specified range **IP networking** — transfer measurements via a LAN or over the Internet Full details on PicoLog
Software development kit	Includes drivers and example code for various programming languages including C, Delphi, Excel, LabVIEW, VEE and Visual Basic. Download SDK
Language Support	
Software PicoLog	**Full support for**: English, Français, Deutsch **Menus and dialogs only for**: Italiano, Español, Svenska
Documentation **User's guide** **Installation guide**	 English, Français, Deutsch, Italiano, Español English, Français, Deutsch, Italiano, Español, Svenska, Nederlandse, Dansk
General	
Additional hardware (supplied)	USB 2.0 cable, user manuals, software CD–ROM
PC interface	USB 1.1
I/O connector	25–way D female
Power requirements	Powered from USB port
Compliance	European EMC and LVD standards FCC Rules Part 15 Class A
Total Satisfaction Guarantee	In the event that this product does not fully meet your requirements you can return it for an exchange or refund. To claim, the product must be returned in good condition within 14 days.
Warranty	5 years