

GPRSLink Logging Transmitter



Supports Modbus over Cellular Networks

Overview

Sutron's Multi-Sensor Input Logger plus Flexible, Economical 2-Way GPRS 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 (+/-4ppm)
5. Built-in solar panel regulator
6. Support for up to 16 measurements of the following inputs:
 - ▶ SDI-12/RS485 (shared as done in the Bubbler)
 - ▶ 5 Analog Inputs:
 - 2 single ended inputs (range 0-5V)
 - 2 differential inputs (range $\pm 39\text{mV}$, $\pm 312\text{mV}$, $\pm 2.5\text{V}$)
 - 1 4-20mA input
 - ▶ 2 Digital Inputs. Use for tipping bucket, frequency, & on/off
 - ▶ Internal temperature
 - ▶ Battery voltage
7. Options to average or accumulate any measurement.
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 GPRS & 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.

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 RS232.
- ▶ 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. GPRS-Link 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


GPRS Telemetry Benefits

- ▶ Periodic transmissions at user-set times with data in user-selectable format (pseudobinary B, C, SHEF & ASCII)
- ▶ Supports primary/secondary stations via GPRS
- ▶ Alarm transmissions as they are detected.
- ▶ Diagnostics track data amount sent & telemetry performance
- ▶ Supports 2 on/off devices for remote commands (i.e., data collection/maintenance/control)
- ▶ Optional message authentication for insuring a trusted source & for messages sent to SutronWIN via GPRS
- ▶ Incoming SMS transmissions if GPRS fails or in place of GPRS
- ▶ Extremely affordable
- ▶ GPRS uses wireless cellular technology & provides data access in most typical cell phone areas.

SPECIFICATIONS <i>Specifications subject to change without notice</i>		
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	25.0 μ V (p/p)	
Accuracy @25°C	0.003% (typ) Midscale 0.004% Max	
Input Impedence	> 1 MegOhm @25°C	
Differential Analog	0.06%	
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 2.5 scale.	
Noise (p/p) @25°C	10 μ V (p/p) \pm 39 mv / 312 mv scale 20 μ V (p/p) \pm 2.5 v scale 0.06%	
Accuracy @25°C Input Impedance	>5 Meg Ohm 312mV FS Differential @25°C	
4-20 mA Analog		
Range	0 - 22mA	
Resolution	<1nA	
Accuracy @25°C	0.06%	
Loop Power	External	
Loop Resistance	100 Ohm built-in load	
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	10KHz max, optional debouncing (300 Hz max)	
Minimum Frequency Input Range	2.8 Hz 0 - 5 V	
Maximum Frequency	10 KHz	
Digital Input 1,2 Counter Type		
Maximum Frequency	10 kHz (with no debouncing)	
Input Range	300 Hz (with debouncing) 0- 5 Volts	
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	
GPRS 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.	
GPRS modem	Modem factory installed, internal with RF output jack for antenna.	
Quad Band GPRS Modem SMA-F Output RF Jack		
COMMUNICATIONS		
Interfaces		
1 USB Mini-B Male (5 pin) Connector Serial Communications - USB. Not full function USB port. GPRS 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	
GPRSLink Models		
GPRSLink-1	Datalogger & GPRS Modem combined plus 4 Mounting Screws for Holes Located on the Back of the Unit. No enclosure.	
GPRSLink-1E	Basic GPRSLink w/ Internal Antenna & Mounting Ears for Wall includes 7AH Battery	
GPRSLink-1C	Basic GPRSLink w/ External Antenna Connector & Mounting Ears for Wall. Includes 7AH Battery (Antenna not included)	
GPRSLink-1L	Basic GPRSLink 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)	GPRS/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 GPRS 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 GPRS 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 GPRS.	
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



GPRSLink in convenient Carrying Case



t +61 2 9894 4511
e sales@aqualab.com.au
w www.aqualab.com.au

LinkComm Software for GPRSLink

Overview

For user-friendly communications and easy set-up/maintenance of your XLink Product (IridiumLink, GPRSLink, 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

