



[ENG] NetPing Input+Relay 254R304, User Guide

Содержание

[ENG] [Input+Relay 254R304] 1. Introduction.....	4
[ENG] [Input+Relay 254R304] 2. Limitation of Liability and Copyright	5
Limitation fo Liability and Copyright	5
[ENG] [Input+Relay 254R304] 3. Connectors and Indication Elements.....	6
The Front Panel.....	6
The Back Panel.....	7
The Side Panel.....	7
[ENG] [Input+Relay 254R304] 4. Installation and Connection	9
[ENG] [Input+Relay 254R304] 5. Connection of the External Sensors and Executive Devices.....	11
Sensors and devices of the 1-wire model range.....	11
Sensors of the "dry contact" type	11
Sensors with two wires	11
Liquid sensor (mod.2605)	11
PIR detector (mod.M105-1E).....	13
Executive devices	14
Buzzer (mod.STD-3025)	14
NetPing AC/DIN socket	15
[ENG] [Input+Relay 254R304] 6. Electrical Parameters of the Input Lines.....	17
Electrical parameters of the input lines:.....	17
Equivalent circuit	17
[ENG] [Input+Relay 254R304] 7. Resetting Settings to Default Values	18
[ENG] [Input+Relay 254R304] 8. PoE Technology.....	19
[ENG] [Input+Relay 254R304] 9. Additional Documents and Links	20
[ENG] [Input+Relay 254R304] 10. Warranty Obligations	21
[ENG] [Input+Relay 254R304] 11. Operation Conditions and Storage	22

[ENG] [Input+Relay 254R304] 1. Introduction

This guide will help you get acquainted with the specialities and features of the **NetPing Input+Relay 254R304**, get an idea of its functionality and technical characteristics and prepare the device for operation.

This User Guide is designed for network administrators and users, who set up or operate the device. To work with the device properly, a user must have an idea about the principles of building and functioning of local networks as well as possess the next knowledge and skills:

- Basic knowledge in the area of local and global networks;
- Basic knowledge in the area of architecture and principles of work of TCP/IP networks;
- Basic knowledge in the area of architecture and principles of work of Ethernet networks.

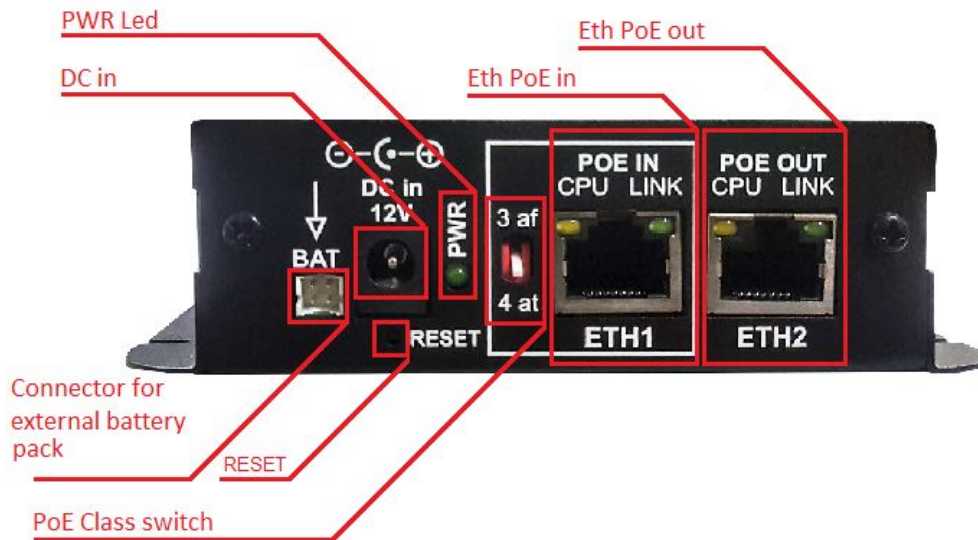
[ENG] [Input+Relay 254R304] 2. Limitation of Liability and Copyright

Limitation fo Liability and Copyright

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[ENG] [Input+Relay 254R304] 3. Connectors and Indication Elements

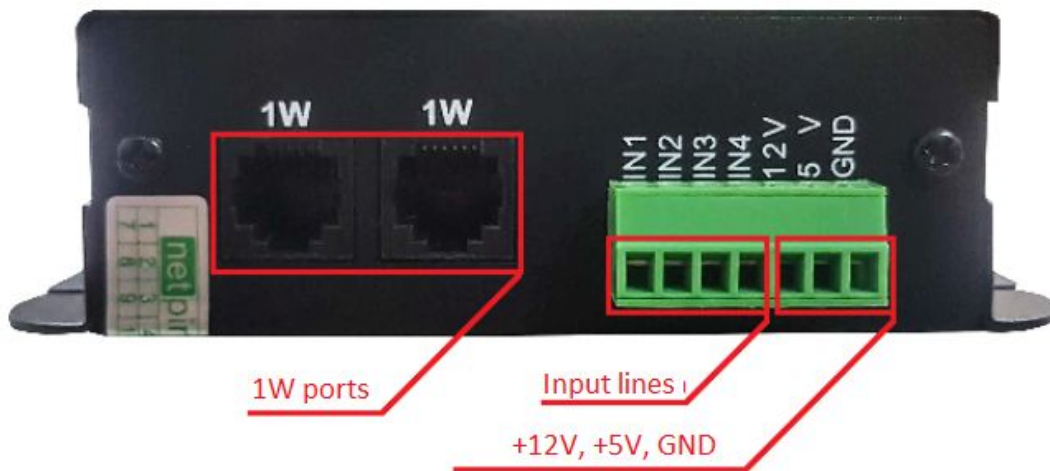
The Front Panel



Element	Function
Connector for external battery pack	A connector which is used to connect the external battery pack
DC in	A connector which is used to connect 12V power
RESET	A button which resets the settings to the factory ones
PWR Led	A LED to indicate the operation of the device
Power Class switch	A power class switch — a class 3 for IEEE 802.3af (PD 13W) and a class 4 for IEEE 802.3at (PD 25.5W)
Eth PoE in	Ethernet 10/100/1000 BASE-TX PoE in connector
Eth PoE out	Ethernet 10/100/1000 BASE-TX PoE out connector of the IEEE 802.3af / 802.3at standard without the function of determining a compatible PoE device

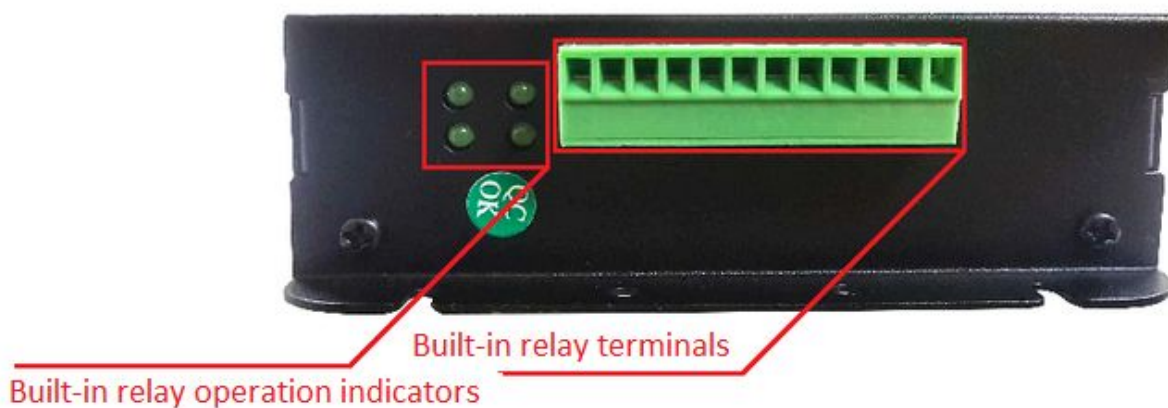
It is forbidden to power the device from both 12V adapter and PoE simultaneously.

The Back Panel



Element	Function
1W port	The port terminals for connecting 1 wire sensors. Each 1-wire terminal has its own output stage and does not depend on the length of the wires connected to another 1-wire terminal.
Input lines	Input line terminals for connecting external sensors of a "dry contact" type (input resistance 4.7 kOhm). They also work as impulse counters 12V and support the connection of impulse counters. The readings of each input are stored in non-volatile memory.
+5V, +12V and GND terminals	+5V (250mA), +12V (250mA), GND terminals are used to power external sensors and devices.

The Side Panel



Element	Function
Built-in relay operation indicators	4 LEDs for indication of the built-in relay operation
Built-in relay terminals	The terminals for built-in relays (two-way contact NO-N-NC), up to 24V current up to 500mA

[ENG] [Input+Relay 254R304] 4. Installation and Connection

It is forbidden to power the device from both 12V adapter and PoE simultaneously.

In order to connect the device, follow these steps:

1. Remove the device from its packaging and mount it onto the place you need (or into DIN rail);



2. Connect the devices which you need (see «[ENG] [Input+Relay 254R304] 5. Connection of the External Sensors and Executive Devices» section).

3. Power the device from a 12V power supply and connect it to the local network. IP address 192.168.0.11 was set by default. For the initial setting of the device make sure that the address of your computer is located in the same IP-subnet as the address of the device. For example, the address which is set on the computer can be 192.168.0.11 mask 255.255.255.0.

4. For the initial configuration of the device parameters using the web-interface, make sure that the device responds to the ping command at its IP address.

```
C:\>ping 192.168.0.100

Обмен пакетами с 192.168.0.100 по 32 байт:

Ответ от 192.168.0.100: число байт=32 время<1мс TTL=128
Ответ от 192.168.0.100: число байт=32 время<1мс TTL=128
Ответ от 192.168.0.100: число байт=32 время<1мс TTL=128
Ответ от 192.168.0.100: число байт=32 время<1мс TTL=128

Статистика Ping для 192.168.0.100:
    Пакетов: отправлено = 4, получено = 4, потеряно = 0 (0% потерь),
    Приблизительное время приема-передачи в мс:
    Минимальное = 0мсек, Максимальное = 0 мсек, Среднее = 0 мсек
```

5. In order to configure the device, open the web-interface of the device using this address <http://192.168.0.100> with the help of a browser (it is recommendable to use the latest version of Google Chrome). In order to authorize, use:

- **Login:** visor
- **Password:** ping

Further configuration of the device is carried out in the web-interface of the device.

Attention! The description of the web-interface can be found in a separate document DKSF 561.X IU, where X — the number of a firmware version of the device, which description you use.

[ENG] [Input+Relay 254R304] 5. Connection of the External Sensors and Executive Devices

It is strictly prohibited to connect sensors and external modules to the Netping devices with power on!

The configuration of the device and receiving notifications from the sensors are in the document "Firmware description».

Sensors and devices of the 1-wire model range

The sensors of the 1-Wire model range are connected with 1-wire plugs RJ12 with the possibility to use extension cords and splitters. The maximum loop length of 1-wire network, connected to one connector is restricted to 50 meters. It is possible to connect up to 2 temperature sensors and 2 humidity sensors in total at the same time.

To the 1-wire sensors belong:

- [Temperature sensor 1-wire \(THS\)](#);
- [Humidity sensor 1-wire \(HS\)](#)

Sensors of the "dry contact" type

The number of the connected sensors of the "dry contact" type is restricted by free input lines of a device and total current consumption of the sensors if they need additional power supply.

If there is not enough factory cable length, you can extend it using our [cables 4 extender, 4m](#) which are connected in sequence into each other, or independently using any wire with a cross section of at least 0,4 mm².

The maximum permissible length of the cable is 100 meters.

Sensors with two wires

The sensors or other sources of signal, which do not require additional power or they are powered by the other power sources and it is isolated from the signal line, are connected to the IN terminals and GND terminals of the device. The polarity of the connection is not important unless otherwise indicated in the documentation for the device.

To this type of sensors belong:

- [Supply Voltage Sensor 995S2](#)
- [NetPing Supply Voltage Sensor 995S2](#)
- [Door sensor metal](#)
- [Airflow sensor + GRID 120 * 120 * 10mm NC](#)
- and other.

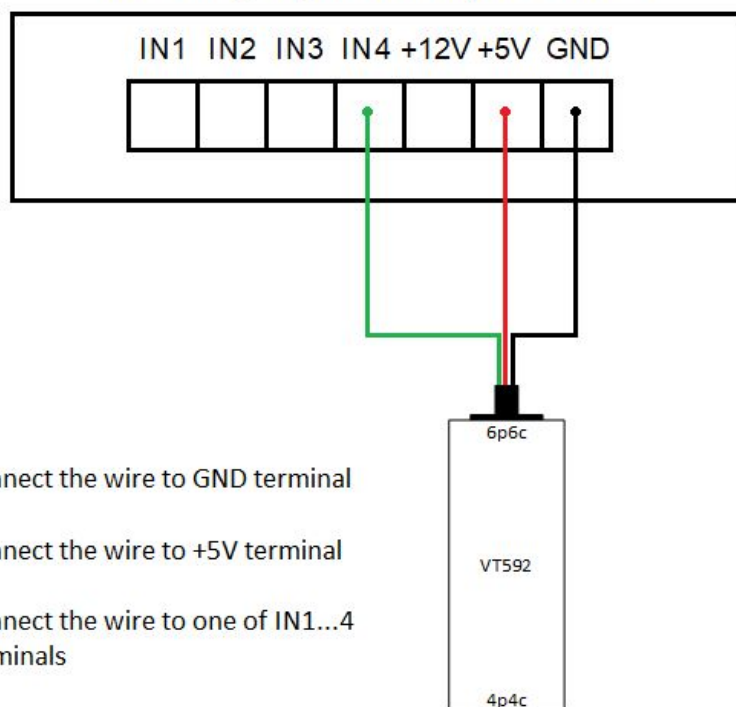
Liquid sensor (mod.2605)

This sensor is not an independent device. it is designed to operated together with a special sensitive cable.

When you connect the sensor, you should look at the colour of the heat shrink on the terminal at the end of the wire.

Cable	Device terminal
Black	GND
Red	+5 V
Green	One of the IN1...4 lines

NetPing Input+Relay 254R304

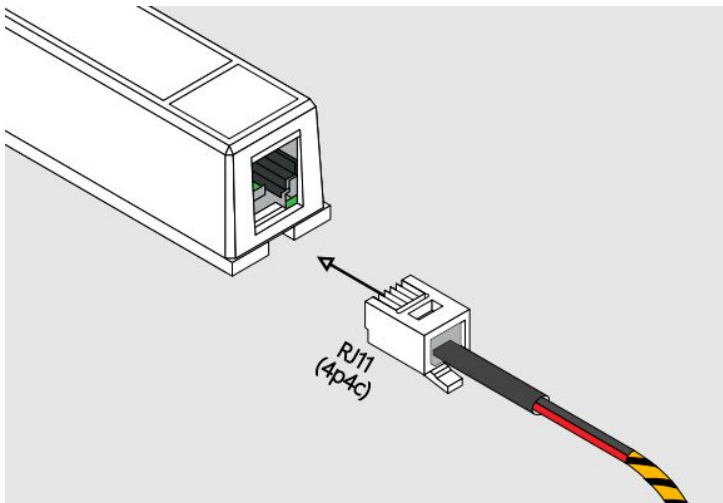


- Black** - Connect the wire to GND terminal
- Red** - Connect the wire to +5V terminal
- Green** - Connect the wire to one of IN1...4 terminals

The compliance of the log. level and the sensor state:

- "1" — norm;
- "0" — alarm.

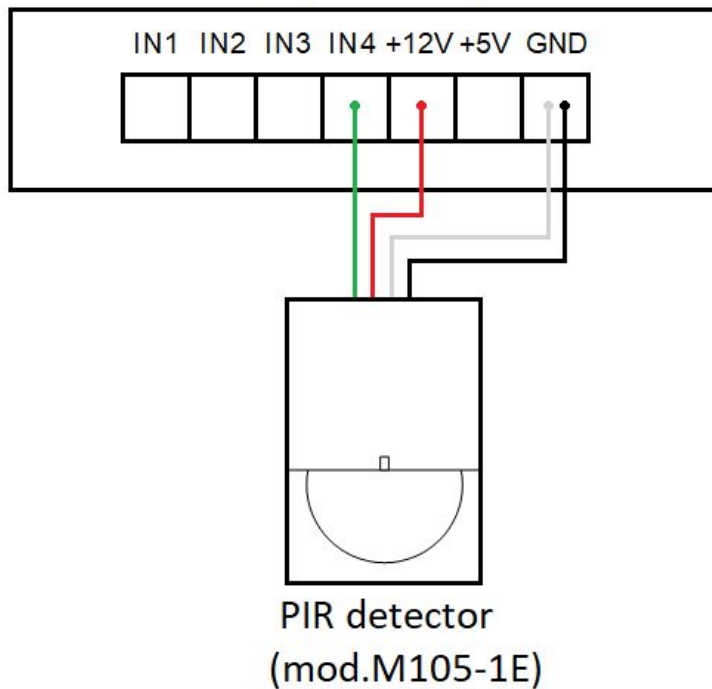
The sensor has two connectors on different sides 6p6c for connecting to the monitoring device and 4p4c for connecting to the sensitive cable.



PIR detector (mod.M105-1E)

Cable (coloured)	Cable (flat)	Terminal
Green	Marked (red) wire	One of the IN1...4 lines
White	The first wire after the marked one	GND
Black	The second wire after the marked one	GND
Red	The third wire after the marked one	+12 V

NetPing Input+Relay 254R304



Red	- Connect the wire to +12V terminal
Black	- Connect the wire to GND terminal
Green	- Connect the wire to IN terminal
White	- Connect the wire to GND terminal

Executive devices

The number of the connected executive devices is restricted by a free built-in relay of the device and total current consumption of the devices in an active mode.

If there is not enough factory cable length, you can extend it using our [cables 4 extender, 4m](#) which are connected in sequence into each other, or independently using any wire with a cross section of at least 0,4 mm².

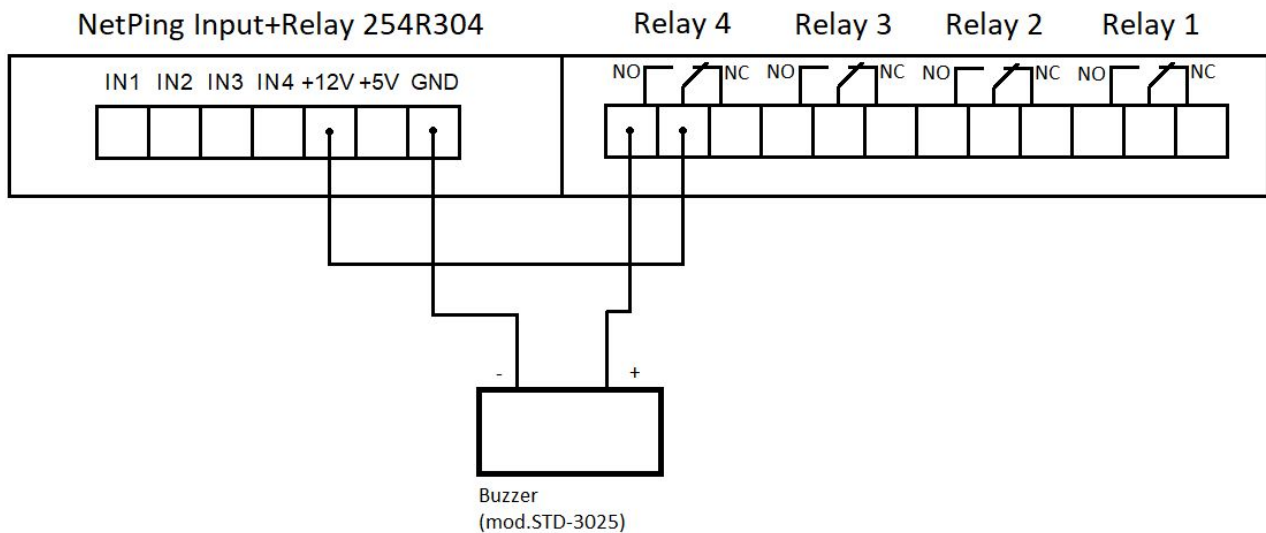
The maximum permissible length of the cable is 100 meters.

Buzzer (mod.STD-3025)

Coloured cable	Terminal
Black	GND
Red	HP of one of the 1...4 relays

Coloured cable	Terminal
	+12V ↔ Middle contact of one of the 1...4 relays

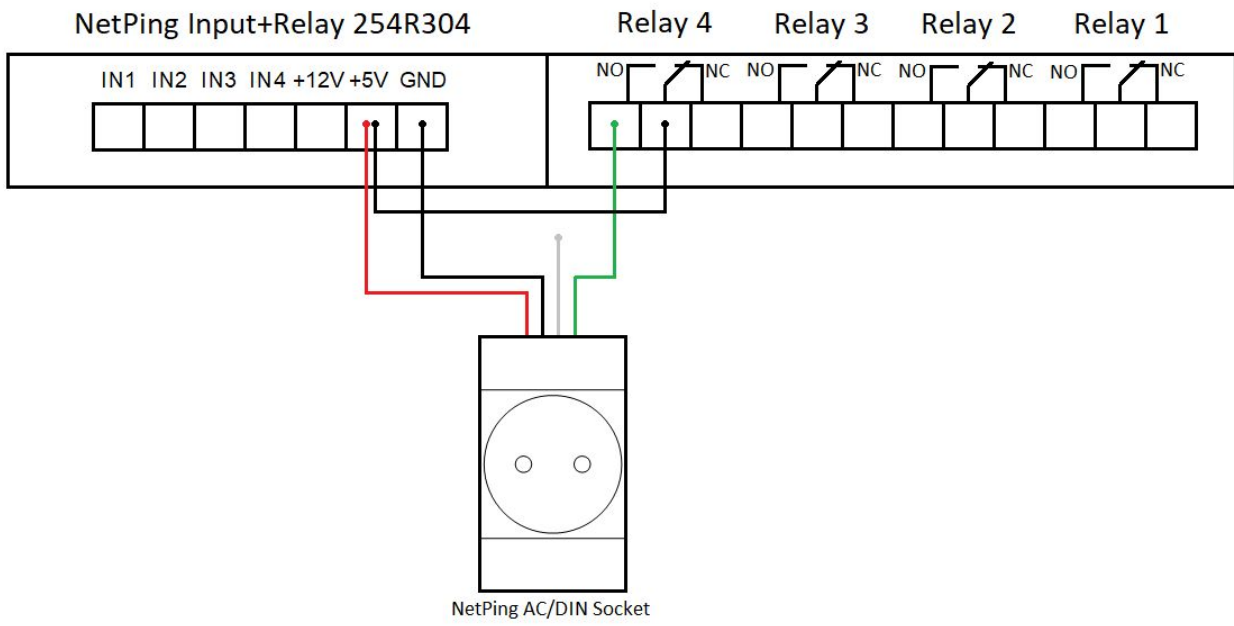
- Relay «On» — the buzzer is switched on;
- Relay «Off» — the buzzer is switched off.



NetPing AC/DIN socket

Coloured cable	Клемма
Red	+5V
Black	GND
Green (dark blue)	NO-contact of one of the 1...4 relays
	+5V ↔ Middle contact of one of the 1...4 relays

- While connecting NetPing AC/DIN socket to the relay:
- Relay «On» — there is no voltage in the socket;
 - Relay «Off» — there is voltage in the socket.

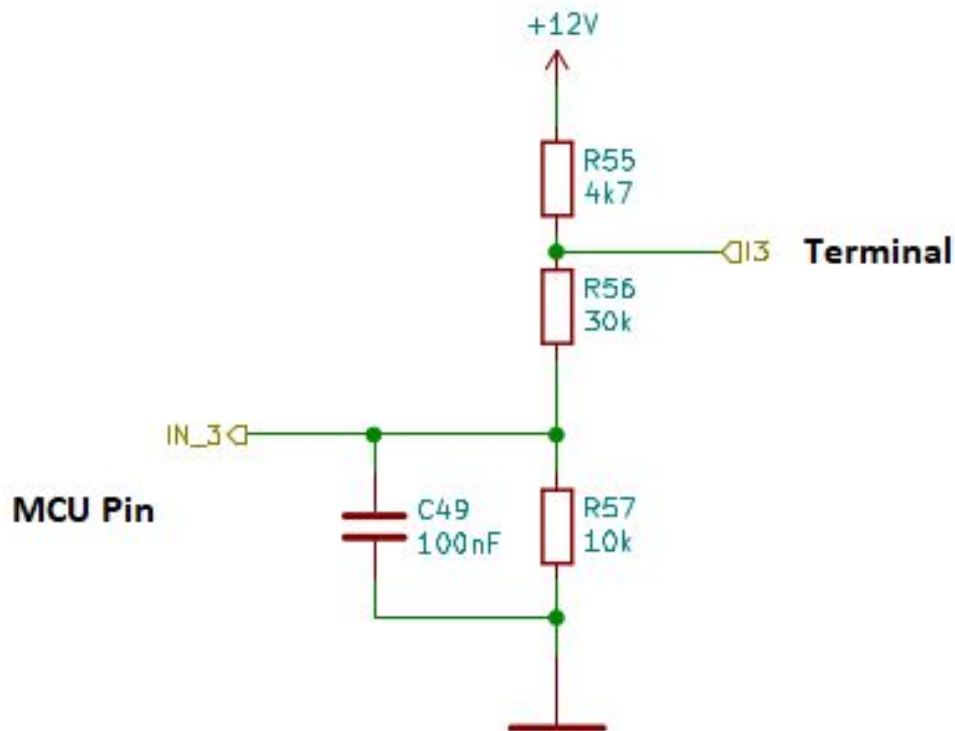


[ENG] [Input+Relay 254R304] 6. Electrical Parameters of the Input Lines

Electrical parameters of the input lines:

- the voltage of logic «1»: > 8,2 V;
- the voltage of logic «0»: < 3,5 V.

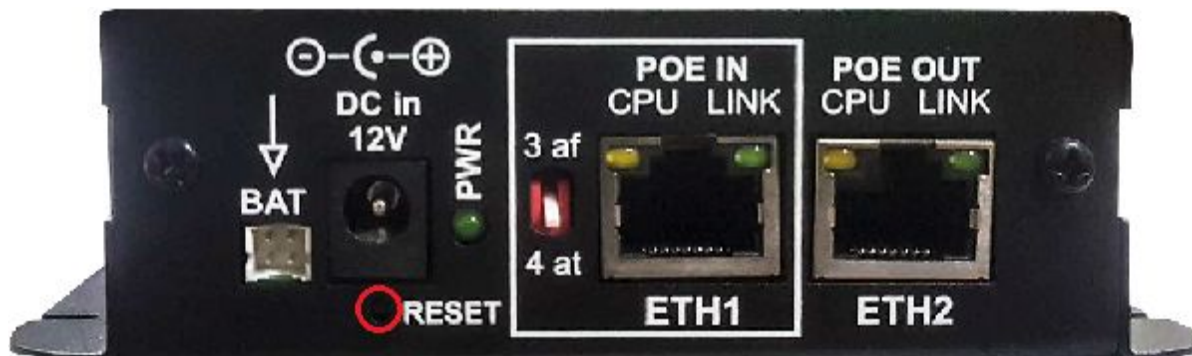
Equivalent circuit



[ENG] [Input+Relay 254R304] 7. Resetting Settings to Default Values

To reset parameters you have to do following steps:

- switch off the power;
- press and hold down RESET button (use a pen/stylus/pencil etc.);
- switch on the power;
- wait for 10 seconds (the CPU indicator will blink);
- release the RESET button.



If you do follow the steps successfully, the LED will blink, indicating the reset of the parameters.

By default, the device has the following parameters:

Username: **visor**

Password: **ping**

IP-address: **192.168.0.100**

The must of the subnetwork: **255.255.255.0**

Gate: **не установлен**

SNMPcommunity: **SWITCH**

MAC-address: **00 a2 xx xx xx xx**

Here xx xx xx xx corresponds to the serial number of the device. Thus, all devices after production have unique MAC addresses.

After resetting the parameters to the default values, it is necessary to carry out the initial configuration of the device.

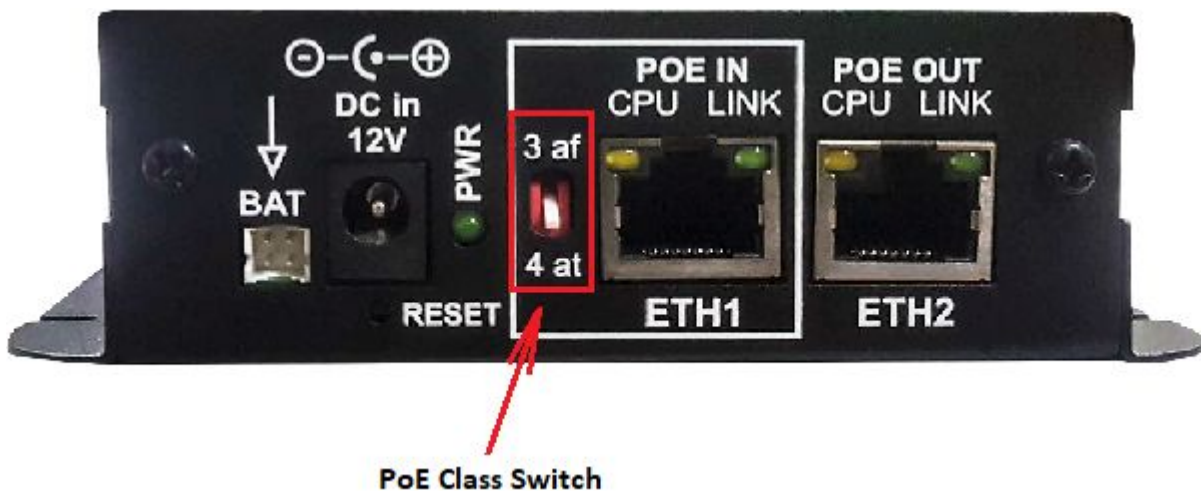
[ENG] [Input+Relay 254R304] 8. PoE Technology

NetPing Input+Relay 254R304 device has two ports ETH1 and ETH2.

ETH1 (PoE IN) port is located on the front panel of the device and used to supply power to the device using a PoE injector or other PSE device. You can switch on the power of the device itself from PoE via the web-interface (switched off by default).

It is forbidden to power the device from both 12V adapter and PoE simultaneously.

The supply voltage range for the ETH1 port is 12–50 V. The ETH1 port is equipped with a scheme of compliance determination with PoE devices of af/at standards. The class of power is determined with the switch — a class 3 for IEEE 802.3af (PD 13W) and a class 4 for IEEE 802.3at (PD 25.5W).



You can connect an external 12V power supply to the device.

It is forbidden to power the device from both 12V adapter and PoE simultaneously.

PoE is transmitted in through-connection from the ETH1 entry port to ETH2. PoE through-connection to an output port can also be switched on or off via the device's web interface (switched off by default). The power supply of the device itself and the through connection are independent from each other.

[ENG] [Input+Relay 254R304] 9. Additional Documents and Links

The pages of the devices on the manufacturer`s website:

The official website of the manufacturer: <http://www.netpingdevice.com>

The contacts of the technical support: support@netpingdevice.com

Phone: **+886-2-23121582**

[ENG] [Input+Relay 254R304] 10. Warranty Obligations

The Manufacturer guarantees normal operation of the product within 24 months from the date of purchase if a Buyer follows operating and storage conditions. Manufacturer warranty applies only to failure of a device which occurred because of defects in manufacturing process of products and components used. If during a warranty period the manufacturer receives a notice of such defects, it will repair or exchange the product by its own discretion. If the manufacturer is unable to repair or replace a flawed item during a period of time determined by the current legislation, the manufacturer according to a customer's wish can return the amount paid for the product at the time of purchase. The manufacturer provides a limited warranty on firmware and device configuration software. In case of detecting any errors in the software which became known to the manufacturer on its own or from a customer, the manufacturer will fix these errors within a reasonable time and provide an update to the customer. Only the errors that block normal use of the device at conditions and for performing functions described in this User Guide are a subject to mandatory fix. This warranty does not apply to cases when defects appear because of: a misuse of a device, any modifications of a device without a written permission of the manufacturer, opening up a device (a warranty sticker on the case of a device is damaged) except cases foreseen by this description; repairing by unauthorized personnel, using or storing a device out of the range of allowable temperature and humidity, pressure, a software modification, and the reasons, listed below:

- A device failed because of the problems in a public electric network (power fluctuations and surges, overloading, etc.);
- A device failed because of having liquid inside;
- A device failed as a result of extreme temperatures;
- A device failed because of mechanical damage;
- A device failed because of connecting a power supply unit with invalid output voltage or a defective power supply unit;
- There are foreign objects, insects, etc inside the enclosure;
- During operation a voltage bigger than an allowable voltage range by the Ethernet standard has been supplied to the ports of a device.

[ENG] [Input+Relay 254R304] 11. Operation Conditions and Storage

This device is designed for continuous round-the-clock operation only in closed spaces. In operating conditions the device is resistant to air temperature from -30°C up to +50°C and relative humidity from 5 up to 95% with the temperature of 25 °C (without moisture condensation). Protect the device from direct moisture and sunlight.

The design of the device provides for reliable continuous operation during a long time without the need for special maintenance. The advanced functionality of remote setting and configuration allows you to change any parameters remotely and centrally for a large number of devices.

The storage of the devices is carried out at the temperatures from -40 up to +70 °C.

The content of dust, vapors of acids and alkalis, corrosive gases and other harmful impurities that cause corrosion should not exceed the content of corrosive agents for type 1 atmosphere in storage rooms.

Attention! The device must be connected to a power socket with a grounding prong or a hole that accepts the pin on the socket and connects to a grounding conductor. Grounding must be done in accordance with «[Safety Rules for Working with Electrical Equipment](#)». Failure to comply with this rule is a violation of the operating conditions of the device and can be dangerous to human life and harm other devices!