TECHNOTON
ADVANCED MACHINERY TELEMATICS

CAN UP

Telematics gateway

Purpose of use

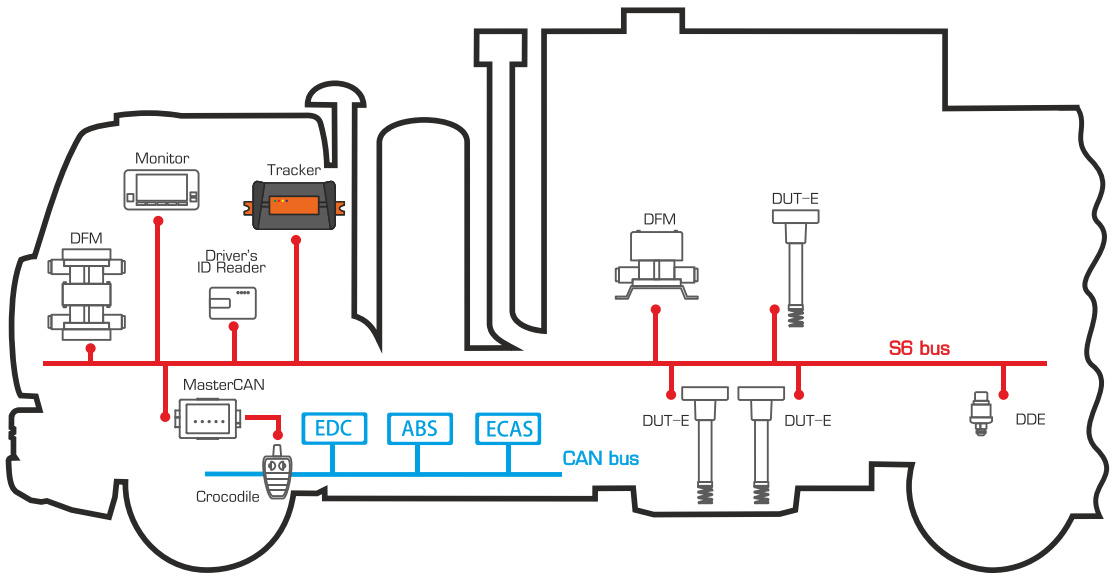
CANUp is an advanced telematics gateway designed for complex machinery, it utilizes edge computing to analyze performance in real-time.

Designed for telematics and remote diagnostics of vehicles, machinery and stationary assets.

Identifies over 10,000 parameters from additional sensors, CAN J1939, ISOBUS and Modbus.

Application

Complex machinery are vehicles and equipment with multiple subsystems that generate diverse data, requiring advanced processing and analysis.



Multiple data sources.
One or more engines, fuel tanks, auxiliary units and equipment;

Extensive set of parameters.
A thorough understanding and detailed analysis of data relationships are essential;

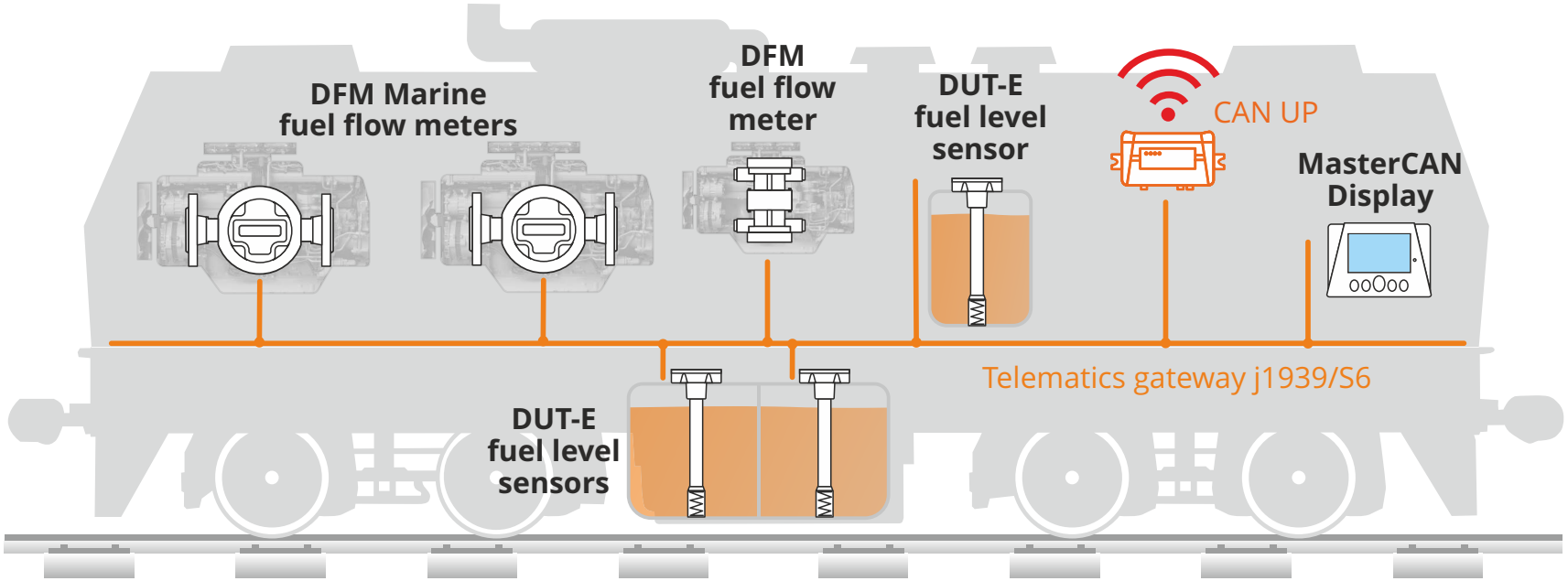
Quick response is a key.
Real-time monitoring of rapid parameter changes is required.

Features

- Identifies 10 000+ parameters
- Automatics parsing of CAN j1939 messages
- Event-based reporting scenarios
- GPS location tracking
- Compatibility with Technoton smart sensors, meters, converters
- Self- and connected sensor diagnostics
- Remote configuration
- Sending Reports and Event alarms to a telematics server, via SMS and email

Features

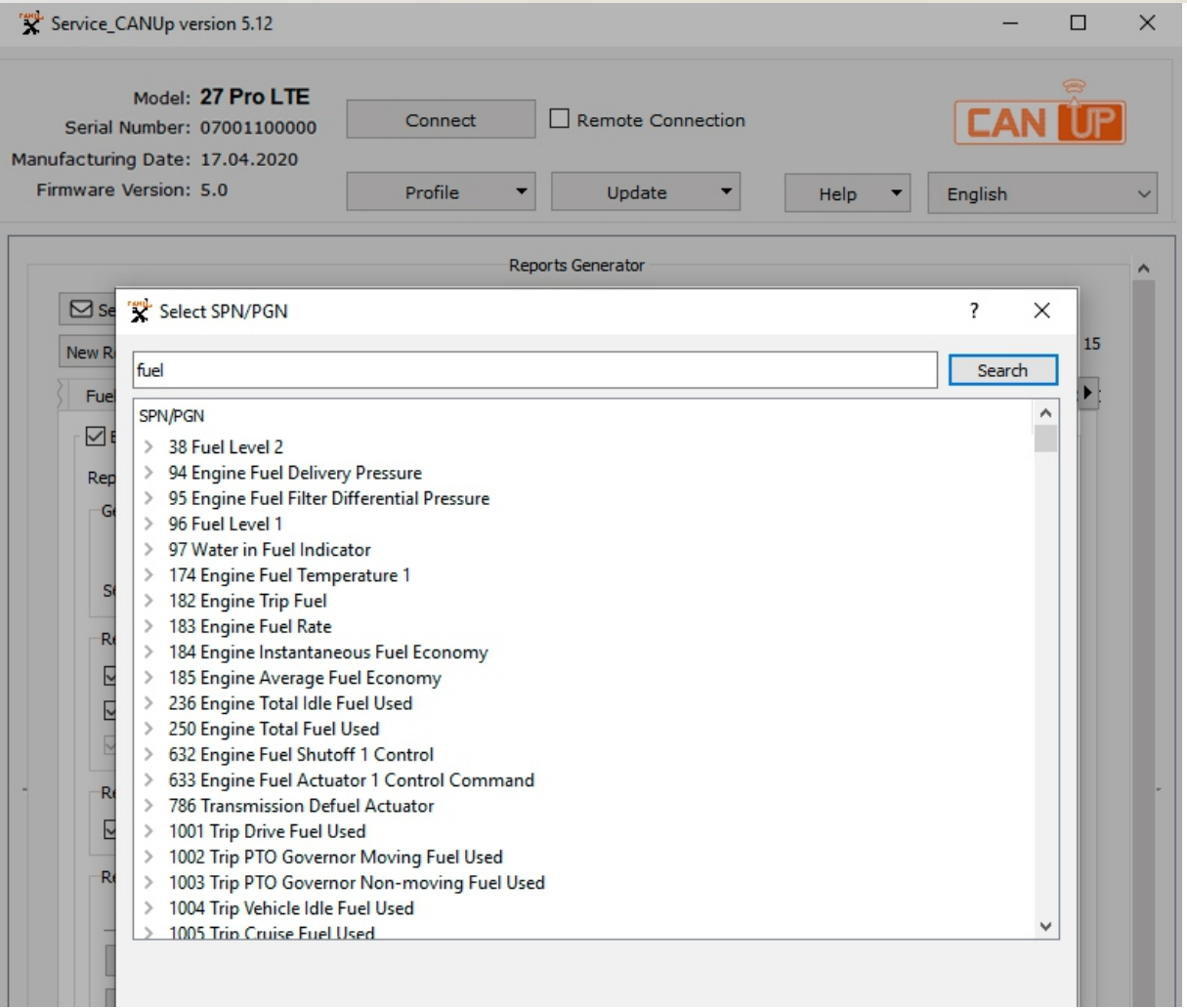
Monitoring 10,000+ parameters



CANUp is able to identify 10,000+ machinery operation parameters.
That allows adjusting device settings for specific machinery type and applicable data sources - additional and standard sensors, CAN bus, ISObus and others.

Features

Automatic CAN J1939 parsing



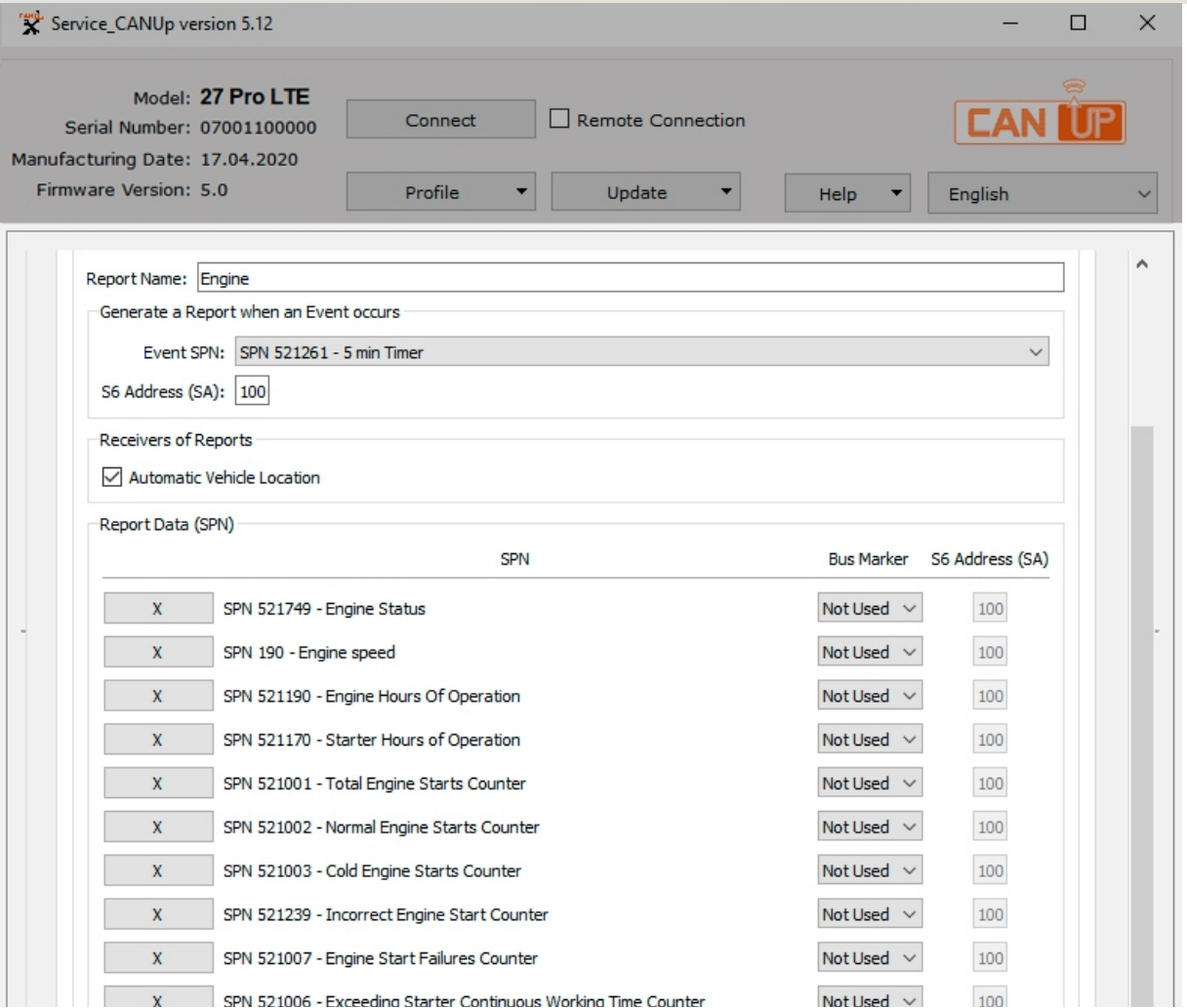
CANUp transforms HEX-messages from CANbus into numerical parameter values.

Telematics technician selects the required parameters (SPN) for reporting, CANUp retrieves and parses respective PGN, transforming HEX codes into human-readable format.

This minimizes labor efforts and risk of errors when working with CAN bus and ISOBUS.

Features

Event-based reporting



CANUp generates and sends reports upon the occurrence of an Event.

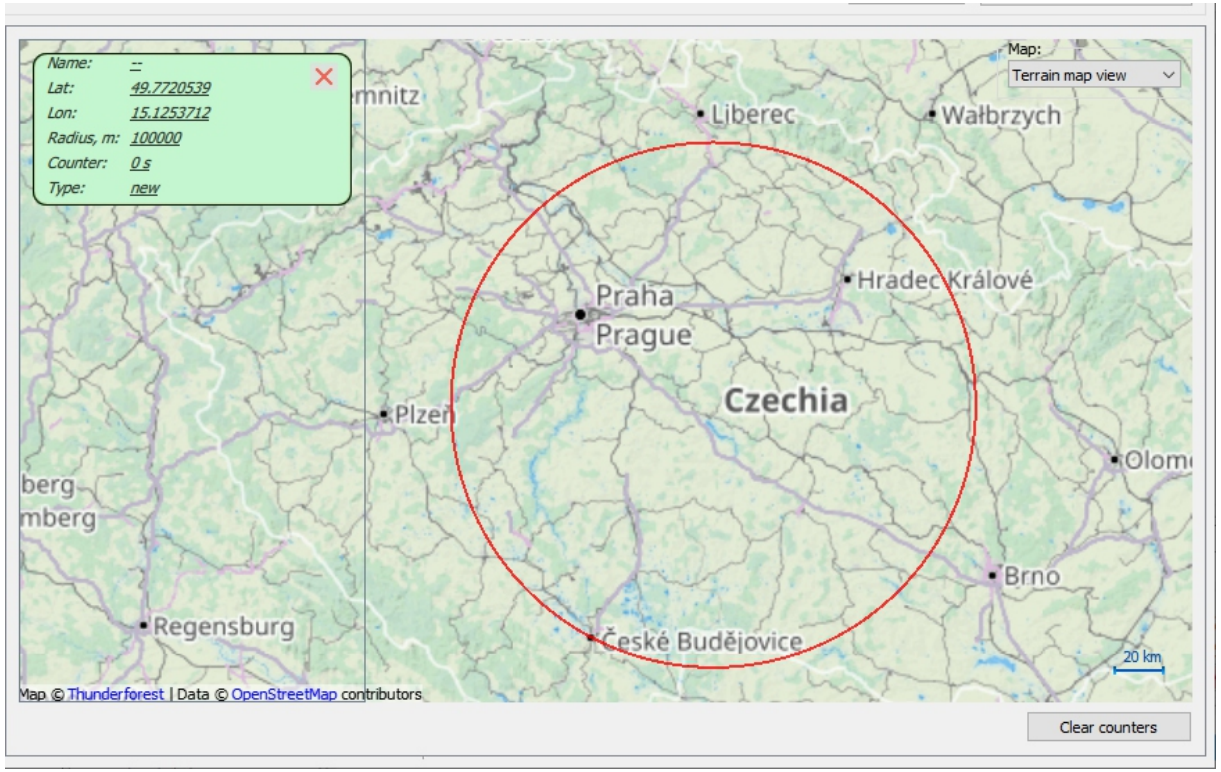
Event is a sudden or significant change in a parameter value, such as engine startup, fuel drainage, or a voltage surge.

Regular Report submission is also available, with intervals from 10 seconds to 24 hours.

Report Generator module supports up to 20 Reports, each containing 15 parameters.

Features

GPS tracking



- Machinery location
- Route
- Speed
- Geofencing

Features

100% compatibility with Technoton products

Fuel level sensors:
DUT-E,
DUT-E 2Bio,
DUT-E S7

Fuel flow meters:
DFM,
DFM Marine

MasterCAN converters and I/o modules

Crocodile contactless CAN and J1708 bus readers

CAN j1939 display

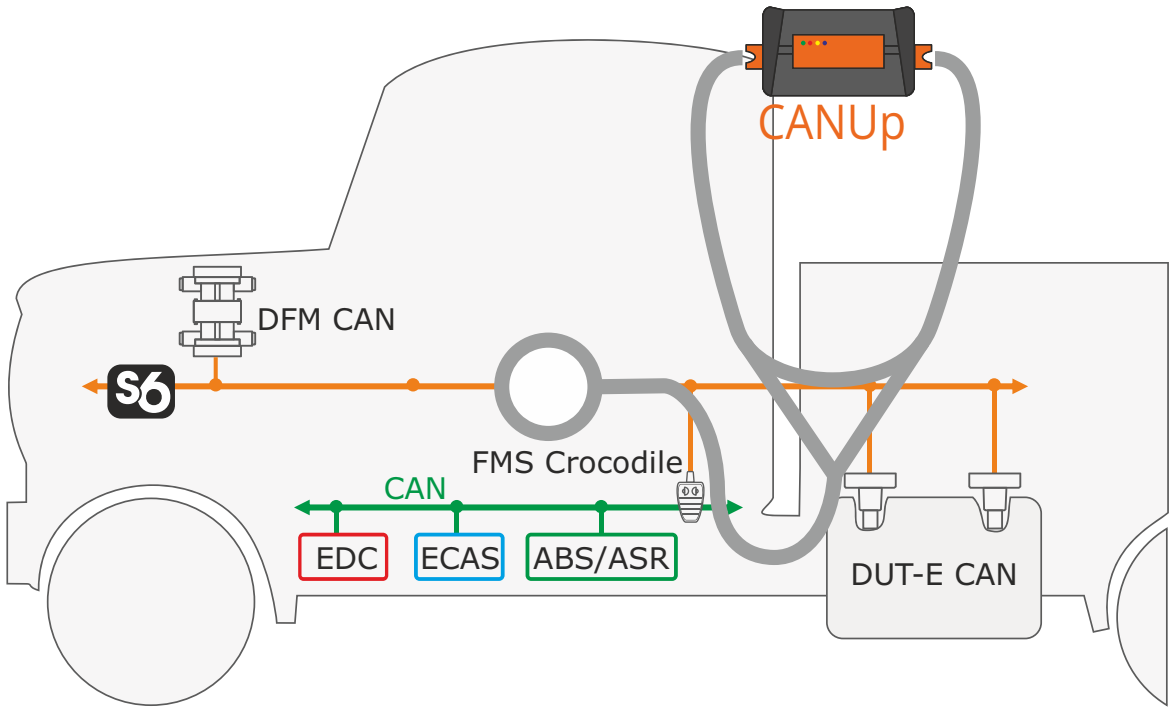
GNOM axle load sensors

Ensures accurate and reliable data collection.

Fast and simple setup for the gateway and peripherals of the telematics system.

Features

Self- and connected sensor diagnostics

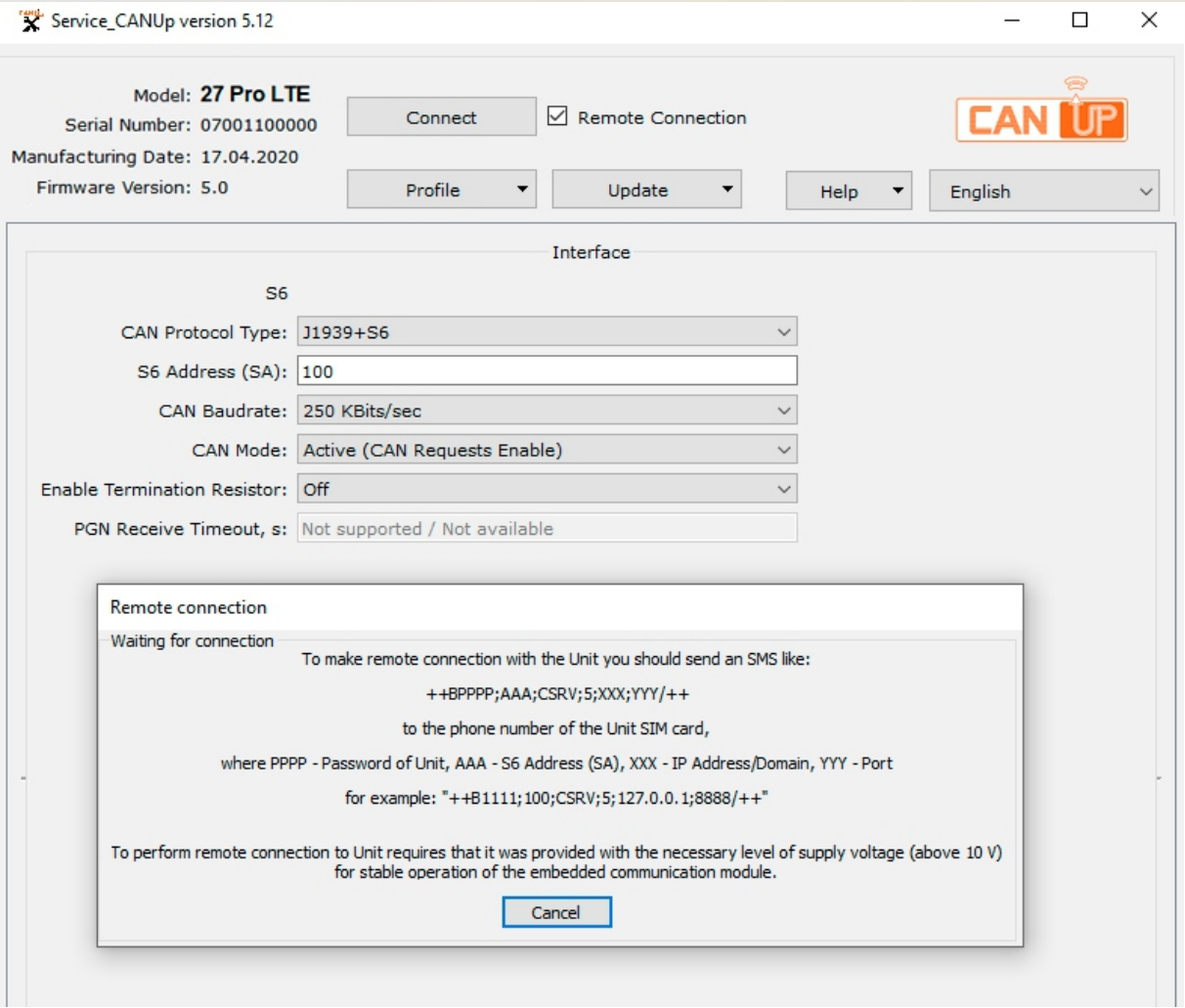


Handy monitoring of telematics system's health reduces technical support efforts.

- CANUp monitors its own operability, and status of connected sensors.
- Saves information on malfunctions and ensures data validation.

Features

Remote configuration



CANUp can be configured remotely via the Internet or SMS, in addition to PC-based configuration:

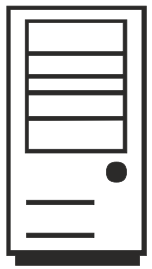
- firmware update;
- report configuration;
- adding/changing scenarios of Events;
- configuring server address and emails.

Features

Reporting to a web-based server, via SMS and e-mail

3x e-mail addresses	3x phone numbers for SMS	Telematics server

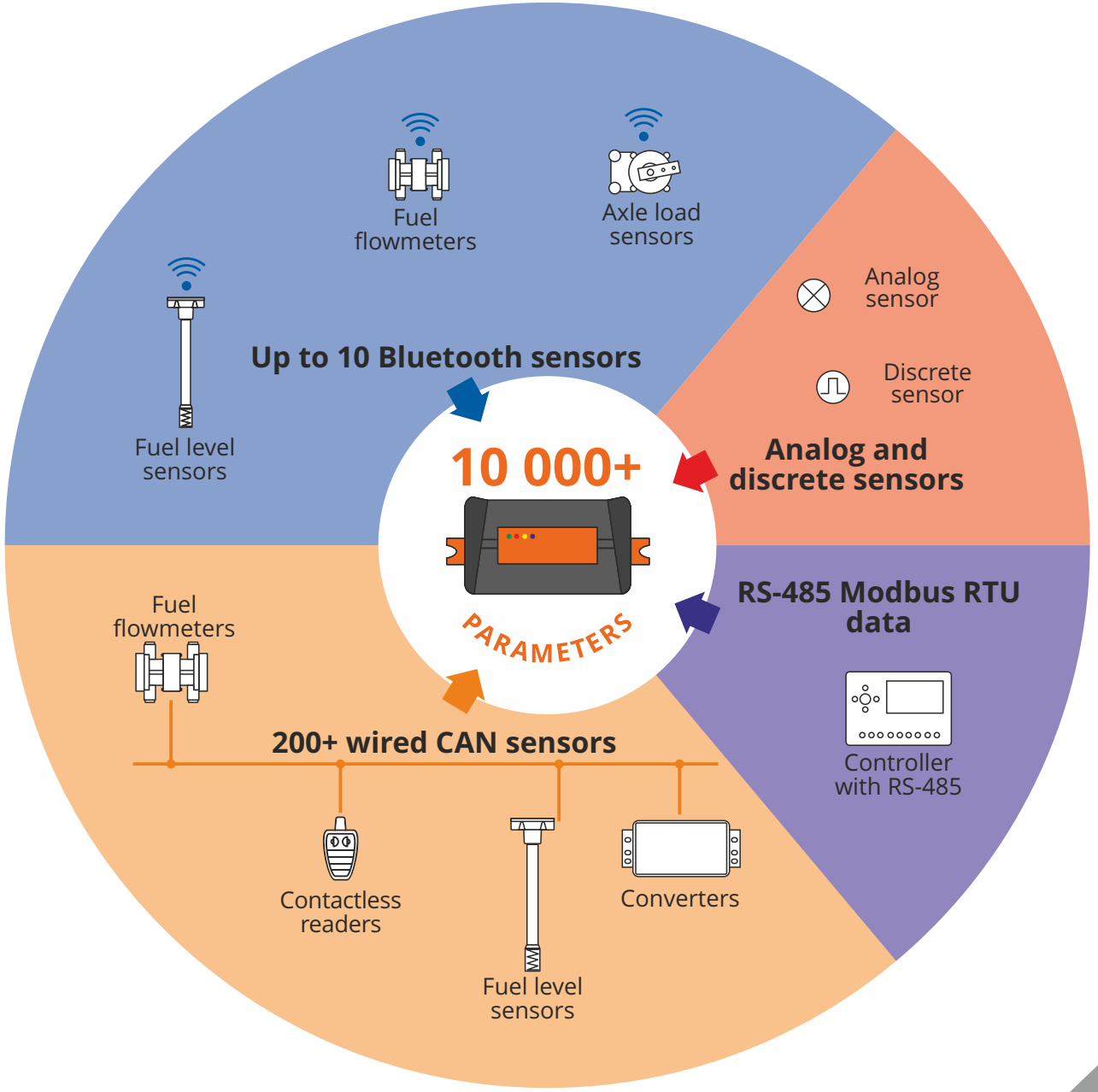
CANUp



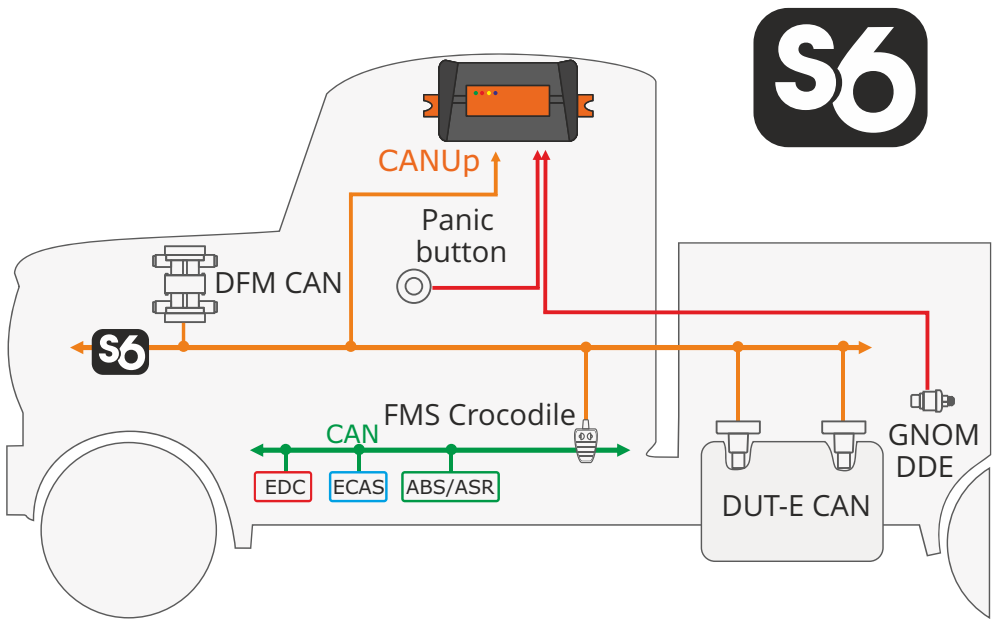
MQTT UNUM IIoT
Wialon IPS

Enables the simultaneous submission of Reports and Events to both the server and users, ensuring timely updates.

Creating a developed network of onboard units



S6 Technology, over-the-wire



CAN J1939-based technology.

Collects and integrates data from additional and standard on-board equipment into the telematics system.

- easy integration of standard sensors;
- 3rd-party sensors integration;
- single data exchange interface;
- centralized power supply;
- requires less time, efforts qualification of technician.

The entire set of onboard equipment is connected over a single CAN/S6 port.

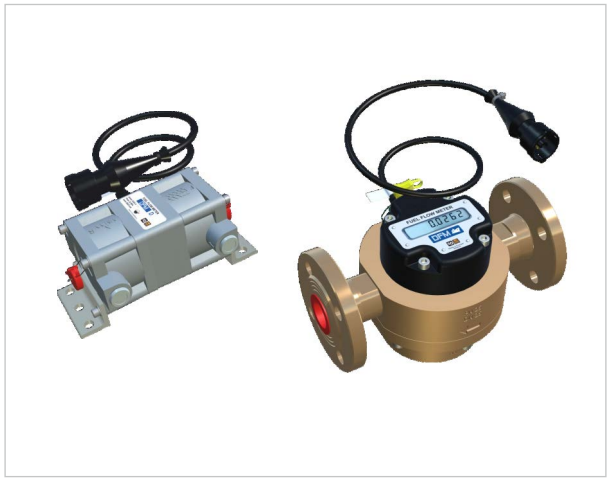
Creating a robust network of on-board equipment easily and reliably with a single interface and cable system.

S6 Technology sensors

S6

16x

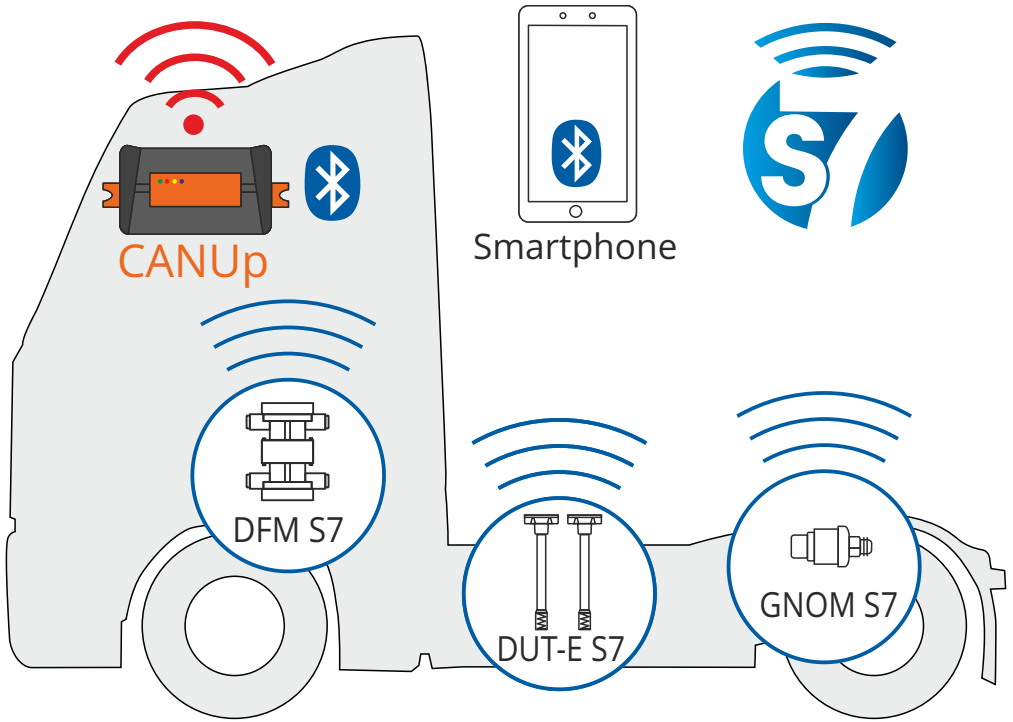
16x



S6 Technology allows connecting (can be extended to 200 units in total):

- 16x DUT-E and DUT-E 2Bio fuel level sensors
- 16x DFM, DFM Marine and DFM Industrial fuel flow meters
- Contactless readers and data converters for CAN bus, CAN data displays

S7 Technology, over-the-air



Wireless (Bluetooth) technology for collecting information from autonomous sensors in telematics systems of vehicles and stationary objects.

- quick and easy sensor installation;
- BLE data sending range 100 meters;
- increased resistance to damages.

Data is transmitted simultaneously to CANUp, smartphones, displays and other receivers without pairing with them - “BLE radio” mode.

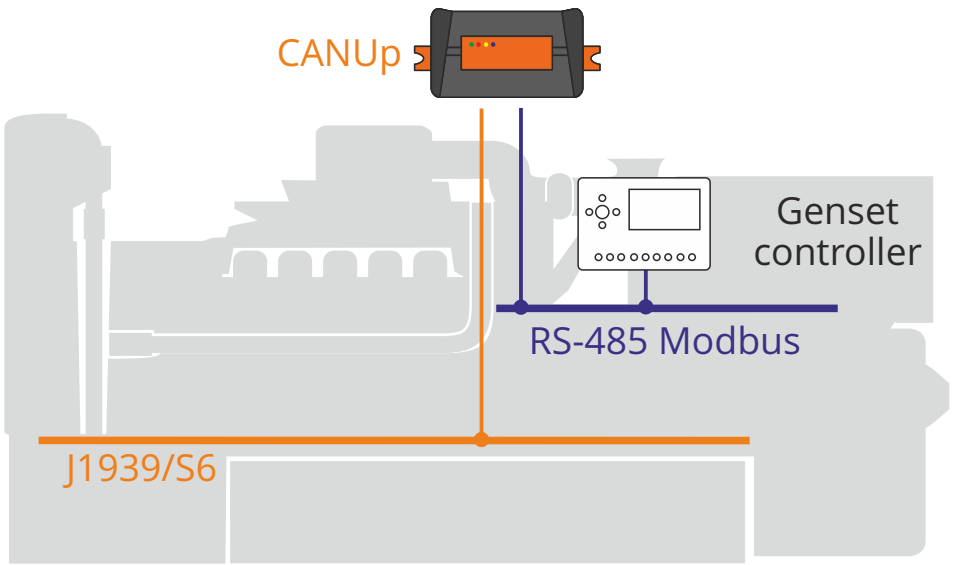
S7 Technology sensors

Up to 10 wireless sensors can be connected to CANUp at the same time

S7 Technology (BLE) allows getting data from:

- DUT-E S7 fuel level sensors
- DFM S7 and DFM Marine S7 fuel flow meters
- GNOM S7 DDE and GNOM S7 DP axle load sensors

RS-485 (Modbus RTU) connection



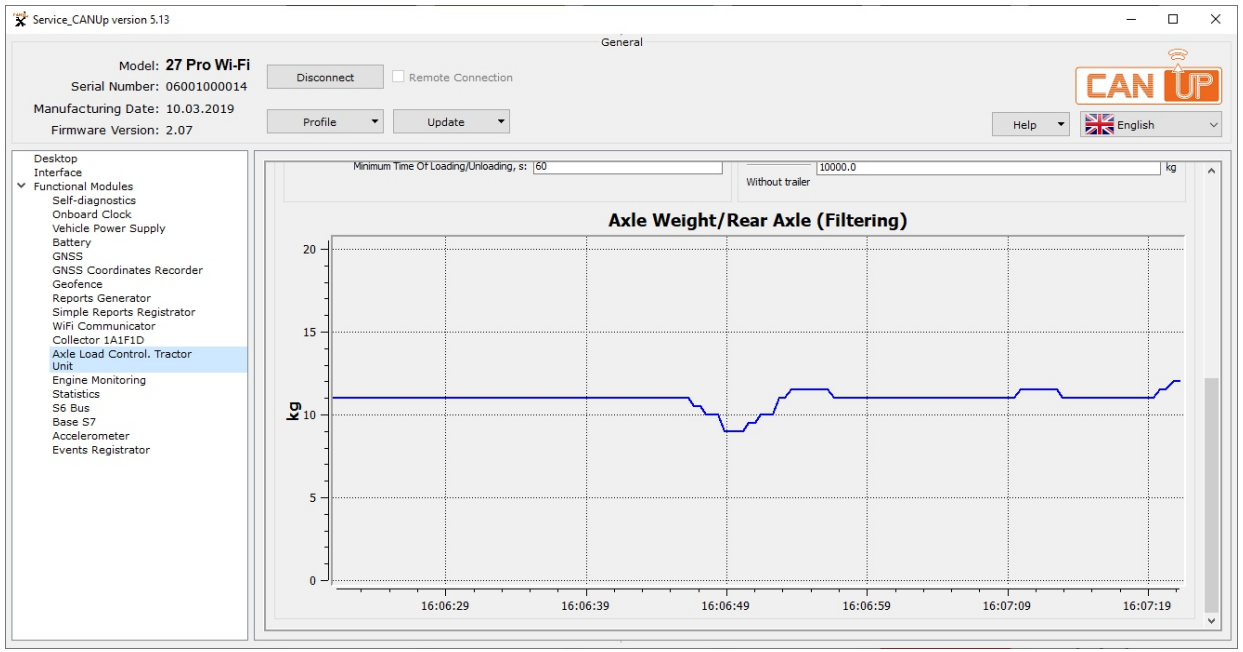
CANUp reads data from RS-485 interface (Modbus RTU protocol).

For instance, if connected to a genset controller, CANUp can read operation parameters like:

- Voltage, frequency, phase current;
- active and reactive power;
- power factor (Cos φ);
- total energy generated (energy meter).

CANUp can read up to 50 parameters from RS-485 network

Connecting analog sensors



One analog and one digital (binary) sensor can be connected to CANUp. The signals are filtered for noise and converted into CAN J1939 parameter.

Calibration tables map inputs to corresponded units (e.g. mm/l/kg).

(on the picture) CANUp digitizes analog signal of GNOM axle load sensor to monitor changes in the load of vehicles axle.

IoT BURGER Technology
"Onboard" data processing

CANUp telematics gateway is created using IoT Burger Technology.

Collection and initial analysis of parameters are carried out “on board” the gateway: detecting surges and abnormal values, sending reports upon detecting atypical parameter value.

The Technology ensures maximum speed and throughput, with no delays and instant data response.

Summary

Smart telematics gateway for obtaining detailed information about operation of advanced machinery in real-time.

Applicable for various types of machinery:

- connection of 200+ additional sensors, meters, converters;
- simultaneous data reading from several data buses;
- flexible report configuration, selection from 10,000+ parameters.

100% compatible and reliable with Technoton products

Automatic J1939/71 and ISOBUS parsing, no manual work

Data resolution from 0.1s, detection of Events

Learn more

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