# Portable Handheld Dataloggers

## AD128 Series

A/IN IBM PC DI/O



**Model AD128**

**$799**

1 YEAR WARRANTY

MADE IN USA

OMEGA CARE Extended Warranty Program

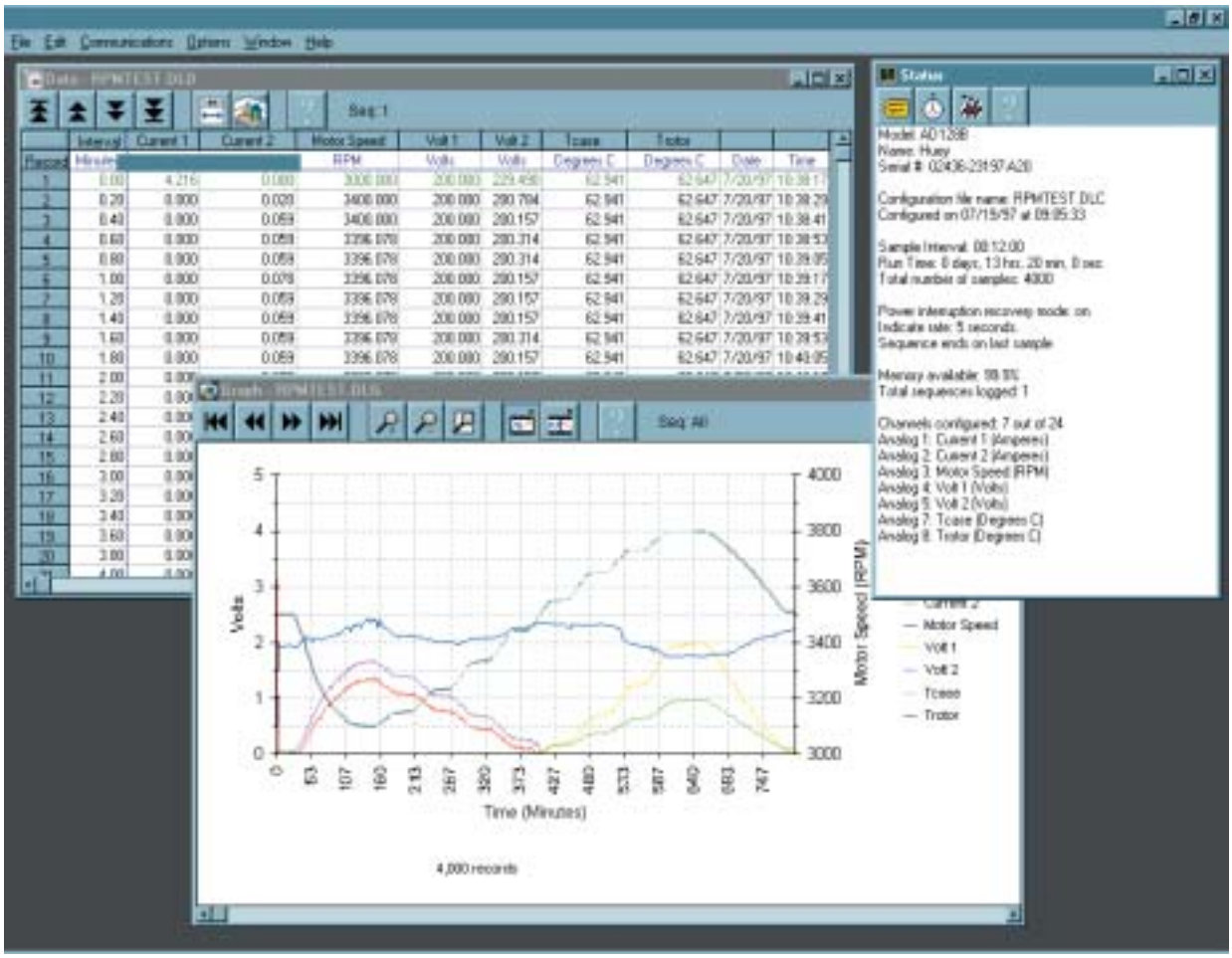
- **Compact, Lightweight**
- **Records Voltage or Temperature**
- **Fast, Easy Setup**
- **Event Based Recording Options**
- **10 Year Battery Backup**
- **Software Runs on WIN 3.1x/95/98/NT**

The AD128 is a complete stand-alone data acquisition system that includes a pocket-sized logging unit, standard Windows configuration and analysis software and all other accessories required. This system provides a method for recording directly from process sensors, instruments and other circuits with output voltages in the range of 0 to 5 volts or 0 to 10 volts and Omega's Series 400 thermistor temperature probes. These dataloggers are ideal for applications including laboratory data acquisition, materials testing, field data collection, process monitoring and control and quality auditing.

The AD128 datalogger will operate from a 9 V battery for up to three months while recording from all 8 analog and 16 digital inputs. Recording can be as slow as one reading every 99 minutes or as fast as 500 per second, sampling all inputs simultaneously. Optionally, recording may be triggered by a specified condition on the input signal levels, eliminating unwanted information.

Sample records are time stamped with the time and date of the built-in real-time clock. The 10 year battery-backed data memory and software interlock ensures that data won't be lost or accidentally erased. All inputs are protected to ±20 volts.

A full-featured Windows based configuration and analysis software package is shipped with each system and enables immediate use of the system right out of the box. This form-based software is extremely intuitive, requires no programming, and is used to setup the datalogger and download logged data. Logging parameters (sample interval, run time, and active channels) are configured via the software and then sent to the AD128 datalogger through the PC's serial port. After it is configured, the datalogger may be disconnected from the PC and operated in the stand-alone mode. A Start/Stop button on the datalogger begins and ends the data collection process. When logging is completed the datalogger is again connected to the PC's serial port through which data may be transferred from the datalogger to the PC. Once data has been recorded, a single mouse click retrieves data into a built-in spreadsheet for easy viewing. From the spreadsheet, data can be copied to the Windows clipboard or exported to a file to be brought into other programs. The software also provides the ability to view and print a graphic representation of the data.




Software features include:

## Analysis

- Statistics - Min, Max, Avg, mean, standard deviation, regression
- Scroll
- Zoom
- View all 130,000 data points on a single graph
- Simultaneous view of multiple tests
- Step between tests

## Presentation

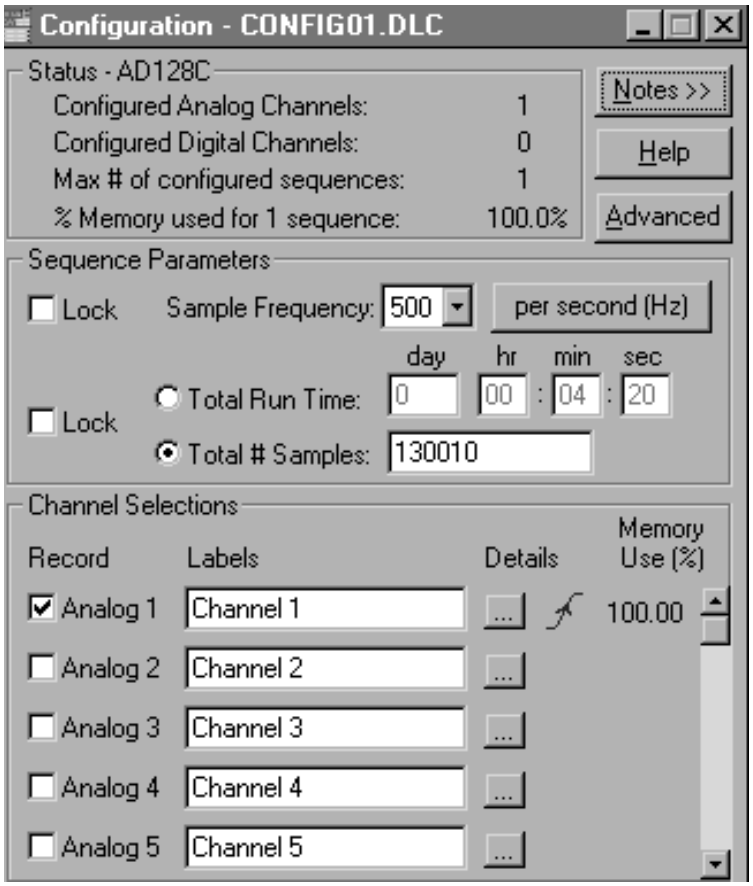
- Y versus Time graphs
- X-Y graphs
- 2D, 3D plots
- Backdrop and shading
- Footnotes and annotation
- Scaling to any linear unit of measure

## Import/Export

- Copy/Paste to other Windows Applications
- Save graphs in Windows metafile (.WMF) and bitmap (.BMP) formats or the proprietary format for reloading and editing
- Save data in ASCII format which is compatible with most spreadsheet, database and analysis software programs

| Model No. | No. of Analog Input Channels | | Number of Digital Inputs |
|---|---|---|---|
| | Voltage | Temperature | |
| **AD128** | 8 (0 to 5 V) | - | 16 |
| **AD128-10** | 8 (0 to 10 V) | - | 16 |
| **AD128-T8** | - | 8 | 8 |
| **AD128-T2** | 6 (0 to 5 V) | 2 | 14 |
| **AD128-T6** | 2 (0 to 5 V) | 6 | 10 |
| **AD128-10T2** | 6 (0 to 10 V) | 2 | 14 |
| **AD128-10T6** | 2 (0 to 10 V) | 6 | 10 |

Each AD128 datalogger is supplied with a 25-conductor sampling interface cable. This cable has a DB25 connector on one end that plugs onto the AD128 datalogger. The other end of this cable terminates in color-coded stripped leads that can be connected to the input signals to be monitored. The AD128-TERM screw terminal panel is an optional wiring accessory that can be used for input signal connection. The AD128-TERM brings out all the pins on the datalogger's DB25 input connector to a convenient exterior screw terminal wiring panel. The AD128-TERM connects to the AD128 datalogger via the AD128-CABLE interconnecting cable.




## Specifications

### GENERAL

**Data Storage:** 130,000 samples (16 channels of digital data make up 2 samples)

**Recording Duration:** 0.002 sec to years

**Sampling Interval:** 500 Hz (0.002 sec) to 99 min (all channels)

**Data Memory Battery Life:** 10 years

**Internal Power Supply:** 9 V battery

**External Power Supply:** 9 Vac adapter

**Operating Current:** 300 µA standby, 4 mA while recording, 10 mA for LED indication (sampling, can be disabled)

**Operating Temperature:** 14 to 122 °F (-10 to 50 °C)

**Storage Temperature:** -4 to 158 °F (-20 to 70 °C)

**Communications:** RS-232; 9600 baud, 8 data bits, no parity, 1 stop bit, 9-pin female connection

**Dimensions:** 5.8"H x 3.6"W x 1.3"D (14.7 x 9.1 x 3.3 mm)

**Weight:** 8 oz (226 g)

**Analog Voltage Inputs**

**Input Range:** 0 to 5 V, 0 to 10 V

**Resolution:** 20 mV on 0 to 5 V range, 40 mV on 0 to 10 V range

**Accuracy:** ±10 mV on 0 to 5 V range, ±20 mV on 0 to 10 V range

**Input Bias Current:** ±10 µA

### TEMPERATURE INPUTS

**Sensor Type:** any Omega Series 400 thermistor (see Thermistor Input Types & Ranges Table)

### DIGITAL INPUTS

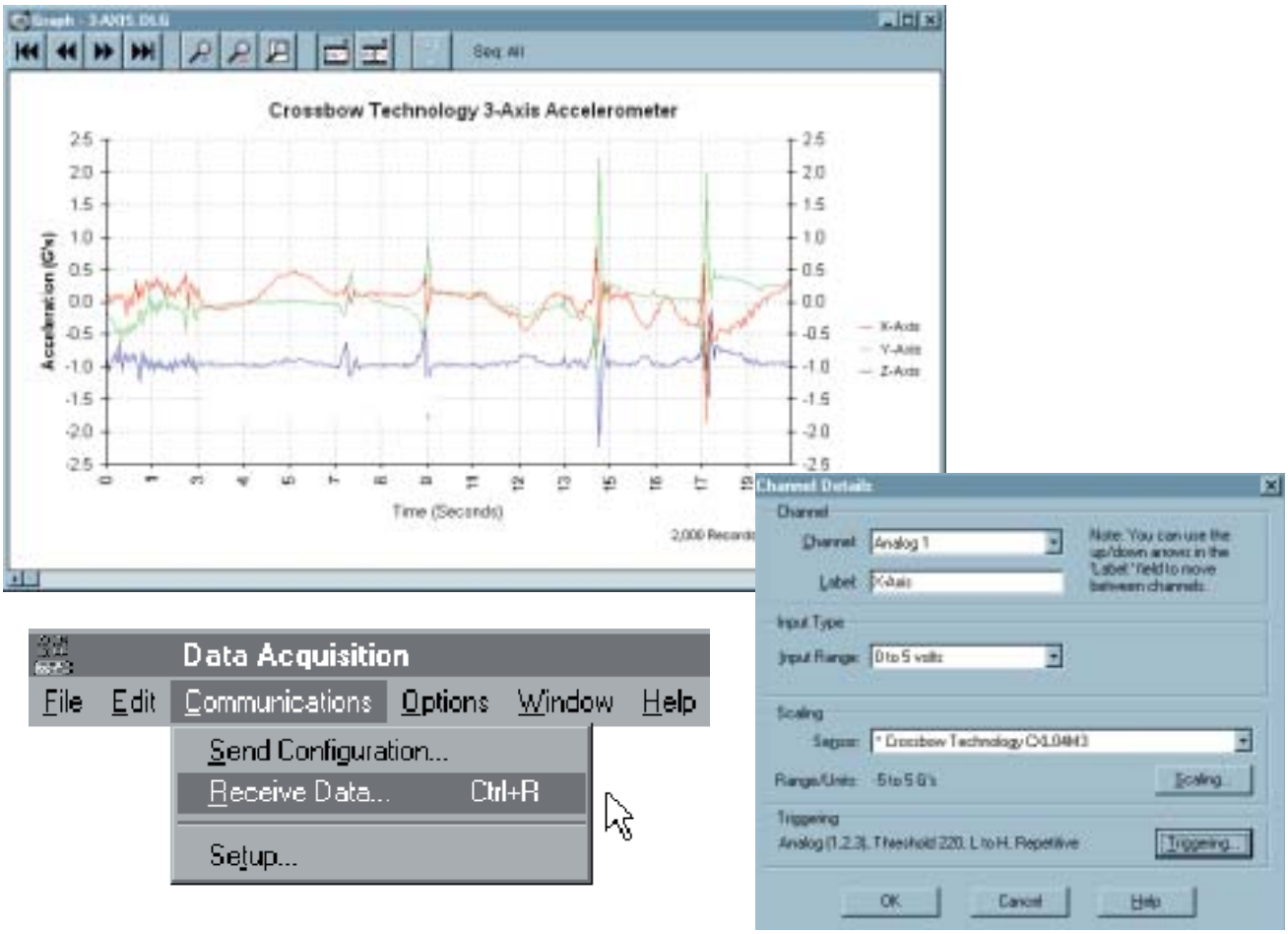
**Input Level:** up to 10 V recommended, 100K pull-ups on channels 1 to 8

**"High" Threshold:** 3.5 V max

**"Low" Threshold:** 1.0 V min

**Input Bias Current:** ±10 µA

| Thermistor Input Types & Ranges | | | | | |
|---|---|---|---|---|---|
| **Thermistor Type** | **44004, 44033** | **44005, 44030** | **44007, 44034** | **44006, 44031** | **44008, 44032** |
| **Nominal Resistance at 25 oC, Ω** | **2252** | **3000** | **5000** | **10000** | **30000** |
| **Temperature, °C** | **Accuracy/Resolution (°C)** | | | | |
| -40 | 2.07/0.55 | 2.71/0.69 | | | |
| -20 | 0.75/0.32 | 0.94/0.36 | 1.45/0.48 | 2.33/0.75 | |
| 0 | 0.46/0.31 | 0.50/0.31 | 0.65/0.32 | 1.03/0.44 | 2.80/0.90 |
| 20 | 0.58/0.52 | 0.53/0.45 | 0.50/0.38 | 0.64/0.40 | 1.29/0.54 |
| 40 | 1.05/1.03 | 0.86/0.83 | 0.65/0.59 | 0.57/0.46 | 0.74/0.42 |
| 60 | 2.26/2.25 | 1.76/1.75 | 1.17/1.14 | 0.77/0.71 | 0.61/0.46 |
| 80 | | 3.59/3.59 | 2.28/2.27 | 1.22/1.19 | 0.69/0.62 |
| 100 | | | | 2.09/2.07 | 0.99/0.95 |
| 120 | | | | 3.39/3.38 | 1.63/1.61 |
| 150 | | | | | 3.35/3.34 |




## To Order *(Specify Model Number)*

| Model No. | Price | Description |
|---|---|---|
| **AD128** | **$799** | 8 channel voltage logger, 0 to 5 V |
| **AD128-10** | **799** | 8 channel voltage logger, 0 to 10 V |
| **AD128-T8** | **799** | 8 channel temperature logger |
| **AD128-T2** | **799** | 8 channel voltage/temperature logger (6 voltage channels, 0 to 5 V; 2 temperature channels) |
| **AD128-T6** | **799** | 8 channel voltage/temperature logger (2 voltage channels, 0 to 5 V; 6 temperature channels) |
| **AD128-10T2** | **799** | 8 channel voltage/temperature logger (6 voltage channels, 0 to 10 V; 2 temperature channels) |
| **AD128-10T6** | **799** | 8 channel voltage/temperature logger (2 voltage channels, 0 to 10 V; 6 temperature channels) |

*Each AD128 datalogger includes software, RS-232 communications cable with DB9F termination, sampling interface cable, ac adapter, 9 volt battery, and complete operator's manual.*

***Ordering Example: AD128-10T6** voltage/temperature logger with 2 voltage channels, 0 to 10 V input, and 6 temperature channels, **OMEGACARE**℠ 1 year extended warranty for **AD128-10T6** (adds 1 year to standard 1 year warranty), **AD128-TERM** screw terminal board, and **AD128-CABLE** interconnecting cable, $799 + 79 + 45 + 18 = **$941**.*

### Accessories/Options

| Model No. | Price | Description |
|---|---|---|
| **AD128-TERM** | **$45** | 3.5" X 2" screw terminal board (requires AD128-CABLE) |
| **AD128-CABLE** | **18** | 6 ft DB25 -DB25 cable for use with AD128-TERM |
| **AD128-ENC** | **90** | NEMA 12 enclosure for any AD128 datalogger, 14 ga steel, powder coated, hinged, dual quick-release latches, 6" x 8" x 3.5", with mounting panel |
| **ON-901-44004** | **36** | Vinyl coated thermistor probe assembly* |
| **ON-905-44004** | **55** | Epoxy coated thermistor probe mounted in open stainless steel housing for air temperature measurement* |
| **ON-910-44004** | **55** | Stainless steel thermistor probe assembly with 1/8" NPT fitting* |