

IN VEHICLE MONITORING SYSTEM

CONCURRENT
RECEPTION OF UP TO
3 GNSS (GPS, GALILEO,
GLONASS, BEIDOU)

INDUSTRY LEADING
-167 DBM NAVIGATION
SENSITIVITY

DUAL SIM CARD SLOTS
FOR SEAMLESS
COVERAGE AND AUTO
SIM CHANGE OVER

CONTAINS 72
CHANNEL U-BLOX M8
CHIPSET WITH BEST
PERFORMING GNSS
RECEIVER ON THE
MARKET

HARDWARE BASED
CRYPTO ENGINE FOR
ENHANCED DATA
SECURITY



S100 is a purpose built tracker hardware which is an integral part of SciFlair IVMS (In Vehicle Monitoring System) to monitor and display real time vehicle location and speed information on an electronic map. S100 consists of a GNSS receiver, GSM GPRS transceiver and a processor along with the supporting circuitry.

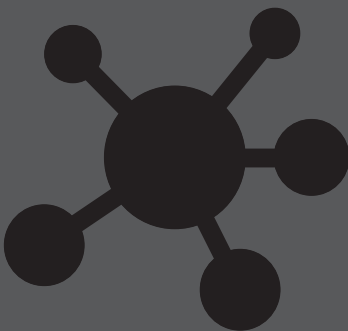
The u-blox inside S100 receives signals from multiple GNSS satellites and determines the exact position of the vehicle. The GNSS module gets the position coordinates and sends it to a static IP over the GPRS channel. SciFlair IVMS software running on a local server machine extracts the position coordinates and put them in a database. SciFlair IVMS software has a web based front end application that shows the vehicle position, speed and analytics data on an electronic map. A complete list of IVMS software features is given in the software datasheet.

S100 is primarily powered by the vehicle battery. The unit has a secondary Lithium ion polymer battery to deal with situations when a vehicle battery is cut and a it is vital to know the vehicle location. The secondary battery is automatically charged from the vehicle battery.

S100 has omni directional antenna which allows orientation free installation under the dash board or any metal free compartment with visible sky.

S100 tracker has various input and output options. One of the digital input is connected to the vehicle ignition to understand the vehicle status. The other IOs are optional and could be connected to various sensors like seat belt sensor, vehicle fuel pump, door sensors, temperature and humidity sensors etc. depending upon an application.

S100 has hardware expansion option via RS232 port. Customised hardware can be integrated to cater for wide range of user cases.



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IN VEHICLE MONITORING SYSTEM

GPS AND GSM
JAMMING DETECTION

3 AXES
ACCELEROMETER

BUILT IN LITHIUM ION
POLYMER BATTERY

EASY HARDWARE
EXPANSION VIA RS232

S100 is versatile to support following user cases and process management applications:

- Anti-theft system for cars and bikes and notify abnormal movements.
- Management of public transport likes buses and trains with zone reporting.
- Tracking of construction machinery and asset management.
- Fleet management of cars with driver identification and behaviour reports .
- School buses and private hire vehicles to notify on arrival and departure
- Tracking fuel transportation tankers and report delivery at distribution locations.
- Fast moving consumer goods vehicles.
- Track refrigerated vehicles and report temperature.
- Cash in transit vehicles tracking and report loading and unloading of items.

GNSS Module

- Receiver type: 72-channel u-blox M8 engine
- GPS/QZSS L1 C/A, GLONASS L1OF BeiDou B1I, Galileo E1B/C SBAS L1 C/A: WAAS, EGNOS, MSAS, GAGAN
- Market leading sensitivity: tracking -167 dBm dynamic, cold start -148 dBm, hot start: -157 dBm
- Acquisition time: Cold start 26s, Aided Start 2s, Hot start 1s
- Built in spoofing detection and superior anti-jamming active CW detection and removal
- Signal integrity signature with (Secure Hash Algorithm) SHA 256
- Navigation update rate: single GNSS up to 18 Hz, 2 concurrent GNSS up to 10 Hz
- Autonomous 2.5m horizontal position accuracy
- Qualification according to ISO16750
- Manufactured in ISO/TS 16949 certified production site
- Uses u-blox M8 chips qualified according to AEC-Q100

Device I/O

- 4x digital inputs
- 2x digital outputs
- 1x analogue input
- 1x 1-wire (for I button, temperature sensor)
- 1x TTL level RS232 serial interface*

Data Security

- Hardware based cryptographic engine
- Supports AES engine with 128,192 or 256-Bit Key
- Supports ECB, CBC, OFB, CTR and CFB128 modes
- DES/Triple DES (TDES) Engine: Supports 2-Key and 3-Key EDE or DED TDES

GSM/GPRS Module

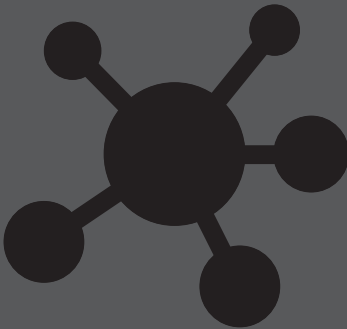
- Quad-band 850/900/1800/1900MHz
- GPRS multi-slot class 12/10
- GPRS mobile station class B
- Compliant to GSM phase 2/2+
- -Class 4 (2 W @ 850/900MHz)
- -Class 1 (1 W @ 1800/1900MHz)
- GPRS class 12: max. 85.6 kbps (downlink/uplink)
- PBCC support, Coding schemes CS 1, 2, 3, 4
- PPP-stack, USSD, Point to point MO and MT
- SMS cell broadcast, Text and PDU mode
- Embedded TCP/UDP protocol
- FTP/HTTP, MMS, POP3/SMTP, DTMF
- Jamming Detection, SSL
- Certifications: CE, FCC, GCF, TA, ROHS, REACH, CTA, CCC

Device Power

- Primary: 10v to 24v DC
- Secondary: Lithium ion polymer battery
- Consumption : 10-400mA/12V based on the operating mode

Physical

- Dimensions : 3.1"x2.2"x.80" (78.7 x 55.9 x 20.3 mm)
- Casing Material: RoHS compliant black ABS plastic



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