

# SDL500

## SUBMERSIBLE DATA LOGGER



- Five digital & analog sensor ports
- Waterproof sensor connection
- Alkaline battery or solar powered
- Radio, cellular or satellite telemetry
- Complete system is truly submersible

The **SDL500** Submersible Data Logger is a rugged, self-powered remote data logging system for deploying environmental sensors in streams, rivers, wetlands, coastal waters, sewers, and culverts without fear of accidental flooding. The system is configured with five sensor ports for connection to industry-standard digital and analog interfaces including RS-485, SDI-12, 1-wire temp string, 0-2.5 VDC, pulse count, and more. Each sensor port offers a UW receptacle with double O-ring seal for a reliable waterproof connection. Unlike many data loggers, the **SDL500** is truly submersible. The housing and battery compartment are completely sealed and waterproof.

When it comes to field ruggedness, the NexSens **SDL500** is in a class of its own. The housing is constructed of impact-resistant PVC and includes two elastomer bumpers for long-term deployment in close-fitting pipes and buoy ports. Internal circuit boards and communication modules are shock mounted and all access ports incorporate redundant sealing. The **SDL500** withstands extreme wave action, drops, floods, periodic & long-term deployment underwater, and more. When fitted for wireless remote communication, the radio, cellular, and satellite antennas are also waterproof.

The **SDL500** can be powered autonomously by eight D-cell alkaline batteries. Optional solar power kits provide long-term continuous operation and solar charging. The data logger incorporates the same analog and digital interfaces as the popular NexSens **iSIC** data loggers. Common sensor connections include multi-parameter sondes, water quality sensors, temperature strings, Doppler velocity meters, water level sensors, rain gauges, and weather stations. User-supplied sensor cable assemblies can also be connectorized and tested at the factory for **SDL500** integration. With this sensor interface versatility, the measurement possibilities are endless.



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### specifications

|                                |   |
|--------------------------------|---|
| Analog Inputs                  | (2) differential or (4) single-ended, 0-2.5 V auto range, 12-bit resolution   |
| Analog Outputs                 | (1) 12-bit channel, 0-2.5 V programmable  |
| Power Outputs                  | (1) 12 V 250 mA configurable switch, (1) 5 V 100 mA analog excitation voltage, (1) 12 V output, fused from battery  |
| Pulse Counters                 | (1) tipping bucket counter, max rate: 10 Hz   |
| Digital I/O Ports              | (1) standard generic I/O port   |
| 1-Wire Interface               | (1) 1-wire temperature sensor port  |
| SDI-12 Interface               | (1) SDI-12 port   |
| RS-232 Interface               | (2) RS-232 sensor ports   |
| RS-485 Interface               | (1) RS-485 port   |
| Host Interface                 | (1) RS-232 or (1) RS-485 port configurable  |
| Supported Serial Comm Protocol | NMEA 0183 or Modbus RTU   |
| Internal Memory                | 2 MB Flash memory, over 500,000 data points minimum   |
| Power Requirements             | Voltage: 10.7 to 16 VDC   |
| Typical Current Draw           | <b>Data Logger:</b> 2.5 mA sleep, 10 mA processing, 36 mA analog measurement; <b>Cellular Modem:</b> 350 mA receive/transmit typical, 104 mA idle; <b>Radio Modem:</b> 86 mA receive, 500 mA transmit, 21 mA idle, < 1 mA power off; <b>Satellite Modem:</b> 550-850mA transmit, 80mA standby, 30uA sleep |
| Battery                        | (8) D-cell alkaline batteries, internal; optional 12VDC power   |
| Maximum Depth                  | 200 ft.   |
| Temperature Range              | -20 to +70°C  |
| Dimensions                     | 18.25" length x 5.5" diameter   |
| Weight                         | 11.0 lbs without batteries; 13.8 lbs with batteries   |
| Compatible Sensors             | 4-20 mA sensors, 0-2.5 V sensors, SDI-12 sensors, RS-232 sensors, RS-485 sensors, Modbus RTU sensors, NMEA 0183 sensors, 1-Wire temperature sensors, Thermistor sensors, Tipping bucket rain gauges   |
| Cellular Protocol              | GSM/GPRS, EDGE, CDMA  |
| Supported Cellular Carriers    | AT&T, Verizon, Sprint   |
| Radio Frequency Range          | 902-928 MHz   |
| Radio Communication Range      | 40 miles line of sight, extended range with repeaters   |
| Satellite Frequency Range      | 1616-1626.5 MHz   |

### parts list

| Part #  | Description   |
|---------|---|
| SDL500  | SDL500 submersible data logger                                  |
| SDL500R | SDL500 submersible data logger with radio telemetry             |
| SDL500C | SDL500 submersible data logger with cellular modem telemetry    |
| SDL500I | SDL500 submersible data logger with Iridium satellite telemetry |
| A44-SDL | High gain radio antenna for SDL500R data logger                 |
| A49-SDL | High gain cellular antenna for SDL500C data logger              |
| A42-SDL | Iridium satellite antenna for SDL500I data logger               |
| UW-CON  | UW plug connectorization of sensor cable assembly               |
| 1001    | iChart 6 software, licensed per computer                        |



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