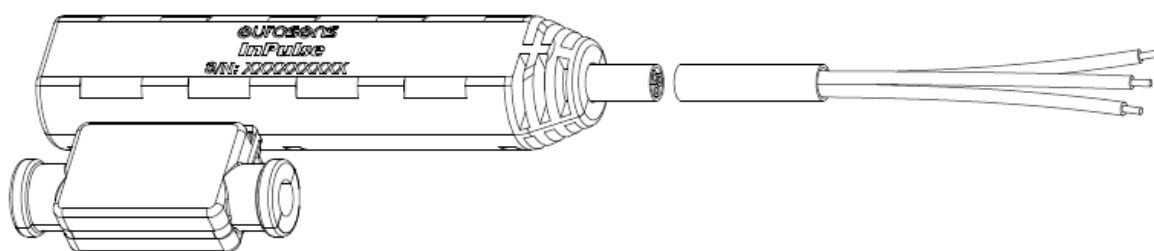


Contactless reader

# eurosens IMPULSE



Operation manual

## 1 APPLICATION

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The eurosens InPulse contactless reader (hereinafter - Reader) is designed for contactless (without stripping the insulation) reading of voltage levels in the control circuit of a fuel injector, calculating the duration of fuel supply and generation rectangular pulses, in amount proportional to the volume of fuel consumed by the engine.



Fig. 1.1. eurosens InPulse

The reader consists of an electronic board fixed in a plastic housing with internal shielding. The injector wire is fixed in the housing and pressed to the antenna pad. The readers are used to calculate the fuel consumption of gasoline engines.

2 SPECIFICATION

Table 1

| Parameter                      | Value      |
|--------------------------------|------------|
| Onboard voltage, V             | 9 - 32     |
| Max current consumption, mA    | 50 (12 V)  |
| Reverse polarity protection    | Yes        |
| Temperature range, °C          | -40 - +85  |
| Interface                      | Pulse      |
| Dimensions (without wires), mm | 86,5x39x16 |

The output pulse shape is shown in Fig. 2.1. The pulse shape is meander, with 50% filling. The upper level is equal to the supply voltage, the lower level is zero.

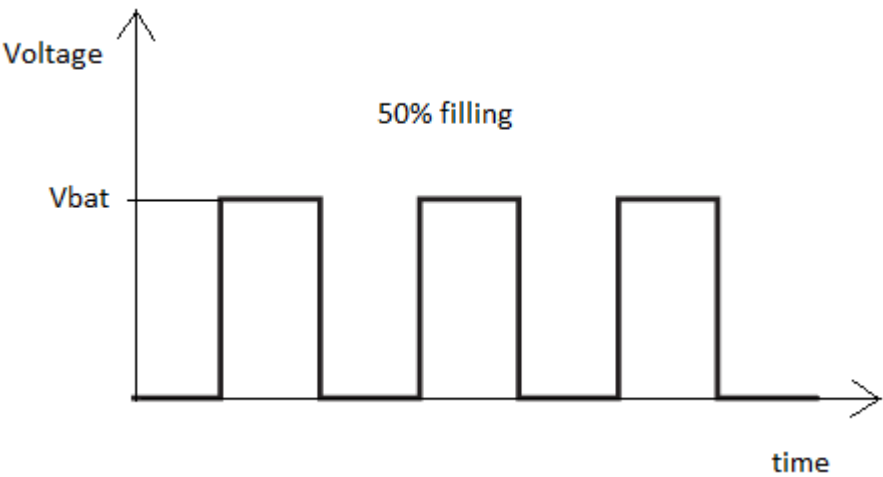


Fig. 2.1. Eurosens InPulse output signal

### 3 INSTALLATION

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The readers are installed on the control wire of the injector nozzle of the any engine cylinder. An example is shown in Fig. 3.1.



Fig. 3.1. Injector connectors



There are two wires to the nozzle. Usually, the right one is not the one with red color. In any case, it is easy to find the right one of the two by matching - the orange LED of the reader should blink when the engine is running.

InPulse wiring:

|                         |       |
|-------------------------|-------|
| 1 - VBAT (power supply) | Green |
| 2 - GND (ground)        | Black |
| 3 - Pulse output        | Blue  |

The nozzle control wire is installed in the reader housing (from the side opposite to the reader marking) as shown in Fig. 3.2. Other wire (normally red) stays outside the reader.



Fig. 3.2. Installing the control wire into the reader

Next, the reader latch closes, securing the wires as shown in Fig. 3.3.



Fig. 3.3. Closing the reader

For reliability, fix the reader latches holding the nozzle wire with plastic ties from the product kit.

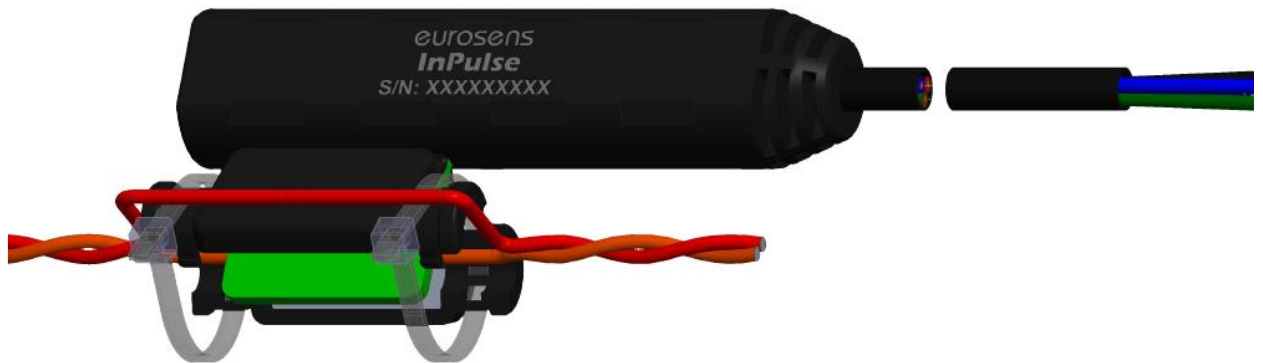


Fig. 3.4. Secure reader in close condition by plastic ties

After installation and power connection, check the reader operation.



#### Meaning of LEDs.

Green - power supply, must be on permanently.

Orange - pulse generation. In the absence of pulses (motor is switched off) it can be switched off or lit permanently.

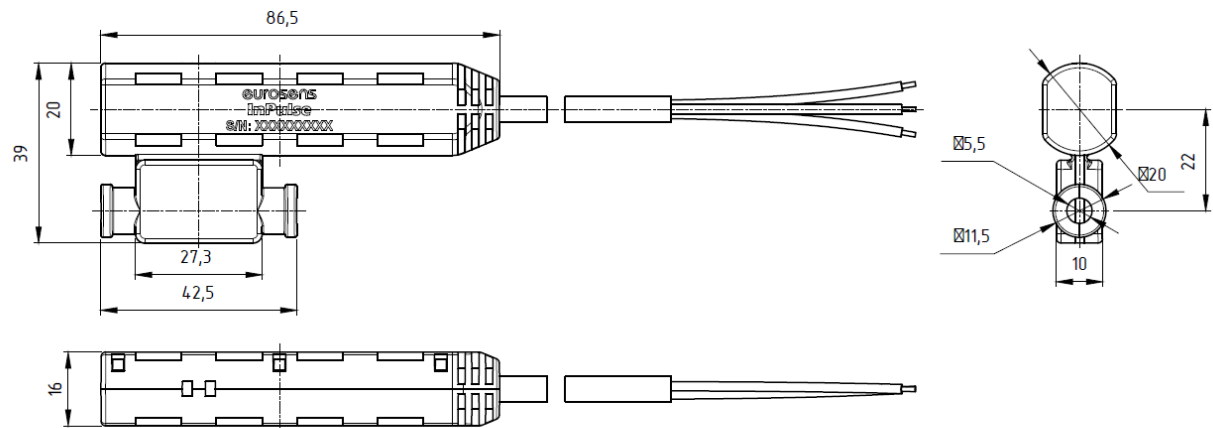
When the engine is running, the orange LED should blink, the blinking frequency should be proportional to the current instantaneous fuel consumption.

Connect the pulse output of the reader to the counting input of the GPS tracker. The pulse value (weight) in liters is determined experimentally for each vehicle by measuring the actual fuel consumption and comparing it with the number of pulses received in the tracking platform.



The reader does not require configuration and has no configuration software. The calibration of pulse weight (value in liters) is performed on the software part of the GPS tracking system.

## 4 DIMENSIONS



## 5 SUPPORT



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