Stevens **DL**ight Data Logger

Description

The Stevens **DLight** is a **flexible** and **versatile** data logger, ideally designed for applications that don't require as many inputs or outputs as our fully-featured data loggers.

Four (4) single-ended analog input channels are available and feature voltage surge and lightning protection to help protect sensitive instruments in areas with storm activity. Supported measurement and sensor types include temperature, 0-5 Vdc, 4-20mA, and pulse inputs for tipping buckets - with programmable logging and reporting intervals. The DLight provides a 24 Vdc loop power supply with sufficient current to drive sensors.

The DLight provides several popular data bus I/O's including; SDI-12, one (1) RS-232 port, and USB 2.0. Other digital features include a Secure Digital SD card interface that can store up to two gigabytes of sampled data.

The DLight supports connection to telemetry over the RS-232 port for reporting data over cellular, UHF/VHF, or satellite systems such as GOES.

Specifications subject to change.

Features

- Inputs: Analog, Pulse, SDI-12
- Outputs: V-out, Alarm, RS-232
- Simple configuration for telemetry applications:
  - Satellite
  - Radio (UHF/VHF)
  - Bluetooth
  - Wireless mesh networks
  - Cell modem
- High-speed USB 2.0 port (compatible with USB 1.0 devices)
- SD memory card slot
- Windows software for easy:
  - Configuration and diagnostics
  - Rapid data exchange to PC
  - Tabular analysis
  - Data export to other software programs
  - CSV data file export
  - Multiple international languages supported

Applications

- Stand-alone & real-time data acquisition and control
- Water resources:
  - Water level/stage
  - Water flow
  - Water quality
- Irrigation
- Meteorological & Agrimet
- Soil conditions
- Industrial

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Stevens DLight Data Logger

Technical Specifications

Power Requirements
9.6 - 16 VDC, 7 mA standby current (telemetry system will require additional power)

Processor
16-bit TI MSP430, and two 16-bit dsPIC microprocessors

On-Board Data Storage
FLASH storage, 2 Gigabytes internal plus removable 2 Gigabyte SD memory card

Logging Interval
1 minute to 24 hours

Real-Time Clock
Accurate +/- 1 minute/month, leap year correction, temperature correction

Non-Volatile Memory
All setup parameters and clock, lithium battery backup

8 gigabytes of expandable data storage with external SD card

Message Size
6 - 340 bytes typical

Serial Port
One (1) RS-232
+/- 5 VDC levels, minimum
1200 to 115200 baud*
USB 2.0

Analog to Digital (0-5 VDC)
21-bit resolution
Input impedance: 10 K ohm (min)

Communications
One (1) RS-232
USB 2.0 (fully compatible with USB 1.0 devices)

Removable SD card, 2 GB supplied

Watchdog Timer
System resets upon microprocessor failure

Digital to Analog (0-5 VDC) Output
12-bit resolution

Temperature and Humidity
Operating: -40 to 158 F (-40 to 70 C)

Optional NEMA 4 enclosure: 100% condensing

Aluminum enclosure: 95% non-condensing

Sensor Input Selections

4 Analog Channels - Single Ended;
Input type: 2 wire, 4 - 20 mA current loop, or 0 - 5 V with accessable DIP switch

Sensor power: 24 Vdc (under firmware control), 12 Vdc and 5 Vdc (fixed)

Accuracy & Resolution: 0.01% accuracy, 0.002% resolution

21-bit analog single-ended Input: Resolution is 0.5 parts per million (discrete one for each channel)

Simultaneous Sampling

Pulse Count:
Input type: pulse
Sensor power: 5 or 12 VDC continuous
Maximum rate: 60 pulses per minute

Serial:
Input type: SDI-12
Sensor power: 5 VDC or 12 VDC continuous,

One Switched Excitation Voltages:
24V/5W for 4-20mA sensor power

Physical Size (L x H x D)
Black anodized aluminum housing
5.53 in x 3.06 in x 1.95 in
(14.05 cm x 7.77 cm x 4.96 cm)