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autoterm
air and liquid heaters

Autoterm Fuel pump tester

User manual

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Fuel pump flow rate check.

Design and purpose

For this work, the fuel priming device (UPT-4) is required.

Fuel priming device is used to:

- fill fuel lines of hydronic pre-heaters and air heaters after installation or repair works;
- check fuel pump flow rate.

Attention! UPT must be operated by skilled personnel. Non-compliance to this requirement may lead to product damage and fire hazardous situations.

Technical Characteristics

Power supply voltage	12V / 24V
Priming frequency	5 Hz
Pulse duration	27 ms / 45 ms
Operation mode	1000 pulses / continuously
Operating temperature range	-30°C to +50°C

Connection diagram

Fig.1

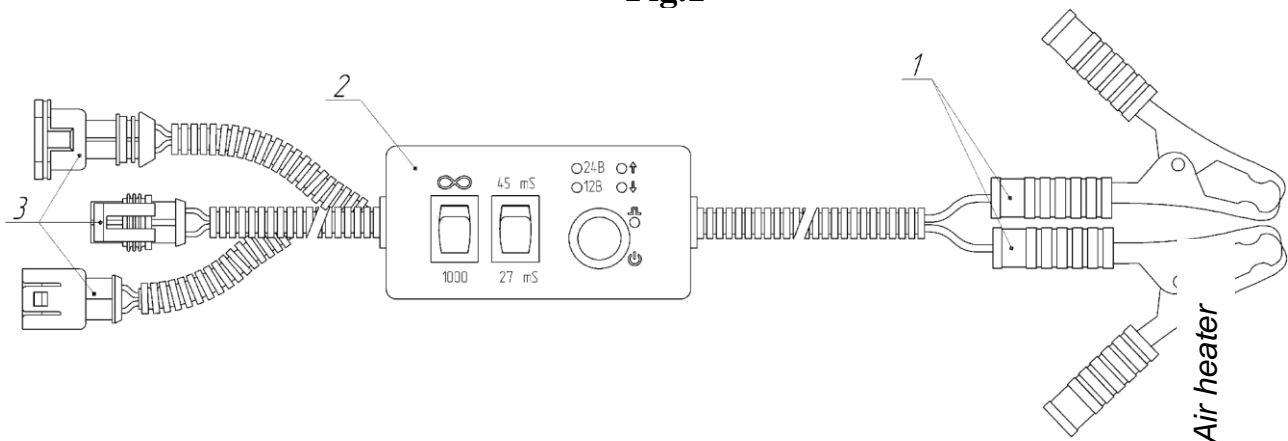


Fig.2

UPT components

The fuel priming device includes (Fig. 2):

1. Clips ("crocodile" type) for battery connection (red mark on the handle: "+", black mark: "-").
2. FUEL PRIMING DEVICE (UPT).
3. Fuel pump connection terminal blocks (direct connection or through adapter harness).

Measurement procedure

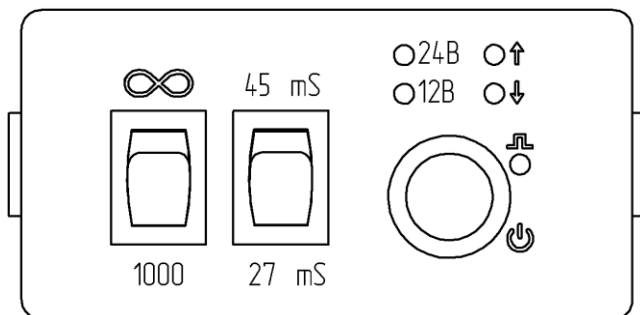


Fig.3

Connect the clips (Fig. 1, p. 2) to power supply or battery, connect the terminal block (Fig. 2, p. 3) to the fuel pump harness or directly to the fuel pump.

Once the clips are connected to the power supply, the "12 V" or "24 V" LED (based on supplied voltage) will light up on the UPT.

The "12 V" LED means that the voltage is above or equal to 12-13 V and less than or equal to 18 V.

The "24 V" LED means that the voltage is above 18 V and less than or equal to 24-26 V.

LEDs next to "↑" or "↓" mean that the supplied voltage is higher or lower than the specified range. (Important for fuel pump flow rate measurement.)

Based on the fuel pump used, pulse duration should be set to 27 or 45 ms.

For 4 or 4.4 ml pumps: 27 ms.

For 6.8 ml pumps: 45 ms.

Set operating mode:

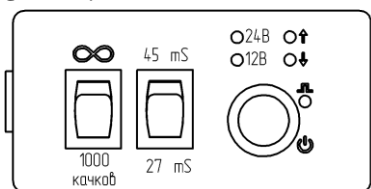
- ∞ – for filling the fuel system, with visual filling control;
- 1000 - for fuel pump flow rate measurement.

Press the UPT start button "  ":

- If ∞, mode is selected, the device will operate until the button is pressed.
- If "1000" mode is selected, the device will only feed 1000 pulses per fuel pump.

To measure the fuel pump flow rate, disconnect the fuel line from the fuel pipe of the heating element and dip the pipe in the measuring flask. Set the "1000" operation mode and measure the current flow rate. Compare the current flow rate with the one specified on the fuel pump label (which is per 100 pulses).

During operation, the "  " LED blinks for each pulse, at a frequency of 5 Hz.



Attention! While the fuel system is filled, measures should be taken to prevent large amount of fuel from getting into the combustion chamber.

During the fuel pump flow rate measurement, prevent fuel from spilling on harnesses and other product components.