OVERVIEW

The SAT120 is a dual mode Satellite/Cellular modem RTU device designed for mobile and portable Remote Monitoring Applications in Oil and Gas, Mining, Water, and Environmental Applications.

Dual mode operation provides optimal reliability, speed, and airtime costs. For remote sites, satellite coverage ensures connectivity in areas of marginal cell coverage.

With integrated I/O, the SAT120 can be used as a standalone alarm callout or easily be integrated with any SCADA Host. Built-in RS232 and RS485 ports provide remote communications to serially connected devices such as PLC’s, RTU’s, Flow Computers, Data Loggers and Power Meters and provide alarming and scheduled reporting of collected data.

The SAT120 is integrated with the SCADALink SatSCADA Server to provide SCADA data communications, RTU, and alarm callout services. Customer’s SCADA Host can securely communicate to remote SAT120 Terminal via SatSCADA Client / SatSCADA Server using standard "Modbus over TCP" drivers (No VPN’s or special protocols required!).

FEATURES

- Dual SAT/Cellular links
- Global Satellite Coverage via Inmarsat network
- Dual SIM card cellular
- 2 x RS232 and 1 RS485, USB
- 4 Universal I/O, AI/DI/DO, 2 Dedicated DO
- GPS
- Accelerometer
- CANbus (J1939)
- Integration to SatSCADA Server for SCADA Data Communications, RTU, and Alarm Callout Services

APPLICATIONS

- Oil and Gas Production
- Oil and Gas Service
- Remote Equipment Monitoring
- Remote Pump Monitoring
- Generator Monitoring

SYSTEM DIAGRAM
SPECIFICATIONS

Satellite Communication
Satellite Service 2 way IsatData Pro
Coverage Global
Elevation Angle +20 to +90 Deg (Standard Antenna)
-15 to +90 Deg (Low Elevation Antenna)
Frequency Rx: 1525.0 - 15.590.0 Mhz
Tx: 1626.5 - 1660.5 Mhz
EIRE 7 dBW (Standard Antenna)
Maximum Tx Antenna Gain 5 dBW (Low Elevation Antenna)

Cellular Communication
HSPA Module GSM/GPRS/EDGE
GSM 850, E-SCG 900, DCS 1800, PCS 1900 MHz
GPRS Module GSM 850/900/1800/1900 MHz

GPS
Accuracy 2.5/2.0 m (Horizontal CEP)
Sensitivity (Cold Start) Acquisition: -148 dBm, Tracking: -162 dBm
Time to First Fix 29s
(Cold Start)

GLONASS
Accuracy 4.0m (Horizontal CEP)
Sensitivity (Cold Start) -140 dBm
Time to First Fix 30s
(Cold Start)

Dimensions 5.35" (L) x 4.52” (W) x 1.61” (H) /
136 mm (L) x 115 mm (W) x 41 mm (H)

Dimensions with DIN-Rail 4.52”(W) x 2.36” (H)

Interface
Input/Outputs Serial 4 Analog or Digital In/Out + 2 Digital Out

Electrical
Input Voltage +9 to 32VDC
Power Consumption Rx: 8.3mA, Rx with GPS: 40mA
(Typical@12VDC) Tx: 0.75A, Sleep: 100uA
Rx Current Satellite Rx: 64.1 mA, GPS Rx: 32.4mA, GPRS Rx:
36.5mA, HSPA-2G Rx(idle): 34.5mA, HSPA-3G
Rx(idle): 34.1mA
Tx Current Satellite Tx: 1078.7 mA, GPRS Tx (burst): 392.3mA,
GPRS Tx (avg):112.9mA, HSPA-2G Tx(burst):
557.7mA, HSPA-3G Tx(avg): 153.5mA, HSPA-3G
Tx(burst): 231mA
Standby: 13.2mA
Sleep: 1.979mA
Sleep (no LED): 0.110mA
Peak Inrush: 2.92A
In-rush Pulse Duration: 3 uS

Environmental
Operating Temperature: -40 to 85 Deg. C

Connectors
Transceiver 30 position JAE Electronics Inc.
mating connector IL-AG5-30S-D3C1
Satellite Antenna IMS Connector Systems 3400.SMBA.2K10.089
K-curry yellow
Cellular Antenna IMS Connector Systems 3400.SMBA.2D10.029
D-Bordeaux-Violet

SAT-1XX-TB1 INTERFACE BOARD

ORDERING INFORMATION
SAT120 Satellite RTU Terminal
SAT120-KIT1 Satellite Terminal, Satellite Antenna with Cable and
Connector, Cell Antenna with Cable and Connector,
Mating I/O Connector to Cable with Flying Leads

ACCESSORIES
SAT-1XX-TB1 I/O Expansion Board: 4 channels, configurable for (0-
5V/4-20mA/Digital In/relay Out), RS232, RS485, CAN
Bus, USB, Switchable +24VDC Analog Loop Power Supply