



# ET-GPS-GSM CONTROLLER SMOK L



### PURPOSE OF THE ET-GPS-GSM SMOK L CONTROLLER

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The ET-GPS-GSM SMOK L controller is designed for permanent installation in vehicles. Its task is to remotely locate the vehicle using GPRS transmission. In addition, the ET-GPS-GSM SMOK L controller is used to register and transmit selected vehicle parameters based on data from the GPS / GLONASS system, data sent from the vehicle's CAN bus and from the digital and analog inputs available in the controller, as well as the 1-Wire and RS-bus 485.

The position and speed of the vehicle are determined using the GPS system. This position is remembered in the controller's memory - the so-called "Black box". The "black box" is read using the GSM / GPRS link.

The device has a built-in GSM telephone module. With its help, through a permanent GPRS connection, the GPS locator communicates with the base station, and then with the server, providing information about its location and input states.

The ET-GPS-GSM SMOK L controller also has an integrated CAN module. With its help, after connecting to the CAN bus of the vehicle, it is possible to send and record parameters such as: engine speed, odometer reading, pressure on the accelerator pedal, fuel consumption, fuel level and others.

Through the 1-Wire interface, which the controller is equipped with, it can read the number of the unique driver identifier (socalled Dallas chip) or the temperature of a digital temperature sensor, e.g. DS18B20.

The RS-485 interface enables the simultaneous connection of various devices that support the "ELTE RS" data transmission protocol. These can be: terminals, RFID readers, fuel level measurement probes, external CAN bus interfaces.

The controller has outputs through which it can control the operation of vehicle devices or its equipment.

# Characteristic features of the ET-GPS-GSM SMOK L controller:

- 📕 microprocessor control,
- non-volatile data memory of DataFlash type,
- 📕 modern construction,
- 📕 small dimensions,
- internal emergency operation battery.

#### CONSTRUCTION AND DESCRIPTION OF OPERATION OF THE CONTROLLER

The ET-GPS-GSM-SMOK L controller has a microprocessor, the program of which controls the inputs, controls the GSM, GPS / GLONASS, CAN modules and controls the status of devices that can be connected to it.

The signal sent by the GPS satellites is received and amplified by the antenna. The power and signal cable is sent to the GPS receiver located inside the Controller housing.

The position of the vehicle is calculated in the GPS receiver based on the received signals every second. The geographical coordinates of the vehicle location are received by the microcontroller and saved with a given time interval in the non-volatile DataFlash memory, the so-called "Black box".

The "black box" also stores data from optional external devices and the internal CAN module. The memory can contain up to 128,000 or 256,000 records, depending on the memory used (the memory fills up slightly during standstill).

By default, the black box memory has a looping mode, i.e. when the entire memory is full, the oldest data are deleted from it and the current data are entered in their place.

The controller is protected against power outages by an internal 3.7V / 1100mAh battery (it is possible to install an optional battery with a capacity of up to 4000mAh).

The ET-GPS-GSM SMOK L controller is mounted on a printed circuit. The basic elements are made in SMD technology. The controller housing is made of ABS plastic.

## LIST OF VEHICLES FOR WHICH THE DEVICE IS INTENDED

The wide range of supply voltage means that the ET-GPS-GSM SMOK L controller can be installed in all vehicles equipped with both 12V and 24V electrical installations with negative ground.

#### THE ET-GPS-GSM-DRAGON L CONTROLLER IS BUILT OF THE FOLLOWING MODULES AND COMPONENTS:

- GPS / GLONASS receiver,
- 📕 an active antenna,
- **microcontroller**,
- DataFlash non-volatile memory,
- the system supplying the supply voltage for individual driver modules,
- internal battery charging and control module,
- internal battery 3.7V / 1000mAh (option 3.7V / up to 4000maH),
- GSM telephone module with a Bluetooth adapter,
- SIM card (optional MIM card),
- 🗾 GSM antennas,
- CAN bus interface,
- RS-485 bus interface,
- 7. 1-Wire bus interface,
- the system of inputs for connecting the signals of the vehicle electrical system,
- two LEDs indicating the operating status of the controller and the CAN module,
- supply voltage control and reset system,
- elements protecting internal systems against the effects of disturbances in the vehicle's electrical system,
- 3-axis accelerometer,
- power and signal connector for connecting the controller to the vehicle installation.

#### **TECHNICAL PARAMETERS:**

7	Supply voltage			8V – 36V [DC]
7	Average current consumption during operation, - with 12 V power supply: - with 24 V supply:	with a charged interna	I battery	40[mA] 30[mA]
7	Maximum current consumption, with a discharge	ged internal battery		200[mA]
7	Current consumption in "standby mode" *			<10mA/12V
7	Internal battery		ontion	3,7 [V] 1100 [mAh]
R	Inputs: - universal digital - analog, working in one of - digital input (binary), - L status <4V - state H> 6V - analog input range 0-13 2V reso	of 2 modes:	option	1
	- universal digital - analog, working in one of 2 modes: - digital input (binary), - L status <4V - state H> 6V			
	- analog input, range 0-33V, resolu - universal digital - counting, working in one - digital input (binary), - L status <4V	ition 8.25mV (12 bits) e of 2 modes:		3
	- counting input: 10V, 1kHz - digital input (binary) - L status <4V			1
	- state H> 6V - CAN bus input (2.0A and 2.0B) - RS-485 bus input (ELTE RS protocol) - 1-Wire bus input			1 1 1 1
7	Outputs: N-type output	(I<250mA, U<36V)		2
7	Black box capacity		up to 1280	000 or 256000 entries
7	Analog input impedance			300 [kΩ]
7	Digital inputs impedance			100 [kΩ]
7	Dimensions	90,5 (1	07 with har	ndle) x 63,7 x 33 [mm]
7	Working temperature			from -30 to +85 [°C]
7	Humidity (non-condensing)	midity (non-condensing) from 40 to 95% RHw		
<b>7</b> * - s	Housing protection degree IP40   * - standby mode - work with the vehicle's ignition off. Posting items no more than what min.			



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