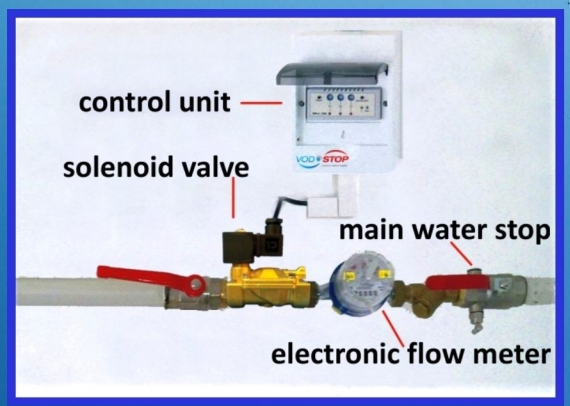
THE VODOSTOP® SYSTEM

Guard of Your Property

Protection of Residential and Non-Residential Premises Against Flooding

- water flooding prevention
- unlimited use of the Vodostop system variability
  (residential units, houses, office buildings, multi-function centres, offices, schools, museums, hotels, libraries, depositories, archives, studios, storage premises and many others where water could cause damage to or destruction property)
- significant savings in water consumption and your finances
- bonus option for property insurance

Have No Troubles and Property On Velvet!



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...new way for your savings!

VODOSTOP

1. Equipment description

The VODOSTOP™ device is intended for use as a safety valve for small-scale consumers of water in apartments, houses, offices, storage premises, studios, museums, schools and many others. Having installed the VODOSTOP™ equipment, you will get assurance that if an operational failure occurs on your water pipes downstream the water meter, water supply shall be shut off. In this way the device automatically protects your property from damage caused by flooding with water from the plumbing. The device is protected by utility model (No. 20174) and registration at the Industrial Property Office in Prague.

The VODOSTOP™ device comprises three separate structural elements:
a) solenoid shut-off valve
b) water meter with electronic output (pulse generator).
c) EPJ-09 electronic control unit

The principle of device operation consists in the fact that the water volume is continuously monitored by the water meter with an electronic output. Water meter pulses are evaluated by the EPJ-09 Electronic Control Unit. The Electronic Control Unit monitors and evaluates 3 operating conditions that indicate an accident in the water pipes downstream the meter. Setting of the ECU parameters for 3 operating conditions is done by the VODOSTOP owner himself simply according to an usual draw-off mode in the building - see the instructions for use.

2. Installation instructions

The VODOSTOP™ device works automatically. A power supply with the voltage of 230V, 50 Hz must be provided for the Electronic Control Unit.
Warning: In any case, do not install the device without the required proficiency. Have the installation carried out by a professional company in the field of water and electrical installations to prevent from possible damage to property or injury to persons. Make sure a confirmation that the installation has been carried out by a professional company is recorded in your Warranty Certificate. Claims on defects may only be applied by a properly completed Warranty Certificate confirmed by a professional company.

Installation:
The best place for the installation of VODOSTOP™ device is at the supply line as close as possible to the main water distribution valve. For proper functioning of the VODOSTOP device, it is appropriate to install the water meter on horizontal pipes. When installing the water meter on the vertical lines, device operation may be unreliable (lower accuracy and sensitivity of function no.3). For wiring scheme see Fig. no.1.

The following are installed in the supply piping:
• Solenoid valve
• Water meter with electronic output.

Situate the following on the wall near both devices, if possible:

• EPJ-09 Electronic Control Unit

Electrical interconnection of the particular parts of the VODOSTOP™ device should be carried out as shown in Figure No. 2 using cables that are a part of the water meter with electronic output and solenoid valve. If it were necessary to install the EPJ-09 Electronic Control Unit in a greater distance from the water meter and valve, cables of required length must be used (Case of EPJ-09 location in a housing junction box).

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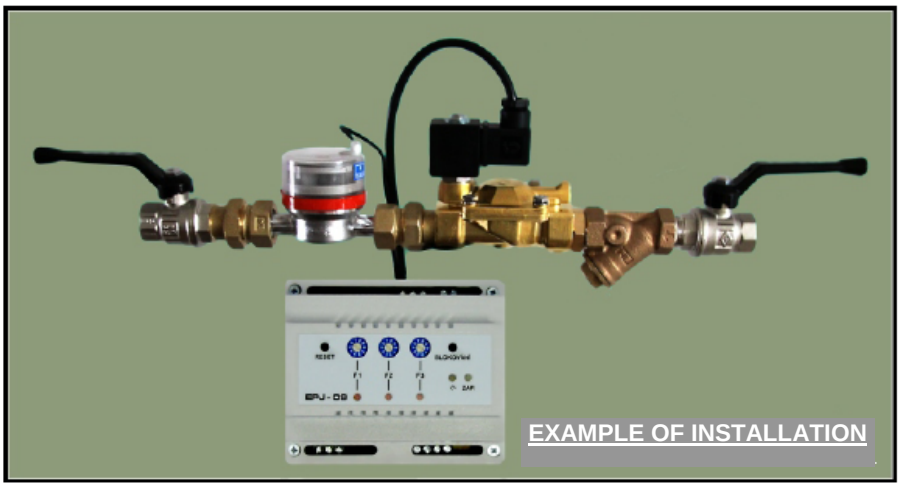

Figure no.1

Block scheme

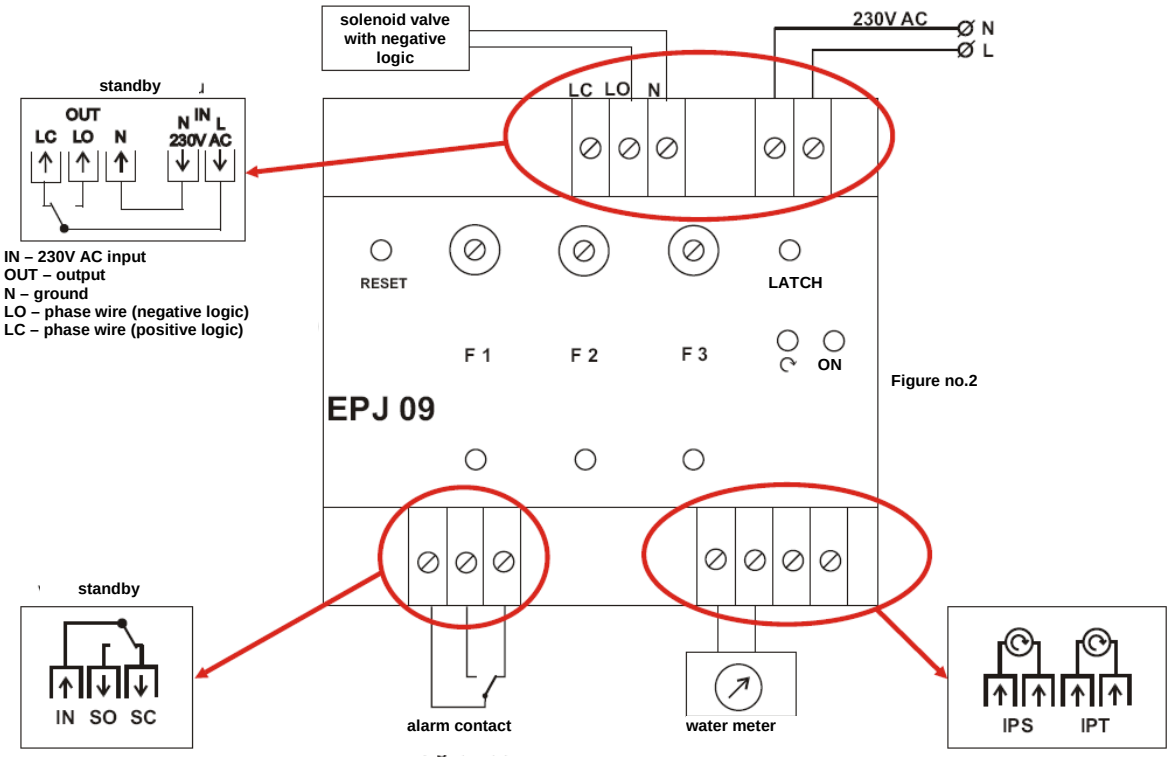

Figure no.2

IN - Input
SO - changeover contact open
SC - changeover contact closed

IPS - pulse flow meter of cold water
IPT - pulse flow meter of hot water

Equipment commissioning:

After the installation into the pipes and electrical interconnection of all three parts of the device, turn on the power supply to the EPJ-09 Electronic Control Unit and open the main water valve in the building.
The Electronic Control Unit is activated by turning on the power supply, which is indicated by regular blinking of green indicator lamp **4**. The yellow indicator lamp **10** indicates a flow of 1 liter of water by each flashing. The procedure of setting the operating parameters is described in paragraph 3 of the User's Manual.

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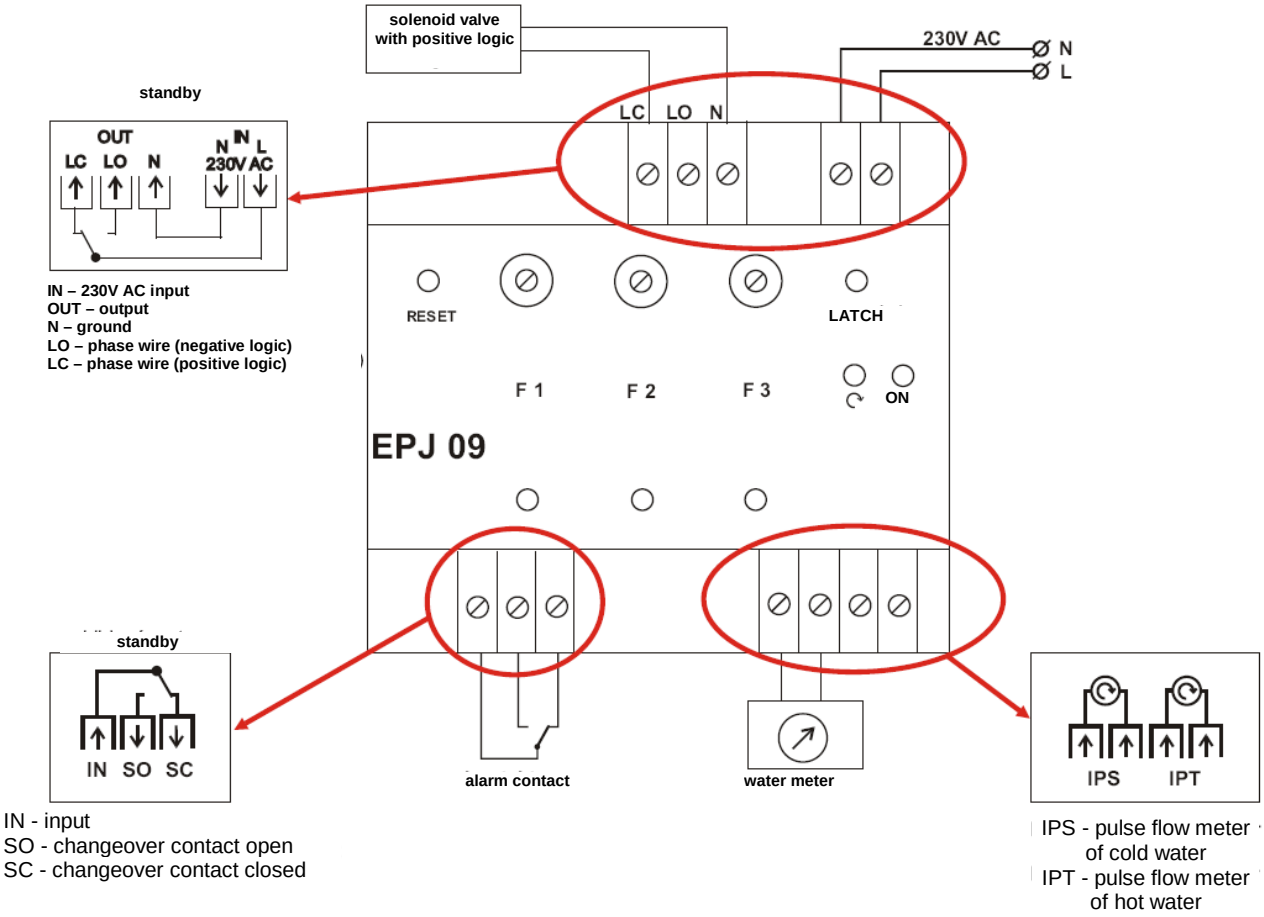
Solenoid valve with positive logic

Solenoid valves come with negative logic as a standard; however, valves with positive logic can be supplied upon customer's request.

When installing the device, this fact must be reflected in the wiring by proper connection of wires to the terminal board of the EPJ-09 Electronic Control Unit (see the block diagram).



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3. Operation Manual

The VODOSTOP™ device has three independent water draw-off tracking functions in a regulated facility. All adjustments are made on the Electronic Control Unit - see Figure 3

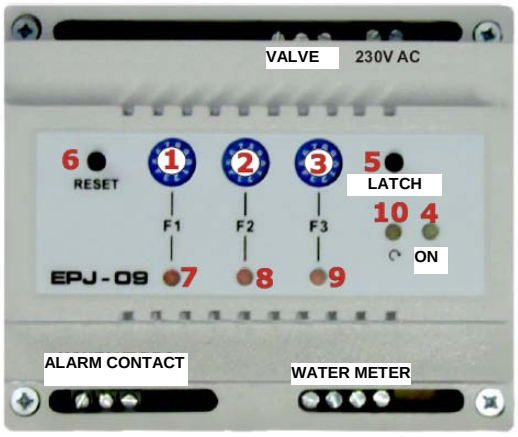

Figure no. 3

Description:

1 - Switch of Function 1 - Setting the amount of continuous draw-off in liters (about 50-450 liters)
2 - Switch of Function 2 - Setting the amount of in liters/hour (about 500-4,500 liters/hour)
3 - Switch of Function 3 - Set the minimum draw-off watchdog (undesired flows around 90 l / 3 hrs)
4 - Indication that the device is connected to the network
5 - LATCH button (temporary manual override)
6 - RESET button to open the inlet valve when blocked
7 - Indication of valve blocking by Function 1
8 - Indication of valve blocking by Function 2
9 - Indication of valve blocking by Function 3
10 - Indication of water draw-off (flow)

Gradually adjust the parameters of the individual functions F1, F2, F3. Use rotary switches 1, 2 and 3 to perform the settings.

3.1 Setting of Function 1 – volume of continuous water consumption

Function 1 monitors the amount of water that flows through a pipeline without interruption from draw-off commencement. This parameter is set by rotary switch **1** with positions 0 to 9. In position 0, this function is disabled and the red indicator light **7** is constantly on.
Every other position 1 though 9 sets the allowed continuous draw-off in steps per +50 litres. So, in position 9 the maximum allowed continuous flow amounts to 450 liters. The value is set according to an estimated highest possible continuous draw-off. Example – taking a bath, position 4 (200 liters). If Function 1 shuts off the water supply, i.e. activates the solenoid valve closure, the red indicator lamp **7** on the ECU lights up and flashes. At the same time, acoustic signal goes off.

3.2 Setting of Function 2 - volume of water that would flow in case of accident in 1 hour

Function 2 monitors an immediate (decimal order) increase in the flow rate in water pipes. If a huge increase (such as ten times more) in water draw-off occurs, taking about 10 seconds, the control unit closes the solenoid valve. Example - when the emergency flow is set to position 1 (500 l / hour), only about 2 litres of water will flow through until closing the valve, rather than 200 liters set by Function 1. This parameter is set by rotary switch **2** with positions 0 to 9. In position 0, this function is disabled and the red indicator light **8** is constantly on.
Every other position 1 though 9 sets a theoretical emergency hourly flow rate in steps per 500 litres/hr. So, possible emergency flow amounting to 4500 liters/hour is set in position 9. The benefits of this Function lies in the fact that in a case of pipeline rupture only a fraction of water, which is set by function 1 will spill out. If Function 2 shuts off the water supply, i.e. activates the solenoid valve closure, the red indicator lamp **8** on the ECU lights up and flashes. At the same time, acoustic signal goes off.

3.3 Setting of Function 3 - check of water mains for leakage

Function 3 guards sustained minor withdrawals caused, for example, by leaking taps, toilet flushing system leaking, etc. This parameter is set by rotary switch **3** with positions 0 to 9. In position 0, Function 3 is disabled and the red indicator light **9** is constantly on. Every other position 1 though 9 sets the monitored parameter in steps per +10 litres/3 hours. Example – in position 9 the monitored flow amounts to approximately 90 liters/3 hours.

Given the low accuracy of low-end secondary water meters for low flows, the above values should be considered as approximate ones only. If Function 3 shuts off the water supply, i.e. activates the solenoid valve closure, the red indicator lamp **9** on the ECU lights up and flashes. At the same time, acoustic signal goes off.

As for the solenoid valve supplied with negative logic, the valve is still open in case of a power failure and thus the VODOSTOP™ device requires no operator's intervention, but at that moment it does not fulfill its protective function. Valves with positive logic work in the opposite way. They are less user-friendly, the valve closes in case of a power failure.

4. Recommended Settings

Optimum setting of variable elements of VODOSTOP for a specific household can involve a process that will require some patience. It will definitely worth it. It is advisable to start with lower values, and only when the practice shows that VODOSTOP™ repeatedly switches off one of the sections, move the switch position one step more. For a normal household, the following setting of switches is recommended:

Switch of Function 1 - position 1 (shower), 4 (bath)
Switch of Function 2 - position 3
Switch of Function 3 - positions 2-4

Appropriate setting of the switch of Function 3 could require several corrective actions. I In case of a reduced threshold of user patience, temporary shutdown of the switch (switch set to 0) is recommended, and this last step will be discussed below.

5. Other device control options

LATCH button

Use the button **5** (LATCH) on the ECU EPJ-09 to temporarily disable the VODOSTOP™ device. This option is suitable for one-off actions that would otherwise be assessed by the device as an emergency situation. Typical examples of the LATCH feature application may be, for example, filling the pool or watering the garden.

WARNING!!!

The LATCH function remains active for about 6 hours after pressing the button **5**. Each pressing is acoustically confirmed by a short beep. Pressing the button 5 repeatedly to increase the length of VODOSTOP latching (protection override), always by additional 6 hours and up to 24 hours. This means that after one beep VODOSTOP™ is disabled for 6 hours, two beeps for 12 hours, three beeps for 18 hours and four beeps for 24 hours. This condition is indicated by all three red indicator lamps 7, 8 and 9 turned on and it can be cancelled using the RESET button **6**. Once the time set by you lapses, the device will automatically return to the preset basic operating system.

RESET -button

Use the Reset button 6 to re-open the solenoid valve after an accident indication caused by one of the three device functions described above.

WARNING!!!

Before pressing the RESET button, check the water distribution system. It is unlikely that the device will stop the water supply in error. If you deliberately let water into the faulty distribution systems, then any protection by the VODOSTOP™ device would be in vain.

6. Technical parameters

Supply voltage		230 V / 50 Hz
Electric power input	Electronic Control Unit	2,2 W at idle (STANDBY)
	solenoid valve	positive logic 10 W, negative logic 0 W
Output for EPS and home alarm		contact for alarm, wired to terminals
Device dimensions - WxHxD	Electronic Control Unit	147x200x100mm
	solenoid valve	110x90x58mm
	water meter	ø 75mm, h:80mm
Working temperature range		+5 to +40 °C

Note

The solenoid valve with negative logic opened without power, closed once connected to 230 V.
The solenoid valve with positive logic opened once connected to 230 V, closed without power.

WARNING!!!

In the event of an intermittent power failure during storms and the like, communication between the master processor and buttons with displayed indicator lamps may be blocked, this situation is indicated by no lights the panel (all lamps off). Hover, the device is fully functional even in this state. Press the reset button to rectify the situation.