

Mobile Tracking and Telematics Unit



BS2300 Tracking Unit (External Antenna)

FEATURES

- GPS-based real-time Location and Status via the Cellular Network (Vehicle, Boat, Trailer, etc.)
- RS-232 Serial Port for connection of on-board-diagnostics (OBD II), On-board navigation (Delorme Street Atlas and Microsoft Streets and Trips compatible), or other serial device
- Provides instant notification if unit is taken outside of a user defined area ("geo-fencing")
- Two separate Digital Inputs (Optically Isolated) for Monitoring the Status of Remote Contacts, Switches, etc.
- 12/24VDC System Voltage Monitoring
- Two separate 1.2 Amp Solid State Relay Outputs (N/O) for Local Alarm or Control
- Internal 7.2V 1000mAH (standard) Lithium Ion Rechargeable Battery Pack (2200, 4400 mAH Optional)
- Automated Telemetry Alarm Reports and Alerts can be sent via Text Messaging or e-mail
- On-board Temperature Sensor information sent with Position and Status

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GENERAL INFO

The BrightSky Model BS2300 (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. Additional built-in M2M (Machine-to-Machine) and Telematics functionality allows this product to monitor parameters such as Battery voltage 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 BS2300 uses GPS (Global Positioning System) satellite signals and a bidirectional cellular link (CDMA or GSM). An RS-232 Serial Port (COM1) provides NEMA-0183 messages with real-time GPS position information for on-board navigation using PDAs or Laptops. Additional digital inputs for door switches, collision sensors, alarm (security) system monitoring, etc. can be used for reporting specific events. Internal battery pack temperature is measured and reported via the cellular interface. A separate 12/24 VDC input allows for monitoring of a vehicle's DC charging system voltage. Dual isolated solid state relay outputs can be used to un-lock doors, disable the vehicle or to control an alarm relay for actuating horns and/or flashing of lights under local or remote control.

The BS2300 is available with either internal or external cellular and GPS antennas. The internal printed circuit boards are supplied with a protective acrylic conformal coating to maximize operating lifetime and reliability in service.

The BS2300 communicates with cellular networks using modular digital cellular modems (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 data transfer method is used to provide very low monthly operating cost compared with other systems. Custom software can be downloaded into the BS2300 from a central programming facility through the cellular network, allowing a user to make changes in programmed operation via the internet. This last feature enables on-the-run changes in local operating parameters such as GPS perimeter ("fence") boundaries at a moment's notice.

A high efficiency electrical design allows for up to 1 week of intermittent (one scheduled position check per hour) operation off of internal Lithium Ion (Li-Ion) rechargeable batteries in the event of vehicle electrical system failures. The battery is maintained at full charge as long as the vehicle's DC voltage remains above +11 VDC, thus giving as much warning as possible of low battery conditions prior to a complete loss of power.

SPECIFICATIONS

Cellular

Networks Supported (module specific):	CDMA, GSM (Cellular/PCS - North America)
CDMA - Wireless Interface:	CDMA 2000 1xRTT (IS-2000) – (Dual Band) Band 0 (TX: 824-849MHz/ RX:869-894MHz) Band 1 (TX: 1850-1910MHz/ RX: 1930-1990MHz)
GSM - Wireless Interface:	GSM 850 TX: 824-849MHz/ RX: 869-894MHz PCS 1900 TX: 1850-1910MHz/ RX: 1930-1990MHz

GPS Section

GPS Sensitivity (with supplied internal antenna):	Acquisition: -146 dBm Tracking: -159 dBm
Channels:	16
Frequency:	GPS L1 Band (1575.42 MHz)

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GPS Section (Continued)

Positional Accuracy:	2 m CEP
Time To First Fix (TTFF):	
Cold Start:	39 sec.
Warm Start:	34 sec.
Hot Start:	2.5 sec.
Reacquisition:	1 sec.

Serial Communications

RS-232 (EIA-232) Interface:	DB-15F connector with pigtail cable (3 wire serial)
RS-232 (EIA-232) Data Rate:	9600 BPS (default), (300-115000 BPS available)

Input / Output

Digital Output Current:	+/- 1.5A DC max. peak +/- 1.2A DC max. continuous
Digital Output Open Circuit Voltage:	60V max.
Digital Output Isolation:	1000 VAC rms max.
Digital Input Voltages:	2-32 VDC at 1 mA typ. for logic "high" level input
Digital Input Isolation:	1000 VAC rms max.
Internal Battery Temperature Sensor Range:	-20°C to +85°C

DC Power

Power Requirements:	10.5-30 VDC at 350mA maximum (50 mA in standby)
Internal Battery:	1000 mAH 7.2V (nom.) Lithium Ion Rechargeable (two 14650 size 3.6V 1000 mAH cylindrical Lilon cells) standard (2200 mAH, 4400 mAH optional)
Battery Charging Time:	5 hours maximum from full discharge
Battery Operation Time:	8 hours minimum for once-every-15-minute position and I/O reports Up to 7 days for scheduled hourly location and I/O activity reports only Up to 30 days for scheduled daily location and I/O activity reports only
Battery Pack Expected Operational Lifetime:	2 years or longer under normal operating conditions

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Enclosure

Dimensions (main enclosure, not including connectors or mounting tabs):

148 mm x 90 mm x 26 mm
(5.8" x 3.5" x 1.0")

Weight:

230g (8.2 oz)

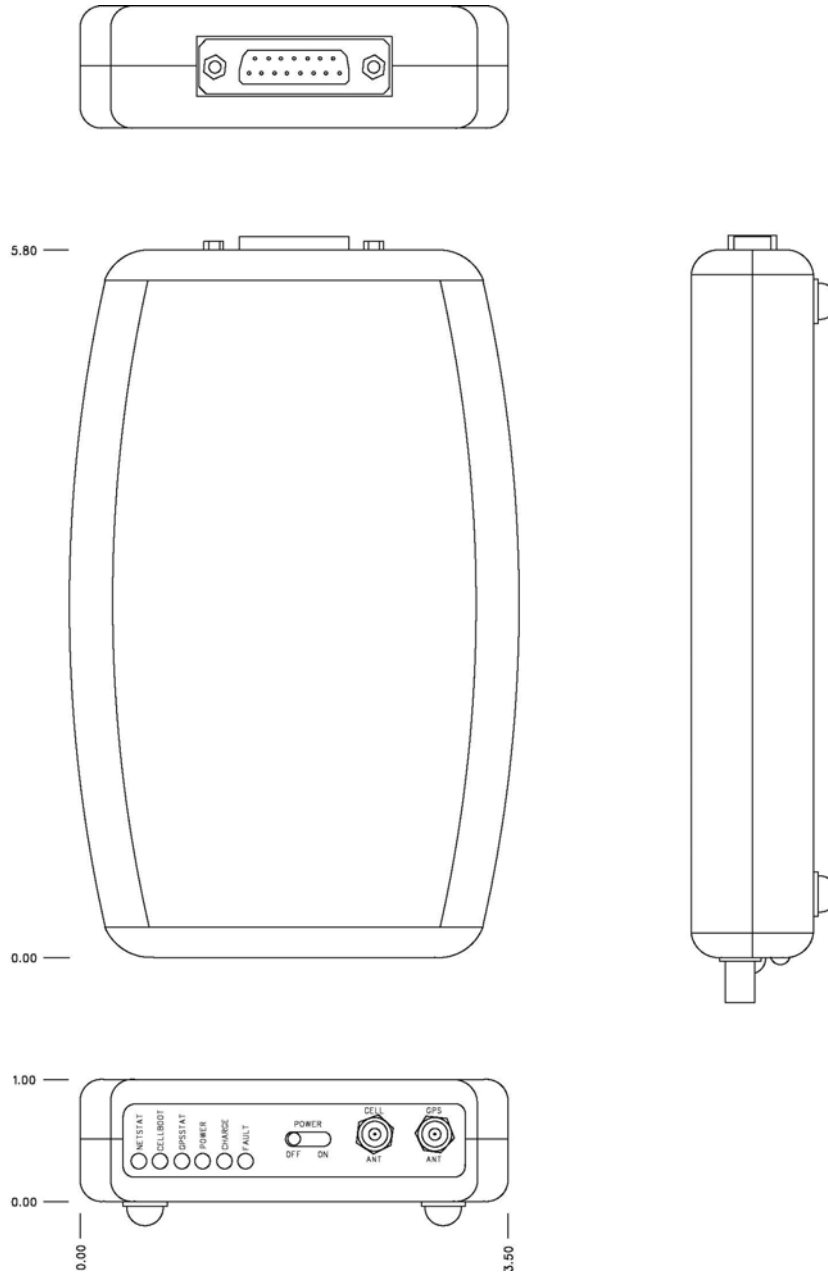


Figure 1 BS2300 Mechanical Outline (Dimensions In Inches)

88001007 REV. A

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