VEHICLE TRACKER

ATLANTA
Innovative IOT Solutions

EL-100
PROTOCOL

Multiple I/O
Digital Input: 2, Digital Output: 2, Analog Input: 1, 1-RPM/1-Wire(Optional), CAN, K-line

GNSS & GPS Antenna
Internal High Gain Antenna

Battery
120mAh Li-Po 3.7V

Voltage Range
9-90V DC

BAND
2G (850/900/1800/1900MHz)

Bluetooth
5.0

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Telematics | IOT and Industrial IOT | Electric Vehicle Solutions | ADAS & DMS Solutions | Smart City Solutions

SL#	Version	Prepared by	Date
1	VTS_GPRS_EL_V2.0	Vijith V.Nair	22/03/2022

EL-100 is a GPS Tracking device with CAN/UART Interface to read data from the BMS/ECU of the vehicle for understanding the Health related information. There are three types of packets that EL-100 sends to cloud server as below.

Protocol

LIVE/MEMORY, SIGNATURE, IMEI, TIME (GMT), DATE, VALID/INVALID, LATITUDE, NORTH/SOUTH, LONGITUDE, EAST/WEST, SPEED-IN-KNOT, ANGLE-OF-MOTION, ODOMETER, INTERNAL-BATTERY-VOLTAGE, SIGNAL-STRENGTH, MOBILE-COUNTRY-CODE, MOBILE-NETWORK-CODE, LOCATION-AREA-CODE, CELL-ID, IGNITION(0/1) SOS(0/1) ARM/DISARM STATE(0/1) OUT2(0/1) HARSHBRAKING/ACCELERATION/NON(1/2/0) BATTERY STATUS(0/1), RPM DATA, 1-WIRE DATA, ANALOG-1,END-OF-DATA

Example

- Live Data

  L,ATLLOC,862631034245448,073950,090817,A,2838.0105,N,07713.3491,E,0.0,143,553.14,4.0,21,404,4,88, a d7b,100101,1200.0,36.5,48.5,$

- History Data

  H,ATLLOC,862631034245448,073950,090817,A,2838.0105,N,07713.3491,E,0.0,143,553.14,4.0,21,404,4,88, a d7b,100101,1200.0,36.5,48.5,$

Signature	Description
L/H	Live/Memory
ATLLOC	Signature
862631034226166	IMEI
063736	Time
080717	Date
A/V	valid/invalid
2837.6926	Latitude
N/S	North/South
07714.0415	Longitude
E/W	East/West
0	Speed knot
17	Angle of motion
351.16	Odometer
4.2	Battery
16	Signal Strength
404	Mobile country code
4	Mobile Network code
88	Location area code
4ca5	Cell id
100101	#Ignition(0/1) SOS (0/1) arm/disarm OUT-2(0/1) Harsh Braking / Acceleration/Non(1/2/0/) Battery status(0/1)
1200.0	RPM Data
36.5	1-Wire sensor data
48.5	Analog Input data in Volts
$	Signature

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Protocol Format (CAN/OBD Data)

LIVE/MEMORY, SIGNATURE, IMEI, TIME (GMT), DATE, OBD PROTOCOL, ID/REGISTER: RESPONSE FIELDS, END OF RESPONSE

Example

- Live Data

  L,ATLCAN,862631034222496,063903,080717,CAN@010A:7A50@010D:190023@010E:XXXXXXXX@011D:0000@011A:90@,$

- History Data

  L,ATLCAN,862631034222496,063903,080717,CAN@010A:7A50@010D:190023@010E:XXXXXXXX@011D:0000@011A:90@,$

Signature	Description
L/H	LIVE/MEMORY
ATLCAN	SIGNATURE
862631034226166	IMEI
055404	TIME(GMT)
220317	DATE
J1939/CAN/UART	BMS Data PROTOCOL
@010A:7A50@010D:190023@010E:XXXXXXXX@011D:0000@011A:90@	RESPONSE FIELD---CAN/BMS data, The data would contain IDs or register numbers with their values separated by "@". The Register/ID and value would be separated by ":". EL-100 can support maximum 40 IDs or Register.
$	END OF RESPONSE

Alert/Warning Data Formatt

LIVE, ATLALM, IMEI, TIME, DATE, PROTOCOL, ALM_CODE, END-OF-DATA

Example

- One Wiring

  L,ATLALM, 862631034247006, 093334,270917,CAN,0171,$

- Two Wiring

  L, ATLALM, 862631034247006,093334,270917,CAN,0171@0121,$

Note: The Alarm/warning packet gives the error codes or warning code generated by the BMS for Any malfunction of the system. If the BMS generates multiple Alarms, they would be separated with "@" symbol and send as a single packet.

Signature	Description
L	LIVE DATA
ATLALM	STARTING SIGNATURE
862631034247006	IMEI
093334	TIME
270917	DATE
CAN	PROTOCOL
0171@0121	Alarm/warning(2 data)
$	ENDING SIGNATURE

Notes:

1. The Parameter ID/Register number is configurable.
2. The ID and response may different for different BMS/ECU models.
3. There might be changes in protocol for some BMS depending on the interface or data.
4. EL-100 Uses TCP layer acknowledgment, No ACK required from server.