

# iSIC

## ENVIRONMENTAL DATA LOGGER

- Eight analog & four digital sensor inputs
- Rugged NEMA 4X fiberglass enclosure
- Cabled & wireless telemetry options
- Internal battery with AC & solar options
- Built-in drivers for environmental sensors

The NexSens **iSIC** (Intelligent Sensor Interface & Control) is the latest in data logging technology. Specifically designed for remote environmental monitoring applications, the **iSIC** offers superior data acquisition performance in extreme conditions. NexSens customers expect reliability, and the **iSIC** data logger delivers unmatched sensor interface and data collection with options for cellular, radio, Ethernet, WI-FI, and satellite telemetry. Each **iSIC** data logger simultaneously supports 8 analog inputs & 4 digital inputs for multi-sensor data logging capability.

The **iSIC** data logger arrives ready for long-term deployment. All electronics are housed in a rugged, NEMA 4X enclosure constructed of heavy-duty fiberglass. The built-in 8.5 amp-hour sealed lead acid battery provides 12 volt power to the system, and the battery can be continuously charged using AC or solar power. Polymer-coated circuit boards, sealed connectors, corrosion-resistant stainless steel hardware, and built-in lightning protection ensure reliable performance in the harshest conditions. All sensors are cabled through Sealcon gland fittings to ensure protection from the elements.

NexSens **iChart** Software is a Windows-based program for interfacing both locally (direct-connect) and remotely (through telemetry) to an **iSIC** data logger or network of data loggers. The **iChart** Setup Device Wizard includes built-in drivers and a step-by-step interface for setting up and configuring remote monitoring sensors and systems. When connected, the user can quickly configure sample & log intervals, upload data, or troubleshoot communications.



### specifications

Analog Inputs	(4) differential or (8) single-ended, additional (4) differential or (8) single-ended optional, 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 50 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	(2) standard generic I/O ports
1-Wire Interface	(1) 1-wire temperature sensor port
SDI-12 Interface	(1) SDI-12 port
RS-485 Interface	(1) RS-485 port
RS-232 Interface	(3) RS-232 sensor ports, (3) additional optional
Host Interface	(1) RS-232 or (1) RS-485 port configurable
Supported Serial Comm Protocols	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>Wi-Fi Modem:</b> 92mA continuous; <b>Ethernet Modem:</b> 120mA transmit/receive, 82mA idle; <b>Satellite Modem:</b> 550-850mA transmit, 80mA standby, 30uA sleep
Battery	12 V 8.5 A-Hr battery, internal
Temperature Range	-20 to +70°C
Dimensions	NEMA 4X enclosure: 12" x 8.5" x 6.95"
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
iSIC	iSIC data logger
3100-iSIC	iSIC data logger with cellular modem telemetry
4100-iSIC	iSIC data logger with spread spectrum radio telemetry
5100-iSIC	iSIC data logger with Ethernet connectivity
5500-iSIC	iSIC data logger with Wi-Fi telemetry
6100-iSIC	iSIC data logger with Iridium satellite telemetry
0200-iSIC	iSIC data logger with spread spectrum radio telemetry & base station output
3200-iSIC	iSIC data logger with radio-to-cellular telemetry
5200-iSIC	iSIC data logger with radio-to-Ethernet telemetry
iSIC-MAST	Mast-mounted iSIC data logging system with solar charging kit
3100-MAST	Mast-mounted 3100-iSIC data logging system with cellular modem telemetry & solar charging kit
4100-MAST	Mast-mounted 4100-iSIC data logging system with spread spectrum radio telemetry & solar charging kit
6100-MAST	Mast-mounted 6100-iSIC data logging system with Iridium satellite telemetry & solar charging kit
3100-AVSS	AVSS stainless steel 3100-iSIC data logging system with cellular modem telemetry
4100-AVSS	AVSS stainless steel 4100-iSIC data logging system with spread spectrum radio telemetry
6100-AVSS	AVSS stainless steel 6100-iSIC data logging system with Iridium satellite telemetry
1001	iChart 6 software, licensed per computer



tel: **937.426.2703**  
8am to 7pm EST, Monday-Friday

fax: **937.426.1125**

NexSens Technology, Inc.  
2091 Exchange Court  
Fairborn, OH 45324  
info@nexsens.com

[nexsens.com](http://nexsens.com)