



Compact in size, the SAT-202 provides global coverage and information specific to customer requirements

## Attributes

The SAT-202 has been designed as a multi-purpose unit which includes modem and antenna with interface functionality. Power supply is normally provided by the asset, however power source/battery backup is possible via the GEM-100 expansion module.

The SAT-202 terminal has three fully configurable inputs/outputs for sensor monitoring, and one open drain output suitable for driving relays and indicators. The data-logging function includes GPS positions, transmissions and data for more than 6,500 entries which is accessible locally via the serial port. All transmissions are logged with a record of the time the message was created and if applicable, when it was transmitted.

There are two cable entry variations for the SAT-202 depending on how the terminal is to be installed - either bottom or side entry. Direct interface is possible with most application environments without extra circuitry, providing the opportunity to minimize system integration costs and timescales.

The SAT-202 terminal is ideal for all environments and is favored in remote regions where terrestrial communication cannot be relied upon.



## Network & Process

Each asset is fitted with a SAT-202 terminal. When out in the field the unit automatically selects the most appropriate satellite depending on its GPS position. The message is then sent via secure systems before being delivered to the designated recipient.

Like many of EMS Global Tracking's terminals, the SAT-202 utilizes the Inmarsat constellation of satellites via the IsatM2M standard. This service delivers an affordable and reliable direct-to-desktop information service with fast message handling and high quality service.

- Locate, track and communicate with mobile assets
- Safeguard personnel, fleets and cargo
- Monitor fixed assets

# SAT-202

Complete Single Unit Satellite Terminal

## Technical Specifications



### Physical

Dimensions	112mm x 45.75mm
Weight	350g (excluding cable)
Connector	12 way plug

### Environmental

Temperature	-40°C to +70°C
Humidity	≤ 95% @ +40°C
Vibration & Shock	Meets Inmarsat-D & EN60945 requirements
Ingress protection rating	IP66

### Frequency Range

Transmit	1626.5 MHz to 1660.5 MHz
Receive	1525.0 MHz to 1559.0 MHz
GPS	1575.42 ± 1.0 MHz

### Elevation Angle Range

0° - 90°

### Transmitter

EIRP	0 - 9dBW
Tx burst duration	2s or 8s (auto select)
Message length	Standard burst - up to 84 bits Double burst - up to 170 bits

### Receiver

G/T	≥ -25dB/K at EL = 30°
User data rate	~36 bits per second
Message length	Up to 800 bits

### Message Latencies

Poll/Response	1 minute
Time to first transmission	45 seconds
Forward message delivery	45 seconds
Return message delivery	20 seconds

### GPS

Channels	50
Time to first fix (typical)	
Cold Start	<29s
Hot Start	<1s (GPS was off for less than 2 hours)
Accuracy (SA Off)	
Position (CEP, 2D)	2.5m (Typical)

### Control & Monitoring

Interface	Asynchronous serial RS232
Baud rate	4800 or 9600 bps
Parity/data bits/stop bits	N, 8, 1

### Data Interfaces

3 x Configurable inputs/outputs	
1 x Open drain output	250mA max. sink current

### Power Consumption (typical@12V)

Sleep	0.75mW
Receive (Incl. GPS)	1W
Slotted receive	50mW (effective continuous receive power)
Transmit	6W

### Power Supply Voltage

9.6V to 32V 'smoothed' DC

### Capabilities

Enhanced Scripting  
Geofencing  
Selectable NMEA Interface protocol for connection to third party GPS devices/applications

### Certification

Inmarsat Type Approved  
FCC Compliant  
EN60945  
CE

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