

HSPALink Logging Transmitter



Supports Modbus over Cellular Networks

Overview

Sutron's Multi-Sensor Input Logger plus Flexible, Economical 2-Way HSPALink now has WiFi capability for complete station set-up & data access.

Features

1. Easy-to-use Software includes setup program.
2. Terminal strip with screw terminals for I/O and power connections
3. Operates 8-16VDC
4. TCXO real-time clock with battery backup, typical ± 5.4 sec/mo
5. Built-in solar panel regulator
6. Support for up to 16 measurements of the following inputs:
 - ▶ SDI-12/RS485 (not simultaneously)
 - ▶ 5 Analog Inputs:
 - 2 single ended inputs (range 0-5V)
 - 2 differential inputs (range ± 39 mv, ± 312 mV, ± 2.5 V)
 - 1 4-20mA input
 - ▶ 2 Digital Inputs. Use for tipping bucket, frequency, & on/off
 - ▶ Internal temperature
 - ▶ Battery voltage
7. Options to average or accumulate 1-8 measurements.
8. Lightning protection (Gas Tube) on all external inputs.
9. User specified equation on any measurement .
10. User specified alarm detection on any measurement.
11. 2 LED for verification/diagnostics.
12. Log capacity: 240K of data accessible via HSPA & direct connect
13. Switched Battery Output
14. Also operates as a standalone recorder without telemetry
15. USB slave for serial connection to PC (USB port does not support typical USB devices like memory sticks, modems, etc.)
16. RealTime Clock operates with internal lifetime battery.
17. 1 Open collector digital output
18. Switched 12 volt output

Advanced Features

- ▶ Equation processing & multiple level averaging
- ▶ GUI Interface for intuitive programming (See LinkComm)
- ▶ Command-line interface for operation without custom programs
- ▶ Separate schedules for each measurement
- ▶ Upgrade firmware via USB.
- ▶ Supports SDI-12, Analog, 4-20ma input
- ▶ Switched Power Output w/overload protection & Digital Output
- ▶ Gas Tube Protection on Inputs
- ▶ Max min or average computations on measurements
- ▶ LED operational status feedback
- ▶ WiFi access point (IEEE 802.11 b/g) with selectable Auto-Time-Out or Always-On modes



Little Box. Big Data. HSPALink dimensions are 3.8" x 5.3" x 1.3" (96.5mm x 134.6mm x 33.0mm) (approximately the size of an iPhone).

Applications

- ▶ Surface Water Level, Flow & Quality
- ▶ Groundwater Level & Quality
- ▶ Offshore X-Linking
- ▶ Mining / Geotechnical
- ▶ Weather X-Linking & Warning
- ▶ Oceanic X-Linking & Warning
- ▶ Oil & Gas Production
- ▶ Any Low-Power, Remote Data Acquisition System

HSPA Telemetry Benefits

- ▶ Periodic transmissions at user-set times with data in user-selectable format (pseudobinary B, C, SHEF & ASCII)
- ▶ Supports primary/secondary stations via HSPA
- ▶ Alarm transmissions as they are detected.
- ▶ Diagnostics track data amount sent & telemetry performance
- ▶ Supports up to 2 outputs (1 digital & 1 switched battery) for remote commands
- ▶ Optional message authentication for insuring a trusted source & for messages sent to SutronWIN via HSPA
- ▶ Incoming SMS transmissions if HSPA fails or in place of HSPA
- ▶ Extremely affordable
- ▶ HSPA uses 3.5G cellular technology to provide higher data speeds compared to HSPA

SPECIFICATIONS

Specifications subject to change without notice

Measurement Interval	1 second to 24 hours
Number of Measurements	16 supported
ANALOG	2 Single ended, 2 Differential, 1 4-20ma
Single-Ended Analog	0-5 V (with respect to ground)
Number available	2
Input Range	0 to 5V (with respect to ground)
Resolution	0.298 μ V
Noise (p/p) @25°C	12.0 μ V (p/p)
Accuracy @25°C	0.003% (typ) Midscale 0.004% Max
Input Impedence	> 1 MegOhm @25°C
Differential Analog	
Number Available	2
Range (SW selectable)	\pm 39mV; Common Mode Voltage Range .3 to 3.9 Volts \pm 312mV; Common Mode Voltage Range .3 to 3.9 Volts \pm 2.5V ; Common Mode Voltage Range .1 to 4.9 Volt
Resolution	4.657 nV @ \pm 39mv scale, 37.25 nV @ \pm 312mv scale, 298 nV @ \pm 2.5v scale.
Noise (p/p) @25°C	1.6 μ V (p/p) \pm 39 mv / 312 mv scale 5.0 μ V (p/p) \pm 2.5 v scale
Accuracy @25°C	0.004% max @ \pm 2.5v scale
Input Impedance @25°C	>5 Meg Ohm 312mV FS Differential
4-20 mA Analog	
Range	0 - 22mA
Resolution	<1nA
Accuracy @25°C	0.02%
Loop Power	External
Loop Resistance	200 Ohm
DIGITAL INPUTS/ OUTPUTS	
Digital Input 1, 2 Tipping Bucket Type	Switch Contact Type. Pulse Width: 30ms - 120ms. Range: DC to 120 tips/min. (min).
Digital Input 1,2 Frequency Type	
Minimum Frequency	2.8 Hz
Maximum Frequency	10 KHz
Input Range	0 - 5 V
Digital Input 1,2 Counter Type	
Maximum Frequency	10 kHz (with no debouncing) 300 Hz (with debouncing)
Input Range	0- 5 Volts
INTERNAL TEMPERATURE	
Range	-40 to +60°C
Accuracy	\pm 3 degrees

ELECTRICAL

Input Voltage	8-16VDC 10 V minimum for SDI-12 sensor support Reverse power protected
Current Consumption	0.5mA standby typ (all sensors unpowered) 8 to 20mA active typ
HSPA Transmission	<50mA @ 12 Volts
Power Connection	2 position terminal strip
SDI-12 Port	3 position terminal strip
Red Warning LED	Indicates setup or operation error
Green Heartbeat LED	Indicates unit operating properly
Earth GND	.2" screw terminal

ENVIRONMENTAL

Temperature	-40°C to +60°C
Humidity	0-95% Non-condensing

KEY FEATURES



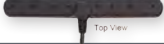
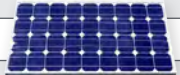
Clock	Internal real-time clock w/battery backup.
Accuracy	\pm 9.3 s /month(Max) -40 to +60°C. (First Year)
Accuracy	\pm 2.4 min /year (Max) -40 to +60°C. (First Year)
Accuracy	\pm 4.5 min / 10 years (Max) -40 to +60°C. (10 Years)
Log Capacity	240,000 readings, flash memory
USB Port Connector	Serial Communications / USB port
Mini-B Male USB connector on logger to be connected to USB Type-A Male (Windows PC). LinkComm software included for USB port communications	
Internal Solar Panel Battery Charger	5 - 20W Panels. (Max 30 Watts) Automatic charge & float modes protect gel cell & acid batteries.
HSPA modem	Modem factory installed, internal with RF output jack for antenna.
Quad Band HSPA Modem SMA-F Output RF Jack	

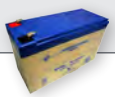
COMMUNICATIONS

Interfaces	1 USB Mini-B Male (5 pin) Connector Serial Communications - USB. Not full function USB port. HSPA Modem SDI-12. RS485 (future support)
SDI-12 interface	V1.3 compliant recorder
Supports up to 16 SDI-12 sensors Automatically combines requests to the same device +12V @ 500mA	

DIMENSIONS	Operating	Shipping
Height	5.3" (13.5 cm)	14 in. (35.6 cm.)
Length	3.8" (9.7 cm)	10 in. (25.4 cm.)
Width	1.3" (3.4 cm)	6 in. (15.3 cm.)
Weight	1 lbs. (.46 kg)	2 lbs. (0.9 Kg)

NOTES: Please refer to the XLink Product Family User Manual for full product specifications and variations.

ORDERING		
Part #	Description	
HSPALink Models		
HSPALink-1	Datalogger & HSPA Modem combined plus 4 Mounting Screws for Holes Located on the Back of the Unit. No enclosure.	
HSPALink-1E	Basic HSPALink w/ Internal Antenna & Mounting Ears for Wall includes 7AH Battery	
HSPALink-1C	Basic HSPALink w/ External Antenna Connector & Mounting Ears for Wall. Includes 7AH Battery (Antenna not included)	
HSPALink-1L	Basic HSPALink w/External Antenna Connector, Lightning Protection & Mounting Ears for Wall includes 7AH Battery (Antenna not included)	
MOUNTING KITS		
Pole Mounting Kit		
Part #	Pole Outside Dia.	Schedule 40 Pipe
2911-1365-1	2.38" *Most Common	2.0"
2911-1365-2	2.88"	2.5"
2911-1365-3	1.90"	1.5"
2911-1365-4	1.66"	1.25"
2911-1365-5	1.32"	1.0"
Din Rail Mounting Kit		
2911-1362-1	Installs on Back of Unit (Din Rail not included.)	
Wall Mounting Kit		
2911-1361-1	Wall Mount Kit for Basic Unit	
ANTENNAS		
1291-1033 (internal antenna)	HSPA/CDMA Antenna Indoor Mount, Adhesive Back, 12" Cable, SMA-M Connector	
CABLES - For Basic Models SMA-(F)		
LL400-15-N-SMA	Cellular Antenna Cable (15 ft) SMA to N	
LL400-20-N-SMA	Cellular Antenna Cable (20 ft) SMA to N	
CABLES - For Enclosure Models N-(F)		
LL400-15-N-N	Cellular Antenna Cable (15 ft) N to N	
LL400-20-N-N	Cellular Antenna Cable (20 ft) N to N	
SOLAR PANELS		
5100-0412	2 Watt Solar Panel	
2271-1087	2 Watt Solar Panel Mounting Panel	
3911-1050	5 Watt Solar Panel	
2271-1037	5 Watt Solar Panel Mounting Bracket	

3911-1037	10 Watt Solar Panel
2271-1036	10 Watt Solar Panel Mounting Bracket
BATTERY	
5100-0030	7 Ah Gel Cell Rechargeable Battery (NP7-12) 151mm x 65mm x 98 mm 
GROUNDING KIT	
5100-0600-1	Ground Kit w/8ft. ground rod, copper wire, clamps & plate.
T-MOBILE HSPA ACTIVATION/SERVICE PLANS (DOMESTIC)	
TGPRS.ACT	Activation, 1 time charge
TGPRS.1MB.PLAN	Monthly Plan, 1 MB
TGPRS.1MB.ADD	Overage charge / MB
TGPRS.5MB.PLAN	Monthly Plan, 5 MB
TGPRS.1GB.PLAN	Monthly Plan, 1 Gigabyte
TGPRS.100SMS.PLAN	Monthly Plan
WYLESS HSPA FOR DOMESTIC USE (covers T-Mobile, AT&T & roaming partners)	
WGPRS.ACT	Activation, 1 time charge
WGPRS.1MB.PLAN	Monthly Plan, 1 MB
WGPRS.1MB.ADDL	Overage charge per MB
SMS is not available with WYLESS HSPA.	
DATABASE MANAGEMENT	
SutronWIN	Real-Time Web Hosting, Data Processing, Delivery, Storage, Alarms & Data Display
9400-0400	SutronWIN Client Set Up (1-time fee for new Account)
9400-0401	Custom Starter Page (optional)
9400-0402	SutronWIN Station Set Up (1-time fee/new Station)
9400-0403	SutronWIN /Station Annual Fee, first 10 Stations

LinkComm Software for HSPALink

Overview

For user-friendly communications and easy set-up/maintenance of your XLink Product (IridiumLink, HSPALink, etc.) install LinkComm software directly via a USB or remotely over cell, satellite or Wi-Fi connections. LinkComm runs on Windows PC, iPhone/iPad and Android platforms.

Features

LinkComm can be used to:

- ▶ Set up an XLink station
- ▶ Download the log from XLink

- ▶ Upgrade XLink firmware
- ▶ Check XLink status
- ▶ Calibrate connected sensors

There are several ways to connect to an XLink:

- ▶ Directly via USB cable
- ▶ Remotely via TCP/IP
- ▶ Remotely through the Sutron Redirector
- ▶ Locally via XLink Wi-Fi

