SM64 Data Storage Module

- −35 ° to +55 °C environmental operating range or −40 ° to +70 °C available at additional cost
- RS-232-C compatible when used with Model SM232 Interface
- IBM PC compatible when used with Models PC201 and SC209
- Non-volatile data storage using CMOS RAM with Lithium battery backup
- Selectable baud rate
- Panel activated memory test and initialization
- Compatible with CR7, 21X and CR21 dataloggers
- 64K byte memory configuration

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DESCRIPTION

Campbell Scientific's solid state STORAGE MODULE is designed to perform reliably in harsh data acquisition environments, particularly where subfreezing temperatures limit the use of cassette tape recorders. The storage module contains 64K bytes of memory which is equivalent to 32768 low resolution data points.

The storage module is packaged in a sealed, steel enclosure. Functions are selected by external switches including baud rate, data format and data storage configurations. Baud rate options are 300, 1200, 9600 and 19200. Data may be stored in either ASCII or the more memory efficient CSI BINARY format. The above data point storage specifications refer to the Binary format. The storage module memory may be configured as either a RING memory where new data are written over the oldest data or as a FILL & STOP memory. The Ring Memory option retains the most recently stored data whereas the Fill & Stop option prevents older data from being overwritten if the memory capacity is exceeded.

The standard CSI connector cable Model SC12 (included) interfaces the storage module either to a datalogger for storage or to the SM232 Storage Module/RS232 Interface for playback. The SC209 PC201 - Storage Module Connector Cable (not included) is used to interface the storage module to the PC201 Card for direct data transfer to an IBM PC. Alternatively, data stored in the storage module may be transferred to a cassette tape in CSI's Format II. This would require either the C20 Cassette Interface or the PC201 Tape Read Card for play back. An LED indicator light signals results of memory tests and verifies data storage to or transmission from memory.

In a typical data acquisition application, one of two methods may be used for transferring the data from the field to a computer for evaluation and archiving. One method involves recording the stored data onto cassette tape while visiting the field site(s). The other method requires replacing the current storage module with a fresh one. The transfer of data from cassette tape into a computer requires the use of either the PC201 Tape Read Card for IMB PCs or the C20 Cassette Interface for computers with RS232 serial input ports. The transfer of data direct from the storage module requires the use of either the SC209 Cable and PC201 Card for IBM PCs or the SM232 Storage Module - RS232 Interface for computers with RS232 serial input ports. The SM232 converts the 0 to 5 VDC levels used in the storage module to RS-232-C voltage levels. Data also may be loaded into the storage module from a terminal or computer/modem for accessing at a later date.

Communication protocol between computers and the storage module is a set of single character commands which allow users to choose whether data are sent a line at a time, a block at a time, or continuously. If necessary, these commands may be altered from the user's computer and/or terminal.

Operating power for the storage module (5VDC) is supplied by the CSI datalogger, the AC powered SM232 or the PC201 Tape Read Card. When the storage module is not connected to a host supply, data are maintained by the module's internal 3.6V Lithium AA cell. Under normal use, the 1.75 amp hour cell should maintain adequate charge for 6 to 10 years.

STORAGE MODULE SPECIFICATIONS

Operating Temperature Range	−35 ° to +55 °C, −40 ° to +70 °C available at additional cost
Memory Size	65,536 bytes or 32768/16384 Low/High resolution data points
Baud Rates	300, 1200, 9600 or 19200
Memory Configuration	Ring or Fill & Stop
Power Requirements (from 5V Supply)	8mA typ. when active or 200 to 400uA when inactive
Internal Battery Voltage (open circuit)	3.90V w/Electrochem Lithium cell 3.68V w/Tadiran Lithium cell
Battery Life	6 to 10 years typ. w/Lithium power cell rated at 1.75AH
Dimensions	1.75"H x 4.4"W x 6.25"D
Weight	2 lbs.

SM232/RS232 INTERFACE SPECIFICATIONS

Operating Temperature Range	0 ° to +40 °C
Power Requirements	14 to 22 VAC RMS, 0.4 amp, 47 to 63 Hz (transformer included)
Dimensions	2.0"H x 5.1"W x 4.8"D
Connectors (socket type)	one RS-232-C DTE, one RS-232-C DCE and one 9 pin D-type for connection to storage module
Weight	0.7 lbs.

For Ordering Information, please refer to Campbell Scientific's current price list.

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