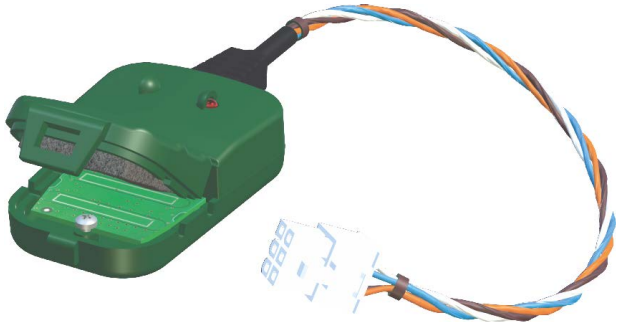
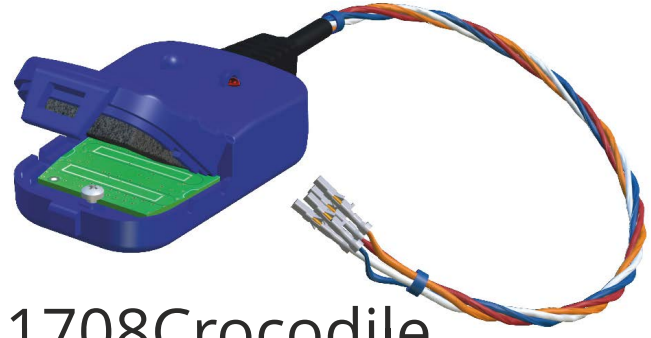
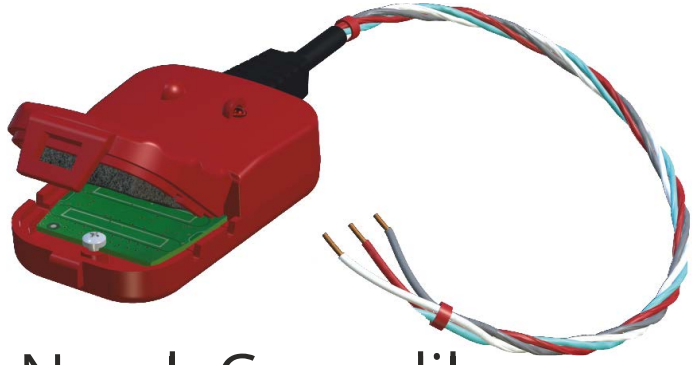
Contactless readers



CANCrocodile



1708Crocodile



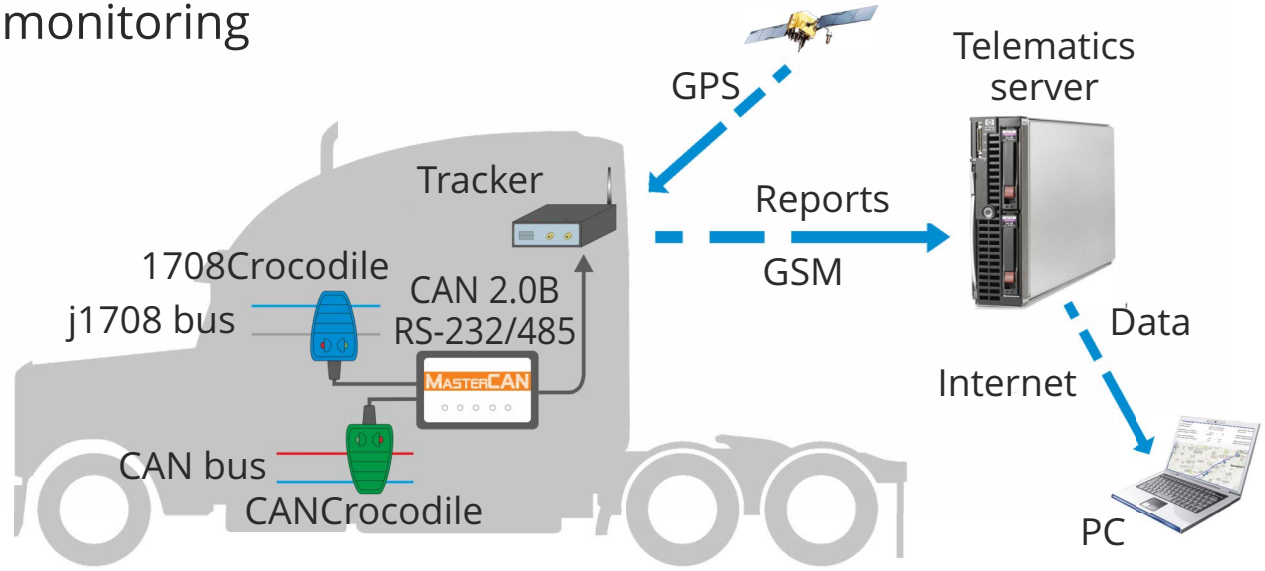
NozzleCrocodile

Contactless receiving of vehicle operation data

Crocodile Contactless data reader allows to read the vehicle operation data without any interruption into the vehicle electronical systems integrity.

Crocodile is used in GPS/GLONASS vehicle monitoring systems for safe getting information on:

- fuel consumption;
- engine operation modes;
- sensors state;
- vehicle diagnostics errors;
- other data transmitted via serial buses.

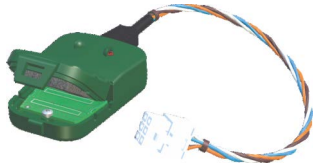


TECHNOTON
ADVANCED VEHICLE TELEMATICS

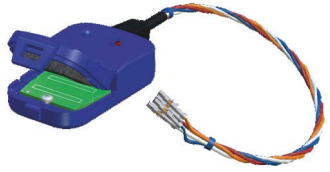
Key features

- powered from on-board automobile network;
- reads the signals through the insulation of wires;
- light indication modes;
- easy to install and operate;
- no need in preliminary setting-up.

Models



- CANCrocodile – for safe CAN bus data reading.



- 1708Crocodile – for safe J1708 bus data reading.

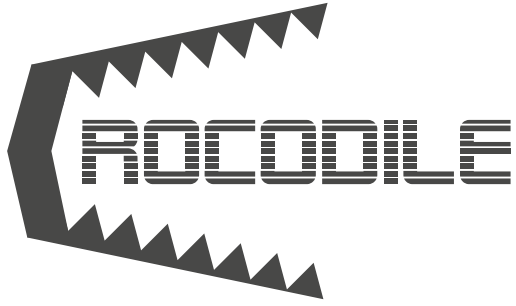
- NozzleCrocodile/Nozzle BMCrocodile – for petrol and gas consumption monitoring.

TECHNOTON
ADVANCED VEHICLE TELEMATICS

Order identification codes

Y

Type of output signal:
CAN – digital, CAN 2.0 B
1708 – digital, SAE j1708
Nozzle – pulse
Nozzle BM – pulse



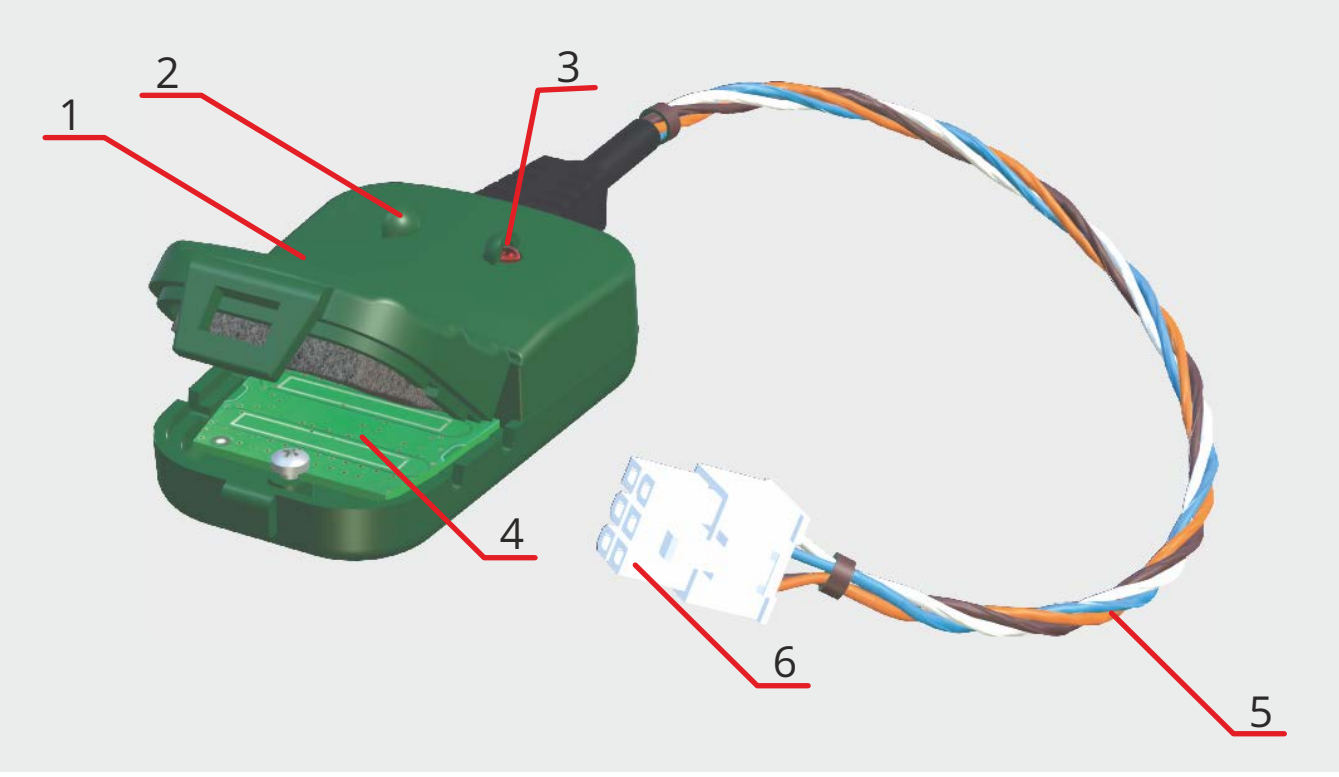
Connecting cable length:
0.7 – 0.7 m (basic version)
2 – 2.0 m

U **L** **C**

Supply voltage:
5 – 5V
12/24 – 12/24 V (basic version)
12/24 A++ – 12/24 V (low current consumption)

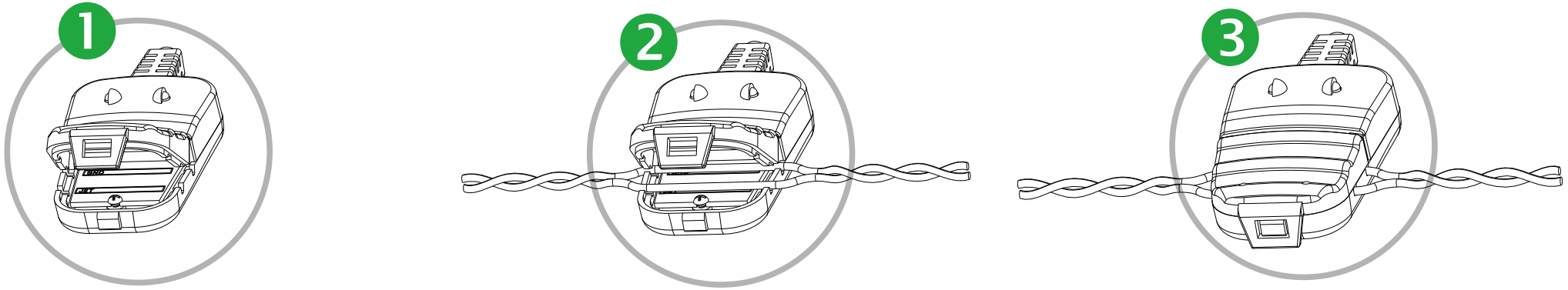
Type of the connecting cable end:
W – isolated wires with bares end
C – clamped contacts
S – connector

Unit structure



1 – body;
2 – data LED indicator (green);
3 – power LED indicator (red);
4 - electronic board;
5 - connecting cable;
6 - connector for power supply and the receiving device (tracker).

Connection



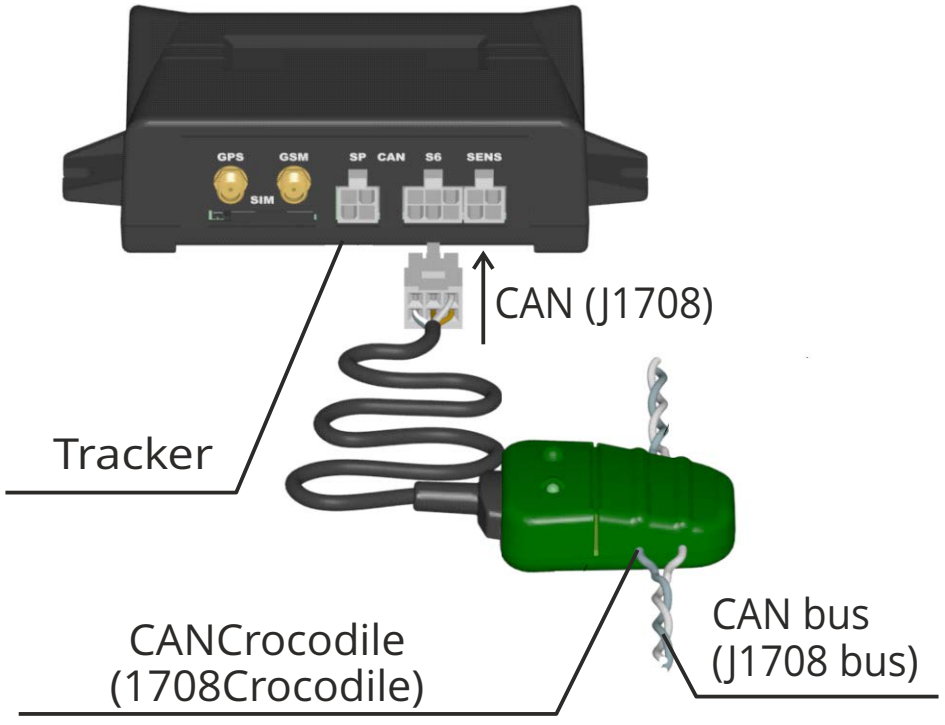
1. Open Crocodile cover.
2. Lay the corresponding wires into the slots of the Crocodile body according to the marking indicated on electronic board.
3. Close Crocodile body until you hear a click.

TECHNOTON
ADVANCED VEHICLE TELEMATICS

Technical characteristics

Parameter	Crocodile model		
	CanCrocodile	1708Crocodile	NozzleCrocodile
Acceptable level of message losses,%, not more	1	1	–
Power supply voltage range for version U5	5 V		
Power supply voltage range for version U12/24	12/24V		
Maximal current consumption at supply voltage 5 V	not more 200 mA		not more 100 mA
Maximal current consumption at supply voltage 12/24 V	not more 100 mA		not more 30/20 mA
Power supply voltage range for version U5	4.5 ... 5.5 V		
Power supply voltage range for version U12/24	10 ... 50 V		
Temperature range	-40 ... +85 °C		
Weight	not more than 0.1 kg		
Compatibility	SAE j1939, CAN Open, DeviceNet, NMEA 2000	SAE j1587	–

CANCrocodile and 1708Crocodile/ Operation principle



CANCrocodile (1708Crocodile) allows to get the data from serial buses without electrical contact to the wires.

The principle of operation is based on electromagnetic field reading which is formed around the wires during the signal running.

CANCrocodile (1708Crocodile) generates the output signal with information package that matches the read-out data of the connected bus.

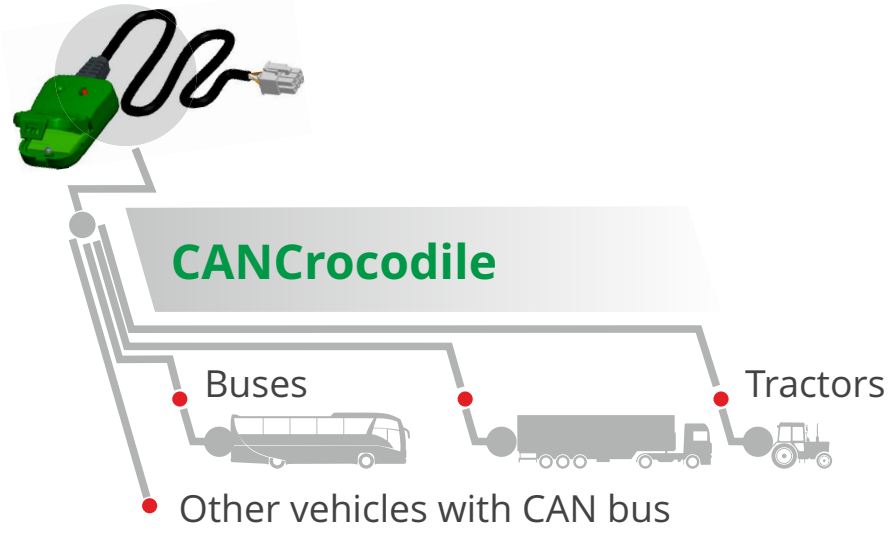
CANCrocodile (1708Crocodile) is compatible with all types of trackers that have a corresponding serial port for connection.

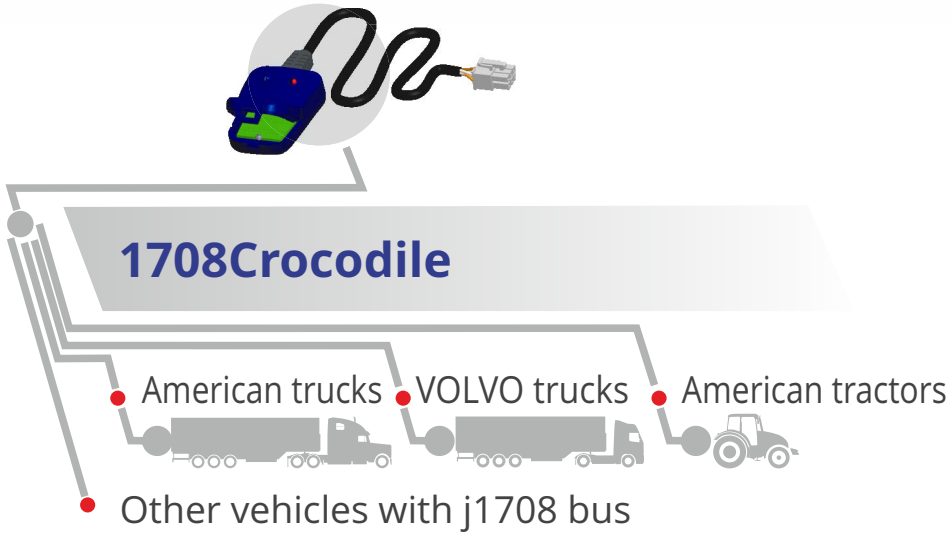
TECHNOTON
ADVANCED VEHICLE TELEMATICS

CANCrocodile and 1708Crocodile/ Types of vehicles

CANCrocodile can be installed on the following modern vehicles:

- buses;
- trucks;
- tractors;
- other kind of vehicles with CAN bus.



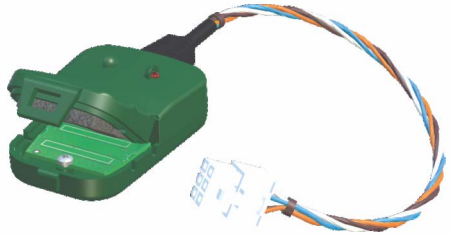


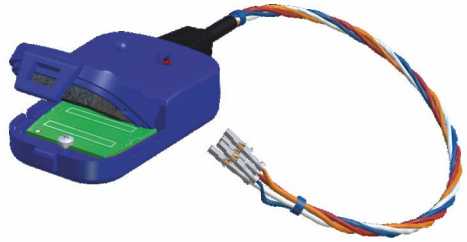
1708Crocodile can be installed on the following modern vehicles:

- US manufactured trucks;
- VOLVO trucks;
- John Deere tractors;
- other kind of vehicles with J1708 bus.

CANCrocodile and 1708Crocodile/ Received information

CANCrocodile (1708Crocodile) allows to get the following information about vehicle running:





- engine RPM;
- speed;
- oil pressure;
- cooling fluid
- fuel consumption;
- fault codes;
- other data transmitted via serial bus.

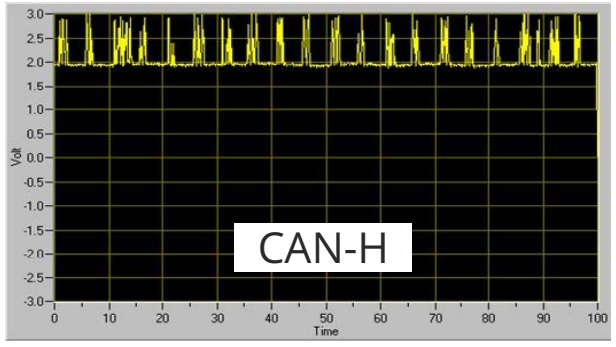
A set of parameters transmitted via CAN bus (J1708 bus) may differ depending on the manufacturer, model and year of the vehicle. A complete list of transmitted parameters for a particular vehicle model can be found in technical documentation on the vehicle.

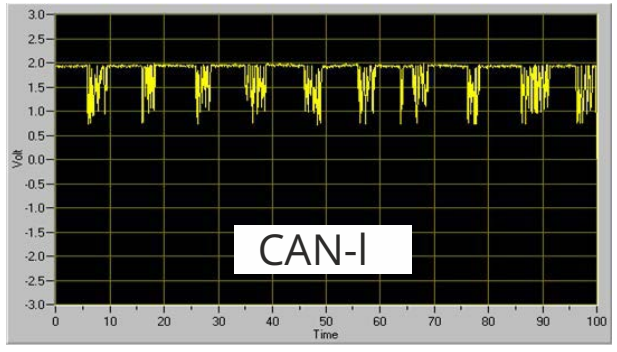
CANCrocodile and 1708Crocodile/ Installation. CAN bus detection

CAN bus may be found by:

- the OBD II diagnostic connector;
- the colour and size of twisted-pair wires;
- the connection of twisted-pairs with connectors of OBD II and ECU.

CANCrocodile and 1708Crocodile/ Installation. CAN bus detection





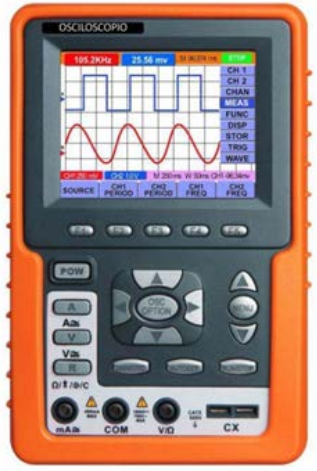
Oscilloscope pictures of signals from CAN-high and CAN-low

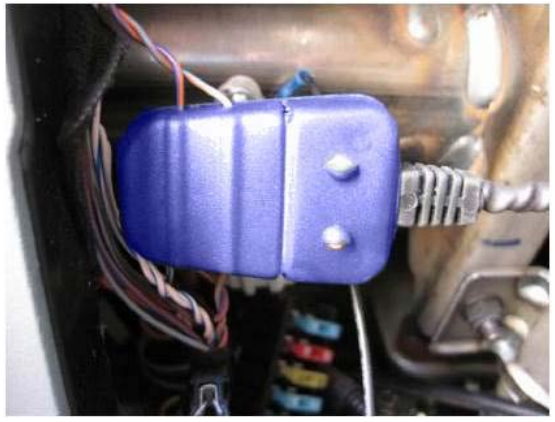
Detection of CAN-H and CAN-L wires is carried out with help of multimeter in recession status (when the button "ground" is on and ignition is off) and in dominant status (when ignition key is turned to position "devices", when the engine is running and is not running).

Voltage values shall be as follows: 2.5 V (recession), less than 2,5 V (CAN-L), more than 2,5 V (CAN-H).

Before you start CANCrocodile installation, you need to detect CAN bus and define CAN-H and CAN-L wires.

CANCrocodile and 1708Crocodile/ Installation. J1708 bus detection





Before 1708Crocodile installation, its needed to detect J1708 bus and define J1708.A and J1708.B wires with help of oscilloscope.

Voltage amplitude on wires J1708.A and J1708.B varies in the range from 0 to 5 V.

CANCrocodile and 1708Crocodile/ Example of data

Statistic

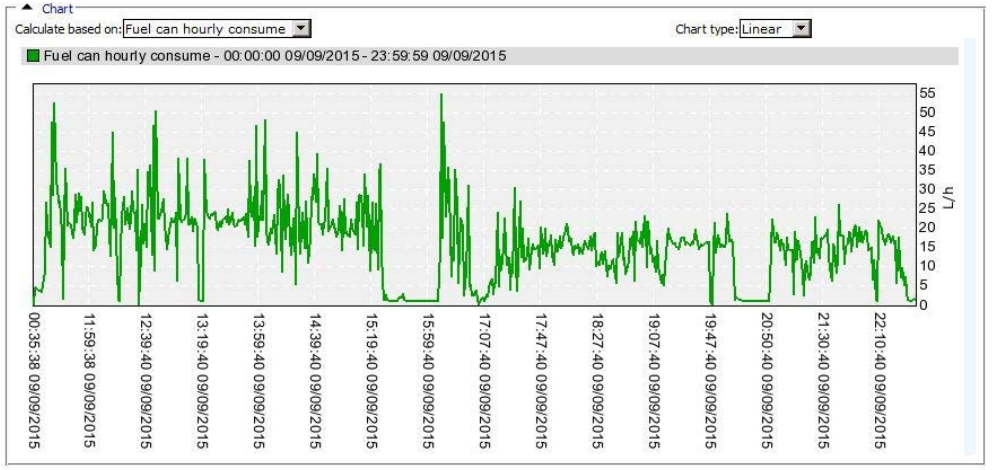
Interval begins:	September 09, 2015 00:00:00	Fuel in tank start (DUT|CAN):	812.4 | -- L
Interval ends:	September 09, 2015 23:59:59	Fuel in tank finish (DUT|CAN):	635.2 | -- L
Total distance (GPS|sens):	622.3 | -- km	Fuel consumed (DUT|DPT|CAN):	177.1 | -- | 165.5 L
Movement time (GPS|sens):	8h 45min | --	Hourly fuel consumption (FLS|FFS|CAN):	17.2 | -- | 16.2 L/h
Number|Fueling amount:	0 | 0.0 L		
Number|Draining amount:	0 | 0.0 L		

Map

Data based on CAN bus

Chart

Calculate based on: Fuel can hourly consume Chart type: Linear



Graph of instant fuel consumption based on CAN bus data

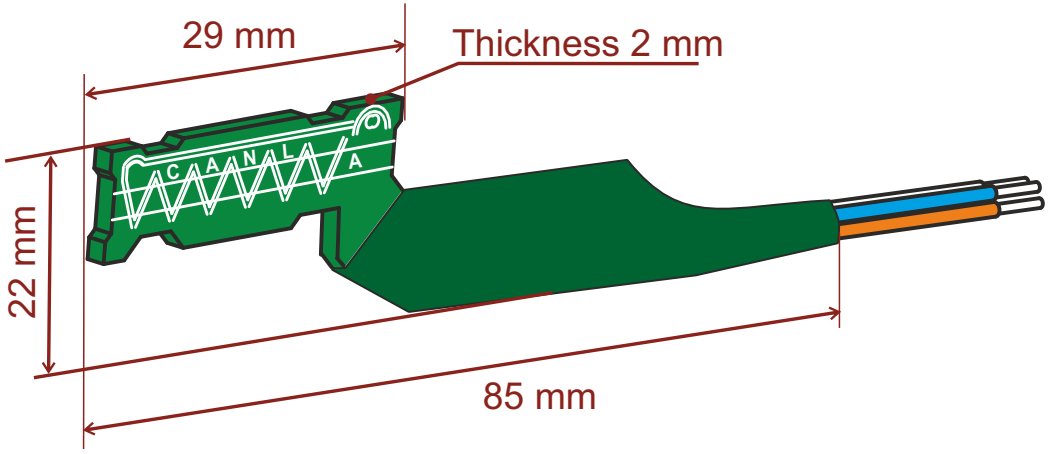
TECHNOTON
ADVANCED VEHICLE TELEMATICS

CANCrocoLITE/ Key features

Contactless data obtaining through wires insulation without interfering into its integrity.

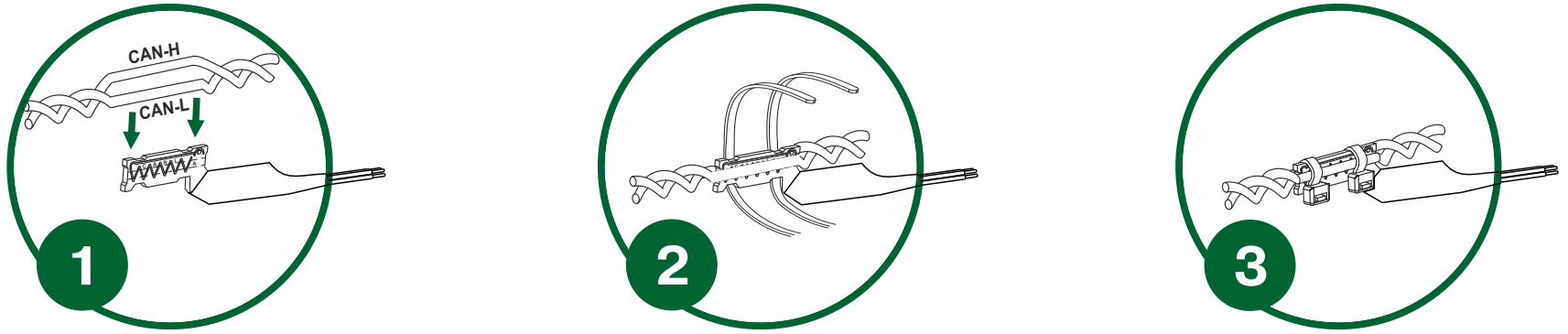
Zero impact on the electronic and electrical equipment of the Vehicle.

Compact open-frame design allows handy connection to the wires of CAN bus even in the most hard-to-reach places of a car.



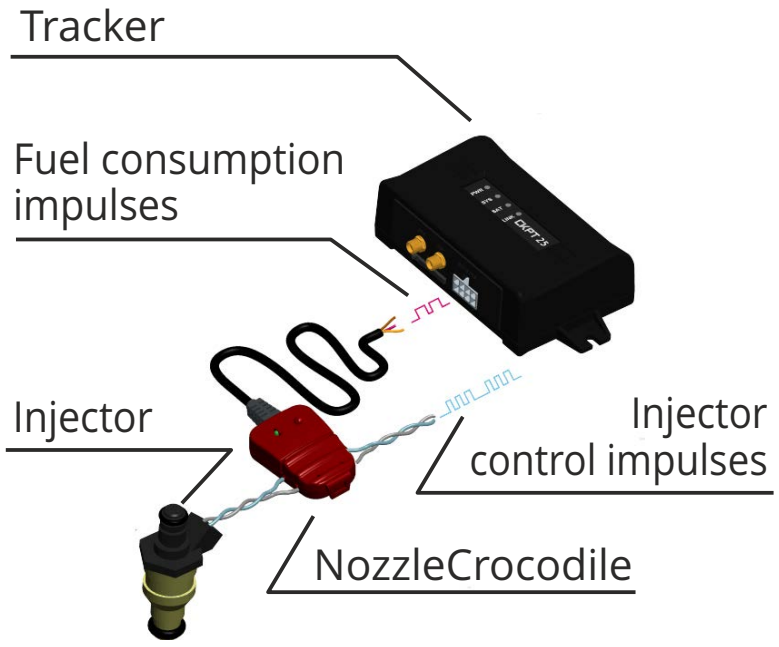
Supply voltage	9 V ... 36 V
Current consumption	not more 12.5 mA
Operating temperature	–40°C ... +85°C
Weight	not more 50 g

CANCrocoLITE/ Connection



1. Put CANCrocoLITE between CAN H and CAN L wires
2. Fix wires with plastic cable ties
3. Connect CANCrocoLITE to telematics unit and power supply

NozzleCrocodile/ Operation principle

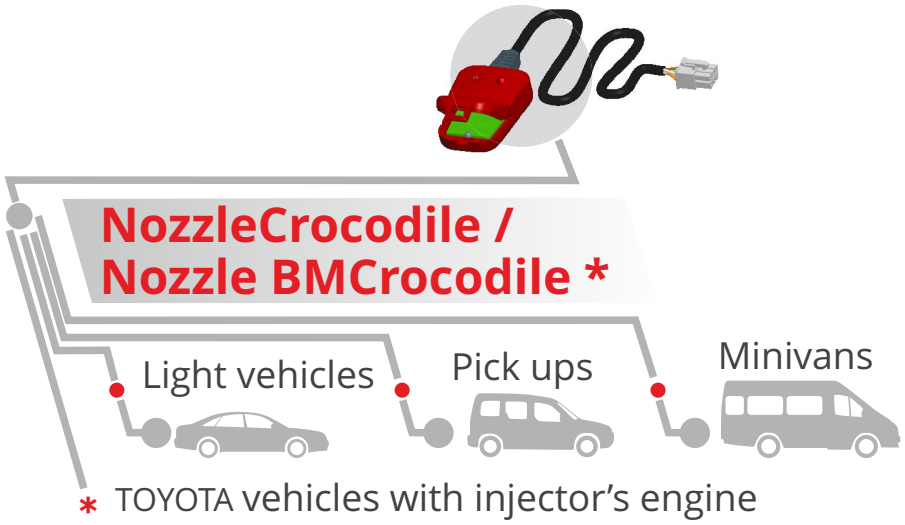


NozzleCrocodile reads the control impulses of the engine injector (nozzle) and converts them into normalized impulses. That number is proportional to the volume of consumed fuel.

Signals reading is carried out without electrical connection to the nozzle control wires. So, there is no interruption into the vehicle electronic systems integrity.

NozzleCrocodile is compatible with all types of GPS trackers that have an input for connection of pulse fuel flow meter.

NozzleCrocodile/ Types of vehicles

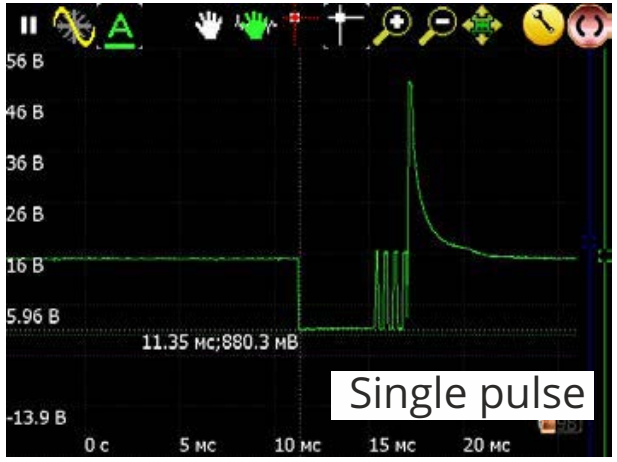


NozzleCrocodile can be installed on the vehicles equipped with a petrol engine with electronically controlled nozzles in the fuel injection system.

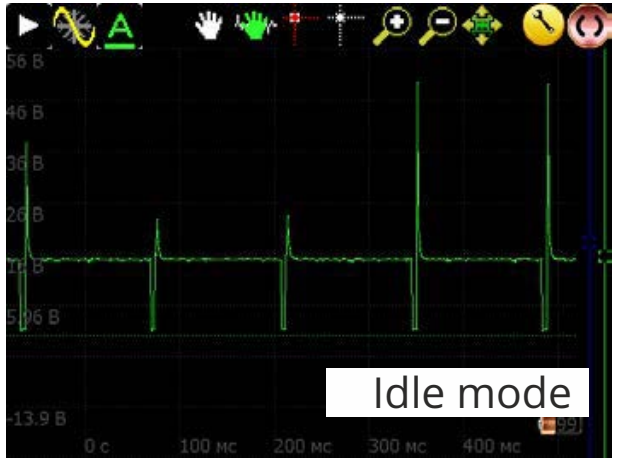
NozzleCrocodile is the best solution for petrol and gas consumption monitoring on the small commercial vehicles:

- cars;
- minibuses;
- pick-ups.

NozzleCrocodile/ Installation



Single pulse



Idle mode

It is recommended to install NozzleCrocodile on the control wire of the first engine cylinder injector.

Detection of the injector control wire is carried out by means of oscilloscope via:

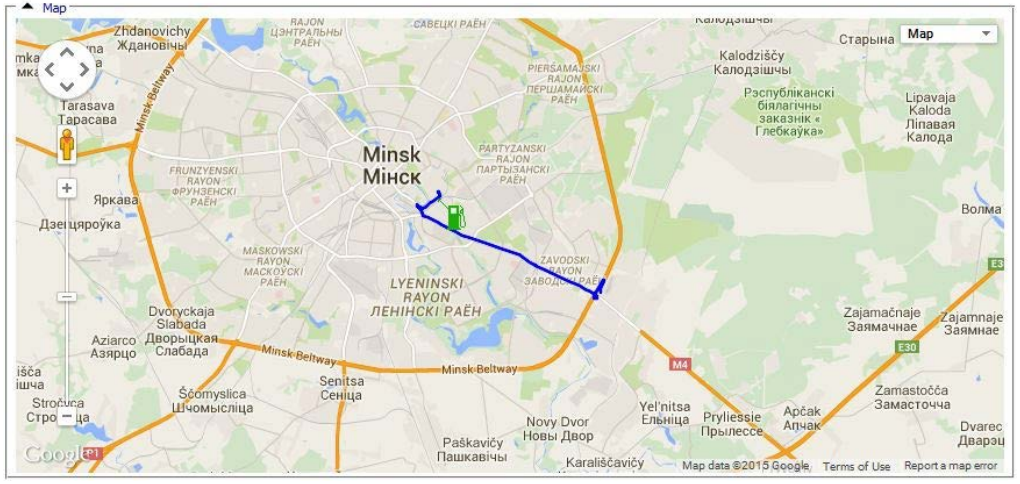
- connector of injectors;
- injectors control unit;
- wire harness of the injector.

NozzleCrocodile/ Example of data

Statistic

Interval begins:	September 10, 2015 00:00:00	Fuel in tank start (DUT|CAN):	10.8 | -- L
Interval ends:	September 10, 2015 23:59:59	Fuel in tank finish (DUT|CAN):	1.6 | -- L
Total distance (GPS|sens):	10.1 | -- km	Fuel consumed (DUT|DPT|CAN):	0.0 | 1.3 | -- L
Movement time (GPS|sens):	0h 15min | --	Hourly fuel consumption (FLS|FFS|CAN)	0.8 | 3.1 | -- L/h
Number|Fueling amount:	1 | 19.5 L		
Number|Draining amount:	0 | 0.0 L		

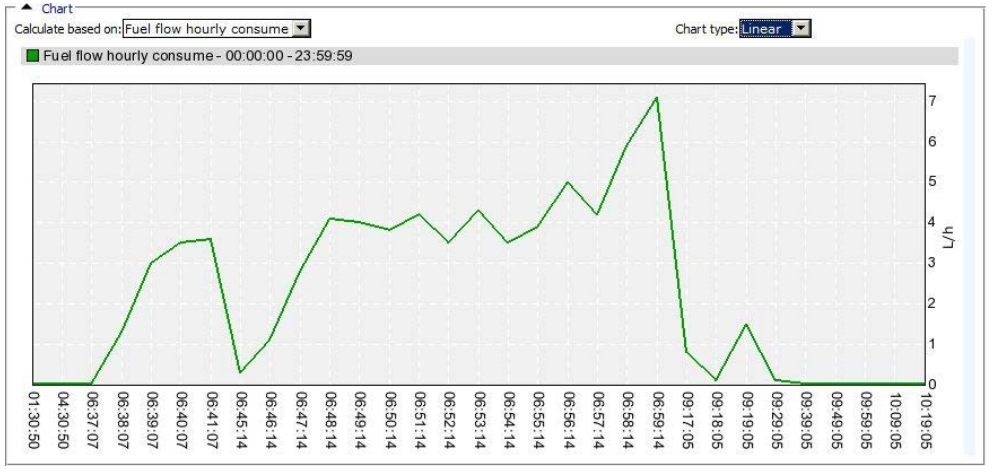
Map



LPG (Liquid Pressured Gas) consumption data

Chart

Calculate based on: Fuel flow hourly consume Chart type: Linear



Graph of instant LPG consumption generated based on injector control impulses

TECHNOTON
ADVANCED VEHICLE TELEMATICS

Summary

- ✓ Reads signals from wires of vehicle informational buses without damaging wires insulation or interference into electronics of a vehicle.
- ✓ Quick installation does not require special tools, wires are firmly fixed inside reader's case. Ready for operation after installation, no configuration needed.
- ✓ Powered from vehicle's 12/24V network. Applicable power supply range is 10-50V.
- ✓ Light indication – LEDs allow visual inspecting of reader's operation mode.
- ✓ Reader's wires meet requirements of automotive industry – wires are resistant to corrosion, mechanical damages and temperature fluctuations.

Learn more

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More about IoT Burger Technology	rd-technoton.com
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