

NOS-APPROVED TIDE STATIONS BACKUP GAGE 3101-0000-1



The Backup Gage includes Sutron's XLite Datalogger & Xpert Voice Modem.

SPECIFICATIONS	
Dimensions	H 30" x W-24" x L-24"
Weight	50 lbs.
Temperatures	-40°C to +60°C Operating; Display -20°C to +60°C
XLITE DATALOGGER	
Processor	486 Class processor @66 MHz
Memory	32 MB Flash Memory for log & configuration Expandable!; 16MB Flash Operating System 32 MB RAM Expandable SD/MMC cards & USB to >1 Gigabyte
Battery Backup	Not needed, memory is flash. Internal lithium battery for clock: 2 years min.
Watchdog Timer	System Reset on microprocessor failure
Sample Intervals	Set multiple sample intervals at increments of 1 sec. to 24 hr. in 1 sec. increments
Data Retrieval	Through RS-232 Ports & SD/MMC cards & USB
On Board Display	2 line by 20 character alphanumeric LCD
External Display	Full feature Windows display
SDI-12	Dedicated SDI-12 V1.3
Communications	4 RS-232 ports; : Satellite Radio, LOS Radio, Data & Voice Modem, Direct Connect, MODBUS - SIMULTANEOUSLY up to 4 of the these types
Power Supply	No internal battery or charger. External 12V. battery operates Xlite.
Power Consumption	Quiescent: <2 mA; typical Avg: 2 1/2 mA @ 15 - minute intervals of shaft encoder sample
Voltage Measurement	5V single ended; ± 2.5 V differential
DC Excitation Output	+2.5, +12V Expandable using external I ² C modules
Shaft Encoders	Quadrature output encoder (3 max.) uses 2 digital inputs each. 7 bit gray code encoder (1 max) uses 7 digital inputs; Expandable using external I ² C modules

Tipping Bucket Input	100 Kohm pullup for switch closure; Rain gage software debounced uses 1 digital input ea.
Digital Inputs & Outputs	8 digital I/O lines, 1 hf (8Kz), 2 input only 6 bi-directional; Inputs can be configured to support shaft encoders, tipping buckets, counters & binary inputs. Software Control of switched 12VDC power. Expandable I/O using external I ² C modules - 2 low level for tipping bucket or wind speed/wind direction without amplifier.
Counter Inputs	Input Frequency: 1 channel @ 8kHz max, 7 channels @ 1 kHz max.
Counter Accuracy	$\pm 0.1\%$ with 32 bit resolution. Expandable using external I ² C modules
Analog Inputs	10 Inputs single ended, or up to 5 differential, expandable using external I ² C modules
Resolution	16 Bits
Accuracy Ratiometric	$\pm 0.01\%$ of full scale
Input Range	0-5V full scale
Pressure Transducer	Bridge sensors require 2 channels Voltage output - 1 channel. Current output type need external bridge completion resistor 1 channel.

XPERT VOICE MODEM	
RS 232 interface, Baud Rate Up to 115,200	
V.90, 56 kbps Data Receiving	
Voice Playback & Record	
DTMF Decode	
V.42, MNP 2-4 & 10-EC Error Correction	
V.42 bis & MNP-5 Data Compression	
Power Jumper Selectable +5 +0.25V 0.5A minimum or +12 +3V 0.5A minimum	
NOTE: Xpert can supply power out pin 9 of the DB-9 interface. Xpert with the 6461-1197 DB-9 com port board can supply +12V, Xpert with 6461-1234 can supply +5 (recommended) or +12.	

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RATINGS @ 25° C PARAMETER	Min	Max	Units
Tip / Ring Current Continuous	0	120	mA
Dielectric Withstanding Voltage	-	1650	VRMS
Operating Temperature	-40	+85	°C
Relative Humidity	10	95	%
Voltage Requirement	4.75	5.25	V
Power Consumption	720	880	mW
Transmit & Receive Level	-10 Tx	-43 Rx	dbm

AGENCY APPROVALS

FCC68 & CS-03 approved	CSA/UL1950 3rd Edition approved (E189947)
European CE	TUV approved (R2072525)

MORE FEATURES

Modem enters power-down mode when DTR is low. In this mode, power is turned off to the modem thus conserving the 120mA that the would otherwise be used. When a ring is detected, full mode power is automatically turned on (apprx. 2.5 sec.). Modem will then answer phone on next ring to make connection.

Auto power up on ring with 60 second timer.

DLG - Digital Line Guard Protection (Modem has built-in Digital Line Guard Circuit that automatically detects an over current on the Tip and Ring pins thus protecting the modem in case it is accidentally connected to a Digital Telephone Line.