



BS8910

Mobile Tracking and Telematics Unit



BS8910 Control Unit

FEATURES

- Cellular and GPS-based real-time Location and Status of Installation (Vehicle, Boat, Trailer, etc.)
- RS-232 Serial Port for connection of Point-of-Sale (POS) Terminal, ID Card Reader, or other serial device
- Provides Instant Notification if unit is taken outside of a user defined area (Geo-fencing)
- Digital Inputs for Monitoring the Status of Remote Contacts, Switches, etc.
- Remote Temperature Monitoring (Refrigeration Unit, Passenger Cabin, etc.)
- Remote AC Line Voltage Monitoring (generator power, commercial power, etc.)
- 12/24V DC System Voltage Monitoring (single or dual battery systems)
- Auxiliary 1 Amp Solid State Switch (MOSFET) Output for Local Alarm or Control
- Optional 915 MHz ISM Band Secondary FM/FSK transceiver for remote voice panels, remote data interfaces, etc.
- Optional remote microphone/speaker panel
- Optional Internal Backup Battery Pack (NimH)
- Automated Telemetry Alarm Reports and Alerts can be sent via Text Messaging or e-mail

BrightSKY, LLC

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GENERAL INFO

The BrightSky Model BS8910 (Patents Pending) is a highly integrated remote Telemetry and mobile Tracking device that can be used to locate a mobile or fixed asset in real-time. In addition, the device can create high security mobile personnel checkpoints (RFID) and remote Point-of-Sale installations. Card-based transactions can be "stamped" with both time and location in order to provide an additional level of security over conventional wireless readers. Additional built-in M2M (Machine-to-Machine) and Telematics functionality allows this same "box" to monitor local installation parameters such as Temperature, AC line voltage, Battery voltages and the remote status of contacts / switches without significant investment in additional equipment or redundant monthly service fees. No other remote communications interface of this type handles this large number of tasks with a single low monthly cellular service fee.

SYSTEM OVERVIEW

The BS8910 uses GPS (Global Positioning System) satellite signals and a bidirectional cellular radio data/voice link (CDMA or GSM). An RS-232 Serial Port (COM1) allows connection of conventional serial devices such as POS readers or RFID security card readers. Additional digital inputs for alarm loops, bilge pumps or similar devices allow for monitoring of tank levels or bilge pumps. Both internal (ambient) and external (remote sensor) temperatures can be measured and reported via the cellular interface. Two separate 12/24 VDC inputs allow for monitoring of both bank voltages in dual battery systems. A single isolated solid state relay output can be used to control an alarm relay for actuating horns and/or flashing of lights under local (firmware) or remote network control. A microphone input and receiver audio output allow for connection of an external audio panel for use in talk-back or remote audio monitoring applications. An NMEA-0183 data interface allows for interconnection with other onboard systems and allows the unit to function as a primary or backup GPS source, with internal battery backup. An optional internal ISM (Industrial, Scientific and Medical) data/voice transceiver allows use of either remote wireless audio panels or wireless secondary data links or both.

The BS8910 is available with either an impact resistant and waterproof/weatherproof polycarbonate enclosure or a high strength die cast enclosure with white powder coat.

Installation of the BS8910 requires use of an active external GPS antenna plus a multi-band Cellular/PCS antenna, available from BrightSky. Combination multi-band cellular and active GPS telematics-style antennas may also be used. The enclosure has a NEMA 4 rating for adequate protection against moisture intrusion in most harsh environments. The internal electronics module is supplied with a protective acrylic conformal coating to maximize operating lifetime and reliability in service.

The BS8910 communicates with cellular networks using installed modules (either CDMA or GSM). An internal SIM card holder allows the unit to be re-configured in the field for different networks on GSM. A proprietary wireless cellular data transfer method is used to provide very low monthly operating cost compared with competitor systems. Custom software can be downloaded into the BS8910 from a central programming facility through the cellular network, allowing a user to initiate changes in programmed operation via the internet. This last feature enables on-the-run changes in operating parameters such as level limits, operating voltage limits and GPS perimeter boundaries at a moment's notice.

A high efficiency electrical design allows for up to 72 hours of intermittent (1 location check per hour) operation off an internal Nickel Metal Hydride (NimH) rechargeable battery pack in the event of vehicle electrical system failures. The battery pack is maintained at full charge, as long as either vehicle battery voltage remains above +11.0 VDC, thus giving as much warning as possible of low battery conditions prior to a complete loss of power.

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SPECIFICATIONS

Cellular Interface Standards Available: (please specify type with order)	CDMA Dual-band (North America Only) GSM Quad-band (North America and International)
GPS Sensitivity (with supplied full size GPS active antenna):	Acquisition: -138 dBm Tracking: -146 dBm
RS-232 (EIA-232) Interface:	Water Resistant Circular Connector (with pigtail adapter cables available for DB-9F)
RS-232 (EIA-232) Data Rate:	9600 BPS (nominal) (may be set in software to 2400, 4800, 9600 or 19600 BPS)
NMEA-0183 Interface:	Water Resistant Circular Connector (with pigtail adapter cables available for DB-9F)
NMEA-0183 Data Rate	9600 BPS (nominal) (may be set in software to 2400, 4800, 9600 or 19600 BPS)
NMEA-0183 GPS Data Types:	NMEA, RTCM
Digital Output Current:	1A DC max. continuous 1.8A DC max. peak
Digital Output Voltage:	30V max. ("off" contact state)
Digital Output Isolation:	1000 VAC rms max.
Digital Input Voltages:	2-32 VDC for logic high input
Digital Input Isolation:	1000 VAC rms max.
External Temperature Sensor Range:	-40°C to +85°C
Internal Temperature Sensor Range:	-20°C to +85°C
AC Voltage Sensor Input:	12 VAC for 120 VAC or 240 VAC (selectable by 10:1 or 20:1 external sensing transformer)
AC Voltage Sensor Frequency Range:	25-440 Hz
Power Requirements:	10-40 VDC at 2A maximum (50 mA in standby)
Internal Backup Battery (Optional):	NimH "AA" x 8 (9.6 VDC nominal) 2200 mAh capacity
Backup Battery Charging Time:	3 hours max.
Backup Battery Operation Time:	8 hours minimum for normal level of activity Up to 3 months minimum for scheduled daily location and I/O status reports only

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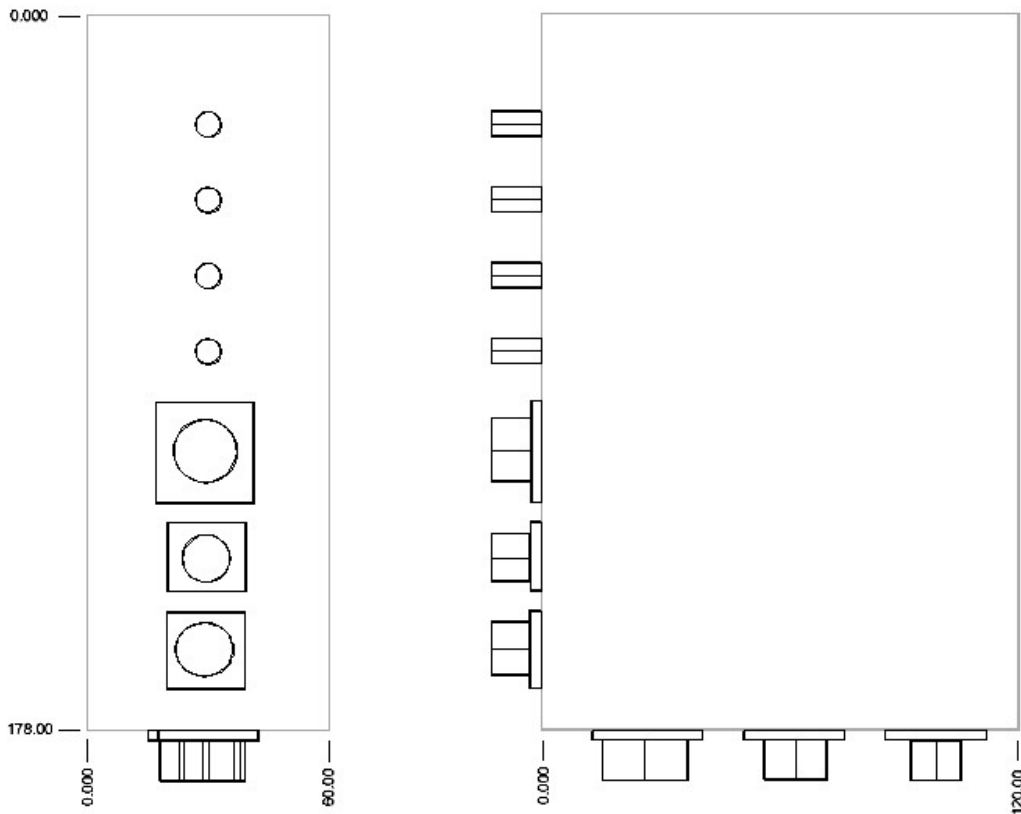
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SPECIFICATIONS (Continued)

Backup Battery Pack Operational Lifetime:	5 years minimum under normal operating conditions
Dimensions (main enclosure, not including connectors or mounting tabs):	180 mm x 120 mm x 60 mm (7.1" x 4.7" x 2.4")
Weight:	0.6 kg (1.3 lb) Polycarbonate (NEMA 4) 0.9 kg (2.0 lb) Die Cast Aluminum (NEMA 4)

MECHANICAL OUTLINE



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