

Pliant: readily yielding to influence



PDAS-II/HDR

### **PDAS-II Data Logger**

The PDAS-II data loggers feature a built-in menu system which may be accessed directly from your PC, or via modem, or even GOES telecommunications using SAT-HDR high-data-rate transmitter. Firmware upgrades are easily accomplished directly from your PC without having to change any internal parts.

The PDAS-II is your solution for a reliable, easy-to-use yet highly capable platform for amassing data. No custom software is required for the host. In fact, the built-in menu system only requires a basic communications package or simply a dumb terminal emulator (eg. Hyperterminal) and is not OS dependent (Windows, QNX, Unix, ...).

Standard features include:

- 2 SDI-12 ports fully compliant with version 1.3. These ports are easily configurable to SDI-12/RS485 for long distance communications to sensors such as our PSE-SDI shaft encoder.
- Analog Input System providing 8 channels of 16-bit A/D conversion. Three channels configured for maintenance parameters including main voltage, Lithium battery and on-board temperature (built-in). Channels 1 to 4 have user-configurable input ranges as shown below and may be used as single-ended or differential:

⇒ +/-100mV (for bipolar apps), 0-1V, 0-2.5V and 0-5V.

⇒ The default input range for channels #1 to #4 is 0-5V, or as ordered.

- NEMA TYPE 4 enclosure with water-tight strain-reliefs supplied for routing cables.
- Excitation of 5V, 2.5V and constant current supply of 100 $\mu$ A.

- *Sensor Log Table* with 16 slots for configuration of parameters with respect to sampling rate (from 1 second to 99 minutes and 99 seconds), logging rate (from 1 second up to 99hours and 99 minutes), Min/Max logging rate, conversion equations, etc... Set-up is easy with user-friendly menu system which guides the operator through the process. The configuration of ALL parameters can be determined at a glance with the *Sensor Log Table*.
- Data processing including user-definable polynomials (up to 6<sup>th</sup> order) and trig functions. Provides the ability to synthesize data from several parameters into your conversion equations.
- User-programmable alarm functions to trigger an action such as initiating the sampling of a sensor.
- View Data facility for real-time viewing of sensor data. Programmable sampling rate.
- The switched 12VDC output may be used to automatically turn on and off sensors that consume relatively high amounts of power. Programmable time-delay for sampling of sensor from 50 msec to 12.75 seconds.
- Logging of the average and the min/max of sampled data. The average is determined by user-specified number of samples and sampling rate.
- Format of downloaded data is user-configurable (Sequential as well as two forms of Tabular format). Column delimiters are user-specified for Tabular format (eg, comma, tab, space, ...)
- Auto-calibration of sensors with respect to “scale” and “offset”.
- 2 event counters for switch closures up to 100Hz.
- For easy hook-up of all sensors and power supply, detachable terminal strips are mounted to the front of the logger with clearly-labelled connections.
- Dual RS232 ports: one for direct hook-up to PC, the other for modem or GOES transmitter.
- MANY more features ...

## Options

- Built-in environmental modem (order **PDAS-II/PMDM**).
- Built-in environmental voice modem (order **PDAS-II/PMDM/V**).
- Campbell Scientific SAT-HDR high-data-rate transmitter for GOES telecomm with firmware support (order **PDAS-II/HDR**).
- Built-in Nitrogen Pressure Transducer (order **PDAS-II/NPT**).
- Built-in PSE-SDI shaft encoder (order **PDAS-II/PSE**).
- Built-in PSE-SDI/D shaft encoder with 8-digit LED display (order **PDAS-II/PSE/D**).

## Specifications

Processor - Atmel 89S8252 @ 11.0592 MHz.  
Internal RAM - 256 bytes RAM

### External Memory

site 1 – Data space: 4 slots of 32 kbytes SRAM (Li Bat)  
site 2 - Code space: 2 slots of 64 kbytes SRAM (Li Bat)  
sites 3&4 - 1 Mbyte non-volatile flash (32768 records)

### Connectors

- 9 pin DB9S comm connector (RS-232)
- 15 pin DB15S comm for modem and GOES
- Detachable terminal strip (SDI-12, +12VDC input, analog inputs, references, +12VDC switched output)

### AIS Input

Primary Voltage: (0 - 20V)  
Lithium Battery Voltage (0-5V)  
Internal Temperature ( 0 - 2.5V)  
9V bat. Voltage (0-20V) with PSE/D option  
Ch #1,2,3 and 4: user-conf. ranges as follows:  
+/-100mV, 0-1V, 0-2.5V and 0-5V

### AIS Output

2.5V and 5V reference  
100 microAmp constant current source

### Modem

- Order **PDAS-II/MDM**: built-in Env. Modem
- Order **PDAS-II/MDM/V**: built-in Env. Voice Modem

### GOES Telecommunications

- Order **PDAS-II/HDR**: provides CSI **SAT HDR** transmitter and firmware support

### Built-in Shaft Encoder

- Order **PDAS-II/PSE**: resolution of 384 counts per rev., 9 V batt. Backup
- Order **PDAS-II/PSE/D**: with LED display

### Environmental Characteristics

Operating : -40 to +85 C  
Storage : -60 to +100C  
Humidity : <= 100% non-condensing

### Battery Backup

Standard CR2032 3VDC Lithium battery RAM backup (date, time, unit no., site description, sensor setup).

### Event Counter Input

2 ports included  
10 msec closure, 16 bit  
Resettable from menu

### Power Consumption

< 7 mA w/o comm port connected  
< 18 mA w/ comm port connected

### Real Time Clock

Motorola, adjusted to +/- 15ppm per year

### Built-in Nitrogen Pressure Transducer

- Order **PDAS-II/NPT**: transducer by Pressure Systems Inc., 0.1% static acc., 3/8" female pipe fitting, easily replaceable vent filter.

### Physical Characteristics

#### Basic Models:

Height – 100 mm. (4 in.)  
Width - 254 mm. (10 in.)  
Depth - 200 mm. (8 in.)  
Mounting brackets with four #10 holes

#### Models equipped with GOES transmitter (/HDR)

Height - 150 mm. (6 in.)  
Width – 300 mm. (12 in.)  
Depth - 200 mm. (8 in.)  
Mounting brackets with four #10 holes

The above information is believed to be true at the time of printing. AMASS Data Technologies Inc. reserves the right to modify specifications without notice. All trademarks are owned by their respective companies.  
AMASS Data Technologies Inc.  
812 Proctor Avenue  
Ogdensburg, New York 13669  
TEL: (819) 827-0077 FAX (819) 827-4305  
Email: amassinf@amassdata.com