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

Bluetooth
5.0

Voltage Range
9-90V DC

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

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

SL#	Version	Prepared by	Date
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A smart vehicle tracking solution that has applications in multiple industries like logistics, insurance, telematics, etc. The device supports CAN communication and can log data even when no GSM connectivity is available.

PROTOCOL FORMAT (GPS Tracker)

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, SIGNALSTRENGTH, 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/DTC, 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(0/1) OUT-2(0/1) Harsh Braking / Acceleration/Non(1/2/0/) Main Battery status(0/1)
1200.0	RPM Data/ (0 – No DTC Available, 1- DTC Available)
36.5	1-Wire sensor data
48.5	Analog Input data in Volts
$	Signature

Protocol Format (CAN/OBD Data)

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

Example

H,ATLCAN,862631034222496,063903,080717,CAN_11_500@010A:7A50@010D:190023@010E: XXXXXXXX@011D:0000@011A:90@,$

Signature	Description
H	MEMORY
ATLCAN	SIGNATURE
862631034226166	IMEI
055404	TIME(GMT)
220317	DATE
J1939/CAN/UART	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

PROTOCOL FORMAT (DTC Codes)

LIVE/MEMORY, SIGNATURE, IMEI, TIME (GMT), DATE, OBD PROTOCOL, DTC Codes, END OF RESPONSE

Example

H,ATLDTC,862631034222496,063903,080717,CAN_11_500, 37643B4C544124494F2C48312E34535F56302E325F4E545F56302E342C302E30302C302E30302C30,$

Signature	Description
H	MEMORY
ATLCAN	SIGNATURE
862631034226166	IMEI
055404	TIME(GMT)
220317	DATE
J1939/CAN/UART	Data PROTOCOL
37643B4C544124494F2C48312E34535F56302E325F4E545F56302E342C302E30302C302E30302C30	Multiple DTC codes generated. All DTC codes are in Hex format and each code is of 2 Byte Size.
$	END OF RESPONSE

ACKNOWLEDGEMENT FORMAT

The EL100 device expects acknowledgement for every packet send to the server for successful transmission of data. The format of acknowledgement is as below.

RCVD, “number of packets”

Here

RCVD	---fixed header
Number of packets	-------it is the number of data received per packets. If the server is receiving only one packet, the value would be “1”

For example, the acknowledgement for receiving two packets is

RCVD, 2

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.**