

## Speed limitation device (SLD) NK-80



PICTURE 1. SPEED LIMITATION DEVICE (SLD) TYPE-80.

### GENERAL INFORMATION

The speed limitation device (SLD) means a device which primary function is to control the fuel feed to the engine in order to limit the maximum speed of a vehicle at the set speed. The device consists of electronic control unit (ECU) that is installed in the cab of the vehicle, links the vehicle's accelerator pedal or receives the speed signal from the speedometer/electronic tachograph or from the speed sensor installed on gearbox, or from ABS system, depending on type and model of the vehicle. When the vehicle reaches the maximum permissible speed, the ECU simulates the neutral position of the accelerator pedal and transmits this signal to the fuel control hydraulic valve installed together with ECU, thus limiting the fuel supply and speed accordingly. Also to limit the supply of fuel to the carburetor or LPG/LNG type internal combustion engine can be used electromechanical actuators. Electrical (solenoid) hydraulic valves and Electro-mechanical Actuators are used depending on the type and brand of the vehicle and they are not included in standard set package and are purchased and supplied separately.

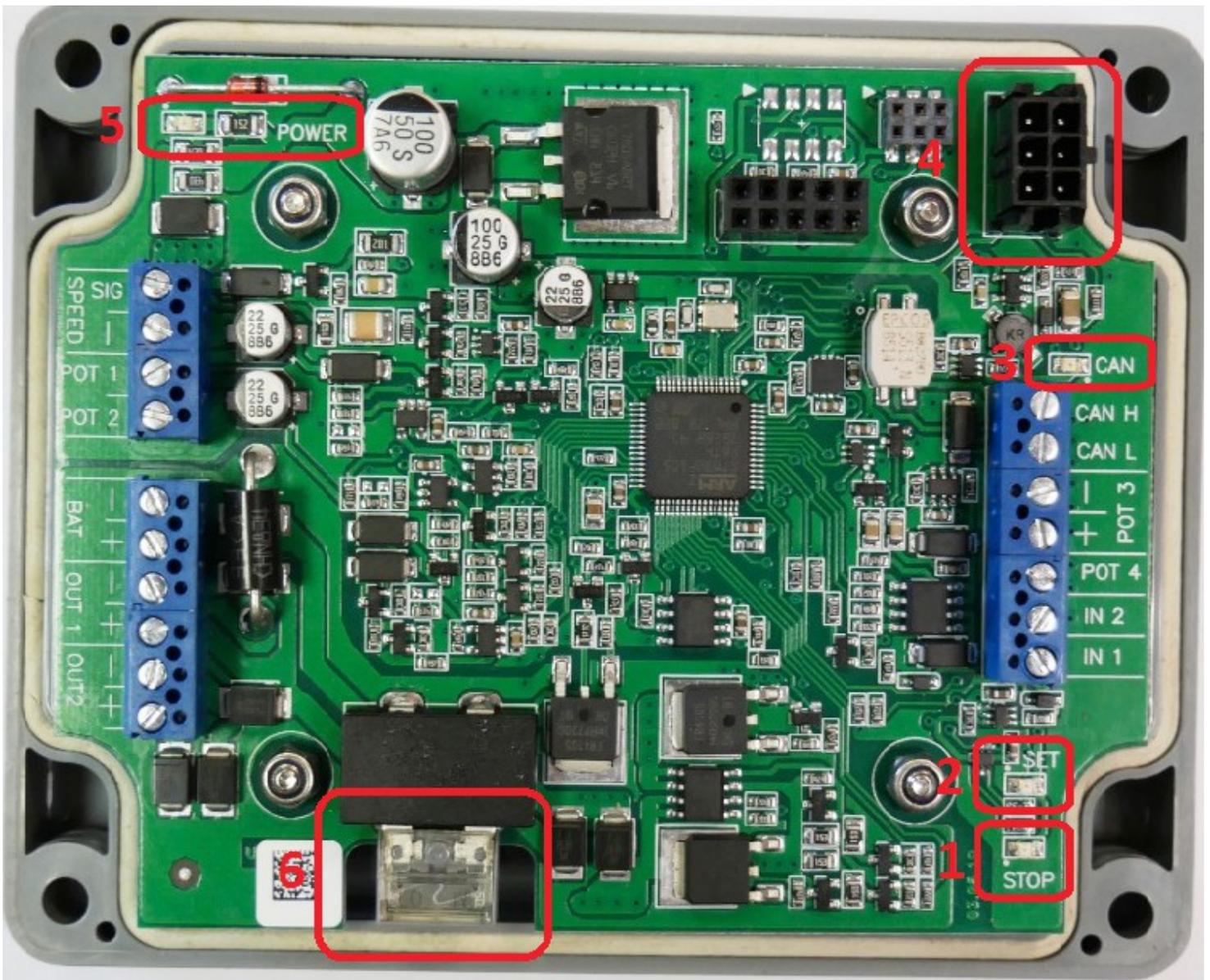
### APPLICATION

The device can be installed on to vehicles of categories M2, M3, N2 and N3, in which the ratio of the maximum engine power (kW) to the vehicle's own mass (kg) is in the range of 0.01...0,09.

### TECHNICAL SPECIFICATIONS ELECTRONIC CONTROL UNIT

1	Supply Voltage, VDC	9,6 – 28
2	Range of speed at which SLD may be set, km/h	0-160
3	Draw current, mA	11(28 V)
4	Rated power, W	2,5
5	Minimum input frequency, Hz	24
6	Maximum input frequency, Hz	2000
7	Operating temperature, °C	-20 t + 60
7	Maximum input load current, A	1,0
8	Ingress protection rate (housing)	IP55
9	Class of protection against electric shock	I (according IEC536-94)
10	Dimensions, mm.	120x100x46
11	Weight netto , kg.	0,1

## SLD board main view



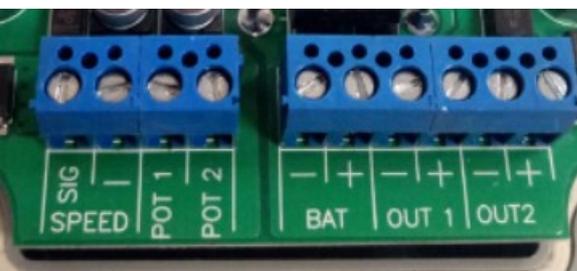
### Terminal's legend

**(SPEED)** (Picture 2) **SIG** — speed signal

**(SPEED)** -- Minus, common Minus from BAT

**POT1** - connecting the first or only analog signal of the accelerator pedal

**POT2** - connecting the second analog signal of the accelerator pedal



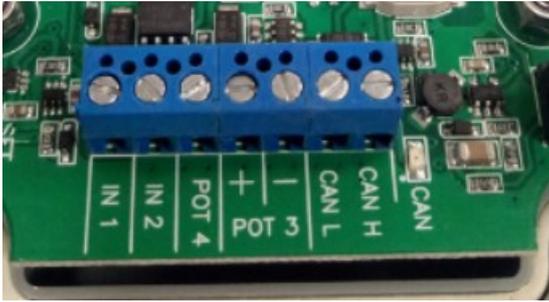
Picture 2.

**BAT-** - minus SLD power supply when working with the electronic accelerator pedal, it is connected from the minus of the accelerator pedal potentiometer)

**BAT +** - plus power supply to the SLD (terminal 15, ignition )

**OUT 1** - connection of the electromagnetic valve, actuator or light / sound signaling device.

**OUT 2** - connection of the electromagnetic valve, actuator or light / sound signaling device.



Picture 3.

**IN 1** - input to activate the additional limitation "Limit 2"

**IN 2** - input to activate the additional limitation "Limit 3"

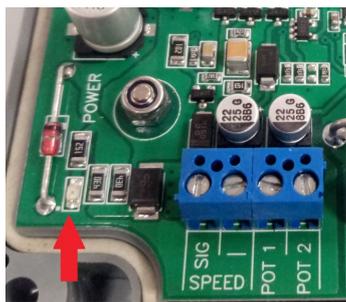
**POT 4** - connecting the first PWM signal of the PWM (Pulse Wide Modulation) type accelerator pedal

**POT 3(+;-)** - connecting the second PWM signal of the PWM type accelerator pedal

**CAN L** - connection to the vehicle's CAN bus

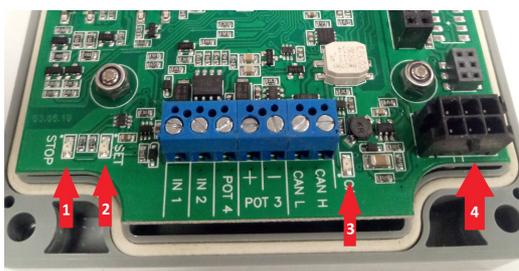
**CAN H** - connection to the vehicle's CAN bus

### Indicators



**"POWER"** indicator (picture 4)- lights steadily green when power is supplied to the SLD

Picture 4.



1. **The indicator "STOP"** - lights up red at the time of speed limitation
2. **"SET"** indicator - after power is supplied to the SLD, it blinks green, the frequency of blinking depends on the type of selected

pedal

Picture 5.

3. **"CAN" indicator** - not used, operation algorithm not yet defined
4. **Socket** for connecting the Interfacing Device for setting the SLD

## **SAFETY**

At operation, installation and maintenance SLD the service personnel shall observe safety rules and regulations, should be familiar with the operation manual, installation and commissioning of the product, trained to work with the SLD, know the electrical circuits and the principle of operation of the SLD, bear a related qualification and experience.

**!!! The manufacturer/supplier does not allow installation the SLD device on military vehicles.**

## **LIMITED WARRANTY**

The manufacturer guarantees reliable and trouble-free operation of the SLD provided that the customer complies with the rules of transportation, storage and operation established by the manufacturer's instruction warranty period is one (1) year from the date of installation on the vehicle. The manufacturer during the warranty period in a timely manner and free of charge eliminates all hidden faults, defects and inconsistencies with the technical characteristics that have not been identified in the manufacturing process, control and testing of the SLD, subject to the consumer rules of its operation, transportation and storage.

## **DENIAL OF RESPONSIBILITY**

Under no circumstances shall the manufacturer, supplier, distributors and dealers be liable in any way for any kind of damage (direct or indirect) or loss of any kind or form caused by the operation, malfunction or improper functioning (non-functioning) of the SLD.

## **CERTIFICATION**



Manufacturer/supplier

“Zhavoronok XXI VEK” LLC

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SLD CONNECTIONS GENERAL DIAGRAM  
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