

# SDL V2

## SUBMERSIBLE DATA LOGGER



- Cellular, satellite or radio telemetry
- Alkaline battery or solar powered
- Supports a variety of environmental sensors
- Optional web datacenter
- Complete system is truly submersible

The **SDL V2** Submersible Data Logger is a rugged, self-powered remote data logging system for deploying environmental sensors in lakes, streams, rivers, wetlands, coastal waters, sewers, and culverts without fear of accidental flooding. The system is configured with three sensor ports for connection to industry-standard digital interfaces including RS-485 and SDI-12. Additional sensor inputs are available through the use of adapters. Each sensor port offers a UW receptacle with double O-ring seal for a reliable waterproof connection. Unlike many data loggers, the **SDL V2** is truly submersible. The housing and battery compartment are completely sealed and waterproof.

When it comes to field ruggedness, the NexSens **SDL V2** 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 **SDL V2** 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 **SDL V2** can be powered autonomously by sixteen D-cell alkaline batteries. Optional solar power kits provide long-term continuous operation and solar charging. Common sensor connections include multi-parameter sondes, water quality sensors, temperature strings, Doppler velocity meters, water level sensors, and weather stations. Optional integrated cellular or satellite telemetry modules offer real-time remote communications via the **WQData LIVE** web datacenter. There, data is presented on a fully-featured and easy-to-use dashboard. Other features include automated reports, alarms, push notifications and much more.

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## specifications

Ports	(3) UW8 ports for sensor connection; (1) UW6 port for host connection and external power
Host Interface	(1) RS-485 (half duplex)
Sensor Interface	(1) RS-485 (half duplex); (1) SDI-12; Optional RS-232 (via smart RS-232 to RS-485 adapter); Optional analog (via mV to RS-485 adapter)
Sensor Power	(1) Switched 5 VDC, (1) Fulltime 12 VDC, (2) Switched 12 VDC
Sensor Protocols	Modbus RTU; NMEA 0183; SDI-12; GSI (via custom script)
Host Protocols	Modbus RTU; Terminal command interface
Log Interval	1 minute to 24 hours; supports different intervals for different sensors concurrently
Real Time Clock (RTC)	<30sec/month drift; Auto-sync weekly; Internal backup battery
Built-In Sensors	Temperature (-40 to 85°C, 0.01°C resolution, ±2°C accuracy from -20 to 85C); Pressure (300 to 1100 mbar, 0.016 mbar resolution, ±4 mbar accuracy from -20 to 85C); Humidity (0-100%, 0.04% resolution, ±5% accuracy from 5 to 95% RH); Battery voltage; Current draw
Internal Memory	256MB microSD card (expandable up to 32GB)
Internal Power	(16) D-cell alkaline batteries
External Power Requirements	5-24 VDC ±5% (Overcurrent and Reverse polarity protection)
Typical Current Draw (@12V)	Low power sleep: 160uA; Active: 40mA; Cellular transmitting: 300 mA; Radio transmitting: 215mA; Iridium transmitting: 170mA
Maximum Depth	200 ft.
Temperature Range	-40 to +85°C
Dimensions	5.5" (13.97 cm) diameter; 16.50" (46.36 cm) length (antenna length varies by model)
Weight	11.0 lbs without batteries; 16.6 lbs with batteries
Remote Communication	Cellular; License-free 900MHz and 2.4GHz radio; Iridium satellite
Supported Cellular Modems	2G/3G international; 3G North American; 4G LTE North American; LTE-M North America; (future LTE-M1 North America; NB-IoT Europe)
Certified Cellular Carriers	AT&T, Verizon
Radio Range (Line of Sight)	Low power: 2 miles; High power: 28 miles; Extended power: 60 miles
Radio Topology	Point-to-Point; Star; Mesh



## parts list

Part #	Description
SDL-V2	SDL V2 submersible data logger
SDL-V2-C-VZ4G	SDL V2 submersible data logger with Verizon 4G LTE cellular telemetry
SDL-V2-C-AT4G	SDL V2 submersible data logger with AT&T 4G LTE cellular telemetry
SDL-V2-I	SDL V2 submersible data logger with Iridium satellite telemetry
SDL-V2-R-DG	SDL V2 submersible data logger with 900 MHz radio telemetry
UW-CON	UW plug connectorization of sensor cable assembly
CB-50	Data buoy with polymer-coated foam hull, 50 lb. buoyancy

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