

GPRSLink

Simple Telemetry Anywhere

Data Logger 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 is done in the Bubbler)
 - ▶ 5 Analog inputs:
 - Two (2) single ended inputs (range 0-5V)
 - Two (2) differential inputs (range +/-39mv, +/-312mV, +/-2.5V)
 - One (1) 4-20mA input
 - ▶ 2 digital inputs. They can be used for tipping bucket, frequency, and on/off inputs
 - ▶ 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 of 240K of data accessible via GPRS and direct connect
13. Switched Battery Output
14. Also operates as a standalone recorder without telemetry
15. USB slave for serial connection to PC. THE USB PORT WILL NOT SUPPORT typical USB devices like memory sticks, modems, etc.
16. RealTime Clock operates with internal lifetime battery.



Telemetry via GPRS

1. Periodic transmissions at user set times with data in user selectable format (pseudobinary B, C, SHEF & ASCII)
2. Support for primary and secondary master stations via GPRS
3. Alarm transmissions as they are detected.
4. Diagnostics to help track of the amount of data being sent and the performance of the telemetry
5. Support for remote commands for data collection, maintenance or control of two on/off devices
6. Optional authentication of incoming messages to insure they are from a trusted source & optional authentication of messages sent to SUTRONWIN via GPRS
7. SMS transmissions if GPRS fails or in place of GPRS
8. Extremely affordable
9. GPRS modems use wireless cellular technology and provide data access in most areas where a typical cell phone works.



SUTRON CORPORATION

22400 Davis Drive
GS-25F604D SBSA

Sterling, VA 20164
NESDIS Certified

(703) 406-2800
ISO Certified

(703) 406-2801 Fax : www.sutron.com : sales@sutron.com
Sutron is an authorized Iridium® Value Added Reseller (VAR).

page 1
5/17/2012

Simple Telemetry *Anywhere*

GPRSLink

Specifications

Specifications are subject to change without notice.

PARAMETER	SPECIFICATION
ELECTRICAL	
Input Voltage	8-16VDC 10 V minimum for SDI-12 sensor support Reverse power protected
Current Consumption	2mA standby typ (all sensors unpowered) 8 to 20mA active typ
GPRS Transmission	<50ma @ 12 Volts
MECHANICAL	
Dimensions	3.8" x 5.3" x 1.3" (96.5mm x 134.6mm x 33.0mm) <i>without optional base plate or enclosure</i>
Power Connection	2 position terminal strip
SDI-12 Port	3 position terminal strip
USB Port	Mini B Male (5 pin)
Red Warning LED	Indicates setup or operational error
Green Heartbeat LED	Indicates unit is 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	+/- 9.3 s /month(Max) -40 to +60C. (First Year)
Accuracy	+/- 2.4 min /year (Max) -40 to +60C. (First Year)
Accuracy	+/- 4.5 min / 10 years (Max) -40 to +60C. (10 Years)
Log Capacity	240,000 readings, flash memory
USB Port Connector	Serial Communications over USB port.
	Mini-B Male USB connector on the logger designed to be connected to USB Type-A Male on Windows PC. <i>Sutron provides 'LinkComm' software for USB port communications .</i>
Internal Solar Panel Battery Charger	Designed for 5 to 20W Solar Panels. (Max 30 Watts) Automatic charge & float modes protect gel cell & lead acid batteries.
GPRS modem	Modem factory installed, internal with RF output jack for antenna.
COMMUNICATIONS	
Interfaces	1 USB Mini-B Male (5 pin) connector for Serial Communications over USB. (Not a full function USB port) RS485 (future support) GPRS Modem SDI-12. V1.3 compliant recorder
SDI-12 INTERFACE	
	<ul style="list-style-type: none"> ▶ Supports up to 16 SDI-12 sensors ▶ Automatically combines requests to the same device ▶ SDI V1.3 compliant logger ▶ +12V @ 500mA
MODEM TYPE	Quad Band GPRS Modem SMA-F Output RF Jack

PARAMETER	SPECIFICATION
ADVANCED FEATURES	
	<ul style="list-style-type: none"> ▶ 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
SINGLE ENDED ANALOG INPUTS	
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	> 1Meg0hm @25°C
DIFFERENTIAL ANALOG INPUTS	
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 or 312 mv scale 20 μ V (p/p) \pm 2.5 v scale
Accuracy @25°C	0.06%
Input Impedance	>5 Meg Ohm 312mV FS Differential @25°C
4-20mA ANALOG INPUT	
Range	0 - 22mA
Resolution	<1nA
Accuracy @25°C	0.06%
Loop Power	External
Loop Resistance	100 Ohm built-in load
TEMPERATURE (Internal)	
Range	-40°C to +60°C
Accuracy	\pm 3 deg.
DIGITAL INPUT 1,2 - TIPPING BUCKET TYPE	
Switch Contact Type. Pulse Width between 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

Simple Telemetry Anywhere

IRIDIUM® Link & GPRSLink Ordering

Step 1
Choose a
Communications
Type & Datalogger
Model



Iridium Station, Rooftop Sutron Headquarters

GPRS

Part #: **GPRSLink-1**



Basic GPRSLink
Datalogger & GPRS Modem in one unit
includes 4 Mounting Screws for Holes Located on
the Back of the Unit. No enclosure.

IRIDIUM

Part #: **IridiumLink-1**



Basic IridiumLink
Datalogger & Iridium Modem in one unit
Includes 4 Mounting Screws for Holes Located on
the Back of the Unit. No enclosure.

BASIC MODELS

Part #: **GPRSLink-1E**

Basic GPRSLink
w/Internal Antenna
& Mounting Ears for Wall
includes 4AH Battery



Part #: **IridiumLink-1E**

Basic IridiumLink
w/Internal Antenna
& Mounting Ears for Wall
includes 4AH Battery



MODELS with
ENCLOSURES

Part #: **GPRSLink-1C**

Basic GPRSLink
w/External Antenna
Connector & Mounting
Ears for Wall includes
4AH Battery
(Antenna not included)



Part #: **IridiumLink-1C**

Basic IridiumLink
w/External Antenna
Connector & Mounting
Ears for Wall
includes 4AH Battery
(Antenna not included)



Part #: **GPRSLink-1L**

Basic GPRSLink
w/External Antenna
Connector, Lightning
Protection & Mounting
Ears for Wall
includes 4AH Battery
(Antenna not included)



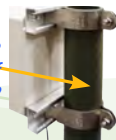
Part #: **IridiumLink-1L**

Basic IridiumLink
w/External Antenna
Connector, Lightning
Protection & Mounting
Ears for Wall
includes 4AH Battery
(Antenna not included)



Step 2
Choose Mounting

What is the
diameter of
pole?



Pole Mount Kits

Size	Part #
2.0"	Part #:2911-1365-1*
2.5"	Part #:2911-1365-2
1.5"	Part #:2911-1365-3
1.25"	Part #:2911-1365-4
1.0"	Part #:2911-1365-5

*Most Common Size



Part #: **2911-1362-1**
Din Rail Mounting Kit
Installs on Back of Unit
(Din Rail not included)



Part #: **2911-1361-1**
Wall Mount Kit for
Basic Unit



SUTRON CORPORATION

22400 Davis Drive
GS-25F604D SBSA

Sterling, VA 20164
NESDIS Certified

(703) 406-2800
ISO Certified

(703) 406-2801 Fax : www.sutron.com : sales@sutron.com
Sutron is an authorized Iridium® Value Added Reseller (VAR).

page 3
5/17/2012

Simple Telemetry Anywhere

IRIDIUM® Link & GPRSLink Ordering

Step 3
Choose External
Antenna (optional)

Part #: **1291-1031-T-G**
Iridium Antenna
TNC (F)



Part #: **1291-1036**
Iridium-only Antenna
(connects directly to unit, not through
enclosure connection)



Part #: **1291-1035**
GPRS / CDMA Antenna
3dB Omni
(Cellular) N Type (F)



Step 4
Choose External
RF Antenna Cable
(optional)

CABLES

For Basic Units SMA-(F)

Part #: **LL400-15-S-T** Iridium Antenna Cable (15 ft)
SMA to TNC

Part #: **LL400-20-S-T** Iridium Antenna Cable (20 ft)
SMA to TNC

Part #: **LL400-15-N-SMA** Cellular Antenna Cable (15 ft)
SMA to N

Part #: **LL400-20-N-SMA** Cellular Antenna Cable (20 ft)
SMA to N

For Enclosures with N-(F) Connector on Bottom

Part #: **LL400-15-N-T** Iridium Antenna Cable (15 ft)
N to TNC

Part #: **LL400-20-N-T** Iridium Antenna Cable (20 ft)
N to TNC

Part #: **LL400-15-N-N** Cellular Antenna Cable (15 ft)
N to N

Part #: **LL400-20-N-N** Cellular Antenna Cable (20 ft)
N to N

Step 5
Choose Solar
Panel (optional)

SOLAR PANELS

2 Watt Solar Panel

Part #: **5100-0412** 2 Watt Panel
Part #: **2271-1087** Mounting Bracket

5 Watt Solar Panel

Part #: **3911-1050** 5 Watt Panel
Part #: **2271-1037** Mounting Bracket

10 Watt Solar Panel

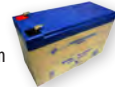
Part #: **3911-1037** 10 Watt Panel
Part #: **2271-1036** Mounting Bracket



Step 6
Choose Larger
Battery (optional)

BATTERY

Part #: **5100-0030** 7(Ah) Gel Cell Rechargeable Battery (NP7-12) 151mm x 65mm x 98 mm



Step 7
Grounding Kit
(highly recommended)

GROUNDING KIT

Part #: **5100-0600-1** Ground Kit w/8ft. ground rod, copper wire, clamps & plate.

Step 8
Activate Station

Activation Plan Service
Contract & Terms provided
upon request. GPRS Plans
listed here cover only the
USA & Canada for the listed
Providers.

IRIDIUM ACTIVATION & PLANS

Part #: **ISBD.SACT** Station Activation

Part #: **ISBD.OK.1** Minimum Monthly Fee with no Data Plan

Part #: **ISBD.12K.1** Minimum Monthly Fee with 12 KB Data

Part #: **ISBD.XB1024** 1024 Bytes SBD over allotted amount



T-MOBILE GPRS FOR DOMESTIC USE*

Part #: **TGPRS.ACT** Activation, 1 time charge

Part #: **TGPRS.1MB.PLAN** Monthly Plan, 1 MB, per month charge

Part #: **TGPRS.1MB.ADDL** Overage charge / MB

Part #: **TGPRS.5MB.PLAN** Monthly Plan, 5 MB, / month charge

Part #: **TGPRS.1GB.PLAN** Monthly Plan, 1 GB, / month charge

Part #: **TGPRS.100SMS.PLAN** Monthly Plan, 100 SMS, / month charge

Part #: **TGPRS.SMS** SMS

WYLESS GPRS FOR DOMESTIC USE

(covers T-Mobile, AT&T & roaming partners)

Part #: **WGPRS.ACT** Activation, 1 time charge

Part #: **WGPRS.1MB.PLAN** Monthly Plan, 1 MB, per month charge

Part #: **WGPRS.1MB.ADDL** Overage charge per MB

SMS is not available with WYLESS GPRS.

Step 9
Database Mgt.
Plan (optional)

SUTRON WIN

Part #: **9400-0400** SutronWIN Client Set Up (1-time fee for new Account)

Part #: **9400-0401** Custom Starter Page (optional)

Part #: **9400-0402** SutronWIN Station Set Up (1-time fee/new Station)

Part #: **9400-0403** SutronWIN /Station Annual Fee, first 10 Stations



SUTRON CORPORATION

22400 Davis Drive
GS-25F604D SBSA

Sterling, VA 20164
NESDIS Certified

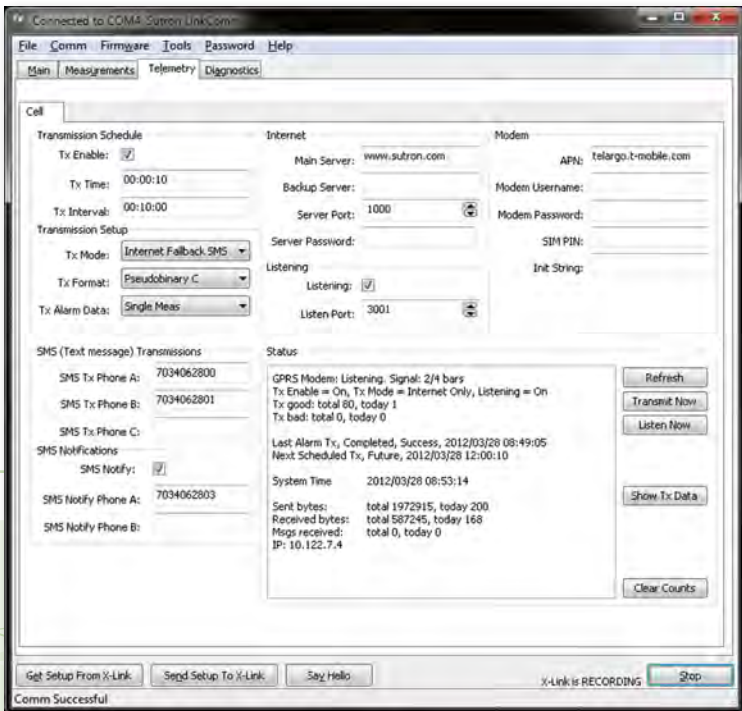
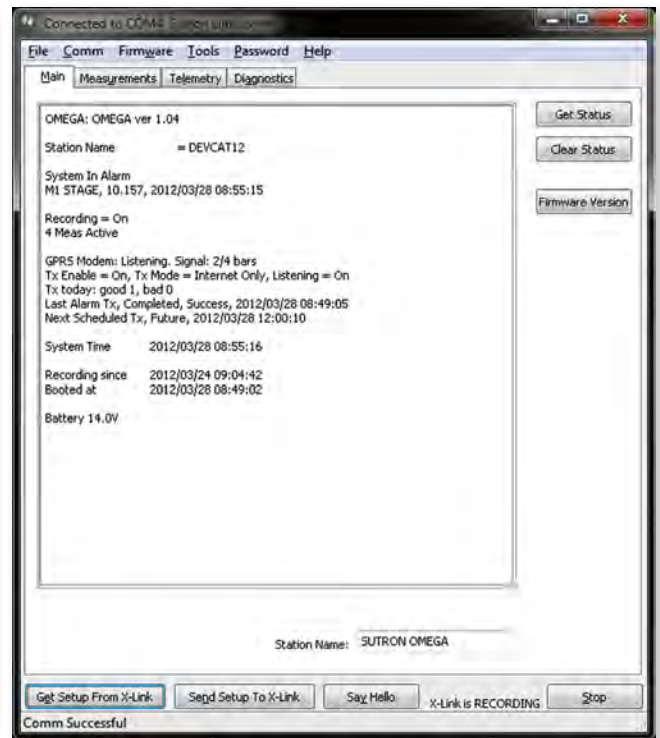
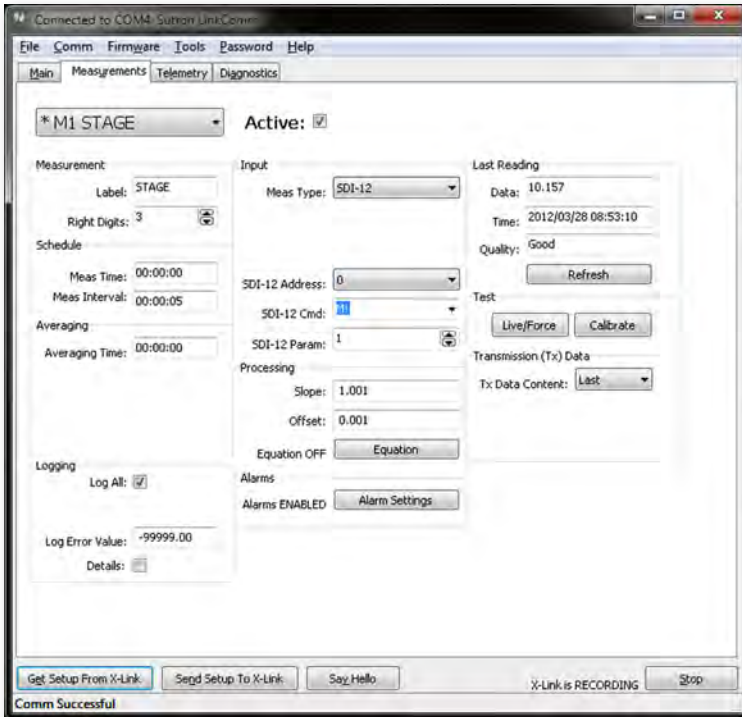
(703) 406-2800
ISO Certified

(703) 406-2801 Fax : www.sutron.com : sales@sutron.com
Sutron is an authorized Iridium® Value Added Reseller (VAR).

page 4
5/17/2012

Simple Telemetry Anywhere

LinkComm Software



SUTRON CORPORATION

22400 Davis Drive
GS-25F604D SBSA

Sterling, VA 20164
NESDIS Certified

(703) 406-2800
ISO Certified

(703) 406-2801 Fax : www.sutron.com : sales@sutron.com
Sutron is an authorized Iridium® Value Added Reseller (VAR).

page 5
5/17/2012