[Docs] NetPing 8/PWR-220 v4/SMS

[ENG] NetPing 8/PWR-220 v4/SMS, User guide

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Developer and manufacturer:

NetPing east Co Ltd.

[8PWR] Introduction

This user guide helps to become familiar with an operation of a Netping 8/PWR-220 v3/SMS device and get an idea about its functionality and technical specifications as well as prepare a device for an operation.

A User Guide is designed for network administrators and users, who set up or operate a device. To work with a 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.

[8PWR] Device Overview

In this section a purpose of a NetPing 8/PWRv3/SMS device is described as well as its appearance.

Purpose of a Device

A NetPing 8/PWRv3/SMS device is an IP PDU device on 8 independently managed power supply channels, divided into two groups with four channels. A device's peculiarity is having two independent power supply inputs. Each input allows to provide a power supply to one or both groups of 4 output channels. Switching channels between power supply inputs can be done by a command from a web-interface of a device, from an SNMP interface of a device, with the help of SMS-message or automatically when a power supply disappears on a main input.

Appearance

A device is designed in standard dimensions for installation in a 19' rack. A height of a device is 1U. Inputs and output power supply channels are on a front and back panels of a device. Fasteners for mounting in a rack ("ears") can be bolted to NetPing 8/PWRv3/SMS both front and back, which gives a possibility to mount a device in a rack by any side. An appearance of device is shown on the pictures.

Front panel:

Back panel:

[8PWR] Sockets and Indication Elements

GSM Slots

There are GSM ANT sockets on a front panel on the left to connect an external antenna and a SIM Card slot to install a SIM card.
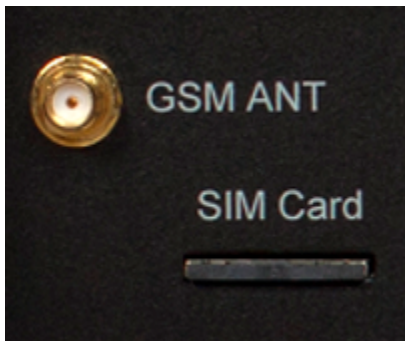
LAN Sockets

Ethernet 10/100 BASE-T port. A device has two such ports: one on a front panel and another one on a back panel. Together they form a dual port Ethernet-switch. One port is used for a network connection, another one is used for additional equipment connection (another NetPing device, administrator's laptop, etc.), which gives an opportunity to avoid installing of an additional switch on a remote site. The ports are equivalent, anyone can be used for a network connection.

> Important! Connecting both ports to an Ethernet switch with a disabled STP protocol will cause to creation of a loop in an Ethernet segment.

The Ethernet ports have two LEDs. A left one is CPU, its glowing means that a device is turned on, its blinking means transferring packages to a network. A right one is Link, its lighting means having "link" on this port, its blinking means receiving packages from a network.

RS485 Socket

An RS485 socket is used to connect RS485 devices. An RS485 port can work in one of two modes: either as an RS485– Ethernet interface converter by a TCP protocol or in an electricity meter CE102 (Energy meter) protocol analysis mode.
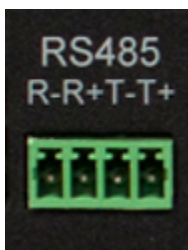
1W Sockets

1W sockets are used to plug sensors of a model line V4, which are built on a 1Wire technology.

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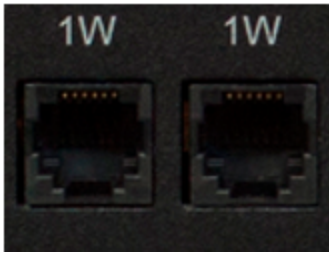
Power Supply Channels Status Indication

On a front panel there are LEDs that indicate a status of the second group of power supply channels. Channels 5 - 8 are included into this group. A status of each channel is represented by a corresponding LED of an OUT group. A LED is glowing when there is a voltage on an output (a relay is closed).

220v IN OB *A LED shows from what input the second group of channels is fed. A LED glows when a power supply is fed from an input A, which is located on a back panel of a device.

On a back panel there are LEDs that indicate a status of the first group of power supply channels. Channels 1 - 4 are included into this group. A status of each channel is represented by a corresponding LED of an OUT group. A LED is glowing when there is a voltage on an output (a relay is closed).

220v IN OA *B LED shows from what input the first group of channels is fed. A LED glows when a power supply is fed from an input B, which is located on a front panel of a device.
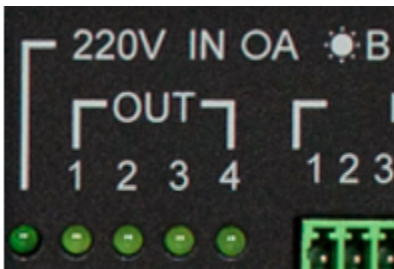
Power Supply Channels

On a front panel there is the second group of power supply channels, with numbers of channels 5 – 8.

On a back panel there is the first group of power supply channels, with numbers of channels 1 -4.

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Power Supply Inputs

On a front panel there is a power supply input B.

On a back panel there is a power supply input A.

Sensor Plugin Terminals

On a back panel there is a terminal block for sensors plugin. Assignment of the terminals is from left to right: IO1, IO2, IO3, IO4, SC, SD, +5V, GND.
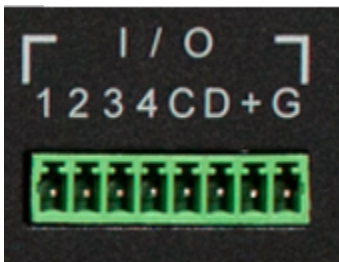
Reset Button

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A Reset button is located on a back panel of a device. It is designed to reset settings to default values. To reset settings, press the button Reset with a sharp object and hold it while turning on a device.
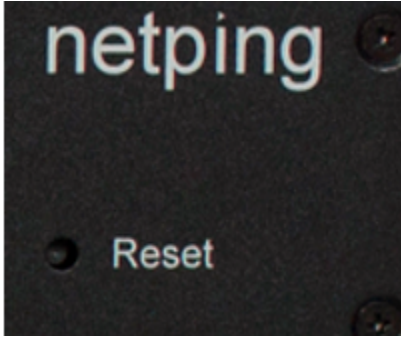
[8PWR] Power Supply Channels Management

Channels Management

A NetPing 8/PWRv3/SMS device has eight independent power supply channels. Each channel is managed by a normally closed relay. A relay and tracks have a big power capacity reserve, which provides a high resistance of a device to overloading.

Each channel can be turned on or turned off independently from others by a command from a web-interface, by an SNMP command or an SMS-message. Likewise it is possible to automatically turn on or turn off a power supply channel according to a schedule or using a functionality of a Watchdog or a Logic. There is a need to remember that when a channel is managed by a functionality of a Watchdog or a Logic, it cannot be turned on or turned off manually (through a web-interface, SNMP, SMS).

Inputs Reservation

A device supports power supply inputs reservation. With this purpose, output power supply channels are divided into two groups, with four channels in each one. Group 1 – channels 1 - 4, Group 2 – channels 5 - 8. For each group a main input is set (1 or 2). Both groups can use the same input as a main one.

In cases of failure of a main input, a group of channels can be switched to a backup input - it is optional and is configured in a web-interface of a device. After recovery of a main input a group of channels returns back to it either automatically or by an administrator's command. This behavior is also programmed in a web-interface of a device. Switching of a group of output channels from one input to another can be done from a web-interface, by an SNMP command, SMS-message.

All switches between the inputs occur with a two-second power supply turning off of a group of channels.

Device's software guarantees consequent turning off (and consequent turning on) of output power supply channels while switching from a main input to a backup one to reduce a value of the switched current.

Connecting a Load to Output Channels

When connecting a load to output power supply channels there is a need to take into account capacity limits of a NetPing 8/PWRv3/SMS device. A maximum capacity of each channel separately is 1500 Watts. A maximum total capacity of four channels in one group is 1725 Watts. I.e., if a consumer with a maximum capacity of 1500 Watts is connected to a channel 1, then it is possible to connect a total load no more than 225 Watts to channels 2,3,4.

Each input can provide 3500Watts, therefore both groups of power supply channels can be fed from one input (1725Watts + 1725Watts = 3500Watts).

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[8PWR] Setting Parameters to Default Values (to the Factory Settings)

Resetting parameters to the factory settings is necessary in the following cases :

- A loss of a login and/or password to a web interface of a device;
- A lack of information about current IP address of a device;
- In some cases after a device software update.

A procedure of resetting parameters to the factory settings changes all customizable parameters of a device to the default ones. (IP and MAC addresses, access filters, a user name, a password, etc.).

To reset parameters to default settings, fulfill the next actions sequentially:

- Turn off a power supply of a device;
- Press the Reset button (a button Set for a UniPing v3 monitoring unit);
- Turn on a power supply of a device, continuing to hold Reset button pressed for 15-20 seconds;
- Release the button. All parameters of a device are set to default settings.

On default, the next parameters of a device are set:

User name: visor

Password: ping

IP address: 192.168.0.100

Subnetwork mask: 255.255.255.0

Gateway: not set

SNMPcommunity: SWITCH

MAC-address: 00 a2 xx xx xx xx

Here xx xx xx xx corresponds to a serial number of a device. Thus, all devices after being manufactured have unique MAC-addresses.

After resetting parameters to default settings there is a need to do an initial configuration of a device.

[8PWR] Using IO Lines for External Devices Management (in an Output Mode)

Input-Output (IO) lines of a device can be used for an input work as well as in an output mode for managing external devices.

A device has four IO lines, corresponding to contacts I1 – I4 of a terminal block. Lines configuration for work as an input or an output is made through a controlling web-interface of a device. All four IO lines can be customized independently.

Lines management can be done by SNMP commands, URL-encoded commands, via a web-interface or using SMS-commands (for devices with built-in GSM modem).

Such device functions as a watchdog and scheduled load management are NOT AVAILABLE for IO in an output mode.

Examples of using:

- Remote servers reboot – an imitation of pressing "reset";
- Remote management of an alarm, a light, a fan;
- Management of an electric lock, electric gates on a remote object;
- Management of smart home elements - watering flowers, opening-closing louvers, water pump, heating boiler, heaters, etc.
- Remote management of a power installation (diesel generator, gasoline).

> Important! Correct electrical coordination of IO lines is required when connecting external executive devices.

> Important! IO lines do not have galvanic isolation with a device! Remember about electrical safety when using relays that commutate 220 V circuits. All work must be done by specialists with a correspondent qualification who have a permit to work with such a voltage!

It is acceptable to use intermediate relays with a power supply voltage 12 V from an external source. A ready socket can be used for IO lines connection NetPing AC/DIN socket. In addition, we can advise ready assembly relays of other manufacturers, which can be connected to our devices:

- BM8070D a power relay 16A/250V for DIN-rail (check out the compatibility of this relay with the NetPing device model on the relay web page on the site);
- MP701 a power module switch (4 independent channels, 2 kW 10A each) (check out the compatibility of this relay with the NetPing device model on the relay web page on the site);

For more detailed information, please contact a technical support support@netpingdevice.com.

Electric parameters of IO lines

In the «output» mode:

- the voltage of logic «1»: +5 V, resistance: 3,3 kOhm;
- the voltage of logic «0»: 0 V, resistance: 51 Ohm.

In the «input» mode:

- the voltage of logic «1»: > 2,31 V;
- the voltage of logic «0»: < 0,99 V.

Equivalent Circuit

+5V

R4
3k3

R3

Input

51

IRLML6402

VT2

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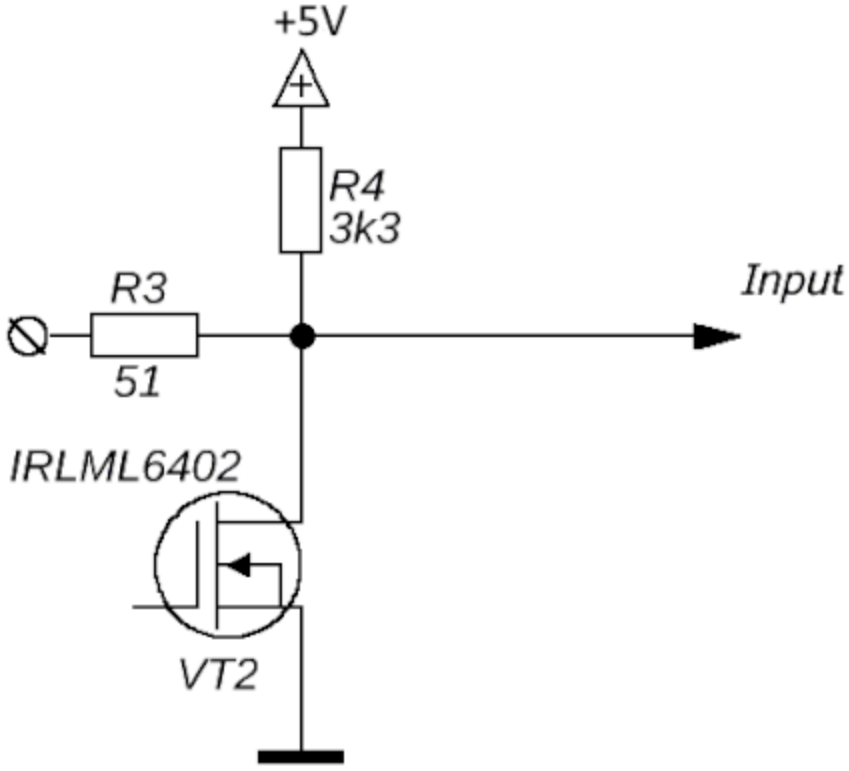
[8PWR] Sensors Plugin

Sensors 1-Wire

Sensors 1-Wire (Temperature 1-wire, (THS), 2m and Humidity sensor 1-wire) connected to the connectors 1W plugs RJ12, allowed to use extension cords or splitters. Maximum cable length 1-Wire network is limited to 50 meters.

Sensors of Dry Contact Type

Dry contact sensors are door opening sensors, buttons and other sensors, with a mechanism of work based on opening/closing a conductor. A sensor is connected with two wires to an IO line of a device according to the table (an order of plugging wires does not matter).

Sensor Flex	NetPing 8/PWR-220 v4/SMS Terminal
First wire	One of IO lines – 1/2/3/4
Second wire	G

> Important! Sensors of a dry contact type, a supply voltage sensor, a leakage sensor, and others are plugged to IO lines of a device. You can plug any four sensors out of this set.

> Important! A corresponding IO line should be set to an input mode in settings of a device.

A sensor is packaged with an inseparable cable, with connectors on the ends. A cable length can be increased with the help of flat cable extenders of RC-4 sensor, which are sequentially plugged one into another. Or it can be done independently with the help of any wire with a minimum cross section of 0,4 mm^2. Maximum allowable length of a flat cable is 100 m.

Leakage Sensors

A leakage sensor is connected by a four-wire line according to the table.

Sensor Flex	NetPing 8/PWR-220 v4/SMS Terminal
Green	One of IO lines – 1/2/3/4
Yellow (White)	G
Red	+
Black	G

> Important! Sensors of a dry contact type, a supply voltage sensor, a leakage sensor, and others are plugged to IO lines of a device. You can plug any four sensors out of this set.

> Important! A corresponding IO line should be set to an input mode in settings of a device.

A sensor is packaged with an inseparable cable, with connectors on the ends. A cable length can be increased with the help of flat cable extenders of RC-4 sensor, which are sequentially plugged one into another. Or it can be done independently with the help of any wire with a minimum cross section of 0,4 mm^2. Maximum allowable length of a flat cable is 100 m.

Supply Voltage Sensor

A supply voltage sensor is plugged by a two-wire line according to the table. An order of plugging wires does not matter.

Sensor Flex	NetPing 8/PWR-220 v4/SMS Terminal
First wire	One of IO lines – 1/2/3/4
Second wire	G

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> Important! Sensors of a dry contact type, a supply voltage sensor, a leakage sensor, and others are plugged to IO lines of a device. You can plug any four sensors out of this set.

> Important! A corresponding IO line should be set to an input mode in settings of a device.

A sensor is packaged with an inseparable cable, with connectors on the ends. A cable length can be increased with the help of flat cable extenders of RC-4 sensor, which are sequentially plugged one into another. Or it can be done independently with the help of any wire with a minimum cross section of 0,4 mm^2. Maximum allowable length of a flat cable is 100 m.

IR Transceiver IRC-TR v2

IR transceiver is plugged by a four-wire line according to the table:

Sensor Flex	NetPing 8/PWR-220 v4/SMS Terminal
Labeled wire (red)	C
Second wire after a labeled one	D
Third wire after a labeled one	+
Fourth wire after a labeled one	G

A sensor is packaged with an inseparable cable, with connectors on the ends. A cable length can be increased with the help of flat cable extenders of RC-4 sensor, which are sequentially plugged one into another. Or it can be done independently with the help of any wire with a minimum cross section of 0,4 mm^2. Maximum allowable length of a flat cable is 100 m.

Plugging NetPing AC/DIN Sockets

When plugging a socket to a device, all wires are used except for a brown one. There is a need to switch an IO line, to which a NetPing AC/DIN socket is connected, to the status "output". When a status of an IO line is logic 0, the socket will have 220V, and a load will be turned on. When a status of an IO line is logic 1, a socket will be cut off power, and a load will be turned off.

> Important! A brown wire is not used and must stay unplugged!

Sensor Flex	NetPing 8/PWR-220 v4/SMS Terminal
Red	+
Black	G
Blue (Green)	Одна из IO линий – 1/2/3/4

A relay with normally closed contacts is used to switch load in NetPing AC/DIN. This means if a control wire is not plugged anywhere, 220V will be in the socket and a load will be switched on.

A sensor is packaged with an inseparable cable, with connectors on the ends. A cable length can be increased with the help of flat cable extenders of RC-4 sensor, which are sequentially plugged one into another. Or it can be done independently with the help of any wire with a minimum cross section of 0,4 mm^2. Maximum allowable length of a flat cable is 100 m.

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[8PWR] Shipping Kit

A shipping kit is shown at the picture:

A shipping kit includes:

- A device NetPing 8/PWRv3/SMS;
- An antenna;
- A user guide;
- A packing box;
- A power cord – 2 pcs.;
- Mating terminals – 2 pcs.

[8PWR] Operating and Storage Conditions

A device is designed for continuous round the clock operation indoors. In operating conditions of use, a device is resistant to an environment with temperature in a range of 0°C - +40°C (32 – 104 degrees Fahrenheit) and relative humidity in a range of 5% - 95 % at 25°C (77 degrees Fahrenheit) without moisture condensation. A device should be protected from direct moisture and direct sun light.

A construction of a device provides a reliable uninterrupted work during a long period of time without maintenance. Highly developed functionality of remote setting and configuration of a device allows changing any parameters remotely and centrally for the most of the devices.

Devices should be stored in a temperature range between - 40°C and +70°C.

In rooms for keeping a device, a content of dust, acid and alkali gases, aggressive gases and other harmful impurities causing corrosion, should not exceed a content of corrosion-active agents for atmosphere of type 1.

> Important! A device must be connected to a power supply socket with a grounding contact or a hole, where a contact, located at an outlet and connected to a ground wire, is inserted. Grounding must be performed according to the State Standard P 50571.21-2000. An infraction of this rule is a violation of a device operation conditions and may be dangerous to human lives as well as damage other devices!

[8PWR] Warranty

The manufacturer guarantees normal operation of the product within 24 months from the date specified on the warranty sticker 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 for 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, plugging a device into power supply networks with invalid parameters, absence of grounding, etc. (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] NetPing 8/PWR-220 v4/SMS, Firmware description

[ENG] 1. [DKSF 48.5 IU] The Introduction

This document describes the functionality of the firmware DKSF 48.5.X for the device or NetPing 8/PWR-220 v4/SMS.

The device or NetPing 8/PWR-220 v4/SMS with the version DKSF 48.5.X of the built in firmware supports these control interfaces:

- HTTP (web-interface, url-encoded-commands);
- SNMP v1;
- SMS

The document describes the settings and how to work with these control interfaces.

 The description of the physical characteristics of the device, controls and indicators of the device, the procedure for connecting the device and external sensors are given in the user manual. The user manual can be downloaded from the device page:

- For NetPing 8/PWR-220 v4/SMS - http://www.netpingdevice.com/products/netping-8-pwr-220-v4-sms

Developer and manufacturer:

NetPing east Co Ltd.

[ENG] 2. [DKSF 48.5 IU] Getting Basic Information about The Device

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[ENG] 2.1. [DKSF 48.5 IU] The Username and Password in Default

The username and the password for connecting to the device web-interface in default:

- Login: visor
- Password: ping

This information is written on the device case:

[ENG] 2.2. [DKSF 48.5 IU] How to Know a IP Address in Default and a MAC Address of the Device

The IP address in default is written on the case of the device:

The MAC address of the device you can see on the "HOME" page of the device`s web-interface:

where:

MAC-Address — is a unique phisical address of the device in the Ethernet network.

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NetPing 8/PWR-220 v3/SMS
SN: 530 309 629
IP:192.168.0.100 Login:visor Password:ping
4 712876 170058
Input: 100-240V AC, 50/60 HZ

~220V
10A

INPUT B

[ENG] 2.3. [DKSF 48.5 IU] Connecting to The Web-Interface of a Device with Authentication in Default

Web Interface

A web interface is used to manage a device. To connect to a device and configure its parameters, there is a need to enter and IP address of a device in the address bar of a browser:
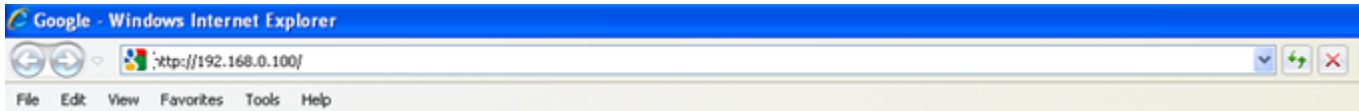
> When working in Internet Explorer, web interface operation speed can be decreased. It is recommended to use the latest version of Google Chrome.

Use a command ping from a command line to check a connection with a device:

ping 192.168.0.100

> IP address of a computer should be in the same subnetwork with an IP address of a device! For example, if a device has an IP address 192.168.0.100, then a computer should have address 192.168.0.11 mask 255.255.255.0

AUTHENTICATION

While connecting, a device will request authentication by entering login and password.

On default:

- Address for connecting to a device: http://192.168.0.100/;
- User: visor;
- Password: ping
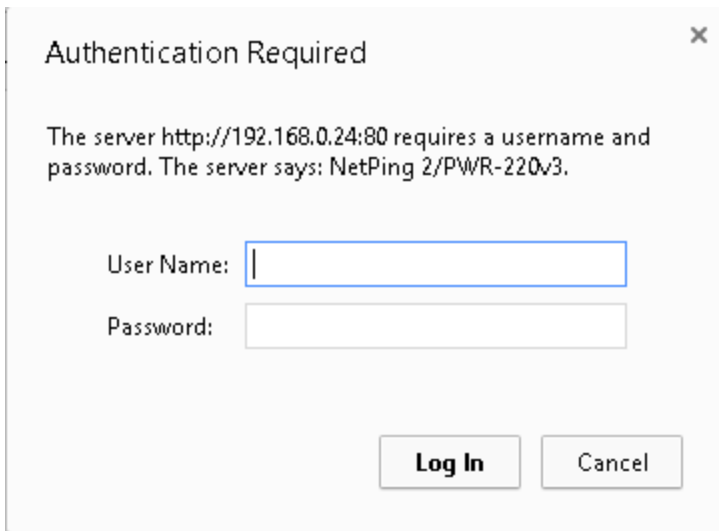
> Make sure that a device responds to ping 192.168.0.100 after the first device activation as well as after resetting its parameters.

> It is prohibited to use non-ASCII characters ("№", "®", "«" and others, as well as any Cyrillic character) in a username and a password. Otherwise, authentication issues may arise in a web interface in browsers except Google Chrome.

[ENG] 2.4. [DKSF 48.5 IU] I Need to Know the Firmware and Hardware Versions, the Serial Number, the Device Model and Uptime. How Can I Do It?

 The information about the serial number, the device model, the firmware version, the hardware version and the uptime you can find on the "HOME" page of the device`s web-interface:

where:

The Serial Number is a unique device identification number. It has to coincide with the number on the sticker of the device itself. The Serial Number of the device cannot be changed.

The Device Model - is the model name, which is indicated both on the device case and in the web interface.

The Firmware Version —is the current firmware version installed in the device.

   The firmware version number is DKSF PPP.VV.SS.C-M (for example, DKSF 48.4.5.A-1), where:

- DKSF — a special prefix for all firmware of Allentis Electronics LLC.
- PPP — the model number of the device which the firmware is needed for.

   The project numbers usually, but not necessarily, coincide with the project number of the device's hardware platform.

   VV - is the version number. Versions are numbered starting from 1. The version number changes to the next one, if a significant expansion or change in functionality occurs during the development process.
   SS - is the subversion number. The subversion number changes with any firmware update, including when fixing errors, updating internal modules, optimization;
   C - is a symbol showing the type of the given software version. A - a stable Russian version of the software, B - a version for testing or the first version of the new firmware. E is a stable English version.
   M is a numerical suffix indicating the modification (option) of the device model which the firmware is needed for.

The Hardware Version isthe version of a printed circuit board and/or the compete set of this device.

The Uptime is the operating time of the equipment since the last moment of power-on or reboot.

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[ENG] 2.5. [DKSF 48.5 IU] Where can I see the Hostname, the Location and The Contacts of the Device?

The Hostname, The Location and The Contact you can find on the "HOME" page of the device`s web-interface:

v48.5.3.E-1 / HW 1.2
NetPing-8PWR-220-v3SMS
Home   Moscow office

HOME | SETUP | E-MAIL | SMS | AC OUTLETS | DISCRETE IO | IR REMOTE | LOGIC | NOTIFICATION
TEMPERATURE | SMOKE | HUMIDITY | 1-WIRE | FIRMWARE | LOG

DEVICE IDENTIFICATION

Hostname	NetPing-8PWR-220-v3SMS
Location	Moscow office
Contact	support@netping.ru
Serial Number	SN: 447 585 086
MAC Address	00:a2:3e:9b:ad:1a
Device Model	NetPing 8/PWR-220 v3/SMS
Firmware Version	v48.5.3.E-1
Hardware Version	1.2
Uptime	0d 8h 17m 28s

NETWORK SETTINGS

IP Address	192.168.2.45
Netmask	255.255.255.0
Gateway	192.168.2.2

where:

Hostname — is the domain name of the device. It allows you to distinguish several NetPing devices of the same type via the name. The Hostname is displayed on the "HOME" page and in the heading of the web interface, it is sent in Syslog messages and is accessible via SNMP - OID "sysName".

Location — is the description of the installation location of the NetPing device. It is displayed on the "HOME" page and in the heading of the web interface, it is available via SNMP - OID "sysLocation".

Contact — is the contact data (as a rule, email) of the admin. This value is accessible via SNMP -"sysContact".

[ENG] 2.6. [DKSF 48.5 IU] How Can I Reboot the Device?

The NetPing device you can reboot using two ways:

1. Press the "Reboot" button on the "HOME" page of the device`s web-interface.

HOME | SETUP | E-MAIL | SMS | AC OUTLETS | DISCRETE IO | IR REMOTE | LOGIC | NOTIFICATION
TEMPERATURE | SMOKE | HUMIDITY | 1-WIRE | FIRMWARE | LOG

DEVICE IDENTIFICATION

Hostname	NetPing-8PWR-220-v3SMS
Location	Moscow office
Contact	support@netping.ru
Serial Number	SN: 447 585 086
MAC Address	00:a2:3e:9b:ad:1a
Device Model	NetPing 8/PWR-220 v3/SMS
Firmware Version	v48.5.3.E-1
Hardware Version	1.2
Uptime	0d 8h 17m 28s

NETWORK SETTINGS

IP Address	192.168.2.45
Netmask	255.255.255.0
Gateway	192.168.2.2

Reboot

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After that, the system will issue an informational message confirming the reboot of the device.

ATTENTION! During firmware restart state of IO and Relays may change for some short time. Also, state of IO and Relays may change because of Logic re-initialization. Do you want continue restart?

Cancel   Reboot

2. When you click the Reboot button in this message, the CPU LEDs on the Ethernet ports will flash, and the device will reboot. The uptime of the device will reset to 0d 0h 0m 0s.
3. Using the SNMP v1 protocole via setting the values by the OID command.

OID	The name	The type	The access	The Description
.1.3.6.1.4.1.25728.911.1.0	npSoftReboot	Integer	READ/WRITE	Software reboot of the device while recording the value "1" (analogue to rebooting the device via the web interface)
.1.3.6.1.4.1.25728.911.3.0	npForceReboot	Integer	READ/WRITE	Immediate forced reboot of the device while recording the value "1" (processor reset, similar to the situation when turning on the power)

4. Via the SMS-command «RB20».

[ENG] 3. [DKSF 48.5 IU] Basic Configuration

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[ENG] 3.1. [DKSF 48.5 IU] How to Set up a Hostname, a Location and the Contacts of the Device?

To configure a name and a location of a device as well as its contacts, there is a need to go to the page «Setup» of a web interface of a device:

In the section «Device Identification» it is possible to configure:

Device Hostname – is a domain name of a device. It allows distinguishing among several NetPing devices of the same type according to a name. A name is represented on the homepage and in the heading of a web interface, in an e-mail notification in the field «From:», in other notifications and available via SNMP – sysName. On default: empty line

Device Location – is a description of a place of installation of a Netping device. It is displayed on the home page and in the heading of a web interface, is available via SNMP – sysLocation. On default: empty row

Contact – is the administrator's contacts (usually, an e-mail). This information is available via SNMP – sysContact. On default: empty row

After configuring all necessary parameters, click the button «Apply changes».

In addition, it is possible to configure these parameters using an SNMP v1 protocol by setting OID values using the command Set:

OID	Name	Type	Access	Description
.1.3.6.1.2.1.1.5.0	sysName	DISPLAYSTRING (SIZE (0..255))	READ/WRITE	A domain name of a device.
.1.3.6.1.2.1.1.6.0	sysLocation	DISPLAYSTRING (SIZE (0..255))	READ/WRITE	A location of a device.
.1.3.6.1.2.1.1.4.0	sysContact	DISPLAYSTRING (SIZE (0..255))	READ/WRITE	Contacts.

[ENG] 3.2. [DKSF 48.5 IU] Where Can I Change the Settings of the Network Interface

To change network interface parameters, such as an HTTP port, a server and an SNMP agent, there is a need to go to the page «Setup» of a device web interface:

NETWORK SETTINGS

IP Address	192.168.0.29
Netmask	255.255.255.0
Gateway	192.168.0.1
DNS Server	8.8.8.8
Embedded HTTP Server Port	80
SNMP Agent Port	161

Apply Changes

In the section «Network Settings» it is possible to configure:

IP Address – is a field for setting up or changing an IP address of a device. On default: 192.168.0.100

Netmask – is a field for setting up or changing a subnet mask, where the devices are. On default: 255.255.255.0

Gateway – is a field for setting up or changing an IP address of a gateway. The value 0.0.0.0 means a gateway is not specified and packages for other subnetworks will not be sent by a device. On default: 0.0.0.0

> A device will send any outgoing packages to a gateway address. Therefore, there is a need to specify an IP address of a gateway properly if there is a need to work with a device from other subnetworks.

DNS server – is a DNS server address. The value 0.0.0.0 means a DNS server is not specified, and a device will not send DNS requests. On default: 0.0.0.0

> A DNS server must use a recursive method. Cyrillic domain names are not supported. Domain names longer than 62 symbols are not supported either.

A DNS module works independently from other firmware modules. A DNS module saves responses from a DNS server into a DNS-cache of a device. Other firmware modules use this cache to determine an IP address, where a package needs to be sent. A request is not sent directly before sending a DNS package. If there is no correspondent entry in a DNS-cache in the moment of sending a package, then an outgoing package is discarded. A DNS cache size coincides with the number of hostnames (IP addresses) specified in the settings of a device.

Domain names are resolved and renewed in the next cases:

- Firmware start and restart;
- Saving settings through a web interface (if a domain name is changed);
- A life timeout of a DNS record, specified in the response from a DNS server

When a lifetime of a cache entry is expired, the entry is not removed from a cache. A device updates an expired entry from time to time. Other firmware modules use an outdated information until the entry is successfully updated.

If a DNS server does not respond, a device repeats its request three times. Afterwards, it repeats the request periodically nearly once a minute if there is still no response from a server. The requests are repeated when there is no server response and if there is an error in a server response, including the error «no such hostname».

HTTP Server Port – is a field for configuring a port number, through which an embedded web interface operates. When connecting through a web browser to a device with a port number different from 80, there is a need to indicate the URL of the following appearance: http://x.x.x.x:nn, where x.x.x.x – is an IP address of a device, nn – is a port number, specified in settings of a device. On default: 80

SNMP Agent Port – is a field for configuring a UDP port number, which an SNMP agent listens to. On default: 161

After setting all necessary parameters, click the button «Apply changes».

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[ENG] 3.3. [DKSF 48.5 IU] Changing a Username and a Password

To change a username and a password, there is a need to go to the web page «Setup» of a web interface of a device:

ACCESS RESTRICTIONS

Username	visor29
Password	••••••
SNMP Community for Read	ping29
SNMP Community for Write	ping29
IP Filter (access granted for this subnet)	0.0.0.0
IP Filter Netmask (0.0.0.0 - disable filter)	0.0.0.0

Apply Changes

In the section «Access Restrictions» it is possible to configure the following:

Username – is a field for setting up or changing a username when accessing a device through a web interface. Latin letters and numbers are used. Its maximum size is 16 symbols. On default: visor

Password – is a field for setting up or changing a user's password when accessing a device through a web interface. Latin letters and numbers are used. Its maximum size is 16 symbols. On default: ping

After setting up all necessary parameters, click the button «Apply changes».

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[ENG] 3.4. [DKSF 48.5 IU] How to Set the Community for SNMP?

To configure Community, there is a need to go to the web page «Setup» of a device web interface:

In the section «Access Restrictions» it is possible to configure:

Community for Read – is a field for setting up or changing Community for read parameters of a device when accessing a device via an SNMP protocol. Its maximum size is 16 characters. On default: SWITCH

Community for Write – is a field for setting up or changing Community for write parameters of a device when accessing a device via an SNMP protocol. Its maximum size is 16 characters. On default: SWITCH

After setting up all necessary parameters, click the button «Apply changes».

[ENG] 3.5. [DKSF 48.5 IU] How to Restrict the Access to the Device?

To restrict an access to a device via HTTP and SNMP protocols, there is a need to go to the page «SETUP» of a device web interface:

ACCESS RESTRICTIONS

Username	visor20
Password	••••••
SNMP Community for Read	SWITCH
SNMP Community for Write	SWITCH
IP Filter (access granted for this subnet)	0.0.0.0
IP Filter Netmask (0.0.0.0 - disable filter)	0.0.0.0

Apply Changes

In the section «Access Restrictions», it is possible to configure:

IP Filter is a field that determines an IP address or a subnetwork, from which it is allowed to configure and browse parameters of a device via HTTP, SNMP protocols. A subnet mask indicated in the field «IP Filter Netmask» is applied to the address indicated in the field «IP Filter». As a result, there is a subnetwork, from which it is allowed to manage a device. To allow access for an IP address, there is a need to indicate a mask 255.255.255.255 in the field «IP Filter Netmask». On default: 0.0.0.0

IP Filter Netmask is a field to set or change the subnet mask filter to access a device. The value 0.0.0.0 means that the access filter is disabled. On default: 0.0.0.0

> When access filter parameters are set, a device will not respond to an ICMP request (ping).

After setting all necessary parameters, click the button «Apply changes».

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[ENG] 3.6. [DKSF 48.5 IU] How to Turn Off All Notifications Quickly?

It is possible to disable all notification types at the page «Setup» of a device web interface. To do this, there is a need to check a checkbox «Disable all notifications» and click the button «Apply changes»:

NOTIFICATIONS

Disable all notifications	☑

Apply Changes

> The setting «Disable all notifications» does not disable notifications sent to the log file and SYSLOG.

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IP-addresses for sending SNMP TRAP notifications are configured on the page «SETUP» of a device web interface. This group of settings allows setting up to two addresses where SNMP TRAP notifications will be sent to using an SNMP protocol.

> Events that are going to trigger these notifications are going to be specified on the other pages of a device web interface.

SNMP TRAP

SNMP Trap Destination #1	192.168.2.42
SNMP Trap Destination #1 Port	162
SNMP Trap Destination #2	
SNMP Trap Destination #2 Port	162

Apply Changes

In the section «SNMP TRAP», it is possible to configure the next:

SNMP Trap Destination #1 — is a field for setting up or changing the first address where SNMP TRAP notifications are going to be sent to. It is acceptable to indicate either an IP address or a domain name. An empty field means that SNMP TRAP-notifications are not going to be sent. On default: the address is not specified.

SNMP Trap Destination #2 — is a field for setting up or changing the second address where SNMP TRAP notifications are going to be sent to. It is acceptable to indicate either an IP address or a domain name. An empty field means that SNMP TRAP-notifications are not going to be sent. On default: the address is not specified.

Port — is a field for setting up a port (for each address), where SNMP TRAP notifications are going to be sent to. On default: 162.

After setting all necessary parameters, click the button «Apply changes».

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[ENG] 3.8. [DKSF 48.5 IU] How to Set up The Clock?

To set the clock manually, there is a need to go to the page «SETUP» of a device web interface:

EMBEDDED CLOCK (RTC)

| Current Date and Time | 23.08.2019 13:51:06 |
| New Date and Time (14 digits, format DDMMYYYYHHmmSS without spaces, 24h) | |

Set Clock

In the section «Embedded Clock (RTC)», it is possible to see and configure:

- Current Date and Time — is a field for viewing current time;
- New Date and Time (14 digits, format DDMMYYYYHHMMSS with no spaces) – is a field for setting the new time manually.

After setting the clock, click the button «Set Clock».

To configure synchronization with the external NTP servers, there is a need to go to the page «SETUP» of a device web interface.

This group of settings allows setting addresses of NTP-servers (servers of precise time), according to which a device will set and adjust its internal clock. Overall, it is possible to set up to 2 NTP-servers. If the first NTP-serer is unavailable, then a device will attempt to synchronize its time with the second one. It is possible to check the correctness of the adjustment by generating a time synchronization event and viewing this event in the log at the page «LOG».

NTP SETUP

NTP Server #1	ntp.netping.ru
NTP Server #2	
Timezone	(UTC+04:00) Abu Dhabi, Mus ▾
Daylight Saving Time (DST)	☐

Apply Changes

In the section «NTP Setup», there is a need to configure:

NTP Server #1 — configuring the first NTP- server. It is acceptable to indicate or an IP-address either a domain name. On default: ntp.netping.ru.

NTP Server #2 — configuring the second NTP- server. It is acceptable to indicate or an IP-address either a domain name. On default: the address is not specified.

> If an IP-address of an NTP-server is specified in the settings of the device, a device will attempt to get precise time and will synchronize its internal clock with the precise time if successful. After the time synchronization, there will be two records in the log that represent the time leap when the clock is reset to the precise time. If the time received at synchronization with an NTP-server is different from the time of the internal clock for less than 5 minutes, the clock is not reset. Instead, the pace of internal clock is changed in the way to make the internal time equal to the precise time received from the NTP-server. Thanks to this, there is no time leap in the list of events in the log, which simplifies the analysis of the log.

Timezone — a configuration of a local timezone. On default: UTC+03.00.

Daylight Saving Time (DST) — is a manual configuration of the daylight saving time. When a checkbox is checked, the internal clock of the device shifts an hour ahead. On default: a checkbox is not checked.

You can use freely available NTP servers on the Internet as NTP servers. For example, one from http://www.pool.ntp.org/, specifically:

- 0.europe.pool.ntp.org;
- 1.europe.pool.ntp.org;
- 2.europe.pool.ntp.org;
- 3.europe.pool.ntp.org

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To use the NTP servers from the Internet, a device is going to have a gateway correctly configured, and a device should have the Internet connection via an NTP protocol.

To set a new date and time do the following: set the timezone and save the configurations, then fill in the fields of the new date and time according to the format specified at the webpage, and click the button «Apply changes».

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[ENG] 3.9. [DKSF 48.5 IU] I Want to Configure SYSLOG. How Can I do It?

Transfer of notifications to the SYSLOG server is configured at the page «Setup» of a device web interface.

Events, according to which these notifications will be sent, are set at other pages of a device web interface.

SYSLOG

Syslog Address	
Syslog Facility	16
Syslog Severity	5

Apply Changes

In the section «SYSLOG» it is possible to configure the following:

SysLog Address – is an IP address of the SYSLOG server. A log file of a device will be duplicated completely on the SYSLOG server.

Syslog Facility – is a type of programs, for which logging is maintained.

Syslog Severity – indicates the urgency of notifications (from emergency to debugging).

After setting up all necessary parameters, click the button «Apply changes».

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[ENG] 3.10. [DKSF 48.5 IU] How to Receive Notifications and Reports via Email?

To configure the module for sending e-mail notifications and reports about a status, there is a need to go to the page «E-MAIL» of a web interface. The equipment sends notifications using an SMTP protocol.

Events, on which e-mail notifications will be sent, are set at other pages of a device web interface.

E-mail Notifications

HOME | SETUP | E-MAIL | SMS | AC OUTLETS | DISCRETE IO | IR REMOTE | LOGIC
TEMPERATURE | SMOKE | HUMIDITY | 1-WIRE | FIRMWARE | LOG

SMTP SETTINGS FOR OUTGOING E-MAIL

Enable Sending of E-mail	☑
SMTP Server Address	
SMTP Server TCP Port	25
Username	
Password	
From	
To	
Copy To (cc:)	
Copy To (cc:)	
Copy To (cc:)	
Time for Summary Reports (HH:MM 24h format, up to 12 time points, divided by space)	

Apply Changes

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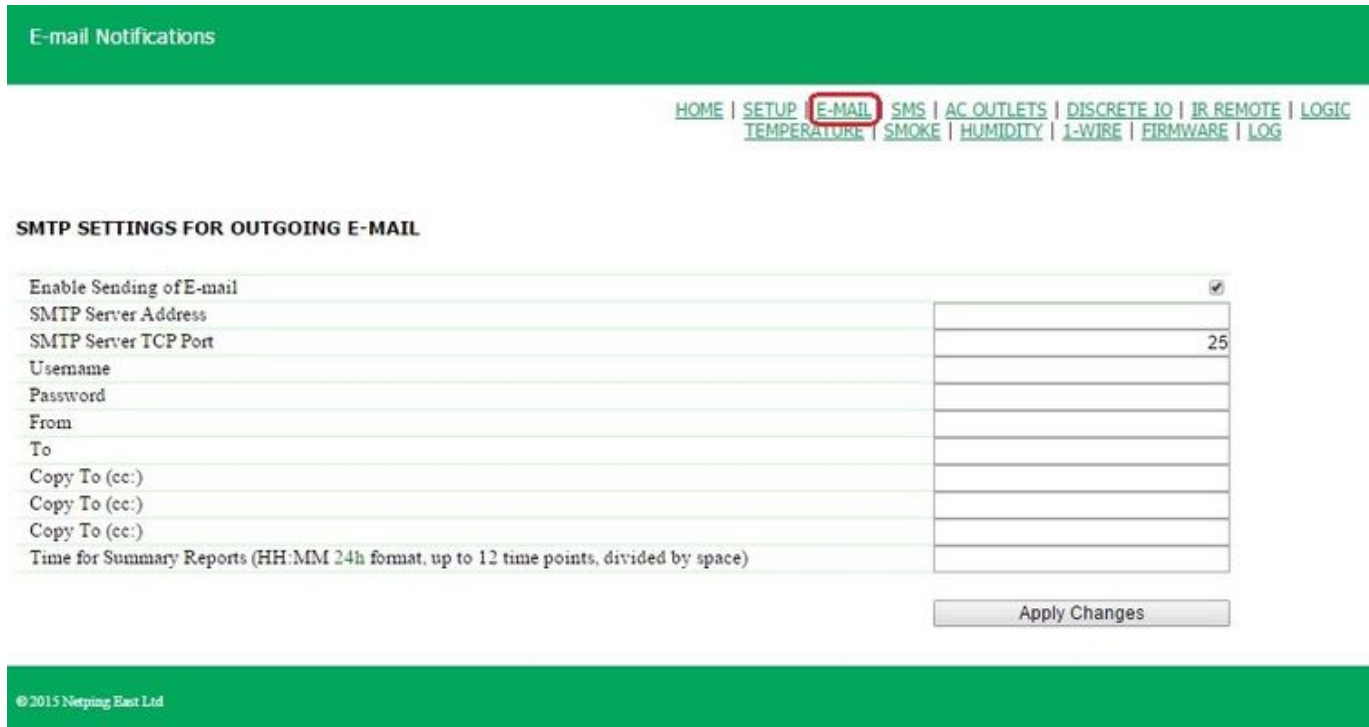
where:

Enable Sending of E-mail – when unchecking the checkbox a device will not send e-mail notifications. This was designed, first of all, to handle maintenance in a server room, as well as the one of the equipment. On default: checkbox is not checked

SMTP Server Address – is an email address for an incoming mail. On default: empty line

SMTP Server TCP Port – is an email server port, which works via an SMTP protocol. On default: 25

Username – is a username of an SMTP server. On default: empty line

Password – is a password of an SMTP server user. On default: empty line

From – a sender's address. On default: empty line

To – a destination address for e-mail notifications. On default: empty line

Copy To (cc:) – addresses of secondary recipients for e-mail notifications, to whom a copy is sent. On default: empty line

Time for Summary Reports (HH:MM 24h format, up to 12 time points, divided by space) – is a time when reports on a status of sensors will be sent via e-mail. On default: empty line

After setting the parameters, click the button «Apply changes».

You can add a display of the device name in the email notification. You can find wow to do it on the page « [ENG] 3.1. [DKSF 48.5 IU] How to Configure a Hostname, a Location and Contact?

The device works only with the email servers that support an SMTP-protocol and authentication methods AUTH PLAIN and AUTH LOGIN, as well as a no-authentication method! At the same time, the device does not support SSL, TLS or any other encoding!

[ENG] 3.11. [DKSF 48.5 IU] How to Update the Firmware of the Device?

There is a need to do the following to update an embedded firmware version:

1. Download an up-to-date firmware from the official website of the company (section «Downloads»): http://www.netpingdevice.com.
2. Go to the page «Firmware» of a device web interface. You can easily update the firmware of a device from this page without using any specific software. To do that, you will need a browser supporting HTML 5 API. Google Chrome or Internet Explorer of the 9th version and higher are recommended;
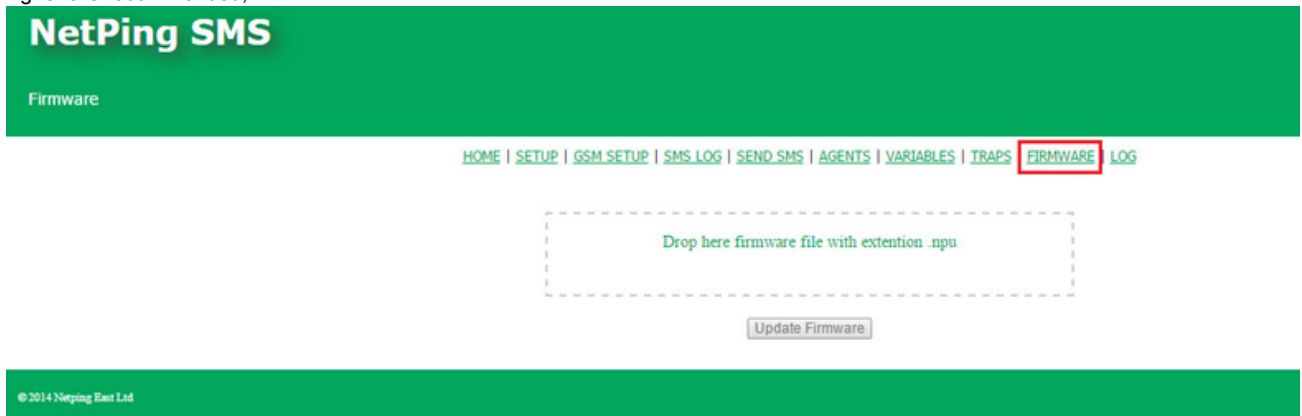
3. Drag a firmware file to the indicated page area;
4. Wait until a firmware file is copied to a device
5. Click the button «Update Firmware»

Wait for the message on a successful operation completion:
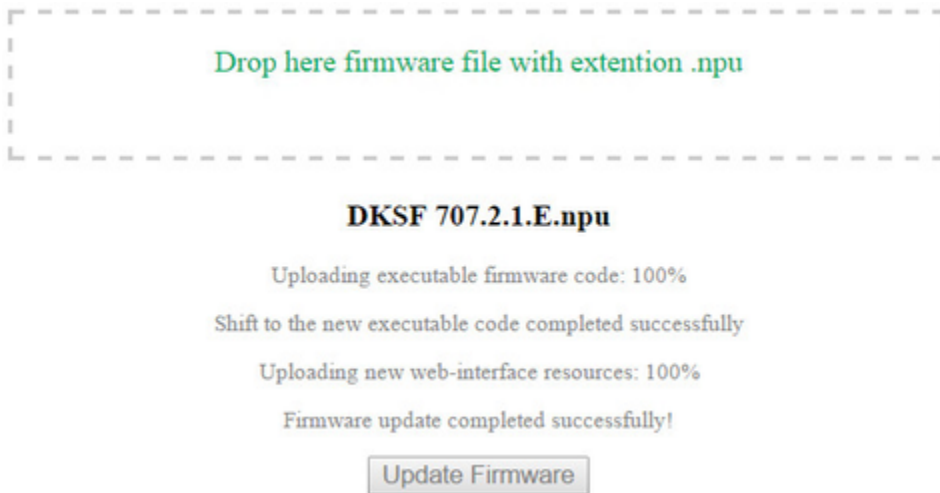
Retry if an updating process was interrupted. A web interface (pages «Home», «Setup», «Firmware») will be available even if the firmware was not successfully updated.

Certain system settings may be changed after updating. Do not forget to check the most important operation parameters.

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The page «LOG» of a web interface represents a device operation. In the log file events of a device are recorded in a chronological order. All notifications of the log file are duplicated via SYSLOG protocol, if an IP address of the SYSLOG server is specified in the settings of a device.

A log file is located in a nonvolatile memory. There are approximately 220 - 350 last notifications stored in the memory. All notifications are rewritten round, which means that the oldest notification in the log file is rewritten by a new one.

The first time tag in the log file is 01.01.70 Mon 00:00: 00.UTC. If there is an IP address of an NTP server specified in the settings, then a device will try to get a precise time and in case of success it will synchronize its internal clock with a precise time. After synchronizing time, two records will appear in the log file that represent a time lapse when adjusting a clock to a precise time. If time received when synchronizing with an NTP server is different from the time of an internal clock for less than 5 minutes, the clock will not be adjusted. The pace of the internal clock is changed in the way to adjust internal time with a precise time received from an NTP server in a certain amount of time. Due to this, there is no time lapse in the list of events in the log file, which makes analyzing it easier.
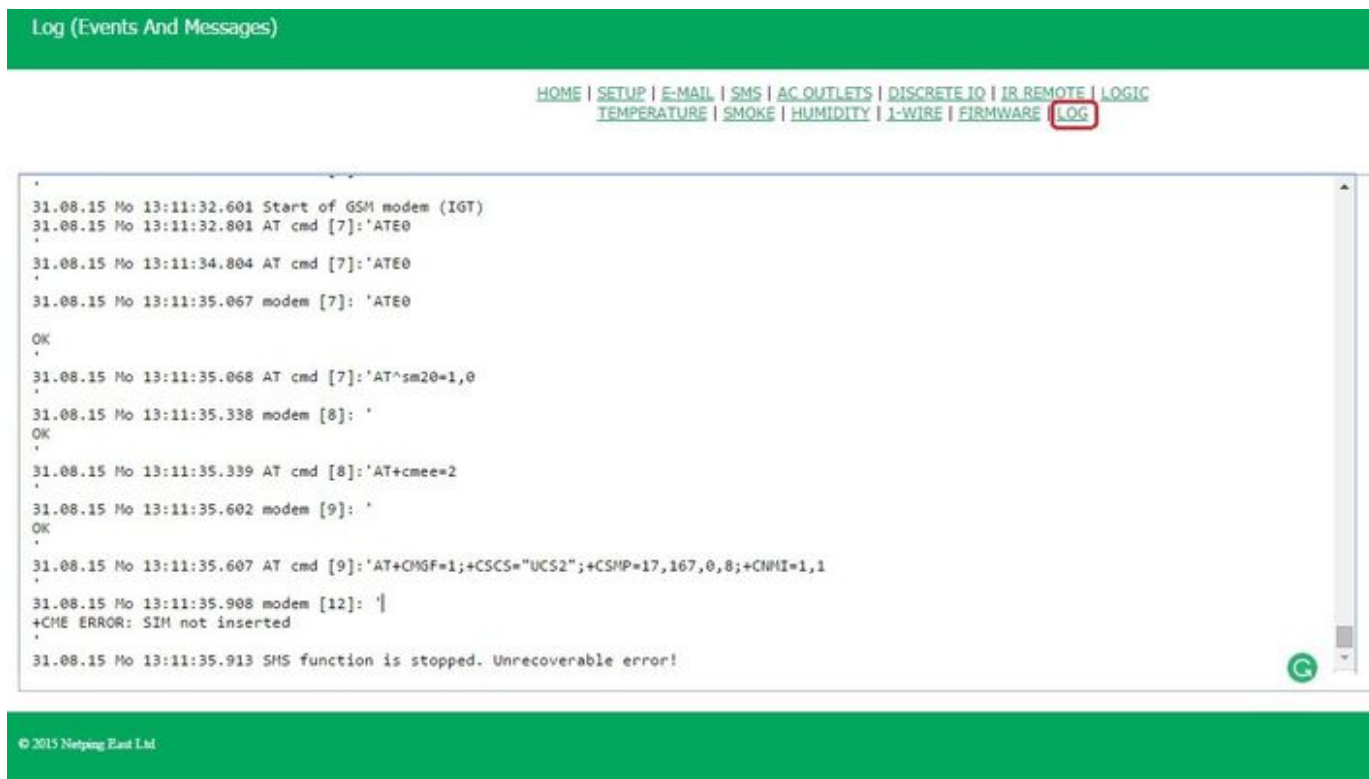
GENERAL EVENTS

Operation Start (Reboot) XXXX YYYY – is recorded into the log file when rebooting or turning a device on. XXXX is a model name of a device. YYYY is a firmware version, installed on a device.

Adjusting......the Clock is recorded into the log file if a time received via an NTP protocol is more than 5 minutes different from the time set on the internal clock. The notification is displayed in 2 lines. The first line represents a time tag before resetting the internal clock while the second line represents a time tag right after resetting the internal clock.

EVENTS FROM IO LINES

ION=Y XXXX – is recorded into the log file when a current logic level is being changed at the IO line (switching from the status «0» to the status «1» and vice versa) when notifications from the IO line are enabled in the log file. N is a number of an IO line. Y is a current logic level of an IO line. XXXX is a description of an IO line, specified by a user at the page of a web interface.

EVENTS FROM TEMPERATURE SENSORS

Thermo: channel N "XXXX" YYC, normal (AA..BBC) – is recorded into the log file when readings of a temperature sensor are within the limits of the range specified by a user when notifications from a temperature sensor are enabled in the log file. N is a number of a channel of a temperature sensor. XXXX is a description of a temperature sensor, specified by a user at the page of the web interface. YY – are readings of a current temperature in °C. AA is a lower limit of a temperature range in °C. BB – is an upper limit of a temperature range in °C.

Thermo: channel N "XXXX" YYC, above normal (AA..BBC) – is recorded into the log file, when readings of a temperature sensor are above the limits of a specified range set by a user when notifications from a temperature sensor are enabled in the log file. N – is a number of a channel of a temperature sensor. XXXX – is a description of a temperature sensor, specified by a user at the page of a web interface. YY are readings of a current temperature in °C. AA is a lower limit of a temperature range in °C. BB – is an upper limit of a temperature range in °C.

Thermo: channel N "XXXX" YYC, below normal (AA..BBC) – is recorded into the log file when readings of a temperature sensor are below the limits of a range specified by a user when notifications from a temperature sensor are enabled in the log file. N – is a number of a channel of a temperature sensor. XXXX – is a description of a temperature sensor, specified by a user at the page of a web interface. YY – are readings of a current temperature in °C. AA – is a lower limit of a temperature range in °C. BB – is an upper limit of a temperature range in °C.

Thermo: channel N "XXXX" - there is no sensor or it is faulty – is recorded into the log file when a temperature sensor does not respond (is not connected) when notifications from a temperature sensor are enabled in the log file. N – is a number of a channel of a temperature sensor. XXXX – is a description of a temperature sensor, specified by a user at the page of a web interface.

EVENTS FROM A HUMIDITY SENSOR

Humidity XX%, normal (YY..ZZ%) – is recorded into the log file when readings of a humidity sensor are within the limits of a range specified by a user when notifications from a humidity sensor are enabled in the log file. XX – are readings of a relative humidity in %. YY is a lower limit of a normal humidity in %. ZZ – is an upper limit of a normal humidity range in %.

Humidity XX%, above normal (YY..ZZ%) – is recorded into the log file when readings of a humidity sensor are above the limits of a range specified by a user when notifications from a humidity sensor are enabled in the log file. XX – are readings of a relative humidity in %. YY is a lower limit of a normal humidity range in %. ZZ is an upper limit of a normal humidity range in %.

Humidity XX%, below normal (YY..ZZ%) – is recorded into the log file when readings of a humidity sensor are below the limits of the range specified by a user when notifications from a humidity sensor are enabled in the log file. XX – are readings of a relative humidity in %. YY – is a lower limit of a normal humidity range in %. ZZ – is an upper limit of a normal humidity range in %.

Humidity - there is no sensor or it is faulty – is recorded in the log file when a humidity sensor does not respond (is not connected) when notifications from a humidity sensor are enabled in the log file.

EVENTS FROM SMOKE SENSORS

Smoke sensor N "XXXX" switched to the status "YYYY" – is recorded into the log file when a status of a smoke sensor is being changed when notifications from a smoke sensor are enabled in the log file. X – is a channel number of a smoke sensor. XXXX is a description of a channel of a smoke sensor, which is specified by a user at the page of a web interface. YYYY is a name of a current status of a smoke sensor. The next statuses are possible: «Normal», «ALARM», «Off», «Failure».

EVENTS OF THE MODULE «WATCHDOG»

Watchdog: resetting a channel N "XXXX". A (IPA) YYYY, B (IPB) YYYY, C (IPC) YYYY – is recorded into the log file when the module «Watchdog» is triggered. N – is a number of a power management channel. XXXX – is a description of a power management channel, which is specified by a user at the page of a web interface. IPA, IPB, IPC – IP addresses specified by a user in the settings of the module «Watchdog» are substituted. YYYY – is a status, corresponding to a requested IP address. The next statuses are possible: «responds», «silent», «ignored».

Watchdog: channel N "XXXX" - a limit of repeated resets is over (Y). Resets are paused. – is recorded into the log file if in the mode of the module «Watchdog» a limit for the number of consequent resets of a connected device is reached. N – is a number of a power management channel. XXXX - is a description of a power management channel, specified by a user at the page of a web interface. Y – is a number of consequent resets of a connected device.

Watchdog: channel N "XXXX" reset - a response is received. Reset pause is over. – is recorded into the log file if a response from the module «Watchdog» is received in the status when resets are paused after a specified limit is reached. «Wathdog» signals a reset of reboots and a start of a normal functioning of the watchdog according to a usual algorithm.

EVENTS OF THE MODULE «SCHEDULE»

Schedule N switched to the status YYYY – is recorded into the log file when the module «Schedule» is triggered. N is a number of a power management channel. YYYY – is a status of an embedded relay. The next statuses are possible: «on», «off».

EVENTS FROM EMBEDDED RELAYS

PWR: relay N "XXXX" YYYY – is recorded into the log file when an embedded relay was triggered. N – is a number of a power management channel. XXXX – is a description of a power management channel, specified by a user at the page of a web interface. YYYY is a status of an embedded relay. The next statuses are possible: «switched on», «switched off».

PWR: relay N "XXXX" is switched to the mode "YYYY" through the web interface – is recorded into the log file when a relay management mode is switched through a device web interface. N – is a number of a power management channel. XXXX – is a description of a power management channel, specified by a user at the page of a web interface. YYYY – is a name of a relay management mode. The next modes are possible: «switched off manually», «switched on manually», «watchdog management», «schedule management», «schedule and watchdog management», «logic management».

PWR: relay N "XXXX" is switched to the mode "YYYY" through SNMP – is recorded into the log file when a relay management mode is switched using an SNMP protocol. N – is a number of a power management channel. XXXX – is a description of a power management channel, specified by a user at the page of a web interface. YYYY – is a name of a relay management mode. The next modes are possible: «switched off manually», «switched on manually», «watchdog management», «schedule management», «schedule and watchdog management», «logic management».

PWR: relay N "XXXX" is switched to the mode "YYYY" by running cgi – is recorded into the log file when a relay management mode is switched using URL-encoded commands (HTTP API). N – is a number of a power management channel. XXXX is a description of a power management

channel, specified by a user at the page of a web interface. YYYY – is a name of a relay management mode. The next modes are possible: «switched off manually», «switched on manually», «watchdog management», «schedule management», «schedule and watchdog management», «logic management».

PWR: relay N "XXXX" is switched to the mode "YYYY" by a command via SMS – is recorded into the log file when switching a relay management mode using SMS commands. N – is a number of a power management channel. XXXX – is a description of a power management channel, specified by a user at the page of a web interface. YYYY – is a name of a relay management mode. The next modes are possible: «switched off manually», «switched on manually», «watchdog management», «schedule management», «schedule and watchdog management», «logic management».

EVENTS FROM POWER SUPPLY INPUTS

PWR: sockets N are switched to the input X – is recorded into the log file when an input for a group of sockets is switched directly. N – is a group of sockets with the next possible values: «1-4» and «5-8». X – is a number of an input, possible values are «1» and «2».

PWR: an input X without backup is set to feed N sockets via a web interface – is recorded into the log file when installing the main input for a group of sockets via a device web interface as well as in the moment of disabling a parameter «Switch to the backup input» . N – is a group of sockets. The next values are possible: «1-4» and «5-8». X – is an input number, its possible values are: «1» and «2».

PWR: an input X without the backup is set to feed N sockets using an SMS command – is recorded into the log file in the moment of disabling the parameter «Switch to the backup input» using an SMS command. N – is a group of sockets. The next values are possible: «1-4» and «5-8». X – is an input number, its possible values are: «1» and «2».

PWR: a main input X is set to feed N sockets via a web interface, backup without auto return – is recorded into the log file in the moment of setting the parameter «Switch to the backup input» in a web interface. N – is a group of sockets. The next values are possible: «1-4» and «5-8». X – is an input number, its possible values are: «1» and «2».

PWR: a main input X is set to feed N sockets using an SMS command, backup without auto return – is recorded into the log file in the moment of setting the parameter «Switch to a backup input» using an SMS command. N – is a group of sockets. The next values are possible: «1-4» and «5-8». X – is an input number, its possible values are: «1» and «2».

PWR: a main input X is set to feed N sockets via a web interface, backup with an auto return – is recorded into the log file in the moment of setting the parameter «Autoreturn to a main input» in a web interface. N – is a group of sockets. The next values are possible: «1-4» and «5-8». X – is an input number, its possible values are: «1» and «2».

PWR: a main input X is set to feed N sockets using an SMS command, backup with auto return – is recorded into the log file in the moment of setting the parameter «Autoreturn to a main input» using an SMS command. N – is a group of sockets. The next values are possible: «1-4» and «5-8». X – is an input number, its possible values are: «1» and «2».

PWR: a command to return N sockets to a main input (X) is received via a web interface – is recorded into the log file in the moment of a manual return to a main input in a device web interface. N – is a group of sockets. The next values are possible: «1-4» and «5-8». X – are input numbers, possible values are: «1->2» and «2->1».

PWR: a command to return N sockets to a main input (X) is received using an SMS command – is recorded into the log file in the moment of a manual return to a main input using an SMS command. N – is a group of sockets, the next values are possible: «1-4» and «5-8». X – are input numbers, possible values are: «1->2» and «2->1».

PWR: a command to return N sockets to a main input (X) is received by running cgi – is recorded into the log file in the moment of a manual return to a main input by URL-encoded commands (HTTP API). N – is a group of sockets, the next values are possible: «1-4» and «5-8». X – are input numbers, possible values are: «1->2» and «2->1».

PWR: voltage appeared at the input X – is recorded into the log file when a voltage appeared at the input X of a device. X – is an input number, possible values are: «1» and «2».

PWR: voltage disappeared at the input X – is recorded into the log file when a voltage disappeared at the input X of a device. X – is an input number, possible values are: «1» and «2».

EVENTS FROM THE MODULE FOR SENDING E-MAIL NOTIFICATIONS

sendmail: YYYY received in response to XXXX – is recorded into the log file if a server returns «incorrect» response code. XXXX – is a service information: an authentication method or a message recipient. YYYY – is an error notification.

sendmail: email discarded – is recorded into the log file if it is impossible to send e-mail notification to an SMTP server.

No room for new mail message XXXX – is recorded into the log file if notification queue is overflown. XXXX – is a client's request and a server's response.

EVENTS OF GSM MODEM OPERATION

Manual restart of a GSM modem through a web interface – is recorded into the log file in the moment of running a procedure of a manual reloading a GSM modem by a user in a device web interface.

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GSM modem is ready for operation – is recorded into the log file after a GSM modem has been initialized in the system.

When a parameter «Register exchange with a GSM modem to the log» is enabled at the page «SMS» of a device web interface, a large amount of debugging information about a GSM modem operation will be displayed in the log file: AT-commands, responses to AT commands, operation errors and a modem status.

SYSLOG SUPPORT

All notifications in the log are duplicated by sending notifications via a SYSLOG protocol, if SYSLOG server addresses are specified in the settings of a device at the page «Setup» of a web interface.

SYSLOG server is convenient to be used for a centralized collecting of notifications on events, taking place at numerous devices and computers, working in the network, particularly, on events at Netping devices.

[ENG] 4. [DKSF 48.5 IU] Working with Temperature Sensors

[ENG] 4.1. [DKSF 48.5 IU] Which Temperature Sensors are Supported by the Device

The device supports connecting <u>temperature sensors of the 1-Wire type</u>.

> The device does not support the temperature sensors of the TS and WT types.

To connect a 1-Wire temperature sensor, there is a need to link its unique ID number to the sensor X in the field «Unique ID of 1W sensor» at the page «TEMPERATURE».

Thermo sensors

HOME | SETUP | E-MAIL | SMS | AC OUTLETS | DISCRETE IO | IR REMOTE | LOGIC | NOTIFICATION
TEMPERATURE | SMOKE | HUMIDITY | 1-WIRE | FIRMWARE | LOG

Parameter	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	
Memo	D1	D2	D3		Server Room 5	
Unique Id of 1W sensor	28e2 5fe5 0700 0011	28dd 2351 0800 005-	289a c9e6 0700 008!			
Current Temperature, °C	0	0	0	0	0	
Status	Fail	Fail	Fail	Fail	Fail	
Top Margin of Safe range, °C	60	60	60	60	60	
Bottom Margin of Safe range, °C	10	10	10	10	10	
Notifications	Setup	Setup	Setup	Setup	Setup	S

A unique ID of a 1-Wire sensor can be learned from the section [ENG] 4.2. [DKSF 48.5 IU] How to Detect a Unique ID number of a 1-Wire Temperature Sensor?

Temperature values and statuses of temperature sensors are updated automatically without the need to reload the web page manually.

You can connect up to eight temperature sensors to the device in total.

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[ENG] 4.2. [DKSF 48.5 IU] How to Detect a Unique ID number of a 1-Wire Temperature Sensor?

To read a unique Id of a 1-Wire sensor, there is a need to go to the page «1-WIRE» of a device web interface:

Connection of the new 1-Wire sensors

HOME | SETUP | E-MAIL | SMS | AC OUTLETS | DISCRETE IO | IR REMOTE | LOGIC
TEMPERATURE | SMOKE | HUMIDITY | 1-WIRE | FIRMWARE | LOG

READING OF UNIQUE ID OF 1-WIRE SENSOR

Nothing is attached to the 1-Wire bus; or more than one sensor is attached.
Impossible to read unique Id of the sensor.

Hit F5 to refresh page

To read unique Id of the 1-Wire sensor, leave it the only one being attached to the bus, and
disconnect all other sensors. To attach sensor to the system, copy and paste its unique Id from
this page to the appropriate field on the sensor's web-page.

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To determine a unique Id using a web interface, there is a need to do as follows:

1. Unplug all 1-Wire sensors from a device;
2. Plug a sensor, which unique number you want to know to a device;
3. Go to the address http://<ip_address_of_a_device>/ow_new.cgi or go to the page «1-WIRE» of a web interface. A unique Id of a sensor will be displayed in the browser window.

A unique number of a 1-Wire sensor looks like the following: 2818 0ea2 0600 0039 (16 hexadecimal digits 0..9,a..f).

To plug a 1-Wire sensor, copy its unique number from this page to a corresponding field at the page of a web interface.

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[ENG] 4.3. [DKSF 48.5 IU] Where to See the Current Temperature?

To see a current temperature of temperature sensors, there is a need to go to the page «TEMPERATURE» of a device web interface:

Temperature values and sensor statuses are updated automatically not less than four times a minute with no need to reload a page manually.

Current Temperature, °C – displays a current temperature of a sensor in degrees of Celcius. A temperature value is automatically updated from time to time without reloading a web page.

Status – displays a current status of a temperature sensor. Possible values are:

- Failure – a temperature sensor is not connected or does not respond;
- Normal – a temperature sensor responds, and a temperature value is within the limit of a specified range for this temperature sensor;
- Above normal – a temperature sensor responds, and a temperature value is above a specified range for this temperature sensor;
- Below normal – a temperature sensor responds, and a temperature value is below a specified range for this temperature sensor.

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[ENG] 4.4. [DKSF 48.5 IU] Is it Possible to Set a Description for Current Sensors?

To set a description for temperature sensors, there is a need to go to the page «TEMPERATURE» of a device web interface:

A description for temperature sensors is set in the field «Memo».

Memo – is a field for setting a brief description of a temperature sensor. A memo is used in SYSLOG and log notifications, and is also included into SNMP TRAP, SMS, e-mail notifications, email reports about a status of sensors. Its maximum size is 16 characters. On default: empty line

After changing the settings, there is a need to save the parameters by clicking the button «Apply changes».

[ENG] 4.5 [DKSF 48.5 IU] Setting Up and Top and the Bottom Margins of the Norm for Temperature Sensors

To configure a top and bottom margin of a safe range for a temperature sensor, there is a need to go to the page «TEMPERATURE» of a device web interface:
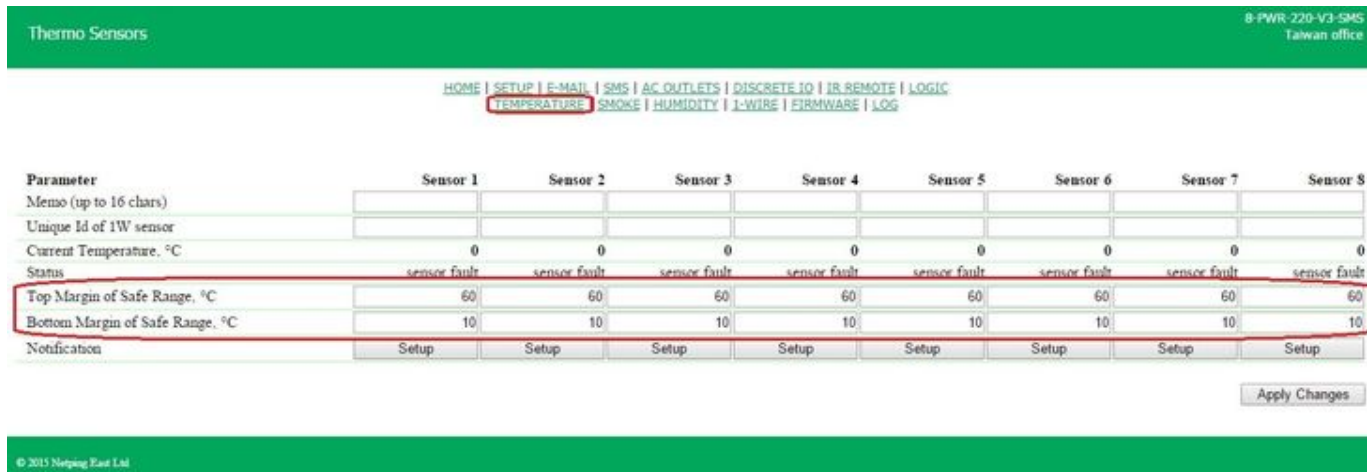
where:

Top Margin of Safe Range, °C – is a field for setting a top margin of a temperature range for each temperature sensor. A temperature range is used to specify conditions for generating SNMP TRAP and Syslog notifications as well as e-mail and SMS notifications (in a device with an embedded GSM modem). On default: 60

Bottom Margin of Safe Range, °C – is a field for setting a bottom margin of a temperature range for each temperature sensor. A temperature range is used to specify conditions for generating SNMP TRAP and Syslog notifications as well as e-mail and SMS notifications (in devices with an embedded GSM modem). On default: 10

> To prevent frequent triggering of a top and bottom margins, a switching hysteresis of 1°C is used.
>
> A hysteresis sets a «corridor» around a specified temperature, within the limits of which top and bottom margins of a safe range do not respond to temperature oscillations. This feature allows to avoid frequent random notifications from a temperature sensor caused by natural spontaneous oscillations of a temperature measured by a sensor. If a current status of a temperature sensor is «above normal», then a threshold for switching a status is a specified temperature minus a hysteresis value. And vice versa, if the current status is «below normal», then a threshold for switching is a specified temperature plus a hysteresis value. As soon as a temperature increases or decreases reaching a threshold value (taking a hysteresis into account), thus leaving margins of a «corridor», a temperature status is changed. Operation logic of hysteresis is explained in the picture below.
>
>
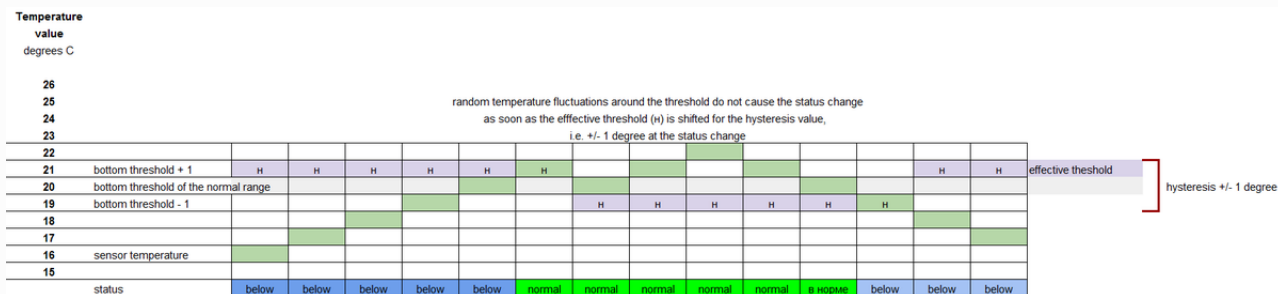
Status – displays a current status of a temperature sensor. Its possible values are:

- Failure – a temperature sensor is not connected or does not respond;
- Normal – a temperature sensor responds and a temperature value is within the margins of a specified range for this temperature sensor;
- Above normal - a temperature sensor responds, and a temperature value is above a specified range for this temperature sensor;
- Below normal - a temperature sensor responds, and a temperature value is below a specified range for this temperature sensor

After changing the settings, there is a need to save the parameters by clicking the button «Apply changes».

[ENG] 4.6. [DKSF 48.5 IU] I Want to Configure Sending the Notifications When a Status of a Temperature Sensor is changed. How to Do This?

Sending notifications when a status of a temperature sensor is changed is configured at the page «TEMPERATURE» of a device web interface:

When clicking the button «Setup», the menu of settings appears for configuring notifications of the next types: Log, Syslog, Email, SMS (in devices with a built-in GSM modem) and SNMP Trap:

where:

- Temperature is above safe range — is check boxes enabling sending notifications when the top margin of the safe temperature range is exceeded. On default: a checkbox is not checked.
- Temperature is in safe range — is checkboxes enabling sending notifications if the current temperature is back to the safe range. On default: a checkbox is not checked.
- Temperature is below safe range — is checkboxes enabling sending notifications if the current temperature falls below the bottom margin of the safe range. On default: a checkbox is not checked.
- Sensor fault — is checkboxes enabling sending notifications in case if a sensor fails. On default: a checkbox is not checked.
- Include in Summary Report — is checkboxes enabling sending periodic reports about the status of a sensor via email and/or SMS. The time of sending reports is indicated at the pages «SMS» and «EMAIL». On default: a checkbox is not checked.
- Switch On/Off All Notifications — is a checkbox that switches on and off all possible notification types for all events at once. On default: a checkbox is not checked.
- Repeat 3 Times Alarm Notification with Period — is an option for the third-time repeats of the alarm notification with the specified interval (5, 30 minutes, 2, 6, 12, 24 hours). If readings are back to the safe range, repeats are stopped. A repeated notification contains the time of the initial event (for example, 23:21:15.719 Thermo: chan.1 +26C, above the safe range (10..20C) since 01.06 23:16).

After setting up all necessary settings, click the button «Save».

[ENG] 5. [DKSF 48.5 IU] Working with a Humidity Sensor.

[ENG] 5. [DKSF 48.5 IU] Working with a Humidity Sensor.

[ENG] 5.1. [DKSF 48.5 IU] Which Humidity Sensors are Supported By the Device?

The device does not support humidity sensors of the WS type

Устройство поддерживает подключение датчиков влажности типа 1-Wire. The device supports the connecting the humidity sensors of the 1-Wire type.

To connect a 1-Wire humidity sensor, you must bind its unique number in the "Unique Id of 1W Sensor" entry field on the "HUMIDITY" page. The unique 1-Wire sensor number can be found by studying the section [ENG] 5.2. [DKSF 48.5 IU] How to Determine a Unique ID number of a 1 Wire Humidity Sensor?

The values of relative humidity, temperature, and status of humidity sensor are updated automatically with no need to reload a web page manually.

[ENG] 5.2. [DKSF 48.5 IU] How to Determine a Unique ID number of a 1 Wire Humidity Sensor?

To read a unique Id of a 1-Wire sensor, there is a need to go to the page «1-WIRE» of a device web interface:

To determine a unique Id using a web interface, there is a need to do as follows:

1. Unplug all 1-Wire sensors from a device;
2. Plug a sensor, which unique number you want to know to a device;
3. Go to the address http://<ip_address_of_a_device>/ow_new.cgi or go to the page «1-WIRE» of a web interface. A unique Id of a sensor will be displayed in the browser window.

A unique number of a 1-Wire sensor looks like the following: 2818 0ea2 0600 0039 (16 hexadecimal digits 0..9,a..f).

To plug a 1-Wire sensor, copy its unique number from this page to a corresponding field at the page of a web interface.

[ENG] 5.3. [DKSF 48.5 IU] Initial Configuration of a Humidity Sensor

At the page «HUMIDITY» of the device web interface, readings of humidity sensors connected to the device are displayed. Up to four humidity sensors of the 1-Wire model line can be connected to the device.

To connect the sensor, indicate its unique Id number in the «Unique Id of 1W sensor» entry field.

 Unique Id of 1W sensor os a unique number of the 1-Wire humidity sensor connected to the 1W connector. The address consists of four four-digit numbers in hexadecimal notation. In Default: empty line.

A unique Id number of the 1-Wire sensor can be found out in the section [ENG] 5.2. [DKSF 48.5 IU] How to Determine a Unique ID number of a 1 Wire Humidity Sensor?

[ENG] 5.4. [DKSF 48.5 IU] Viewing Readings and Configuring Parameters of the Humidity Sensor in a Web Interface

To browse readings and a configuration of humidity sensor parameters, there is a need to go to the page «HUMIDITY» of a device web interface:

where:

Sensor status – determines a sensor status in a current moment of time. Possible variants are: «sensor failed», «within a safe range», «below a safe range», «above a safe range»;

Relative Humidity – shows readings of a sensor, which measures a relative humidity in %;

Temperature – shows readings of a temperature sensor, embedded into a humidity sensor, in °C;

Dew Point – is a dew point temperature, which is calculated from readings of a humidity sensor and a temperature, in °C;

Top Margin of Humidity Safe Range – is a humidity value, exceeding which a sensor switches to a status «above a safe range». Hysteresis is ± 1 percentage point. On default: 85

Bottom Margin of Humidity Safe Range – is a humidity value dropping below which a sensor switches to a status «below a safe range». Hysteresis is ± 1 percentage point. On default: 5

[ENG] 5.5. [DKSF 48.5 IU] I Want to Configure Sending Notifications When the Status of the Humidity Sensor is Changed. How Can I Do It?

Sending notifications when the status of a humidity sensor is changed is configured on the page «HUMIDITY» of the device`s web interface:

When clicking the button «Setup», a menu of settings for sending notifications of the next types appears: Log, Syslog, Email, SMS and SNMP Trap:

where:

- Humidity is above Safe Range — is a checkbox, when checked a device will send notifications if relative humidity exceeds above the top margin of a safe humidity range. In default: checkbox is not checked.
- Humidity is in Safe Range — is a checkbox, when checked a device will send notifications if the relative humidity is back to the safe humidity range. In default: checkbox is not checked.
- Humidity is below Safe Range — is a checkbox, when checked, a device will send notifications if relative humidity fell below the safe

humidity range. In default: checkbox is not checked.
- Temperature is above Safe Range — is a checkbox, when checked, a device will send notifications if the temperature exceeds the top margin of the safe temperature range. In default: checkbox is not checked.
- Temperature is in Safe Range — is a checkbox, when checked, a device will send notifications, if the temperature is back to the safe temperature range. In default: checkbox is not checked.
- Temperature is below Safe Range— is a checkbox when checked, a device will send notifications if the temperature fell below the safe temperature range. In default: checkbox is not checked.
- Sensor fault — is a checkbox, when checked, a device will send notifications if a connection with a sensor is lost/restored. In default: checkbox is not checked.
- Include in Summary Report — is a checkbox, when checked, reports about a status of a humidity sensor will be emailed, sent in SMS and/or SNMP Trap. The time for sending reports is configured at the «SMS» and «E-MAIL» pages , the configuration of a periodic sending SNMP Trap is indicated in the "SETUP" page in the "SNMP TRAP" section. In default: checkbox is not checked.

Checkboxes «Use common snmpTrapOID for All Events» and «Use common snmpTrapOID for all Sensor Numbers» can be used to direct all events from all humidity sensors as one snmpTrapOID notification or divide events and numbers of humidity sensors among different snmpTrapOID notifications, up to sending completely individual ones. This allows receiving individual SNMP Trap-notifications for processing them in monitoring systems, for example, humidity sensor 3 getting damp or a humidity sensor 2 is at the safe range. If a humidity sensor fails, two SNMP Trap notifications are sent: one about humidity, and another one about temperature.

The description of snmpTrapOID of humidity and temperature from a humidity sensor:

snmpTrapOID	The description
If the "Use common snmpTrapOID for all events" and "Use common snmpTrapOID for all Sensor Numbers" checkboxes are not set, the event code and sensor number are included in snmpTrapOID and can be used in the monitoring system to determine in detail the reason and source of the trap.	
.1.3.6.1.4.1.25728.8400.D.S.N	snmpTrapOID from the humidity sensor. where: D — a membership code of a Trap message, possible values: 6 (SNMP Trap humidity), 7 (SNMP Trap temperature); S — a sensor status code (event), possible values: 100 (fault), 101 (below Safe Range), 102 (in Safe Range), 103 (above Safe Range); N — a sensor channel number code, possible values from 1 to 4
If the "Use a common snmpTrapOID for all events" checkbox is set, the event code S is always 127, for any event	
.1.3.6.1.4.1.25728.8400.D.127.N	With this setting, the sensor status code is set to "127" - a common snmpTrapOID is obtained for all events
If the checkbox "Use a common snmpTrapOID for all sensor numbers" is set, the event code N is always 99, for any event	
.1.3.6.1.4.1.25728.8400.D.S.99	With this setting, the sensor channel number code is set to "99" - a common snmpTrapOID is obtained for all channels
If the checkboxes "Use common snmpTrapOID for all events" and "Use common snmpTrapOID for all sensor numbers" are set, the event code S is always 127, and the event code N is always 99, for any event	
.1.3.6.1.4.1.25728.8400.D.127.99	With this setting, the sensor status code is set to "127", and the sensor channel number code is set to "99" - a common snmpTrapOID is obtained for all events and channels

After setting up all necessary parameters, click the button «Apply changes».

[ENG] 6. [DKSF 48.5 IU] Working with 1W Smoke Sensors

[ENG] 6.1. [DKSF 48.5 IU] What Smoke Sensors are Supported By the Device?

The device does not support the operation with a smoke detector (mod. M206-5E).

The device supports the connectionof the smoke sensors of 1 Wire type.

In order to connect the 1W Smoke Sensor you have to bind its unique number to the sensor X in the entry field "Unique Id of 1W Sensor" on the " SMOKE" page. You can find out the unique number of 1W sensor looking at the section [ENG] 4.2. [DKSF 48.5 IU] How to Detect a Unique ID number of a 1-Wire Temperature Sensor?

Temperature values and statuses of temperature sensors are updated automatically without the need to reload the web page manually.

You can connected up to four smoke sensors to the device in total.

[ENG] 6.2. [DKSF 48.5 IU] How to Determine the Unique Number of a 1W Smoke Sensor?

To read a unique Id of a 1-Wire sensor, there is a need to go to the page «1-WIRE» of a device web interface:

To determine a unique Id using a web interface, there is a need to do as follows:

1. Unplug all 1-Wire sensors from a device;
2. Plug a sensor, which unique number you want to know to a device;
3. Go to the address http://<ip_address_of_a_device>/ow_new.cgi or go to the page «1-WIRE» of a web interface. A unique Id of a sensor will be displayed in the browser window.

A unique number of a 1-Wire sensor looks like the following: 2818 0ea2 0600 0039 (16 hexadecimal digits 0..9,a..f).

To plug a 1-Wire sensor, copy its unique number from this page to a corresponding field at the page of a web interface.

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[ENG] 6.3. [DKSF 48.5 IU] Initial Configuration of Smoke Sensors

The "SMOKE" page of the device's web interface displays the status of smoke detectors connected to the device. Four smoke detectors of the 1-Wire model range can be connected to the device.
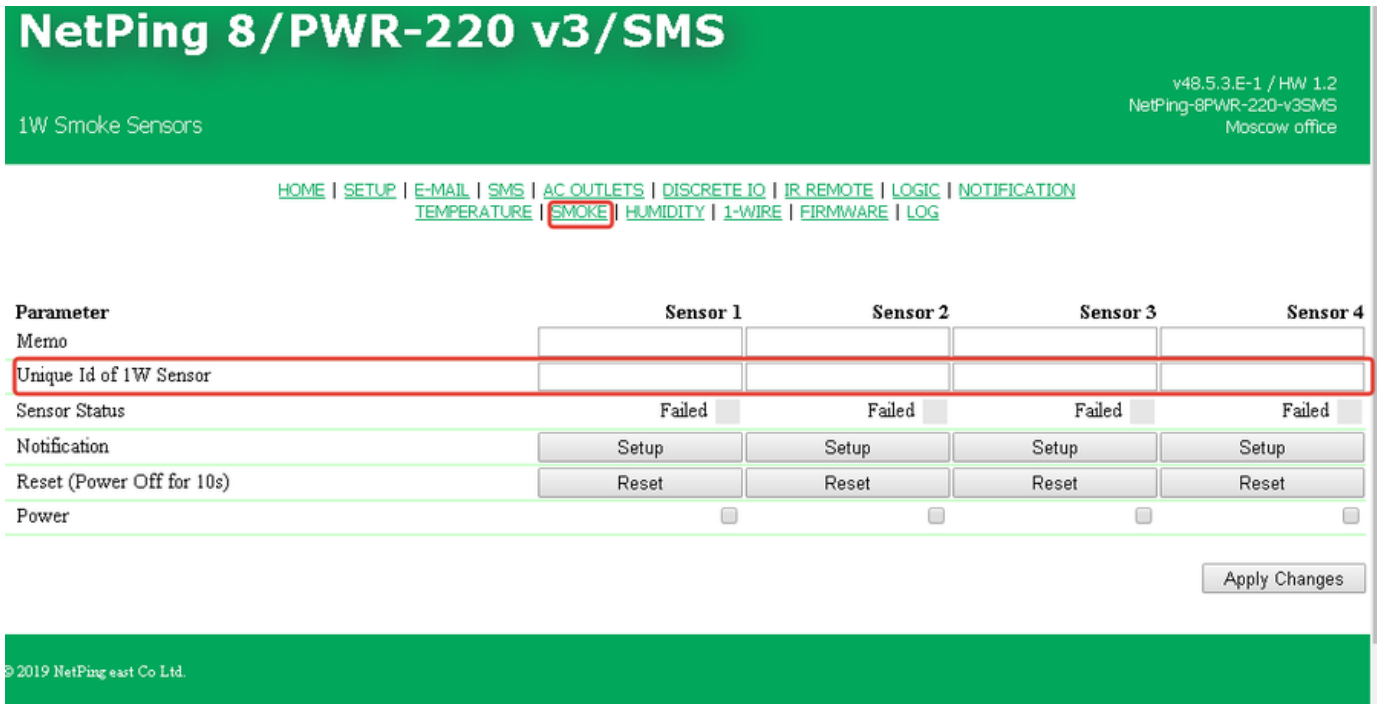
To connect a sensor, specify its unique number in the entry field «Unique Id of 1W Sensor».

Unique Id of 1W Sensor — a unique 1-Wire smoke sensor number connected to the 1W connector. The address consists of 4 four-digit numbers in hexadecimal notation. In Default: empty line.

A Unique Id of 1W Sensor you can find out via 2 ways: You can find out a unique Id of 1W Sensor number by means of two ways:

1. A Unique Id of 1W Sensor number is printed on the sticker on the sensor.
2. A Unique Id of 1W Sensor number can be found out in the section: [ENG] 6.2. [DKSF 48.5 IU] How to Determine the Unique Number of a 1W Smoke Sensor?

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[ENG] 6.4. [DKSF 48.5 IU] Is It Possible to Set the Description for Smoke Sensors?

To set a description for smoke sensors, there is a need to go to the page «SMOKE» of a device web interface:
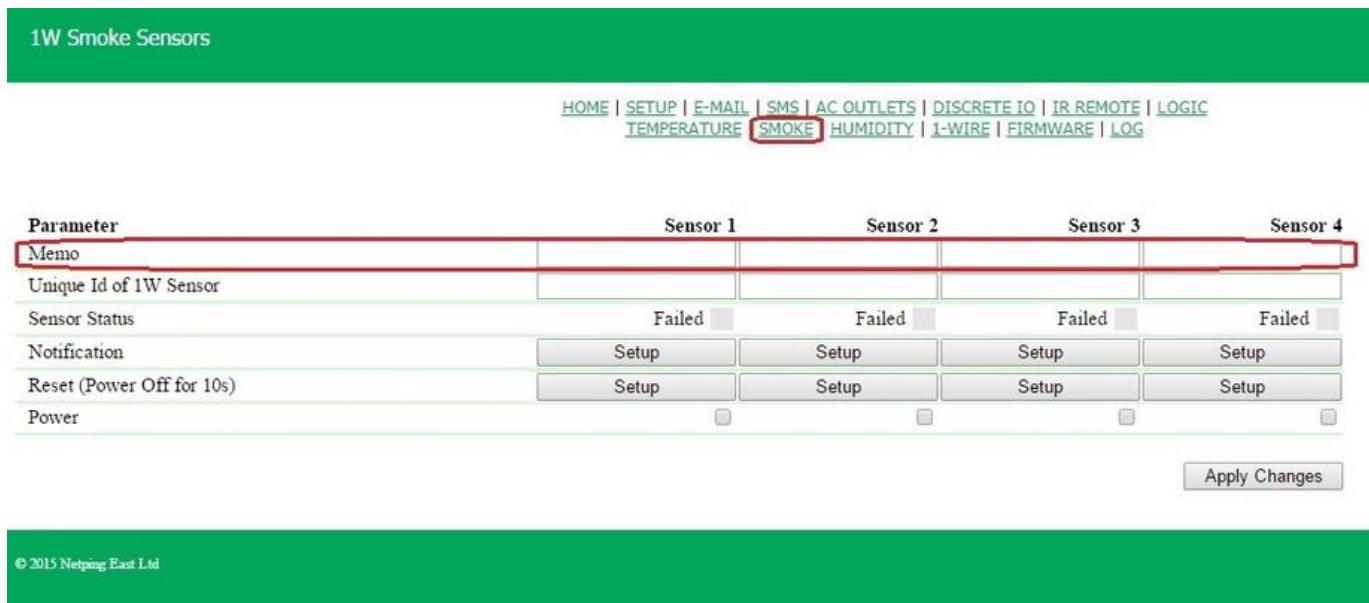
Description of smoke sensors is set at the field «Memo».

Memo – is a field for setting a brief description of a smoke sensor. A memo is used in SYSLOG and log file notifications, and is included into SNMP TRAP notifications. Its maximum size is 30 characters. On default: empty line

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[ENG] 6.5. [DKSF 48.5 IU] How Can I See The Current Status of a Smoke Sensor?

To see a current status of smoke sensors, there is a need to go to the page «SMOKE» of a device web interface:

Status – displays a current status of a smoke sensor.

Possible values:

- Normal – a smoke sensor is in a normal state;
- Alarm – a smoke sensor registered smoke;
- Failure – a smoke sensor is not connected or does not respond

[ENG] 6.6. [DKSF 48.5 IU] How to Turn On the Power and Reset the Smoke Sensor?

Power supply or reset of smoke sensors is managed at the page «SMOKE» of a device web interface:
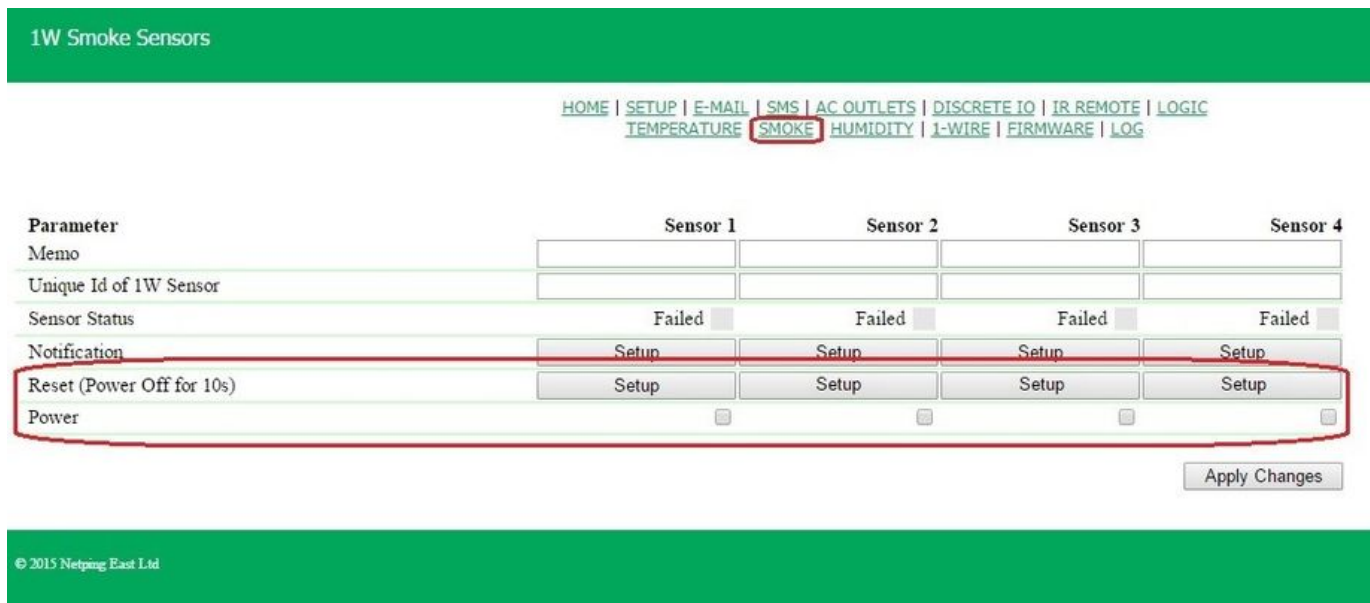
A checkbox «Power» allows to supply voltage to smoke sensors. <u>On default</u>: checkbox is not checked

A status «Alarm» of smoke sensors is reset by clicking the button «Reset». In this case, there will be no power supply at smoke sensors during 10 seconds.

[ENG] 6.7. [DKSF 48.5 IU] I Want To Configure Sending the Notifications When a Status of a Smoke Sensor is changed. How To Do This?

Sending notifications when a status of a smoke sensor is changed is configured at the page «SMOKE» of a device web interface:

When clicking the button «Configure» a menu of settings appears for sending notifications of the next types: Log, Syslog, e-mail, SMS (in a device with an embedded GSM modem) and SNMP Trap:
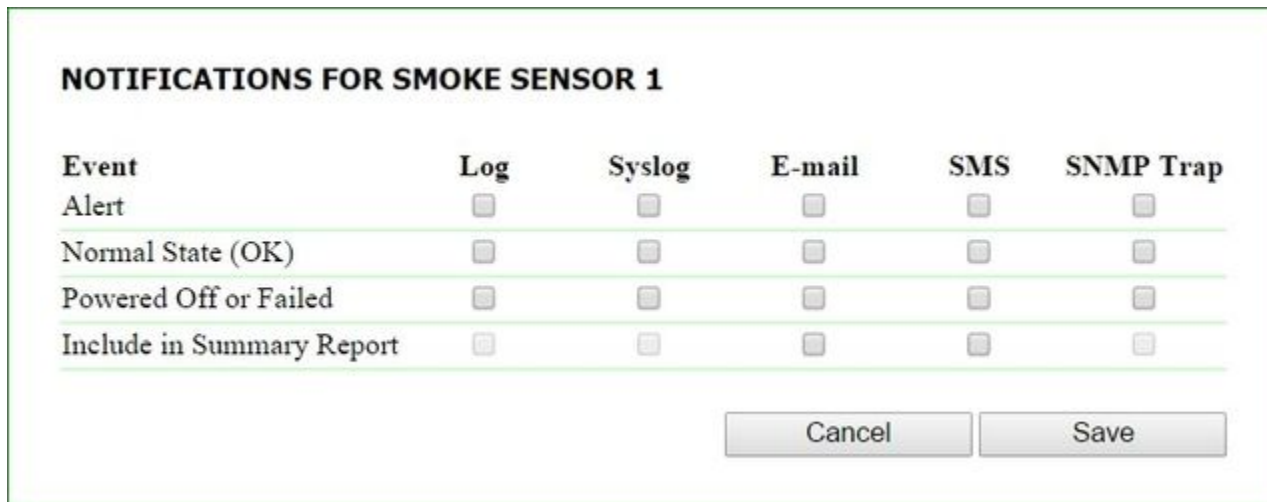
where:

Alert – is a checkbox, when checked a device will send notifications if a smoke sensor has been switched into a status «Alert». On default: checkbox is not checked

Normal State – is a checkbox, when checked a device will send notifications if a smoke sensor has been switched into a «normal state». On default: checkbox is not checked

Powered Off or Failed – is a checkbox, if checked a device will send notifications if a connection is lost or when a smoke sensor is de-energized. On default: checkbox is not checked

After setting all necessary parameters, click the button «Apply changes».

[ENG] 7. [DKSF 48.5 IU] Working with the Channels of the Discrete Input-Output

[ENG] 7.1. [DKSF 48.5 IU] Is It Possible to Set a Description for the Input-Output Line?

To set a description for an input-output line, there is a need to go to the page «DISCRETE IO» of a device web interface:

Descriptions for IO lines are set in the field «Memo».

Memo – is a field for setting a brief description of an IO line. A memo is used in the SYSLOG and log notifications and is included into SNMP TRAP, SMS, e-mail notifications, e-mail reports about a status of sensors. Its maximum size is 30 characters. On default: empty line

[ENG] 7.2. [DKSF 48.5 IU] Configuring an Operation Mode for an Input-Output Line

To configure an operation mode of an IO-line, there is a need to go to the page «DISCRETE IO» of the device`s web interface:

where:

IOMode — allows you to set the IO Linein the "Input", "Output" modes. In Default: Input.

On the «DISCRETE IO» pake, current settings of the discrete input-output channels are displayed. In the «Input» and «Output» modes, it is possible to configure automatic sending of SNMP TRAP, SYSLOG, email, SMS notifications (in devices with a built-in GSM modem), notifications in a log and sending periodic reports about a status. In the «Output» mode, it is possible to set a logic level on a line through the web, SNMP, and HTTP API interfaces. In the "Output Logic Level" mode, the logic level on the line is set by the logic module.

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[ENG] 7.3. [DKSF 48.5 IU] How to Determine a Current Logic Level of an Input-Output Line?

To define a current logic level of an IO line, there is a need to go to the page «DISCRETE IO» of a device web interface:

where:

Input Logic Level – is a field displaying a current logic level at an IO line. It is updated automatically when a logic level of a line is changed with no need to reload an entire page.

[ENG] 7.4. [DKSF 48.5 IU] How to Control an Input-Output Line in an "Output"

To control an IO-line, there is a need to go to the page «DISCRETE IO» of the device web interface:

1. Set the operation of an IO-line to the «Output» mode;
2. Check the checkbox «Output Logic Level» to «Logic 0» or «Logic 1»;
3. Save the parameters by clicking the button «Apply changes».

IO Mode — is a parameter which allows you to set the IO line in the "Input", "Output" modes. In Default: Input.

Output Logic Level — is a parameter of a logic level on the line that operates as «Output». A logic «1» means having voltage at the input line (open collector circuit). A status of a logic «0» means having no voltage at the IO line. In default: logic «0».

Single Pulse Generation — when clicking the button «Pulse», an IO-line that works as an «Output», will be inverted for a specified period of time. Pulse duration is set in the entry field «Pulse Duration(100-25 500ms, step 100ms)». If a line is configured as «Input», a button for issuing a pulse is inactive.

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[ENG] 7.5. [DKSF 48.5 IU] I Want to Configure Sending Notifications When a Logic Level of an IO Line is changed. How to Do This?

Sending notifications are configured when the logical level of the IO line is changed on the "DISCRETE IO" page of the device's web interface:

When you click on the "Setup" button, you can see a setting menu for sending notifications of the following types: Log, Syslog, Email, SMS (in devices with a built-in GSM modem) and SNMP Trap, as well as decryption of digital values of the current level of the IO line:

where:

Front (Level Change 0-> 1) - a checkbox, when installed, the device will send notifications if the status of the IO line has been changed from "0" to "1".In default: the checkbox is not installed.

Decay (Level Change 1-> 0) - a checkbox, when installed, the device will send notifications if the sensor status has been changed from "1" to "0". In default: the checkbox is not installed.

Include in Summary Report - a checkbox, when installed, reports on the status of the IO line will be sent by email and / or SMS. Report sending time is configured on the "SMS" and "EMAIL" pages.In default: the checkbox is not installed.

Logic 1 - a description of a numerical value of the level "Logic 1" of an IO line. This decryption will be displayed in the entry field "Legend" on the " DISCRETE IO" page of the device's web interface and be present in SNMP TRAP messages.

Logic 0 - a description of a numerical value of the level "Logic 0" of an IO line. This decryption will be displayed in the entry field "Legend" on the " DISCRETE IO" page of the device's web interface and be present in SNMP TRAP messages.

Colour - the choice of the color of the virtual logical level indicator, which is displayed on the "DISCRETE IO" page (the color of the physical LED indicators on the front panel cannot be adjusted), possible options are "white", "gray", "orange", "red", " green". <u>In Default:</u> for "Logic 1 "- green, for" Logic 0 "is gray.

After configuring all the required settings, click the "Apply Changes" button.

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[ENG] 7.6. [DKSF 48.5 IU] What Do I Need a Filter out Short Noise Pulses in the Parameters of Discrete IO Line for?

Filter out short noise pulses (20-10 000 ms) - is a field for setting a period of time, during which an IO line configured as an «input», must stay stable to register its status. Hence, this parameter allows to filter out short noise signals or bouncing of mechanical contacts. <u>On default</u>: 500ms

A filter for short noise pulses is configured at the page «DISCRETE IO» of a device web interface:

Discrete Input-Output

HOME | SETUP | E-MAIL | SMS | AC OUTLETS | DISCRETE IO | IR REMOTE | LOGIC
TEMPERATURE | SMOKE | HUMIDITY | 1-WIRE | FIRMWARE | LOG

Parameter	IO 1	IO 2	IO 3	IO 4
Memo				
IO Mode	Input ▼	Input ▼	Input ▼	Input ▼
Filter out short noise pulses (20-10 000ms)	500	500	500	500
Input Logic Level	1 ■	1 ■	1 ■	1 ■
Level Explained	-	-	-	-
Notification on Logic Level change	Setup	Setup	Setup	Setup
Output Logic Level				
Logic 1	○	○	○	○
Logic 0	◉	◉	◉	◉
Single Pulse Generation				
Pulse Duration (100-25 500ms, step 100ms)	1000	1000	1000	1000
Start Single Pulse	Pulse	Pulse	Pulse	Pulse

Apply Changes

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[ENG] 8. [DKSF 48.5 IU] Working with a Built-In Relay

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[ENG] 8.1 [DKSF 48.5 IU] The Control Switch of the Relay

The control switch of the built-in relay is carrie out on the "AC OUTLETS" page of the device`s web-interface:

	Relay 1		Relay 2		Relay 3		Relay 4		Relay 5		Re
Memo	Самый главный серв		AD		Файловый сервер		Коммутатор		AP		
Watchdog Setup	Watchdog		Watchdog		Watchdog		Watchdog		Watchdog		Watchdog
Schedule Setup	Schedule		Schedule		Schedule		Schedule		Schedule		Schedule
Notification	Setup		Setup		Setup		Setup		Setup		Setup
Switch Relay	On	Off	On	Off	On	Off	On	Off	On	Off	On	O
Switch for Short Period 15s	On	Off	On	Off	On	Off	On	Off	On	Off	On	O
Relay State	On		Off		On		On		On		Of
Outlet is Powered	Yes		No		Yes		Yes		Yes		N

This page allows you to control the eight output channels (relays) of the device power supply. The channel can be switched on or off. The modules "Schedule Setup" and "Watchdog Setup" can be connected to each channel separately, which will take over the control of the relay in equal priority.

Switch Relay — the buttons of switching on or off the relay.

Switch for Short Period 15s — short-term switching on or off of the relay for 15 s.

Relay State — a current relay status for each of the eight outlets. Possible variants: «Off», «On».

Outlet is Powered — available voltage for each of the eight outlets. Possible variants: «Yes», «No».

The state of the relay and the voltage at the outlets are updated automatically when the state of the relay or the availability of voltage changes without the need to upgrade the whole page.

Memo — an entry field for viewing or changing the brief description of the relay. The value in this entry field will be used in SYSLOG messages, in entries on the "LOG" page, and will also be included in SMS, Email notifications, Email reports about the status of sensors, be seen in the headings of pop up dialogs for configuring the "Watchdog" and " Schedule Setup" modules. The maximum size is 30 characters. In Default: empty line.

After configuring all the settings press the "Apply Changes" button.

[ENG] 8.2 [DKSF 48.5 IU] I Want to Configure the Sending of Notifications for Events About the Operation of the Relay. How to Do It?

In order to configure the notifications about the operation you need to open the "AC OUTLETS" page of the device`s web interface:

When you click on the "Setup" button, a settings menu appears for sending notifications of the following types: Log, Syslog, Email, SMS and SNMP Trap:

Commands for Switching On/Off — a checkbox, when available, notifications will be sent when the device receives a command to change the state of the relay.

Reset (Flip for Short period) — a checkbox, when available, the notifications will be sent when the relay is turned on / off briefly.

Suspention of the Resets in Watchdog — a checkbox, when available, the notifications will be sent if suspensions are paused by the Watchdog, when the configured value of the number of suspentions is reached.

Relay Switched — a checkbox, when available, the notifications will be sent if the physical state of the relay changes.

Include in Summary Report — a checkbox, when available, the relay status reports will be sent by email, SMS and/or SNMP Trap. The time for sending reports is indicated on the "SMS" and "EMAIL" pages, the setting for periodic sending of SNMP Trap is indicated on the "SETUP" page in the "SNMP TRAP" section.

Using the "Use a common snmpTrapOID for all events" and "Use a common snmpTrapOID for Sensor Numbers" checkboxes you can send all events from all relays to a single snmpTrapOID message or to split events and relay channel numbers by different snmpTrapOID messages, up to completely individual ones. This allows you to receive individual SNMP Trap messages for processing them in monitoring systems.

Usually, snmpTrapOID of the type .1.3.6.1.4.1.25728.5500.6.127.99 is used, while parsing variable values in the Trap message is required to determine the notification source and event. If the device or software that receives SNMP Trap cannot perform variable checking, it is possible to include the event code and/or relay number directly in snmpTrapOID and so receive unique SNMP Trap notifications for each event on each sensor.

 The decryption of the events types can be switched off by eliminating the tick in "Use a common snmpTrapOID for all events", in this case the Trap-message will look like:

> .1.3.6.1.4.1.25728.5500.6.S.99, where S — an event, possible values: 100 (Off), 101 (On), 102 (the command fo the relay state change has been received), 103 (the reset of the relay has been started);

The decryption of the events types can be switched off by eliminating the tick in "Use a common snmpTrapOID for all Sensor Numbers", in this case the Trap-message will look like:

> .1.3.6.1.4.1.25728.5500.6.127.N, where N — a relay number, from 1 to 8.

Trap contains the variable values (varbind list) described in the section [ENG] 14.4. [DKSF 48.5 IU] The Support of SNMP trap.

After configuring all the settings press "Save" button.

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[ENG] 8.3. [DKSF 48.5 IU] What is "Watchdog" and Can it Be Configured?

«Watchdog» — is a specific operation mode of a relay channel. In this mode, specified addresses are pinged by ping (ICMP Echo) with a set frequency. If there is no response, the power is switched off for short term thus rebooting a device that is connected to the terminals of the relay.

> If indicated IP addresses are outside the IP subnetwork of a device, there is a need to specify a gateway address at the page «SETUP» of the device web interface to access the external network.

 In order to use the «Watchdog» module, the relay control must be switched to "Watchdog" mode on the "AC OUTLETS" page of the device's web interface. To configure the "Watchdog", you must press the "Watchdog" button which located on any of the eight control channels of the built-in relay:

All module settings are carried out in a pop up dialogue:

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WATCHDOG 2   AD

Enable Control of Relay	☐
Polling of Address A,B,C	☑ ☐ ☐
Address A	netping.ru
Address B	
Address C	
Reset Counter (cleared on firmware reboot)	0
Ping Polling Period, s (10-300)	15
Ping Timeout, ms (600-9000)	1000
Max Ping Repeats After Timeout	8
Reset Duration, s (12-900)	12
Ping Polling Pause After Reset, s (1-3600)	15
Limit Number of Reset Retries (0 Disable, 1-255)	1
Reset Polarity	Switch Relay Off ▼
Reset Condition Logic	
No reply from any of Address A,B,C	⦿
No reply from all of Address A,B,C	○
No reply from Address A and from one of B,C	○
No reply from Address A, but B or C replies	○

Cancel   Save

where:

Enable Control of Relay — the activation of the relay control.If the checkbox is not installed, the relay will not be controlled from the "Watchdog" module.In Default: the checkbox is not installed.

Polling the Address A, B, C - a set of checkboxes that allow you to set the addresses participating in the poll individually. In default: checkboxes are not installed.

> If no checkbox is installed or IP addresses are not set for installed checkboxes, the poll will not be carried out and the "Watchdog" mode will be practically disabled.

Address A (B, C) — is an entry field to view or change polling addresses. It is acceptable to indicate either IP-address or a domain name. It is possible to configure up to three addresses. An empty field disables polling. In default: address is not specified.

Reset Counter (cleared on firmware reboot) — is an informational field that shows how many times a channel was rebooted as a result of the actions of the module «Watchdog». A counter does not take into account the number of reboots in the «manual mode». A counter is cleared when a NetPing device is de-energized.

Ping Polling Period, s (10–300) — is a field for setting the time interval after which repeated ICMP Echo (ping) is sent to the specified IP addresses after receiving a response from them. In Default: 15 sec.

Ping Timeout, ms (600–9000) — is a field for setting a timeout before the repetion of ICMP Echo (ping) . The value should not exceed the usual time of the response to the ICMP Echo (ping)   for this network with some reserve to ensure avoiding false positives of the module «Watchdog». In default: 1000 ms.

Max Ping Repeats After Timeout -is a field for setting a maximum number of attempts to get a response to «ping». If a number of attempts is over, an IP address is considered «silent». It is desirable that the ping polling period exceeds the ping timeout multiplied by the maximum number of attempts. If this condition is not fulfilled, then a new polling cycle will be postponed until the specified number of attempts is over. In Default: 8.

Reset Duration, s (12–900) — is a field for setting the time needed for a connected to the power supply device is deenergized to initiate reset and reboot. In default: 12 s.

Ping Polling Pause After Reset, s (1–3600) — a field for setting the time for which polling is suspended after turning on the power channel socket. A pause is necessary for the device to reboot, initialize and restore the functioning of its network interfaces. Otherwise, an endless repetition of the operation of the "Watchdog" module is possible. In Default: 15 s.

Limit Number of Reset Retries (0 Disable, 1–255) — is a field for setting the number of consequent unsuccessful resets, after which functioning of the «load» is not restored and there is still no response to ping. This can happen at the stable failure of the «load» that is impossible to restore by switching the power on and off. When the limit of repeats is reached, resets are stopped, but a periodic ping request continues. Resets are unlocked when there is a response on ping. Resets are stopped and a regular operation order is restored after a response to ping and everything is recorded in the log. Parameter value 0 disables the limit. In Default: 0.

Reset Polarity —is a field that allows indicating what action is going to be done to reboot the connected loadat outcoming terminals: «Switch Relay Off» or «Switch Relay On»   In default: Switch Relay Off.

Reset Condition Logic — determines a condition at which a device connected to terminals is going to be rebooted.

No reply from any of Address A, B, C — a connected device will be rebooted if at least one of addresses did not respond.

No reply from all of Address A, B, C — a connected device will be rebooted only if all requested addresses did not respond.

No reply from Address A and from one of B, C — a connected device will be rebooted if address A and any of addresses B or C, or both B and C did not respond.

No reply from Address A, but B or C replies — connected device will be rebooted only if address A did not respond but address B and/or address C responded. So, if all addresses do not respond, a connected device will not be rebooted.

After setting all necessary parameters, click the button «Apply changes», so that a device executes a command.

 If one of the parameters is set incorrectly, it will be highlighted in red:

Max Ping Repeats After Timeout	8
Reset Duration, s (12-900)	0
Ping Polling Pause After Reset, s (1-3600)	15

There is a need to correct a parameter value and click the button «Apply changes» one more time.

To understand the configuration process of the «Watchdog» module better, it is possible to read the article here http://www.netpingdevice.com/blog/avtomaticheskaya-perezagruzka-zavisayushhego-routera-podklyuchennogo-k-netping-2-pwr-220-v3-eth

[ENG] 8.4. [DKSF 48.5 IU] What is a "Schedule" and How to Configure It?

A «Schedule» module allows configuring a schedule according to which a relay is going to switch on and off.

To use the "Schedule" module, relay control must be switched to "Schedule" or "Schedule + Watchdog" mode on the "AC OUTLETS" page of the device's web interface. To configure the "Schedule" module, you have to press the "Schedule" button located on any of the eight control channels of the built-in relays:

All module settings are carried out in a pop up dialogue:

Enable Control of Relay — activation of relay control. If the checkbox is not installed, the relay will not be controlled from the "Schedule" module. In default: the checkbox is not installed.

WEEKLY SCHEDULE

A schedule for the relay control is set in the settings dialogue . For each day of the week, six intervals can be configured in which the relay will be activated.

The interval starts from the time the relay was switched on (the "On" column) and ends with the time off (the "Off" column). The time is indicated in

the format "hh:mm" in the range of 00:00 - 23:59. The time should increase from left to right: in the interval, the switch-on time should come earlier than the switch-off time, the switch-on time in interval 2 should come later than the switch-off time in interval 1. The cells can be left empty, and the next non-empty cell will work. It is permissible, for example, to switch on "Mon" and off on "Fri".

The column «Same as prev.day» allows changing the schedule of the previous days for the current day to make the schedule setting easier. In order to apply the schedule of the previous day to the current one, set the corresponding checkbox.

The operation time ("On" or "Off") that was last performed is displayed in bold on the page, which allows you to quickly determine which action and in which interval will be performed next.

After setting all necessary parameters, there is a need to click the button «Apply changes».

HOLIDAY SUBSTITUTION

The lines «Aux 1», «Aux 2», «Aux 3» allow setting specific schedules for holidays. The binding of these schedules to the holidays is carried out in the section "HOLIDAY SUBSTITUTION".

The section "HOLIDAY SUBSTITUTION" allows you to set a special schedule for the holidays or to attach the schedule of any working day to the holiday. You can store up to eight holidays in the device's memory.

In the entry field «Date», a date of a holiday is specified in the format «dd.mm» in the range 01.01 — 31.12.

The line "Substitute" indicates the schedule that will be used on this day. The drop-down list allows you to select the following options: "Mon", "Teu", "Wed", "Thu", "Fri", "Sat", "Sun", "Aux 1", "Aux 2", "Aux 3".

RELAY STATE IN DEFAULT

The state of the relay when the time setting fails determines the reaction of the relay at the time of the reset in the device's built-in clock. The following modes are possible: «Use Faulty Time», «Permanent On», «Permanent Off».

> This setting is activated if the time is reset to a date before 2000. If the time is reset to a date after 2000, the device will not use this setting.

Permanent On — при сборе установки времени реле всегда будет включено вне зависимости от настроенного расписания. when collecting the time setting, the relay will always be switched on regardless of the schedule set.

Permanent Off — when collecting the time setting, the relay will always be switched off regardless of the schedule set.

Use Faulty Time — when collecting the time setting, the relay will continue its function on the base of the schedule set.

 After configuring all the settings, press the "Apply Changes" button.

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[ENG] 9. [DKSF 48.5 IU] Working with AC Power Inputs

[ENG] 9.1. [DKSF 48.5 IU] Configuration of the AC Inputs in the Device`s Web Interface

The Configuration of the AC inputs if carried out on the "AC OUTLETS" page ofthe device`s web interface. Here you can specify the input from which the power supply channel groups will be powered, as well as set additional automation settings for AC inputs:

	AC Input 1	AC Input 2
Memo	Main	
State of AC Input	Voltage Ok ▇	No Voltage ▢
Connected Output Outlets	1..4 5..8	-

Apply Changes

	AC Outlets 1..4	AC Outlets 5..8
Primary AC Input	AC Input 1 ▼	AC Input 1 ▼
Enable AC Backup	☑	☑
Auto Revert to Primary AC Input	☑	☐
Delay of Auto Revert, s	0	0
AC Backup is Active	No ☐	No ☐
Manual Revert to Primary AC Input	Revert	Revert

Apply Changes

Notification on AC Input Status and Automatic Transfer Switch Functions	☐ Log ☐ Syslog ☐ E-mail ☐ SMS ☐ Trap

Apply Changes

In the power input configuration area, you can configure the following parameters:

Memo — a field for viewing or changing a brief description of power input. The maximum size is 30 characters. In default: empty line.

State of AC Input — a display of the voltage available at the inputs of the device. Possible states: «Voltage Ok», «No Voltage».

Connected Output Outlets — a display of the outlet groups connected to each power input.

Primary AC Input — setting the primary input for each outlet group. Both groups of outlets can be powered from a single input. In default: input 1 is primary for outlets 1 ... 4, input 2 is primary for outlets 5 ... 8

Enable AC Backup — a checkbox that allows the transition of a group of outlets to a backup input in case of absence of voltage at the primary input. In default: the checkbox is not set, the transition to the backup input does not occur.

Auto Revert to Primary AC Input — a checkbox, when installed, a group of outlets will be forced to switch to the primary input after voltage appears on it. In default: the checkbox is not set, auto-return to the primary input does not occur.

Delay of Auto Revert, s — the delay time before returning to the primary input. 0-10 000 s.In default: 0.

AC Backup is Active — a display of the status of the input backup function for each outlet group. Possible states: "On", "Off".

Manual Revert to Primary AC Input — a button, when clicked, the outlet group will switch from backup to primary input. when clicked, the outlet group will switch from backup to main input. The button is active when the "Enable AC Backup" mode is enabled for a group of outlets. This is an alternative to Auto Revert to Primary Input.

> Switching of outlet groups between power inputs is accompanied by short-term shutdown of outlets!
>
> When you switch off auto-revert to the primary input, after saving the relay settings, make sure that the group of outlets is connected to the desired input, as it was intended. When the auto-revert is switched off, the device tends not to switch the input while saving the settings, even if the primary input is changed in the new settings.

After changing all necessary parameters, press the "Apply Changes" button.

[ENG] 9.2. [DKSF 48.5 IU] How to Configure Notifications From the Power Inputs of the Device?

The notifications configuration of the power inputs of the device is carried out on the "AC OUTLETS" of the device`s web interface.

Notification on AC Input Status and Automatic Transfer Switch Functions — the checkbpxes which include the ways of notifications from the inputs.

[ENG] 10. [DKSF 48.5 IU] Work With the "LOGIC" Module

[ENG] 10.1. [DKSF 48.5 IU] What is "LOGIC"?

A logic module of a firmware is designed for a simple automation and can perform such tasks as maintaining a microclimate, controlling automatic turning on - turning off a backup equipment, etc. The logic operates on the basis of rules programmed by a user through a web interface. The page «LOGIC» of a device web interface describes an operating algorithm of a module and its configuration capabilities.

> It is prohibited to use a NetPing device to manage electrical circuits when a violation of the control may cause a significant damage.

[ENG] 10.2. [DKSF 48.5 IU] How Can I Use the "LOGIC" Module?

> IMPORTANT. In the updated module "LOGIC" (beginning with the DKSF 48.5 firmware version), all the rules are identical to the rules of the "If" type in previous versions of the logic (the logic of the module has become non-blocking or the so-called anarchic). They work at the moment when the condition of the rule becomes true and have no priorities. All sources of controlling the output of rules are simultaneously active and equal (for example, for relays or IO lines).

The operation of the logic module is based on a list of programmed rules.

where:

1. The buttons of controling the "LOGIC" module:

    - Enable Logic» — a checkbox that enables and disables the operation of logic. After changing the state of the checkbox, you need to save the current settings with the button "Apply Changes"
    - «Reset» — initiates the reset of logic (the signal «Reset and Restart Logic»).
    - «Apply changes» saves the current settings.

2. Check box RULES Enable — check box of activation the rule logic. Inactive rules are displayed in gray colour.

3. Input - the source of information for work of a rule. Possible values are presented in the table below.

4. Condition — the condition when the rule is applied and a command is issued that changes the state of the output. The available set of conditions varies depending on the type of a selected input, and reflects the meaning of the input state. Below you can see possible values depending on the type or input.

Input of the rule	Decoding	Possible conditions (events)	Condition decoding
Reset and Restart Logic	A signal that is active at the start (restart) of the firmware or after you press the "Reset" button (1) on the "LOGIC" page, before all other logical rules	has begun	The rule is triggered in 5 seconds after the reset.

	For more details look here — [ENG] 10.6. [DKSF 48.5 IU] Reset Signal and Initial Output States	has finished	The rule is triggered in 10 seconds after the reset.
IO-line 1..8	Current logic level of IO line	= log. 0	The logic level of the selected IO line has switched to 0 or 1.
		= log. 1	
Termo 1..8	Readings of temperature sensor 1-Wire	below [N]	The temperature sensor readings dropped below or rose above the threshold N, where N is the set temperature threshold. It is allowed to set the threshold with a floating point, up to decimal, for example, 5.3.
		above [N]	
		failed	The sensor failed
Humidity Sensor 1..4	Reading of a relative humidity sensor with a built-in temperature sensor	t below [N]	The temperature readings of the humidity sensor dropped below or rose above threshold N, where N is the set temperature threshold. It is allowed to set the threshold with a floating point, up to decimal, for example, 5.3.
		t above [N]	
		relative humidity above [N]	Relative humidity rose above N, where N is the specified humidity threshold.
		relative humidity below [N]	Relative humidity dropped below N, where N is the specified humidity threshold.
		failed	The sensor failed
Pinger 1..2	Verifying the remote host using ping (ICMP Echo requests)	fell silent	The response from the host verified by the pinger has disappeared or appeared. About setting up the pinger itself — [ENG] 10.4. [DKSF 48.5 IU] How Can I Configure The Pinger in the Logic Module?
		responding	
Relay	The status of a built-in relay (outlet)	= on	A built-in relay (outlet) turned on or off.
		= off	
Timer / Counter 1..4	Program Timer / Counter	reached [N]	The internal timer / counter has become> = the set threshold [N]. The timer / counter value is any number (> 0) controlled by the "add 1" and "decrease 1" commands (counter functions), or the period of time from the "start from 0" command in seconds with a resolution of 0.1 second (timer functions) . it is not recommended to mix the functions of timer and counter.
Smoke 1..4	1-Wire smoke sensor	in normal state	The sensor is operating normally
		alarm	The sensor detected smoke.
		off	The current in loop connected to the sensor is deactivated.
		failed	The sensor is failed

5. Output — The element of the device that is controlled by the rule

6. Action — possible actions of the output of the rule

Possible outputs of the rules and actions for them are presented in the table:

Output of the rule	Decoding	Possible action	Action decoding
Smoke 1..4	The control of 1-Wire-smoke sensor	on power	Power on the current loop
		off power	Power off the current loop
		switch power	Switch power of the current loop
		reset	Reset the sensor (on/off power)
Relay 1...8	The control of the built-in relay (outlet)	off	Turn off the relay
		on	Turn on the relay
		switch	Switch the relay to the opposite state
Signal 1...4	Activation of a signal to send a custom notification — [ENG] 13. [DKSF 48.5 IU] Device Support for Custom Notifications	activate	Send a signal. For a custom notification on the "NOTIFICATIONS" page, start sending it using a logic rule.

Timer/Counter 1...4	The control of a built-in timer/counter it is not recommended to mix the functions of timer and counter.	set from 0 (the timer function)	Start the timer from 0. The countdown is carried out in seconds with a resolution of 0 ... 1sec.
		reset to 0	Stop and reset the timer. Reset counter.
		add 1 (the counter function)	Add 1 (increment) to the current counter value.
		decrease 1 (th counter function)	Decrease 1 (decrement) from the current counter value. The counter value does not decrease below zero.
IO line 1...4	The control of IO line	off (log.0)	Set the line to log.0 state.
		on (log.1)	Set the line to log.1 state.
		switch	Switch log. state of the line
		impulse	To send an impulse to the line. Duration is set in the settings of the IO line.
IR 1...4	Send an IR command with a specified number	send a command	Play the command with the specified number recorded in the memory of the IRC-TR v2 module
SNMP Setter 1...2	The sending of SNMP SET commands to the other devices	off	Record the value corresponding to "off" to the specified OID in Setter's settings.
		on	Record the value corresponding to "on" to the specified OID in Setter's settings.

7. The buttons "above" / "below". The buttons are used to change the position of a rule in the list. Starting with DKSF software version 48.5.3, the order of the rules does not affect the priority of the rules.

> You should avoid conflicting rules if they can lead to an attempt to control the same output simultaneously .

8. Apply the changes. The "Apply Changes" button saves the programmed logic rules in the device memory.

[ENG] 10.4. [DKSF 48.5 IU] How Can I Configure The Pinger in the Logic Module?

In order to configure the pinger you have to open the "LOGIC" page of the device`s web interface:

HOME | SETUP | E-MAIL | SMS | AC OUTLETS | DISCRETE IO | IR REMOTE | LOGIC | NOTIFICATION
TEMPERATURE | SMOKE | HUMIDITY | 1-WIRE | FIRMWARE | LOG

In the "PINGER" section, you can configure the network accessibility of the specified address. The result of the check (pinger status) can be selected as the "input" of the logic rule. You can find out how to configure a rule in the "LOGIC" module by studying the section [ENG] 10.2. [DKSF 48.5 IU] How Can I Use the "LOGIC" Module?. You can configure no more than two pingers - "PINGER 1", "PINGER 2". A typical application of a pinger is automatic power-up of backup equipment in case of connection line failure.

PINGER

	PINGER 1	PINGER 2
Address	8.8.8.8	ya.ru
Polling Period, 5-900s	15	15
Ping Timeout, 100-10000ms	1000	1000
Status	Responding	Responding

Apply Changes

where:

Address—IP address of the device which is checked for availability. An empty line disables the poll. In Default: empty line.

Polling Period, s (5–900) — the value is selected according to the speed of detecting the fault. Please also note that overly frequent power switching can reduce equipment service life.If there is no ICMP response, echo (ping) is repeated after the timeout is completed, and not when the next polling period occurs. In Default: 15.

Ping Timeout, ms (100-10000) — is ping response timeout. The timeout is selected for the reasons of typical device response speed, taking into account network delays. If there is no response to ping after a timeout, the ping is repeated immediately. If after five periods of sending there is no response, the status of the pinger changes to "silent", and retries stop until the next verification period. In Default: 1000.

Status — possible values: «No reply», «Silent», «-». If the poll is not completed, the status can be unidentified. In this case rules that depend on the pinger do not create any commands and their outputs are controlled by the other rules ot save the previous state. The pinger status is updated automatically about four times a minute.

> If you use domain names, you should take into accont that due to the unavailability of the DNS server or the lack of an IP address in the settings, the "LOGIC" DNS module will not be able to determine the availability of the polled address. "Pinger" changes into the "silent" status.

After configuration of the pinger values you should press the "Apply Changes" button.

After pinger configuration you have to set up the rule in the "LOGIC" module. How to do it, learn this section: [ENG] 10.2. [DKSF 48.5 IU] How Can I Use the "LOGIC" Module?

[ENG] 10.5. [DKSF 48.5 IU] What is SNMP SETTER?

SNMP Setter is used as the output of the "LOGIC" module rule and you need it to set the SNMP OID variable value on the remote device using SNMP v1 protocol. In particular, you can control IO lines, relays, and other parameters of a remote NetPing device over a network.

SNMP SETTER is configured on the "LOGIC" page of the web interface:

HOME | SETUP | E-MAIL | SMS | AC OUTLETS | DISCRETE IO | IR REMOTE | LOGIC | NOTIFICATION
TEMPERATURE | SMOKE | HUMIDITY | 1-WIRE | FIRMWARE | LOG

In the section «SNMP SETTER» you can configure next parameters:

SNMP SETTER

	SNMP 1	SNMP 2
Memo	192.168.2.46	
Address	192.168.2.46	192.168.2.46
UDP Port	161	161
OID (.1.3.6...)	.1.3.6.1.4.1.25728.5500.5.1.3.1	.1.3.6.1.4.1.25728.5800.3.1.3.1
Community	••••••	
'On' Value (Type Integer32)	1	1
'Off' Value (Type Integer32)	0	0
Test It	On Off	On Off
Status	-	-

Apply Changes

Number of Channel («SNMP 1», «SNMP 2») — this number is indicated as an output of the rule.

Memo — custom text up to 30 characters.In Default: empty line.

Address — an IP address where the SNMP SET request will be sent to.In Default: empty line.

UDP Port — a port, which is heard by an SNMP agent of a remote device.In Default: 161.

OID(.1.3.6...) — an identifier of the variable value that will be set on a remote device. It is necessary to specify the full OID in numerical notation, starting with .1.3 ... The list of variable values is contained in the MIB file from the device or in the documentation to the device. To see the MIB file conveniently of in the form of a tree and checking the functions of variable values, you can use the free software iReasoning MIB Browser or any similar software.In Default: .1.3.6.1.4.1.25728.5800.3.1.3.1.

Community — SNMP Community records, configured on a remote device.In Default: empty line.

"On" Value (Type Integer32)— the value that will be recorded in the OID on the remote device when the "On" action is called by pressing the "On" button or by the output of the logic rule. The value type is a 32-bit signed integer. In Default: 1.

"Off" Value (Type Integer32)— the value that will be recorded in the OID on the remote device when the "Off" action is called by pressing the "Off" button or by the output of the logic rule. The value type is a 32-bit signed integer.In Default: 0.

Test It — when you press the «On» and «Off» buttons the device sends the corresponding requests with the values immediately.

Status — in a few seconds after sending a request to set a variable value, the result is displayed in the "Status" entry field. "OK" means that confirmation is received and the variable value is set successfully. "Timeout" means that no approvement has been received. This can happen as a result of the unavailability of the controlled device, its failure, the wrong IP address, port or community. Other options mean that a response was received with an error code, the text decryption of which is displayed in the status bar.

After changing the settings press th "Apply Changes" button.

After configuration of the SNMP SETTER you have to setup the rule in the "LOGIC" module. Learn this section to find out how to do it:[ENG] 10.2. [DKSF 48.5 IU] How Can I Use the "LOGIC" Module?

[ENG] 10.6. [DKSF 48.5 IU] Reset Signal and Initial Output States

At the start of the logic, it is possible to set the outputs and the equipment they control in a known and predetermined initial state. To do this, use the rules with the entry "Initial Reset".

The rule "Initial reset" with the condition "Enables" is triggered 5 seconds after the reset. The rule with the term "Ended" is triggered in 10 seconds after the reset. After that, the usual application of the rules starts with sources other than "Initial reset" in an infinite loop. So, it is possible to generate a 5-second external reset pulse at one or more outputs or to ensure the correct sequence of power supply to external devices.

The rule of the "LOGIC" module can be controlled by means the IR commands via the external IRC-TR v2 module. First of all, you have to write the necessary commands from the remote control (s) to the cells 1 ... 4 of the IRC-TR v2 module. The action "Send a command" for the "IR 1..4"output reproduces the IR command recorded under the corresponding number.

> As a rule, if you press one button on air conditioner remotes, they do not send the code of the pressed button, but a complete package of settings, such as temperature, fan speed, damper operation mode, etc.

[ENG] 10.8. [DKSF 48.5 IU] The Examples of the Configuration of the "LOGIC" Module

The automation examples based on the "LOGIC" module are published on the blog in our official website:
1. CONTROLLING TOO FREQUENT DOOR OPENING IN A SERVER ROOM ON THE BASIS OF A NEW MODULE "LOGIC" OF A NETPING DEVICE
2. SEQUENTIAL SERVERS STARTUP WITH PAUSES ON THE BASIS OF THE NEW MODULE "LOGIC" OF A NETPING POWER DISTRIBUTION UNIT
3. INTERMITTENT OPERATION OF THE VENTILATION SYSTEM ON THE BASIS OF A NEW MODULE "LOGIC" OF A NETPING POWER DISTRIBUTION UNIT
4. THERMOSTAT WITH THE EMERGENCY MODE (PERIODIC SWITCHING A HEATER ON) WHEN A TEMPERATURE SENSOR FAILS WITH SMS-NOTIFICATION

[ENG] 11. [DKSF 48.5 IU] Work With the Operating IR Module

[ENG] 11.1. [DKSF 48.5 IU] How Can I Record IR Commands Correctly?

An IR Control module works with an IR transceiver IRC-TR v2. The transceiver can record and reproduce IR signals from remote controls of home appliances.

To record IR commands, there is a need to go to the page «IR COMMANDS» of a device web interface:

IR Remote

HOME | SETUP | RELAYS | WATCHDOG | SCHEDULE 1 | SCHEDULE 2 | SMS
TEMPERATURE | DISCRETE IO | IR COMMANDS | LOGIC | FIRMWARE | LOG

IR COMMAND RECORDING

IR Transciever Temporary Buffer		N	Memo (device, command)	
Start recording	Playback/Test	1 ▼		Save

Before using IR Remote feature, please read user manual!
External IR Remote device IRC-TR v2 is not attached or is not operational!

SAVED IR COMMANDS PLAYBACK

N	Memo	Playback	N	Memo	Playback
1	error 20	>	9	-	>
2	-	>	10	-	>
3	-	>	11	-	>
4	-	>	12	-	>
5	-	>	13	-	>
6	-	>	14	-	>
7	-	>	15	-	>
8	-	>	16	-	>

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New IR commands are recorded in the section «IR COMMAND RECORDING»:

1. Prepare an IR remote, from which it is necessary to capture a command.
2. Make sure that a red LED on the IR transceiver glows steadily
3. Choose a command number «N» and enter its description into the field «Memo (device, command)».
4. Click the button «Start recording». Send a command from an IR remote 30 seconds after clicking the button «Start recording». Otherwise, a transceiver will go to a standby mode. A remote and a transceiver must be disposed coaxially at the distance of 10-30 cm for an «eye» of a transceiver to see a transmitting IR LED of a remote. A command will be recorded.
5. Check a recorded command by clicking the button «Play/Test».
6. Click the button «Save» to save a command in a nonvolatile memory if a command is successfully reproduced.

It is desirable to check again the operation of an IR command by clicking a corresponding button «>» in the section of saved commands.

[ENG] 11.2. [DKSF 48.5 IU] Playback of IR Commands Via the Web Interface

An IR control module works with an IR transceiver IRC-TR v2. A transceiver can record and reproduce IR signals from remotes of home appliances.

To reproduce IR commands, go to the page «IR COMMANDS» of a web interface of a device:

IR Remote

HOME | SETUP | RELAYS | WATCHDOG | SCHEDULE 1 | SCHEDULE 2 | SMS
TEMPERATURE | DISCRETE IO | IR COMMANDS | LOGIC | FIRMWARE | LOG

IR COMMAND RECORDING

IR Transciever Temporary Buffer		N	Memo (device, command)	
Start recording	Playback/Test	1 ▼		Save

Before using IR Remote feature, please read user manual!
External IR Remote device IRC-TR v2 is not attached or is not operational!

SAVED IR COMMANDS PLAYBACK

N	Memo	Playback	N	Memo	Playback
1	error 20	>	9	-	>
2	-	>	10	-	>
3	-	>	11	-	>
4	-	>	12	-	>
5	-	>	13	-	>
6	-	>	14	-	>
7	-	>	15	-	>
8	-	>	16	-	>

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In the section «Saved IR Commands» recorded IR commands are reproduced.

To reproduce a saved IR command click the button «>» in the section «Saved IR Commads» next to the name of a necessary command. A red LED on a transceiver must be switched off for 0.5 s., initiating reproducing a command.

Do not reproduce «empty» command cells, where there is no proper record of an IR command. This can cause a transceiver to freeze.

[ENG] 11.3. [DKSF 48.5 IU] Can I Play Back the IR Commands via SNMP?

IR commands can be played back via SNMP protocole. The necessary information is contained in the MIB file which corresponds to the applicable firmware version of the device. You can download the MIB file on the device description pages in the websire or our company http://www.netpingdevice.com/products/netping-8-pwr-220-v4-sms. The recording of the commands is only possible with the help of the device`s web interface.

The playback of IR commands via SNMP protocole:

1. Before you make an IR command, make sure that the transceiver is in a standby condition, reading the status via OID .1.3.6.1.4.1.25728. 7900.1.3.0. The status value «commandCompleted (0)» or «commandAccepted (2)» means tha IR transceiver is ready to play the IR command.
2. To make an IR command, write down the command number (the cell number of the saved command) in the OID .1.3.6.1.4.1.25728.7900. 1.1.0.
3. If the transceiver is in the error state, the reset is performed by recording the value "1" to OID .1.3.6.1.4.1.25728.7900.1.2.0 (valid for IR module expansion IRC-TR v1).
4. After the reset of the command, you have to wait for the readiness of the IR Module, reading the status. If repeated playback of the IR command does not violate the logic of the equipment operating, then it is better to repeat the process of the command 2–4 times, each time checking the readiness before executing the command.

All the states of and IR extension module you can see in MIB file DKSF_48.5.x_ MB.mib (OID «npIrStatus») or on the page of our website http://www.netpingdevice.com/products/netping-8-pwr-220-v4-sms or on the page [ENG] 13.3. [DKSF 48.5 IU] Which OID are Supported By the Device? of this firmware description.

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[ENG] 11.4. [DKSF 48.5 IU] How Can I Determine the Version of a Built-In Firmware of IR Module?

To determine a firmware version of an IR module, go to the web page «IR Commands» of a device web interface:

In the section «Saved IR Commands» there is an inscription «A version of a connected IR control module is IRC-TR v2: HW X.X / BL X.X / FW X.X»

where:

HW – is a hardware version of an IR module.

BL – is a Bootloader version of an IR module.

FW – is a firmware version of an IR module.

> A version of the hardware, loader and firmware can be seen if a module is correctly connected to a device and works properly. Otherwise, in the section «Saved IR Commands» there will be an inscription «External IR Remote device IRC-TR v2 is not attached or is not operating!»

[ENG] 11.5. [DKSF 48.5 IU] Recommendations

If a transceiver is stuck in a protocol as a result of a failure, noise, an operator's error or managing software failure, and reacts improperly to incoming commands, a reset can be performed by a short-term (5 s.) switching off a transceiver from a NetPing device.

Try to avoid recording commands in electroluminescent or LED lighting. The flickering light with a frequency of operation of the electronic ballast can decrease a quality of a recorded IR signal.

Watch avoiding any objects, particularly operator's hands, between an emitter of an IR remote and an «eye» of a transceiver while recording commands.

If a recorded command works unreliably, change a location of a transceiver in relation to a controlled device. In addition, change conditions of recording a command.

[ENG] 12. [DKSF 48.5 IU] Work with SMS Messages and Built-In GSM Modem

[ENG] 12.1. [DKSF 48.5 IU] How to Find Out a USSD Balance on a SIM-card

In order to find out the balance on the SIM-card installed in the slot of the built-in GSM modem, open the "SMS" page of the device's web interface:

In the section "USSD REQUEST" you have to:

1. indicate the USSD-code for requesting the USSD balance of the corresponding telecom operator;
2. Apply Changes;
3. Press the "Send USSD " button.

In several seconds you can see the information about the USSD balance on your SIM-card in the entry field "Reply on USSD Request"

You can also find out your balance using HTTP API, sending the USSD request and them receiving the response. You can find out more about it in the section [ENG] 14.8 [DKSF 48.5 IU] Control of The GSM Modem.

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[ENG] 12.2. [DKSF 48.5 IU] I Need to Configure the Number to Send SMS Notifications SMS-уведомлений. How Can I Do This?

In order to set one or several phone numbers to sent SMS Notifications, you need to open the page "SMS" of the device`s web interface:

In the section "SMS NOTIFICATION DESTINATIONS" you need to set the Main and Aux (Auxiliary) phone numbers to send SMS Notifications.

MobileNumber is indicated in the format of CountrycodeOperatorcodeCustomernumber, for example, +79127778899

To save the mobile numbers press the button "Apply Changes"

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[ENG] 12.3. [DKSF 48.5 IU] GSM Modem Troubleshooting

 If SMS notifications are not sent for any reasons and the device is not controlled by SMS commands, you can reboot the GSM modem on the page "SMS" of the device's web interface. In the "GSM MODEM TROUBLESHOOTING" section, click the "Reboot GSM" button, after that the modem will reboot:

GSM MODEM TROUBLESHOOTING

Log Communication with GSM Modem (Troubleshooting)	☑
Last error of GSM modem (hit F5 to refresh)	

Reboot GSM	Test SMS	Apply Changes

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In the entry field "Last error of GSM modem (hit F5 to refresh)" the data and time of the last modem error is indicated as well as the error itself. To display the current error press the F5 key.

After rebooting and initializing the GSM modem, you can send a test SMS message by pressing the "Test SMS" button.

As a result, the mobile numbers registered in the section "SMS NOTIFICATION DESTINATIONS AND SMS COMMANDS SOURCES" on the page "SMS" of the device`s web interface should get the SMS message with the text "NetPing SMS Test".

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[ENG] 12.4. [DKSF 48.5 IU] The GSM-Signal Strength Checking

In order to check the registration and the GSM-signal strength in a SIM card, inserted in the device, you need to open the page "SMS" of the device`s web interface:

HOME | SETUP | E-MAIL | SMS | AC OUTLETS | DISCRETE IO | IR REMOTE | LOGIC | NOTIFICATION
TEMPERATURE | SMOKE | HUMIDITY | 1-WIRE | FIRMWARE | LOG

SMS NOTIFICATION DESTINATIONS

	Enable	Memo	Mobile Number
Destination Mobile Number for SMS, Main	☐	Aleksey	
Destination Mobile Number for SMS, Aux 1	☑	Nikolay	
Destination Mobile Number for SMS, Aux 2	☐		
Destination Mobile Number for SMS, Aux 3	☐		

Apply Changes

GSM MODEM STATUS

Registration in GSM Network	Registered in Home Network
GSM Signal Strength	44%

Request

In the section "GSM MODEM STATUS" you have to press the button "Request". In several second in the section "Registration in GSM Network" you can see the information about the type of a mobile network your SIM-card has been registered. In the section "GSM Signal Strength" you can observe the information and the condition of a signal in percents.

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For the configuration of SMS NOTIFICATIONS by watchdog events you need to open the page "SMS" of the device`s web interface:

SMS NOTIFICATIONS

Pinger Event (Loss or Restoration of communication)	☑
Ethernet Link Status change	☑

Apply Changes

In the section "SMS NOTIFICATIONS" it is possible to configure:

Pinger Event (Loss or Restoration of communication) - while detecting the loss and restoration of communication of the checked network node there will be the sending of SMS Notifications to the mobile numbers registered in the section "SMS NOTIFICATION DESTINATIONS" in the page "SMS" of the device`s web interface. In the section "PINGER" in the page "SMS" you can configure the address for checking network node availability by IP address in the entry field "Address to poll with ping" and the period for checking in the entry field "Period, s (30-9999)"

Ethernet Link Status change — when this event happens the SMS notifications sending will be implemented to the mobile numbers set in the "SMS Notification Destinations" on the page "SMS".

PINGER

Address to poll with ping	
Period, s (30-9999)	30
Ping Status	Failed

Apply Changes

The operating parameters of the "Pinger" module on the page "SMS":

1. The poll of the configured IP address starts once in a specified period (the parameter "Period, s (30-9999)".
2. The wait period for the responce from an IP address is 2 seconds.
3. The number of retries of checking the IP address is 8.
4. If there is no response from the checked network node for 8 repetitions, "Pinger" reports that there is no connection with the specified IP address.
5. If there is a responce from the checked network node at the next polling period, "Pinger" reports that there is a connection with the specified IP address.

In order to find out how to register phone numbers for sending SMS notifications you can study the section [ENG] 12.2. [DKSF 48.5 IU] I Need to Configure the Number to Send SMS Notifications SMS-уведомлений. How Can I Do This?

After configuration all the necessary parameters press the button "Apply Changes".

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The device firmware provides the possibility to configure SMS forwarding, which were unrecognized as commands:

- to the log;
- to Syslog (Syslog must be configured in the device)
- by email;
- by SNMP TRAP message;
- to an arbitrary phone number (using custom notifications. For more information about custom notifications, see [ENG] 13. [DKSF 48.5 IU] Device Support for Custom Notifications

For example, this function makes it possible to implement the processing of incoming SMS for any third-party service on the basis of the device or to notify the user of incoming SMS (if the SIM card is used not only for the monitoring device aims, but, for example, for personal purposes - SMS from a bank or from customers).

The forwarding is configured on the "SMS" page. Having selected the necessary delivery methods by check boxes, save the changes with the button "Apply Changes".

FORWARDING OF SMS UNRECOGNIZED AS COMMANDS

Forwarding Destination	☑ Log ☐ Syslog ☐ E-mail ☐ Trap

Apply Changes

[ENG] 12.7. [DKSF 48.5 IU] What Kinds of SMS Notifications Can This Device Send?

SMS Notifications look like:

> np_name (q) information

where:

np_name — is the name of the device for the identification of SMS messages up to 30 Latic characters. The name is set on the page "SETUP" of the device`s web interface. If the name of the device is not set, the "NETPING" name is used instead of it.

q — is the sequence number of messages. The number is nonvolatile. It does not reset when the power is switched off. It is needed for the registration of the missed (lost) messages.

Information - is the informative part of SMS messages.

INFORMATIVE PART OF SMS MESSAGES

A messages from the temperature sensor

> TEMP.SENSOR j "label" IS FAILED — temperature sensor failure (the sensor stopped responding to the poll);
>
> TEMP.SENSOR j "label" IN SAFE RANGE (t1 TO t2), NOW tC — the readings have returned to the safe range;
>
> TEMP.SENSOR j "label" BELOW SAFE RANGE (t1 TO t2), NOW tC — the temperature goes below the safe range:
>
> TEMP.SENSOR j "label" ABOVE SAFE RANGE (t1 TO t2), NOW tC - the temperature goes above the safe range;

where:

- j — number of a temperature sensor, 1...8.
- label — a label of a temperature sensor which is set in the entry field "Memo" on the page "TEMPERATURE" of the device`s web-interface. The label in the message text is enclosed in quotation marks. If the label is not specified (empty), then it is not included in the SMS.
- t1, t2 — the thresholds of normal temperature range, °C.
- t — current temperature, °C .

Messages from Humidity Sensor

> RHj FAILED — humidity sensor failure (the sensor stopped responding to the poll)
>
> RHj ht (above the safe range ht1...ht2) — the readings of humidity and temperature are above the safe range
>
> RHj ht (below the safe range ht1...ht2) — the readings of humidity and temperature are below the safe range
>
> RHj ht (in the safe range ht1...ht2) — the reading of the humidity are in the safe range.
>
> RHj is OK, h status, t status — the connection with the sensor is restored

где:

- j — number of temperature sensor, 1...4.
- ht — relative humidity or temperature
- ht1, ht2 — the thresholds of normal relative humidity range and temperature
- h — relative humidity;
- t — temperature;
- status — the status of readings:"in the safe range", "below the safe range", "above the safe range"

Messages about the che change in status of a smoke sensor

> SMOKE SENS.n "label" — status

where:

- n — number of the smoke sensor, 1...4;
- label - a label of a temperature sensor which is set in the entry field "Memo" on the page "SMOKE" of the device`s web-interface. The label in the message text is enclosed in quotation marks. If the label is not specified (empty), then it is not included in the SMS. The Cyrillic symbols are depicted with the sign «?»;
- status — the smoke sensor status, possible values: «OK», «ALARM!», «SWITCHED OFF», «FAILED».

Messages from a buil-in relay

RELAY j "label" ORDERED TO SWITCH mode VIA src — a command for changing the relay status has been received

RELAY j "label" SWITCHED mode —the relay is switched in the state mode

RELAY j "label" RESET VIA/BY src — the relay has received the command for reset

where:

- j —the number of relay, 1...8;
- label — a relay label is set in the "Memo" entry field on the "AC OUTLETS" page of the device's web interface. The label in the message text is enclosed in quotation marks. If the label is not specified (empty), then it is not included in the SMS.
- mode — the operationg mode of the relay: «on» или «off»;
- src — the command sources: «WEB», «SNMP», «SMS», «SCHELUDE», «WATCHGOD», «LOGIC».

Messages from the "Watchdog"

WDOG j "label" RESET — The reset of the relay began by the watchdog.

WDOG j "label" CEASED AFTER n FAILED RESETS — the operating of the "Watchdog" ceased and failed resets

WDOG j "label" GOT REPLY, RESTORED — the operating of the "Watchdog" is restored

where:

- j — the number of relay, 1...8;
- label — a relay label is set in the "Memo" entry field on the "AC OUTLETS" page of the device's web interface. The label in the message text is enclosed in quotation marks. If the label is not specified (empty), then it is not included in the SMS.
- n — the number of unsuccessful resets before the watchdog stops working, it is configured in the watchdog notification settings dialogue

Messages about the status change of the Ethernet ports of the device

ETHERNET LINK STATUS: 1 UP|DOWN, 2 UP/DOWN

A message about the recovery/failure of the communication with the specified IP address (the "Pinger" module on the "SMS" page):

PINGER STATUS: OK|FAILED (IP/HOST)

where:

IP/HOST — IP address of the checked address/host

Messages from power inputs:

AC INPUT j "label": status

where:

j — power input number, 1 or 2;

- label — a relay label is set in the "Memo" entry field on the "AC OUTLETS" page of the device's web interface. The label in the message text is enclosed in quotation marks. If the label is not specified (empty), then it is not included in the SMS.

status — the availabity of voltage in the inpu t«OK» or «FAILED».

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Message from the groups of outlets

OUTLETS gg SWITCHED TO AC INPUT i "label"

where:

- gg — a group of the input outlets, 1...4 or 5...8;
- i — power input number, 1 или 2;
- label — label is set in the "Memo" entry field on the "AC OUTLETS" page of the device's web interface. The label in the message text is enclosed in quotation marks. If the label is not specified (empty), then it is not included in the SMS.

Messages from IO Lines

IOn=0|1 "label" "transcript"

where:

- n — IO line number, 1...4;
- label —a label is set in the "Memo" entry field on the "DISCRETE IO" page of the device's web interface. If the label is not specified (empty), then it is not included in the SMS.
- transcript — the decryption of the logical level of the IO line is set in the pop up dialog for setting notifications from IO lines on the "DISCRETE IO" page of the device's web interface. If the decryption is not set (empty), then it is not included in the SMS.

CUSTOM NOTIFICATIONS

In addition to notifications with fixed text, starting with the firmware version DKSF 48.5.3, it is possible to send custom "Custom notifications", in the text of which some SNMP variables can be included. More details in the section [ENG] 13. [DKSF 48.5 IU] Device Support for Custom Notifications

[ENG] 12.8. [DKSF 48.5 IU] How Can I Control The Device using SMS Commands?

The device has an ability to be controlled remotely using SMS commands.

THE SYNTAX OF SMS COMMANDS

The common format of an SMS command text:

> NETPING fff community_w kkkkkk

where:

fff — a code of a command, for example, P1+ (see below).

community_w — a password which corresponds to SNMP community for recording. It is set on the "SETUP" page of the device web-interface. It is possible to use Latin letters, numbers, the "_" symbol without quotation marks and spaces.

kkkkk —a request identifier (arbitrary number from 3 to 9 digits). It is repeated in the response to set the correspondence between the request and the response. An optional command element. If the identifier is not in the command, you can not see it in the response.

> The text of the command is case insensitive, it is possible to use lowercase and uppercase letters. Command elements are separated by spaces. The characters (symbols) '(apostrophe)," (quotation mark), @ are not allowed. Switching on these characters may cause a firmware failure. A command completion is confirmed by a response message (see below).

THE CODES OF COMMANDS

The command code is indicated together, without any spaces.

The codes of the commands	The description
Pn+	Switch on the relay n, where n is the relay number
Pn-	Switch off the relay n, where n is the relay number
P*+	Switch on all the relays
P*-	Switch off all the relays
PnR	Reboot relay n, where n is the relay number The polarity (direction) of the relay switching when performing a reset must correspond to that specified in the settings of the "Watchdog2 module (reset mode). If the relay is already in a reset state, the reset command has no effect, although a response notification of successful execution of "NP DONE PnR" will be recieved.
Pn?	Request relay state n, where n is the relay number
P?	Request the state of all the relyas in a short form
S?	Request the state of groups of outlets and inputs
Sx=y	Set the primary input y for the outlet group x, where y is the number of power input: 1 or 2; x - group number of outlets: 1 (outlets 1 ... 4) or 2 (outlets 5 ... 8)
SxB+	Allow input reservation for outlet group x, where x is the number of outlet group: 1 (outlets 1 ... 4) or 2 (outlets 5 ... 8)
SxB-	Forbid input reservation for outlet group x, where x is the number of outlet group: 1 (outlets 1 ... 4) or 2 (outlets 5 ... 8)
SxR+	Allow automatic return to the primary input for outlet group x, where x is the number of outlet group: 1 (outlets 1 ... 4) or 2 (outlets 5 ... 8)
SxR-	Forbid automatic return to the primary input for outlet group x, where x is the number of outlet group: 1 (outlets 1 ... 4) or 2 (outlets 5 ... 8)

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SxR	Return to the primary input for outlets group x, where x is the number of outlet group: 1 (outlets 1 ... 4) or 2 (outlets 5 ... 8)
Lm+	Set the line m to log. 1, where m is the number of the IO line.
Lm-	Set the line m to log.0, where m is the number of the IO line (1...4).
LmP	Give an impulse to the line m, where m is the number of the IO line (1...4)
Lm?	Request the state of the line m, where m is the number of the IO line (1...4)
L?	Request the status of all IO lines in a short form.
N?	Request the pinger status
Ka	Send the IR command through the IRC-TR v2 , where a is a number of a command
Tb?	Request the values of a Temperature Sensor b, where b - is a number of a Temperature Sensor
Hb?	Request the values of a Humidity Sensor, where b - is a number of a Humidity Sensor.
T?	Request the values of all connected Temperature Sensors in a short form.The sign of connectivity is a specified 1 wire address.
H?	Request the values of all connected Humidity Sensors in a short form.The sign of connectivity is a specified 1 wire address.
RB20	Reboot the device. The reboot will occur in 20 seconds after receiving a command.

THE EXAMPLES OF SMS COMMAMDS

Switch on command of the relay of 1 device:

NETPING P1+ SWITCH

REPLY MESSAGES TO SMS COMMANDS

Confirmation of the command execution, such as switching a relay or changing a state of a discrete output line:

NP DONE fff kkkkkk

NP DONE fff

where:

fff — is the code of the original command, which execution is confirmed by this message. For example, P1+;

kkkkk — a request identifier (arbitrary number from 3 to 9 digits). It is repeated in the response to establish the correspondence between the request and the response. An optional command element. If the identifier is not in the command, you can not see it in the response.

An error occurred while the device is taking it. Most likely it is the wrong text of the original command:

NP WRONG CMD: «original command»

where:

original command — the text of the original command fully quoted

Wring password (Community) in an original command:

NP WRONG PASSWD IN kkkkkk

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```
NP WRONG PASSWD
```

where:

kkkkk — a request identifier (arbitrary number from 3 to 9 digits). It is repeated in the response to establish the correspondence between the request and the response. An optional command element. If the identifier is not in the command, you can not see it in the response (the second command).

ОТВЕТНЫЕ СООБЩЕНИЯ НА SMS-КОМАНДЫ ЗАПРОСА СТАТУСА/СОСТОЯНИЯ

Ответ на запрос (NETPING Lm? kkkkkk) о состоянии IO-линии:

RESPONSE MESSAGES TO STATUS / STATE REQUEST SMS COMMANDS

Response to the request (NETPING Lm? kkkkkk) about the IO line state:

```
NP REPLY Lm=lvl kkkkkk
```

where:

- m — number of the line
- lvl — log.level

Response to the request L? about the state of all the IO lines

```
NP REPLY L1=lvl L2=lvl L3=lvl L4=lvl
```

where lvl — log. level.

Response to the request Pn? about the relay status

```
NP REPLY Pnstatus
```

where:

- status — the status of the relay : «+» (on), «-» (off);
- n — number of the relay.

Response to the request Pn? about all the relays status:

```
NP REPLY P1b P2b P3b P4b P5b P6b P7b P8b
```

where:

b — th state of the relay: «+» (on), «-» (off).

Response to the request S? about the state of the inputs

```
NP REPLY S1(1..4)=in1 B+ R+ S2(5..8)=in2 B+ R- AC1+ AC2+
```

where:

- S1, S2 — groups of outlets ;
- in1, in2 — input from which the group of outlets is currently powered;
- B+|B- — «+» or «-» means whether reservation of input for a group is allowed or not;
- R+|R- — «+» or «-» means whether the auto-return of the group to the primary input is allowed or forbidden;
- AC1+|AC2+ — «+» or «-» means the availability of voltage at inputs 1 and 2.

Response to the request N?

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> NP REPLY N=status (address)

where:

- status — the pinger status, 0 — silent, 1 — responding
- address — The IP or domain name of the polled host

Response to the request Tb?

> NP REPLY Tb? SENSOR FAILED — failed or disconnected
>
> NP REPLY Tb=tC status SAFE RANGE (t1...t2C) — response about sensor readings with status indication.

where:

- b — number of temperature sensor;
- tC — current temperature readings, °C;
- status — temperature sensor status: «BELOW», «IN» or «ABOVE»;
- (t1..t2C) — normal range.

Response to the request Hb?

> NP REPLY Hb? SENSOR FAILED — failed or disconnected
>
> NP REPLY Hb=h%status SAFE RANGE (h1..h2) T=tCstatus SAFE RANGE (t1...t2) —response about sensor readings with status indication.

where:

- h% — current reading of relative humidity, в %;
- tC — current reading of temperature, в °C;
- status — reading sensor status: «BELOW», «IN» or «ABOVE»;
- h1..h2 — range of normal humidity;
- t1..t2 — range of normal temperature.

[ENG] 12.9. [DKSF 48.5 IU] Setting the Time for Sending a Summary Report About the Status of Sensors and IO Lines in the Form of SMS Messages

To adjust time of sending a daily report about a status of sensors and IO lines as SMS notifications, there is a need to go to the page «SMS» of a device web interface:

SUMMARY REPORT (SENSORS AND IO)

Time of day to send SMS (format HH:MM, up to 5 times, separated by space)

Apply Changes

where:

Time of day to send SMS (format HH:MM) – is time when SMS reports on a status of sensors and IO lines will be sent. On default: empty line

After adjusting time, there is a need to save changes in parameters by clicking the button «Apply changes».

[ENG] 12.10. [DKSF 48.5 IU] How to Know IMEI of a Built-In GSM Modem?

To get an IMEI (International Mobile Station Equipment Identity) of a built-in GSM modem, there is a need to go to a service page of a web-interface of a device via the address:

> http://192.168.0.100/at.html

where:

192.168.0.100 – is a default IP address of a NetPing device;

/at.html – is a service page for sending AT-commands

To send an AT-command for receiving an IMEI, there is a need to:

1. Type the command «AT+CGSN» into an empty field and click the button «Send».
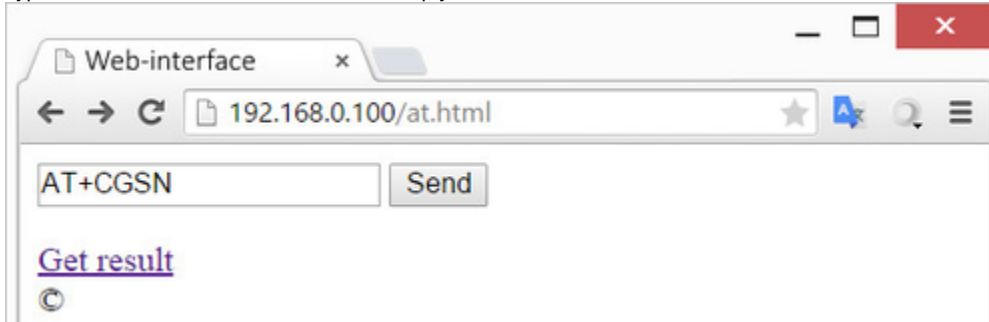
2. Click the link «Get result» to view an IMEI of a built-in GSM modem.
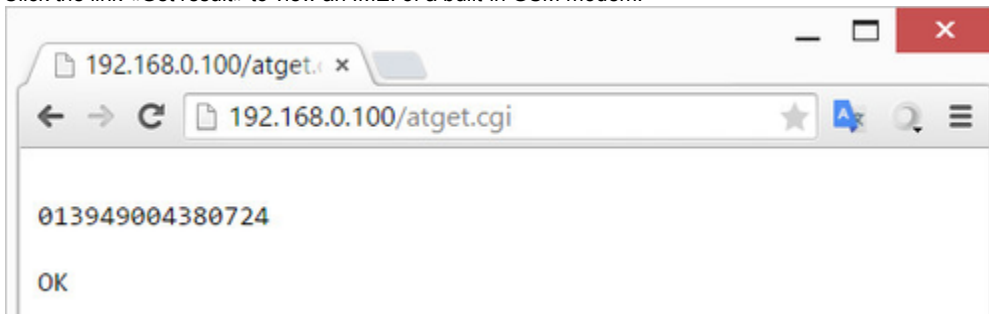
[ENG] 12.11. [DKSF 48.5 IU] How to Send Arbitrary SMS?

SENDING SMS MESSAGES USING AN SNMP PROTOCOL

> A maximum length of random SMS messages cannot exceed 140 characters for Latin letters and 70 characters for Cyrillic ones. If there are both Latin and Cyrillic letters in the text of SMS, then the length of such SMS message cannot exceed 70 characters.

To send SMS using an SNMP protocol, there is a need to use a variable «npGsmSendSms», where a destination number and a text of an SMS message is written. To do this, see a MIB file, which can be downloaded at the page for describing a device, the tab «Files».

OID	Name	Type	Access
.1.3.6.1.4.1.25728.3800.1.3.0	npGsmSendSMS	DisplayString	READ/WRITE

A format of random SMS message:

> [phone_number,phone_number,...] Message

where:

phone_number – is a destination number in square brackets.

Message – is a text of a message (is separated by a space character from a destination number).

It is possible to send SMS to several destination numbers, having indicated them in square brackets separated by a comma without spaces. If there are no destination numbers chosen, an SMS will go to numbers programmed in settings of SMS notifications.

Example of Sequence of Commands for Sending a Random SMS through SNMP Using NET-SNMP Package

1. To send a random SMS, it is possible to use a specific package NET-SNMP. To do this, there is a need to download a distributive package NET-SNMP from the section Download of the website: http://net-snmp.sourceforge.net/download.html

2. After installing the package NET-SNMP, run the utility snmpset.exe from a command line. To run a command line, use a key combination «Windows+L». After a window «Execute» is opened, enter a command «cmd» and click the button «Enter». Then go to the installing directory of the utility snmpset.exe in a command line:

```
Microsoft Windows [Version 6.3.9600]
(c) Microsoft Corporation, 2013.

C:\Users\1>cd "C:\Program Files (x86)\net-snmp\usr\bin"

C:\Program Files (x86)\net-snmp\usr\bin>
```

3. Run the utility snmpset.exe with the following parameters of a command line:

> snmpset.exe -v 1 -c COMMUNITY IP OID TYPE VALUE

where:

COMMUNITY – is a specific password, which is set at the page «SETUP» of a device web interface. In NetPing devices, it is community=SWITCH on default;

IP – is an IP address of a NetPing device, through which a random SMS message will be sent;

OID – is an SNMP identifier of a variable «npGsmSendSms», which is used to send a random SMS message;

TYPE – is a type of written value of an SNMP identifier of a variable. Symbols of types are represented in the picture:

```
i: INTEGER, u: unsigned INTEGER, t: TIMETICKS, a: IPADDRESS
o: OBJID, s: STRING, x: HEX STRING, d: DECIMAL STRING, b: BITS
U: unsigned int64, I: signed int64, F: float, D: double
```

VALUE – is a written value, i.e. a text of an SMS message

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Based on the above description, a command for sending a random SMS using the utility snmpset.exe is:

```
C:\Program Files (x86)\net-snmp\usr\bin>snmpset.exe -v 1 -c SWITCH 192.168.0.100 .1.3.6.1.4.1.25728.3800.1.9.0 s "[+79130000000]
Hello! Test SMS!"
```

4. After a command is successfully executed, the next response should be received:

```
SNMPv2-SMI::enterprises.25728.3800.1.9.0 = STRING: "[+79130000000] Hello! Test SMS!"
```

SENDING SMS MESSAGES VIA THIRD-PARTY WEB-APPLICATIONS (HTTP API)

> A maximum length of random SMS messages must not exceed 140 Latin characters or 70 Cyrillic characters. If there are both Latin and Cyrillic characters in the body of the SMS, then a length of such SMS message cannot exceed 70 characters.

Example of Sending a Random SMS Using a JavaScript Code

To send an SMS through a third-party web applications, there is a need to use the next JavaScript code:

```
var r = new XMLHttpRequest();
r.open('POST', 'http://192.168.0.100/sendsms.cgi', true, 'visor', 'ping'); // visor:ping – username and password
r.withCredentials = true;
r.send('[+79130000000] Houston, we have a problem!');
```

where:

192.168.0.100 – is a default IP address of a device.

visor – is a default username for connecting to a device web interface.

ping – is a default password for connecting to a device web interface.

It is possible to send an SMS to several destination numbers, having indicated them in square brackets separated by a comma without spaces. If destination numbers are not chosen, an SMS will go to the numbers programmed in the settings of SMS notifications.

If a format for data is correct, then the next JavaScript code is returned as a result:

```
sendsms_result('ok');
```

A result of sending a message does not influence a returned CGI (Common Gateway Interface) response. CGI only initiates sending a message.

Example of Sending a Random SMS Using a PowerShell Script

To send an SMS through a third-party web applications, there is a need to use the next PowerShell script:

```
$url = "http://192.168.137.100/sendsms.cgi"
$username = "visor"
$password = "ping"

$reqBody = "[0953345975] Тест NetPing!"

$req = [System.Net.WebRequest]::Create($url)
$req.Method = "POST";

$req.Credentials = new-object System.Net.NetworkCredential($username, $password)

$Body = [System.Text.Encoding]::UTF8.GetBytes($reqBody);

$stream = $req.GetRequestStream();
$stream.Write($Body, 0, $Body.Length);

$stream.Flush();
$stream.Close();

$resp = $req.GetResponse().GetResponseStream()
```

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```
$resp.Close()
```

where:

$url – is a variable, which sets an IP address of a NetPing device and a script for sending random SMS messages.

$username – is a variable, which sets a username for authorization on a NetPing device.

$password – is a variable, which sets a password for authorization on a NetPing device.

$reqBody – is a variable, which sets a destination number in square brackets and a text of an SMS message (is separated by a space character from a destination number). It is possible to send SMS to several destination numbers, having indicated them in square brackets separated by a comma without spaces.

[ENG] 13. [DKSF 48.5 IU] Device Support for Custom Notifications

In the device's web-interface, it is possible to create custom notifications (SMS EMail) with an arbitrary text, which can include additional information about the event that caused the notification. The customizable notifications work in parallel with standard SMS and email notifications with the fixed text. Except the sending SMS and email, configured notifications allow you to generate an HTTP GET request designed to integrate NetPing with cloud services. For example, with the automation service Zapier.com or ifttt.com, which allows you to perform a lot of actions receiving relevant notifications. You can learn more about the possibilities provided by Zapier.com at https://zapier.com/zapbook/webhook/, and iftt.com at https://ifttt.com/discover.

> NetPing does not have a client`s HTTP/HTTPS, and to complete the request, it accesses the proprietary cloud service webhook.netping .ru. It is transparent, does not remember and does not accumulate information passed through it. Available for any NetPing device and does not require any prior authorization and configuration.
>
> Remember that requests to the called service come from the Internet, so you need to specify the external address of the service, and not the address of the local network.

To create a custom notification, go to the "NOTIFICATIONS" page of the device's web interface and click on the line "click here to add new record" (maximum 16 custom notifications):

A notification settings window will appear with the following parameters (the screenshot below shows an already customized notification from the temperature sensor on channel 5).

SMS-notification:

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Enable Notification	☑
Sensor	Termo ▾ 1 ▾
Event	☐ Failed ☐ Below Safe ☐ Safe ☐ Above Safe
Notification Method	SMS ▾
Текст SMS	

[Delete Record] [Cancel] [Apply Changes]

HTTP GET-notification:

Enable Notification	☑
Sensor	Termo ▾ 1 ▾
Event	☐ Failed ☐ Below Safe ☐ Safe ☐ Above Safe
Notification Method	HTTP GET ▾
URL	

[Delete Record] [Cancel] [Apply Changes]

Email-notification:

Enable Notification	☑
Sensor	Termo ▾ 1 ▾
Event	☐ Failed ☐ Below Safe ☐ Safe ☐ Above Safe
Notification Method	e-mail ▾
To	
Subj	
Текст	

The description of sensors and events:

> When you use the channel number "any channel", it is recommended to use the substitution with the channel number so that the notification contains information about the sensor which caused this notification.

The Sensor	The Event	The Description
Termo 1..8/any channel	failed sensor	Sensor failed of not connected
	below safe range	Temperature has dropped below safe range
	in safe range	Temperature has returned to the safe range
	above safe range	Temperature has risen above safe range
Humidity (rel. humid) 1..4 any channel	failed sensor	Sensor failed of not connected
	below safe range	Relative humidity has dropped below safe range
	in safe range	Relative humidity has returned to the safe range
	above safe range	Relative humidity has risen above safe range
Humidity (temperature) 1..4 / any channel	failed sensor	Sensor failed of not connected

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		below safe range	Temperature of a humidity sensor has dropped below safe range
		in safe range	Temperature of a humidity sensor has returned to safe range
		above safe range	Temperature of a humidity sensor has risen above safe range
Smoke (1W) 1..4 / any channel		Normal	Readings are normal
		Alarm!	The sensor detected the smoke
		off	The sensor (current in the loop) is switched off
		failed	The sensor failure
IO line 1..4 / any channel		Log.0	Logic line level switched to 0
		Log.1	Logical line level switched to 1
Relay 1...8 / any channel		off	The relay is off
		on	The relay is on
Watchdog 1...8 / any channel		reset	The "Watchdog" module carried out the reset of the relay
		suspense	The operation of the module is suspensed
		restore	The operaion of the module is restored
Signal 1..4 / any channel		activation	The signal has been activated by logic. So, the rule of logic worked, the output of it is the "Signal 1..4". More details about the rules of logic and, in particular, the signal can be found in the section [ENG] 10.2. [DKSF 48.5 IU] How Can I Use the "LOGIC" Module?
Monitoring 220V			
GSM		SMS not a command	Incoming SMS is not a command
		SMS from unknown numbers	An incoming SMS from an unknown number (subject to the setting of white lists of numbers). Read more about setting up white lists in the section: [ENG] 12.2. [DKSF 48.5 IU] I Need to Configure the Number to Send SMS Notifications SMS-уведомлений. How Can I Do This?

The Description of notification methods:

The method of notification	The description
SMS	Arbitrary SMS notifications. At the beginning of the text of a custom SMS notification, you can specify up to four recipients by specifying their phone numbers in square brackets, separated by commas. Numbers are indicated in the format "Countrycode OperatorcodeCustomernumber". There must be a space between the closing square bracket and the message text. For example, "[+79130000001, +79130000002, +79130000003, +79130000004] Houston, we have a problem!" If you do not specify the recipients, i.e. there are no square brackets at the beginning of the text, the SMS will be sent to the numbers specified in the settings on the "SMS" page of the device's web interface and marked with a "On" checkmark.
HTTP GET	The called URL of a third-party service or cloud application. In order to send these notifications, the following scheme is used:Net Ping--SNMP TRAP --> webhook.netping.ru–HTTP(URL) --> destination server. Therefore, the destination server must be accessed via a white address and access to it must be from the outside.
email	The sending of the email notification is carried out to the addresses specified on the "EMAIL" page. In a custom notification it is possible to set the subject of the message in the "Subj" entry field (substitutions are possible) and the text of the email message itself. The recipient cannot be set, messages are sent to the recipients specified on the "EMAIL" page.

You can put the information from the NetPing MIB branch related to the sensor, IO line, or the relay that caused the event in the custom notification text. Format: {N}, where N is the SNMP OID component located in front of the sensor index.

 For example, the text of the SMS notification "{6} - {3} ({4}°C - {5}°C), {2}°C" for the temperature sensor includes the following information from the NetPing MIB branch of the tree:

The Substitution	The Complete OID of variable value from NetPing MIB	The name of the variable value from NetPing MIB	The Description

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{6}	.1.3.6.1.4.1.25728.8800.1.1.6.n	npThermoMemo	The memo of the Temperature Sensor, where n — a number of sensor 1..8.
{3}	.1.3.6.1.4.1.25728.8800.1.1.3.n	npThermoStatus	The Status of the Sensor, where n — a number of sensor.
{4}	.1.3.6.1.4.1.25728.8800.1.1.4.n	npThermoLow	The lower border of the range of normal temperature values, where n is the number of sensor.
{5}	.1.3.6.1.4.1.25728.8800.1.1.5.n	npThermoHigh	The upper border of the range of normal temperature values, where n is the number of sensor.
{2}	.1.3.6.1.4.1.25728.8800.1.1.2.n	npThermoValue	Current temperature at the temperature sensor, where n is the number of sensor.

Additionally.

In the SMS text in the custom event notifications from GSM (SMS is not a command and SMS from an unknown number), the following substitution can be used:

- {11} - sender's mobile number;
- {12} - SMS text encoded 1251;
- {13} - SMS text encoded UTF8.

[ENG] 14. [DKSF 48.5 IU] Device Supporting SNMP Protocol

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[ENG] 14.1. [DKSF 48.5 IU] SNMP Protocole Device Support

The NetPing 8/PWR-220 v4/SMS device supports parameter setting and SNMP v1 operation.

You can read more about SNMP at these links:

- https://en.wikipedia.org/wiki/Simple_Network_Management_Protocol
- http://www.snmp.com/

OIDs supported by the device can be found in the DKSF 48.5.X MB MIB file on the device description page in the "Downloads" section: http://www.netpingdevice.com/products/netping-8-pwr-220-v4-sms

This device supports:

 - Reading OID with Get, Get-Next requests via SNMP v1;
 - Setting OID values using the Set command via SNMP v1;
 - Sending TRAP messages on events.

[ENG] 14.2. [DKSF 48.5 IU] Configuration of Sending SNMP TRAP Messages

To send TRAP messages via SNMP v1 protocol using this device, it is necessary to configure the following parameters on the "SETUP" page of the web interface:

- SNMP Trap Destination #1, Port —an IP address where TRAP messages will be sent to. It is indicated on the "SETUP" page of the device`s web-interface;
- SNMP Trap Destination #2, Port — the second (optional) IP address where TRAP messages will be sent to. It is indicated on the "SETUP" page of the device`s web-interface;

SNMP TRAP

SNMP Trap Destination #1	146.120.105.234
Port	162
SNMP Trap Destination #2	
Port	162
Periodic Sending of Traps	Off ▼

Apply Changes

Periodic Sending of Traps — configuring the period for sending periodic SNMP TRAP sensor status messages. To enable sending such a TRAP message, you must switch on the corresponding checkbox in the notification settings dialog of the sensor you need. Possible values: 5 minutes, 10 minutes, 15 minutes, 30 mnutes, 1 hour, 2 hours, 4 hours. In Default: off.

[ENG] 14.3. [DKSF 48.5 IU] Which OID are Supported By the Device?

You can see the description of OID supported by the device in the table below:

OID	Name	Type	Access	Description
RFC1213				
.1.3.6.1.2.1.1.1.0	sysDescr.0	OctetString	READ	Text description of the device
.1.3.6.1.2.1.1.2.0	sysObjectID.0	OID	READ	Number of the branch with the device`s parameters always «.1.3.6.1.4.1.25728»
.1.3.6.1.2.1.1.3.0	sysUpTime.0	TimeTicks	READ	Operating time since last switching on
.1.3.6.1.2.1.1.4.0	sysContact.0	OctetString	READ/WRITE	Contact information, as a rule, an email of the administrator
.1.3.6.1.2.1.1.5.0	sysName.0	OctetString	READ/WRITE	Domain name of the device
.1.3.6.1.2.1.1.6.0	sysLocation.0	OctetString	READ/WRITE	Location of the device
.1.3.6.1.2.1.1.7.0	sysServices.0	Integer	READ	The binary representation of this OID is a set of supported services. Always "72", the device acts as the final host
.1.3.6.1.2.1.2.1.0	ifNumber.0	Integer	READ	Number of device network interfaces
.1.3.6.1.2.1.2.2.1.1.1	ifIndex.1	Integer	READ	An interface index is a unique identification number connected with a physical or logic interface. For most ifIndex software, this is the name of the interface.
.1.3.6.1.2.1.2.2.1.3.1	ifType.1	Integer	READ	A type of the device network interface
.1.3.6.1.2.1.2.2.1.4.1	ifMtu.1	Integer	READ	Всегда 1514 Packet size over the network interface. Always 1514
.1.3.6.1.2.1.2.2.1.5.1	ifSpeed.1	Integer	READ	The speed of the network interface. Always 100000000
.1.3.6.1.2.1.2.2.1.6.1	ifPhysAddress.1	OctetString	READ	MAC-address of the device
NetPing MIB				
.1.3.6.1.4.1.25728.911.1.0	npSoftReboot	Integer	READ/WRITE	Soft reset of the device when recording the value "1"
.1.3.6.1.4.1.25728.911.2.0	npResetStack	Integer	READ/WRITE	Soft reset of the network interface when recording the value "1"
.1.3.6.1.4.1.25728.911.3.0	npForceReboot	Integer	READ/WRITE	Immediate forced reboot of the device when recording the value "1" (processor reset when switching on the power)
GSM modem				
.1.3.6.1.4.1.25728.3800.1.1.0	npGsmFailed	Integer	READ	The state of a built-in GSM modem 0 — OK 1 — Failed (no connection) 2 — FatalError (unrecoverable error, the modem is locked)
.1.3.6.1.4.1.25728.3800.1.2.0	npGsmRegistration	Integer	READ	Connection status to the GSM network: 0 — Impossible 1 — HomeNetwork 2 — Searching 3 — Denied 4 — Unknown 5 — Roaming 255 — InfoUpdate
.1.3.6.1.4.1.25728.3800.1.3.0	npGsmStrength	Integer	READ	GSM signal strength: 0…31 = 0% … 100% 99 — unknown 255 — updating info

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.1.3.6.1.4.1.25728.3800.1.9.0	npGsmSendSMS	DisplayString	READ/WRITE	The sending an arbitrary SMS message Format: [phone_number,phone_number,...] Message where: phone_number — the recipient number in square brackets Message — message text (written with a space from the recipient number) Only latin letters are allowed in the SMS text. You can send SMS to several (up to four) numbers, indicating them in square brackets, separated by commas, without spaces. If there are no square brackets with the addressee number at the beginning of the message, the message is sent to the addressees indicated on the "SMS" page of the device's web interface.
A built-in Relay				
.1.3.6.1.4.1.25728.5500.5.1.1.n	nRelayN.n	Integer	READ	Relay index, where n is the relay number, a number from 1 to 8 inclusive
.1.3.6.1.4.1.25728.5500.5.1.2.n	npRelayMode.n	Integer	READ/WRITE	Relay operating Mode, where n is the relay number, a number from 1 to 8 inclusive These modes are available: 0 — Off 1 — On -1 — Switching between off and on
.1.3.6.1.4.1.25728.5500.5.1.3.n	npRelayStartReset.n	Integer	READ/WRITE	OID for forced short-time relay shutdown. Write the number "1" to disable the channel for 15 seconds, where n is the relay number, a number from 1 to 8 inclusive
.1.3.6.1.4.1.25728.5500.5.1.6.n	npRelayMemo.n	DisplayString	READ	Relay memo, where n is the relay number, a number from 1 to 8 inclusive
.1.3.6.1.4.1.25728.5500.5.1.14.n	npRelayFlip.n	Integer	READ/WRITE	Switching the relay to the inverse state, where n is the number of the relay, a number from 1 to 8 inclusive. Write "-1" to switch the relay to inverse state
.1.3.6.1.4.1.25728.5500.5.1.15.n	npRelayState.n	Integer	READ	The current instantaneous state of the relay, where n is the number of the relay, a number from 1 to 8 inclusive: • 0 — relay is off • 1 — relay is on
.1.3.6.1.4.1.25728.5500.5.1.16.n	npRelayPowered.n	Integer	READ	The availability of voltage at the "output" of the relay, where n is the number of the relay, a number from 1 to 8 inclusive. • 1 — voltage is available • 0 - there is no voltage (there is no voltage at the input, or the relay is switched to off mode) 1 - there is voltage
Watchdog				
.1.3.6.1.4.1.25728.5800.3.1.1.n	npPwrChannelN.n	Integer	READ	Relay index, where n is the relay number, a number from 1 to 8 inclusive
.1.3.6.1.4.1.25728.5800.3.1.2.n	npPwrStartReset.n	Integer	READ	The state of the relay in the context of the watchdog operation, where n is the number of the relay, a number from 1 to 8 inclusive Possible values: • 0 - normal operation 1 - reset 2 - resets are suspended or the watchdog is not active
.1.3.6.1.4.1.25728.5800.3.1.4.n	npPwrResetsCounter.n	Integer	READ/WRITE	The "Watchdog" reset counter for relay n, where n is the number of the relay, is a number from 1 to 8 inclusive. Write "0" to force zero
.1.3.6.1.4.1.25728.5800.3.1.5.n	npPwrRepeatingResetsCounter.n	Integer	READ	The "Watchdog" reset counter reset counter for relay n, where n is the relay number, a number from 1 to 8 inclusive
.1.3.6.1.4.1.25728.5800.3.1.6.n	npPwrMemo.n	OctetString	READ	The memo of a relay n, where n is the number of the relay, a number from 1 to 8 inclusive
Power Inputs				
.1.3.6.1.4.1.25728.5100.44.1.1.n	npAcInN.n	Integer	READ	Input index, where n is input number 1 or 2
.1.3.6.1.4.1.25728.5100.44.1.6.n	npAcInMemo.n	DisplayString	READ	Input memo, where n is input number 1 or 2
.1.3.6.1.4.1.25728.5100.44.1.16.n	npAcInPowered.n	Integer	READ	The availability of voltage at the input, where n is the input number 1 or 2
Groups of outlets (1...4, 5...8)				
.1.3.6.1.4.1.25728.5100.55.1.1.n	npOutGrpN.n	Integer	READ	Outlets group index, where n is the outlet group index 1 or 2

.1.3.6.1.4.1.25728.5100.55.1.2.n	npOutGrpBackupStatus.n	Integer	READ	Input reservation status for outlets group, where n is the index of outlet group 1 or 2. Possible values: • 0 - the outlet group is powered from the primary input 1 - the group of outlets is powered from the backup input
.1.3.6.1.4.1.25728.5100.55.1.3.n	npOutGrpManualRevert.n	Integer	READ/WRITE	Manual return to the primary input, where n is the index of the outlet group 1 or 2. Write "-1" to initialize the return of the outlet group to the primary input
.1.3.6.1.4.1.25728.5100.55.1.6.n	npOutGrpMemo.n	DisplayString	READ	Memo of the outlet group, where n is the index of the outlet group 1 or 2. - for group 1 - "1 ... 4" - for group 2 - "5 ... 8
.1.3.6.1.4.1.25728.5100.55.1.7.n	npOutGrpPrimaryIn.n	Integer	READ	Index of the primary input for the outlet group, where n is the index of the outlet group 1 or 2
.1.3.6.1.4.1.25728.5100.55.1.8.n	npOutGrpEnableBackup.n	Integer	READ	Input reservation for outlet group, where n is the index of outlet group 1 or 2. Possible values: • 0 — off • 1 — on
.1.3.6.1.4.1.25728.5100.55.1.9.n	npOutGrpEnableAutoRevert.n	Integer	READ	Auto-return of the outlet group to the primary input, where n is the index of the outlet group 1 or 2. Possible values : • 0 — off • 1 — on
		IR module		
.1.3.6.1.4.1.25728.7900.1.1.0	npIrPlayCmd	Integer	READ/WRITE	To send an IR command, write the number of the IR command.
.1.3.6.1.4.1.25728.7900.1.2.0	npIrReset	Integer	READ/WRITE	To reset IR-transceiver write «1». After reset, indicate IR command and check IP status
.1.3.6.1.4.1.25728.7900.1.3.0	npIrStatus	Integer	READ	Status of IR-transceiver. These statuses are available: • commandCompleted (0) - command completed. A team that does not require any process to execute. • protocolError (1) - wrong command code, or command not accepted. • commandAccepted (2) - command accepted, execution started. After the completion of the command, the status does not change, since there can no longer be any failures in this process. Wait about 0.5 seconds before sending the next command. • errorUnknown (16) — unknown error. • errorBadNumber (17) — wong parameter of the command. • errorEmptyRecord (18) — the attempt to play an empty cell. • errorFlashChip (19) — crash or failure of the memory chip inside the IRC-TRv2 IR expansion module. • errorTimeout (20) — no response from IRC-TRv2 expansion module. • errorExtBusBusy (21) — the external i2c bus is busy, it is not possible to communicate with the IRC-TRv2 IR expansion module (for example, if the bus is short-circuited)
		1-wire smoke sensors		
.1.3.6.1.4.1.25728.8200.1.1.1.n	npSmokeSensorN.n	Integer	READ	The index of the 1-Wire smoke sensor, where n — a number of a sensor, the number from 1 to 4 inclusive
.1.3.6.1.4.1.25728.8200.1.1.2.n	npSmokeStatus.n	Integer	READ	The status of the 1-Wire smoke sensor, where n —a number of a sensor, the number from 1 to 4 inclusive: 0 — Normal 1 — Alert 4 — StopOut 5 — Failure
.1.3.6.1.4.1.25728.8200.1.1.3.n	npSmokePower.n	Integer	READ/WRITE	Power control of the 1-Wire smoke sensor, where n — number of the sensor, the number from 1 to 4 inclusive : 0 — Off 1 — On

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.1.3.6.1.4.1.25728.8200.1.1.4.n	npSmokeReset.n	Integer	READ/WRITE	Write the number "1" to switch off the sensor for 10 seconds, where n is the number of the smoke sensor, the number from 1 to 4 inclusive
.1.3.6.1.4.1.25728.8200.1.1.6.n	npSmokeMemo.n	DisplayString	READ	1-wire smoke sensor memo, where n is the number of the smoke sensor, the number from 1 to 4 inclusive
1-wire Humidity Sensors				
.1.3.6.1.4.1.25728.8400.1.1.1.n	npRelHumN.n	Integer	READ	The index of the humidity sensor, where n — number of a senso, the number from 1 to 4 inclusive
.1.3.6.1.4.1.25728.8400.1.1.2.n	npRelHumValue.n	Integer	READ	The value of a relative humidity, %, where n — number of a sensor
.1.3.6.1.4.1.25728.8400.1.1.3.n	npRelHumStatus.n	Integer	READ	The status of a relative humidity, where n - number of a sensor: 0 — failed or not connected sensor 1 — below safe range 2 — in safe range 3 — above safe range
.1.3.6.1.4.1.25728.8400.1.1.4.n	npRelHumTempValue.n	Integer	READ	Temperature value, °C, where n — number of the sensor
.1.3.6.1.4.1.25728.8400.1.1.5.n	npRelHumTempStatus.n	Integer	READ	The status of temperature of a humidity sensor, where n - number of a sensor: 0 — failed or not connected sensor 1 — below safe range 2 — in safe range 3 — above safe range
.1.3.6.1.4.1.25728.8400.1.1.6.n	npRelHumMemo.n	DisplayString	READ	The memo of a humidity sensor, where n - number of a sensor
.1.3.6.1.4.1.25728.8400.1.1.7.n	npRelHumSafeRangeHigh.n	Integer	READ	The upper limit of the safe range of relative humidity,%, where n is number of a sensor
.1.3.6.1.4.1.25728.8400.1.1.8.n	npRelHumSafeRangeLow.n	Integer	READ	The lower limit of the safe range of relative humidity,%, where n is number of a sensor
.1.3.6.1.4.1.25728.8400.1.1.9.n	npRelHumTempSafeRangeHigh.n	Integer	READ	The upper limit of the safe range of temperature,C, where n is number of a sensor
.1.3.6.1.4.1.25728.8400.1.1.10.n	npRelHumTempSafeRangeLow.n	Integer	READ	The lower limit of the safe range of temperature,C, where n is number of a sensor
1-wire Temperature sensor				
.1.3.6.1.4.1.25728.8800.1.1.1.n	npThermoSensorN.n	Integer	READ	A temperature sensor identifier, number from 1 to 8 inclusive
.1.3.6.1.4.1.25728.8800.1.1.2.n	npThermoValue.n	Integer	READ	Current temperature at the temperature sensor, deg. C, where n is the number of the temperature sensor, a number from 1 to 8 inclusive.
.1.3.6.1.4.1.25728.8800.1.1.3.n	npThermoStatus.n	Integer	READ	Status of the temperature sensor of the temperature sensor readings, where n is a number of a temperature sensor, a number from 1 to 8 inclusive. • 0 — failed or not connected sensor • 1 — below safe range • 2 — in safe range • 3 —above safe range
.1.3.6.1.4.1.25728.8800.1.1.4.n	npThermoLow.n	Integer	READ	The lower limit of the safe temperature range, where n is a number of a temperature sensor, a number from 1 to 8 inclusive
.1.3.6.1.4.1.25728.8800.1.1.5.n	npThermoHigh.n	Integer	READ	The upper limit of the safe temperature range, where n is the number of the temperature sensor, a number from 1 to 8 inclusive
.1.3.6.1.4.1.25728.8800.1.1.6.n	npThermoMemo.n	DisplayString	READ	The memo for a temperature sensor, where n is a number of a temperature sensor, a number from 1 to 8 inclusive
IO-lines				
.1.3.6.1.4.1.25728.8900.1.1.1.n	npIoLineN.n	Integer	READ	IO line identifier, n - line number, number from 1 to 4 inclusive
.1.3.6.1.4.1.25728.8900.1.1.2.n	npIoLevelIn.n	Integer	READ	The current state of the line, where n is the line number, a number from 1 to 4 inclusive. Possible values: • 0 — log. 0 • 1 — log. 1

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.1.3.6.1.4.1.25728.8900.1.1.3.n	npIoLevelOut.n	Integer	READ/WRITE	The line status in the "output" mode, where n is the line number, a number from 1 to 4 inclusive. Write "1" or "0" to switch the line to the appropriate state.
.1.3.6.1.4.1.25728.8900.1.1.6.n	npIoMemo.n	OctetString	READ	The memo (short description for the IO line), where n is the line number, a number from 1 to 4 inclusive
.1.3.6.1.4.1.25728.8900.1.1.9.n	npIoPulseCounter.n	Counter32	READ/WRITE	Pulse counter on the IO line. It is counted from the positive edge of the pulse after filtering short pulses. To force zero, write "0". It also resets when the power is switched off, where: n is the line number, a number from 1 to 4 inclusive
.1.3.6.1.4.1.25728.8900.1.1.12.n	npIoSinglePulseDuration.n	Integer	READ/WRITE	The duration of one pulse at the output of the IO line (valid values are from 100 ms to 25 500 ms, in increments of 100 ms), where n is the line number, a number from 1 to 4 inclusive
.1.3.6.1.4.1.25728.8900.1.1.13.n	npIoSinglePulseStart.n	Integer	READ/WRITE	To supply a single pulse to the output of the IO line, write "1". The pulse duration is taken from the variable npIoSinglePulseDuration.n, where n is the line number, a number from 1 to 4 inclusive

[ENG] 14.4. [DKSF 48.5 IU] The Support of SNMP trap

A formal description of SNMP TRAP messages can be found in the DKSF 48.5.X MB MIB file attached to the firmware. It can be downloaded on the device description page in the "Documentation and Files" section:

- For NetPing 8/PWR-220 v4/SMS: http://www.netpingdevice.com/products/netping-8-pwr-220-v4-sms

The SNMP TRAP message is sent in SNMP v1 format, while the description in the MIB file has SNMP v2c format.

The unique mutual correspondence between the identification of SNMP TRAP messages for v1 and v2c is described in RFC3584 "Coexistence between Version 1, Version 2, and Version 3 of the Internet-standard Network Management Framework".

As a rule, programs for processing SNMP notifications carry out the conversion between two formats easily.

In order to send SNMP TRAP messages you have to:

- specify the IP address for sending SNMP TRAP on the "SETUP" page of the device`s web-interface;
- enable sending SNMP TRAP messages by switching on the corresponding checkboxes in the sensors and relays configuration dialogs.

SNMP TRAP WHEN CHANGING THE LEVEL ON THE IO LINE IN THE "IO" MODE

Identification npIoTrap

SNMP v1 enterprise	.1.3.6.1.4.1.25728.8900.2
SNMP v1 generic-trap	enterpriseSpecific(6)
SNMP v1 specific-trap	1
SNMP v2 snmpTrapOID	.1.3.6.1.4.1.25728.8900.2.0.1

Valiable values in the set npIoTrap (varbind list)

OID	The type of the data	The description
.1.3.6.1.4.1.25728.8900.2.1.0	Integer	The IO line number (starting with "1"), the change of which caused the sending of a TRAP message
.1.3.6.1.4.1.25728.8900.2.2.0	Integer	The value of the logic level on the IO line ("0" or "1")
.1.3.6.1.4.1.25728.8900.2.6.0	DisplayString	The memo (textual description of the line, encoding win1251)

SNMP TRAP WHEN CHANGING THE STATUS OF A TEMPERATURE SENSOR

Identification npThermoTrap

SNMP v1 enterprise	.1.3.6.1.4.1.25728.8800.2
SNMP v1 generic-trap	enterpriseSpecific(6)
SNMP v1 specific-trap	1
SNMP v2 snmpTrapOID	.1.3.6.1.4.1.25728.8800.2.0.1

Variable values in the set npThermoTrap (varbind list)

OID	The type of the data	The description
.1.3.6.1.4.1.25728.8800.2.1.0	Integer	The number of a sensor (1...8), the change of which caused the sending of a TRAP message
.1.3.6.1.4.1.25728.8800.2.2.0	Integer	Current temperature value, °C

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.1.3.6.1.4.1.25728.8800.2.3.0	Integer	Sensor status: • 0 — failed or not connected sensor • 1 — temperature is below safe range • 2 — temperature is in safe range • 3 — temperature is above safe range
.1.3.6.1.4.1.25728.8800.2.4.0	Integer	The lower limit of the safe range, °C
.1.3.6.1.4.1.25728.8800.2.5.0	Integer	The upper level of the safe range, °C
.1.3.6.1.4.1.25728.8800.2.6.0	DisplayString	The memo (textual description of the installation location of the temperature sensor, encoding win1251)

SNMP TRAP WHEN CHANGING THE STATUS OF A SMOKE SENSOR

Identification npSmokeTrap

SNMP v1 enterprise	.1.3.6.1.4.1.25728.8200.2
SNMP v1 generic-trap	enterpriseSpecific(6)
SNMP v1 specific-trap	1
SNMP v2 snmpTrapOID	.1.3.6.1.4.1.25728.8200.2.0.1

Variable values in the set npSmokeTrap (varbind list)

OID	The type of the data	The description
.1.3.6.1.4.1.25728.8200.2.1.0	Integer	The number of a smoke sensor (1...8), the change of which caused the sending of a TRAP message
.1.3.6.1.4.1.25728.8200.2.2.0	Integer	Status of the loop: • 0 — Norm • 1 — Alert • 4 — StopOut • 5 — Failure
.1.3.6.1.4.1.25728.8200.2.6.0	DisplayString	The memo (textual description of the installation location of the 1-wire smoke sensor sensor, encoding win1251)

SNMP TRAP WHEN CHANGING THE STATUS OF THE HUMIDITY SENSOR

Identification npRelHumTrap

SNMP v2 snmpTrapOID	.1.3.6.1.4.1.25728.8400.6.0.1

snmpTrapOID npRelHumTrap (SNMP TRAP-messages when the status of humidity changes)

OID	The description
.1.3.6.1.4.1.25728.8400.6.100.n	The fault of the humidity sensor, where n - number of the sensor 1...4
.1.3.6.1.4.1.25728.8400.6.101.n	the readings of the relative humidity below safe sange, where n - number of the sensor 1...4
.1.3.6.1.4.1.25728.8400.6.102.n	The readings of the relative humidity is in safe sange, where n - number of the sensor 1...4
.1.3.6.1.4.1.25728.8400.6.103.n	The readings of the relative humidity is above Safe Range, where n - number of the sensor 1...4
.1.3.6.1.4.1.25728.8400.6.127.n	Common snmpTrapOID for all the events, where n - number of the sensor
.1.3.6.1.4.1.25728.8400.6.m.99	Common snmpTrapOID for all the channels, where m — a code of the event (100, 101, 102, 103)
.1.3.6.1.4.1.25728.8400.6.127.99	Common snmpTrapOID for all the events and channels

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Identification npRelHumTrap

SNMP v2 snmpTrapOID	.1.3.6.1.4.1.25728.8400.7.0.1

snmpTrapOID npRelHumTrapTemp (SNMP TRAP-messages when the status of temperature changes)

OID	The Description
.1.3.6.1.4.1.25728.8400.7.100.n	The fault of the sensor, where n - number of the sensor 1...4
.1.3.6.1.4.1.25728.8400.7.101.n	The readings of the temperature sensor below Safe Range, where n - number of the sensor 1...4
.1.3.6.1.4.1.25728.8400.7.102.n	The readings of the temperature sensor in Safe Range, where n - number of the sensor 1...4
.1.3.6.1.4.1.25728.8400.7.103.n	The readings of the temperature sensor above Safe Range, where n - number of the sensor 1...4
.1.3.6.1.4.1.25728.8400.7.127.n	Common snmpTrapOID for all the events, where n — number of the sensor
.1.3.6.1.4.1.25728.8400.7.m.99	Common snmpTrapOID for all the channels, where m — the code of the event (100, 101, 102, 103)
.1.3.6.1.4.1.25728.8400.7.127.99	Common snmpTrapOID for all the events and channels

Variable values in the set npRelHumTrap (varbind list)

OID	The type of the data	The description
.1.3.6.1.4.1.25728.8400.3.1.0	Integer	The index of the sensor that initiated the sending of the TRAP message.
.1.3.6.1.4.1.25728.8400.3.2.0	Integer	The value of the relative humidity, %, or temperature °C
.1.3.6.1.4.1.25728.8400.3.4.0	Integer	The status of the relative humidity and temperature Possible values: • 0 — sensor failed or not connected • 1 — the reading are below the safe range • 2 — the reading are in the safe range • 3 — the reading are above the safe range
.1.3.6.1.4.1.25728.8400.3.6.0	DisplayString	The memo (textual description of the sensor, encoding win1251)
.1.3.6.1.4.1.25728.8400.3.7.0	Integer	The upper limit of the range of safe values for relative humidity or temperature,% or C
.1.3.6.1.4.1.25728.8400.3.8.0	Integer	The lower limit of the range of safe values for relative humidity or temperature,% or C

The combination of event type and channel number can be enabled by the corresponding checkboxes in the notification settings dialog:

NOTIFICATIONS FOR RELATIVE HUMIDITY SENSOR 1

Event	Log	Syslog	E-mail	SMS	SNMP Trap
Humidity is above Safe Range	☑	☐	☑	☐	☑
Humidity is in Safe Range	☑	☐	☑	☐	☑
Humidity is below Safe Range	☑	☐	☑	☐	☑
Temperature is above Safe Range	☑	☐	☐	☐	☑
Temperature in Safe Range	☑	☐	☐	☐	☑
Temperature is below Safe Range	☑	☐	☐	☐	☑
Sensor fault	☑	☐	☐	☐	☑
Include in Summary Report	·	·	☑	☐	☐
Use common snmpTrapOID for all Events					☑
Use common snmpTrapOID for all Sensor Numbers					☑

Cancel   Save

SNMP TRAP FROM «WATCHDOG»

Identification npPwrWdogTrap

SNMP v1 enterprise	.1.3.6.1.4.1.25728.5800.6
SNMP v1 generic-trap	enterpriseSpecific(6)
SNMP v1 specific-trap	1
SNMP v2 snmpTrapOID	.1.3.6.1.4.1.25728.5800.6.0.1

snmpTrapOID npPwrWdogTrap (SNMP TRAP messages from «Watchdog»)

OID	The description
.1.3.6.1.4.1.25728.5800.6.100.n	Relay reset initiated by the "Watchdog" has begun, where n is the relay number, 1 ... 8
.1.3.6.1.4.1.25728.5800.6.101.n	The "Watchdog" operation is suspended (after the number of discharges that didn't have an effect specified in the watchdog settings), where n is the relay number, 1 ... 8
.1.3.6.1.4.1.25728.5800.6.102.n	The operation of the "Watchdog" is restored. The monitored host responded to ping after the "Watchdod" suspended, where n is the relay number, 1 ... 8

Variable values in the set npPwrWdogTrap (varbind list)

OID	The type of the data	The description
.1.3.6.1.4.1.25728.5800.2.1.0	Integer	Индекс канала «Сторожа» / реле The index of "Watchdog"/relay
.1.3.6.1.4.1.25728.5800.2.6.0	DisplayString	The relay memo
.1.3.6.1.4.1.25728.5800.2.13.0	Integer	Unavailability bitmap of monitored hosts. 0 bit - address A, 1 bit - B, 2 bit - C For example, 5 (101 in binary) means that address A and C did not respond (the first and the third) The variable value is included only in the TRAP message .1.3.6.1.4.1.25728.5800.6.100 about the initiation of the relay reset

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Identification npRelayTrap

SNMP v2 SNMPTrapOID	.1.3.6.1.4.1.25728.5500.6.0.1

snmpTrapOID npRelayTrap (SNMP TRAP-messages from the relay)

OID	Описание
.1.3.6.1.4.1.25728.5500.6.100.n	Relay is Switched Off, where n - number of the relay 1...8
.1.3.6.1.4.1.25728.5500.6.101.n	Relay is Switched On, where n - number of the relays 1...8
.1.3.6.1.4.1.25728.5500.6.102.n	A command was received to change the state of the relay, where n is the relay number 1 ... 8
.1.3.6.1.4.1.25728.5500.6.103.n	The relay reset had been initiated, where n is the relay number 1...8
.1.3.6.1.4.1.25728.5500.6.127.n	Common snmpTrapOID for all events, where n is the relay number
.1.3.6.1.4.1.25728.5500.6.m.99	Общий snmpTrapOID для всех реле, где m — код события (100, 101, 102, 103)
	Common snmpTrapOID for all events and for all channels

Variable values in the set npRelayTrap (varbind list)

OID	The type of the data	The description
.1.3.6.1.4.1.25728.5500.3.1.0	Integer	The index of the relay that initiated the sending of the message
.1.3.6.1.4.1.25728.5500.3.2.0	Integer	Relay status without reset. Possible values: • 0 — off • 1 — on
.1.3.6.1.4.1.25728.5500.3.6.0	DisplayString	The relay memo
.1.3.6.1.4.1.25728.5500.3.15.0	Integer	Actual instantaneous state of the relay, taking into account the reset. Possible values: • 0 — off • 1 — on
.1.3.6.1.4.1.25728.5500.3.18.0	Integer	The source of the commands. Possible values: • -1 — unknown • 1 — web-interface • 2 — SNMP • 3 — SMS • 4 — HTTP API • 5 — watchdog • 6 — schedule • 7 — logic
.1.3.6.1.4.1.25728.5500.3.19.0	DisplayString	Timestamp events

The combination of event type and channel number can be enabled by the corresponding checkboxes in the notification settings dialog:

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NOTIFICATIONS FOR RELAY 2

Event	Log	Syslog	E-mail	SMS	SNMP Trap
Commands for Switching On/Off	✔	✔	☐	✔	✔
Reset (Flip for Short period)	✔	✔	☐	✔	✔
Suspention of Resets in Watchdog	✔	✔	☐	✔	✔
Relay Switched	✔	✔	☐	✔	✔
Include in Summary Report	.	.	☐	☐	☐
Use common snmpTrapOID for all Events					☐
Use common snmpTrapOID for all Sensor Numbers					☐

| Cancel | Save |

SNMP TRAP ON STATUS OF POWER INPUTS

Identification npAcInTraps

SNMP v1 enterprise	.1.3.6.1.4.1.25728.5100.46
SNMP v1 generic-trap	enterpriseSpecific(6)
SNMP v1 specific-trap	1
SNMP v2 SNMPTrapOID	.1.3.6.1.4.1.25728.5100.46.0.1

Variable values in the set npAcInTraps (varbind list)

OID	The type of the data	The description
.1.3.6.1.4.1.25728.5100.45.1	Integer	The index of power input. 1 or 2
.1.3.6.1.4.1.25728.5100.45.6	DisplayString	The input memo
.1.3.6.1.4.1.25728.5100.45.16	Integer	the availability of voltage at the input possible values: • 0 — no • 1 — yes

SNMP TRAP FROM THE GROUPS OF OUTLETSA ABOUT THE BACKUP STATE

Identification npOutGrpTraps

SNMP v1 enterprise	.1.3.6.1.4.1.25728.5100.57
SNMP v1 generic-trap	enterpriseSpecific(6)
SNMP v1 specific-trap	1
SNMP v2 SNMPTrapOID	.1.3.6.1.4.1.25728.5100.57.0.1

Variable values in the set npOutGrpTraps (varbind list)

OID	Тип данных	Описание
.1.3.6.1.4.1.25728.5100.56.1.0	Integer	The number of the groups of outlets. 1 (1...4 outlets) ot 2 (5...8 outlets)

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.1.3.6.1.4.1.25728.5100.56.2.0	Integer	Power source for a group of outlets. Possible values: • 0 — primary input • 1 — backup input
.1.3.6.1.4.1.25728.5100.56.6.0	DisplayString	The memo of an outlets group . Fixed for 1 - "1 ... 4", for 2 - "5 ... 8"

SNMP TRAP ABOUT GSM STATE

Identification npGsmTraps

SNMP v1 enterprise	.1.3.6.1.4.1.25728.3800.2
SNMP v1 generic-trap	enterpriseSpecific(6)
SNMP v1 specific-trap	1
SNMP v2 SNMPTrapOID	.1.3.6.1.4.1.25728.3800.2.0.1

variable values in the set npGsmTraps (varbind list)

OID	The type of the data	The description
.1.3.6.1.4.1.25728.3800.1.1.0	Integer	The state of a built-in GSM modem • 0 — OK • 1 — Failed (no connection) • 2 — FatalError (fatal error, modem locked)
.1.3.6.1.4.1.25728.3800.1.2.0	Integer	Connection status to the GSM network: • 0 — Impossible • 1 — HomeNetwork • 2 — Searching • 3 — Denied • 4 — Unknown • 5 — Roaming • 255 — InfoUpdate
.1.3.6.1.4.1.25728.3800.1.3.0	Integer	GSM signal strength: • 0…31 = 0% … 100% • 99 — Unknown • 255 — Updating info

[ENG] 15. [DKSF 48.5 IU] Device Support HTTP API

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[ENG] 15.1. [DKSF 48.5 IU] IO Lines Control

The interface of URL-encoded commands in this device can be used for integration with web-applications without SNMP protocole.The operating of IO lined can be implemented via the interface of URL-encoded commands.

```
http://192.168.0.100/io.cgi?ioN
```

where:

N – the number of the line, indicated after ?io.

```
http://192.168.0.100/io.cgi?io
```

Error (wrong request format or wrong IO line number):

```
io_result('error')
```

Successful execution of the command:

```
io_result('ok', 9, [1, 0, 0, 1]);
```

The first agrument: always 'ok' (upon request erroe — 'error').

The second argument — a bit map of the IO lines status

The third argument — IO line status in the form of a list

Error (wrong request format or wrong IO line number):

```
io_result('error')
```

Successful execution of the command:

```
io_result('ok', -1, 1, 339)
```

The first agrument: always 'ok' (upon request erroe — 'error').

The second argument: always «-1», for API extension in the future

The third argument:current instantaneous state of the IO line, including the reset state.

The forth argument: pulse counter on this IO line.

The name JSON-P callback-a iis fixed, io_result(), and can not be changed in the request

Switching to the state "0" or "1":

```
http://192.168.0.100/io.cgi?ioN=0

http://192.168.0.100/io.cgi?ioN=1
```

where:

N – the line number, indicated after ?io.

Switching to an alternative (inverse) state.

```
http://192.168.0.100/io.cgi?ioN=f
```

where:

N – the line number, indicated after ?io.

Short-term switching to the inverse state, i.e., the issuance of a pulse.

```
http://192.168.0.100/io.cgi?ioN=f,5
```

where:

N – the line number, indicated after ?io.

Duration in seconds is set after the decimal point.

THE CHOICE OF THE IO LINE OPERATION MODE

Setting the line operation mode: "0" - input, "1" - output:

```
http://192.168.0.100/io.cgi?ioN&mode=0
http://192.168.0.100/io.cgi?ioN&mode=1
```

where:

N – the line number, indicated after ?io.

RETURN VALUES

Error (wrong request format or wrong IO line number):

```
io_result('error')
```

The command has been executed.

```
io_result('ok')
```

AUTHORIZATION

To add a login and password to the structure of a URL-encoded command, it is possible to use the next scheme:

- http://<username>:<password>@<host>:<port>/<URL-path>?<parameters>

where:

<username>:<password> – are credentials for authorization in a device web interface;

<host> – is an IP address of a device;

<port> – is a port of an HTTP server;

<URL-path>?<parameters> – is a URL-encoded command

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[ENG] 15.2. [DKSF 48.5 IU] The Control of The Relay

The interface of URL-encoded command in the device can be used for the integration with web applications without the SNMP protocole. The relay control is available via the interface of URL-encoded commands.

REQUEST OF THE RELAY STATE

```
http://192.168.0.100/relay.cgi?rN
```

where:

N — the relay number is indicated after ?r.

RETURN VALUES

Error (wrong format of the request or wrong relay number):

```
relay_result('error');
```

Successful execution of the command

```
relay_result('ok', 1, 1);
```

where:

The first argument: always 'ok' (upon request error - 'error')

The second argument: the source of the relay control:

0 — OFF;

1 — ON.

The third argument: the instantaneous current state of the relay ("0" or "1"), considering the functioning of the "Watchdog" module, activation of a reset, impulse output, etc.

THE RELAY SWITCHING

Change of control source, as well as manual switching on and off of the relay:

```
http://192.168.0.100/relay.cgi?rn=s
```

After ?r the relay number is indicated, after = the number of mode is indicated (the source of the control).

where:

n — the relay number;

s — the relay operation mode:

0 — Off;

1 — On.

Switching (inverting) the relay, on <-> off:

```
http://192.168.0.100/relay.cgi?rn=f
```

The relay should be in the mode «Manual off» or «Manual on».

Short-term switching of the relay to the inverse state (issuing a reset pulse):

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---

http://192.168.0.100/relay.cgi?rn=f,10

Duration in seconds is indicated after the decimal point. Applicable to all modes

RETURN VALUES

An error is returned if the request format is incorrect as a result of setting an incorrect / invalid value for the relay number or relay mode.

---

relay_result('ok')

relay_result('error')

AUTHORIZATION

To add a login and password to the structure of a URL-encoded command, it is possible to use the next scheme:

- http://<username>:<password>@<host>:<port>/<URL-path>?<parameters>

where:

<username>:<password> – are credentials for authorization in a device web interface;

<host> – is an IP address of a device;

<port> – is a port of an HTTP server;

<URL-path>?<parameters> – is a URL-encoded command

[ENG] 15.3. [DKSF 48.5 IU] Control of the Power Inputs Backup

The interface of the URL-commands in the device can be used for integration with web-applications without SNMP protocole. The control of the power input backup is possible via the interface of the URL-encoded commands.

REQUEST ABOUT THE INPUTS STATE

```
http://192.168.0.100/ats_in.cgi
```

RETURN VALUES

```
ats_in_result('ok', 1, 1)
```

where:

The first argument: always 'ok'

The second and third arguments correspond to the availability of voltage at the inputs 1 and 2, respectively:

0 - no voltage

1 - there is voltage

REQUEST ABOUT THE STATE OF THE GROUPS OF OUTLETS

```
http://192.168.0.100/ats.cgi?gN
```

where:

N — the number of the outlets groups, 1 (1..4) or 2 (5..8)

RETRUN VALUES

```
ats_in_result('ok', 'primary', 1)
```

where:

The first argument: always 'ok'

The second argument 'backup' if the group is powered by backup input, and 'primary' if it is powered from the main input

The third argument corresponds to the availability of voltage on the active input

0 - no voltage

1 - there is voltage

REQUEST OF THE OUTLETS GROUPS SETTINGS

Request of the settings for determining the main input for outlet groups, switching to backup input when there is no power at the main input and auto-return of outlet groups to the main input when power appears on the main input, respectively:

```
http://192.168.0.100/ats.cgi?gN&main

http://192.168.0.100/ats.cgi?gN&backup

http://192.168.0.100/ats.cgi?gN&autorevert
```

where:

N — the number of outlets groups, 1 (1...4) or 2 (5...8)

RETURN VALUES

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Error (wrong request format or wrong relay number):

```
ats_in_result('error')
```

Successful execution of the command

```
ats_in_result('ok', 2)

ats_in_result('ok', 'on')
```

where:

The first and only argument is 'error' if the command is not recognized or an invalid group number is specified

The first argument is 'ok', if the second is followed by the value of the requested parameter

The second argument is the value of the requested parameter: 1 or 2 for the number of the main (primary) input, 'on' or 'off' for backup and auto-return.

CHOICE OF THE MAIN (PRIMARY) INPUT

To force a switch, set an alternative input number:

```
http://192.168.0.100/ats.cgi?gN&main=n
```

where:

N — the number of the outlets goups , 1 (1...4) or 2 (5...8);

n — the input number (1 or 2).

RETURN VALUE

The error is issued if the command format is incorrect, the group number or input number is incorrect (more than 2):

```
ats_result('error')
```

Successful execution of the command

```
ats_result('ok')
```

SWITCHING ON/OFF OF THE AUTO BACKUP

Switching on ('on') or switching off ('off') the automatic transition to the backup input in case of power failure at the main input for groups of outlets:

```
/ats.cgi?gN&backup=on

/ats.cgi?gN&backup=off
```

where:

N — the number of outlets groups, 1 (1...4) ot 2 (5...8)

RETURN VALUE

The error is generated if the command format is incorrect, the group number is incorrect, or the backup parameter is incorrect:

```
ats_result('error')
```

Successful execution of the command

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```
ats_result('ok')
```

SWITCHING ON/OFF THE AUTO RETURN

Switching on ('on') or off ('off') automatic return to the main input when voltage is restored on it for groups of outlets

```
/ats.cgi?gN&autorevert=on

/ats.cgi?gN&autorevert=off
```

where:

N — the number of the outlet groups, 1 (1...4) or 2 (5...8)

RETURN VALUES

An error is issued if the command format is incorrect, the group number is incorrect, or the backup parameter is incorrect.

```
ats_result('error')
```

Successful execution of the command

```
ats_result('ok')
```

MANUAL RETURN ONTO THE MAIN (PRIMARY) INPUT

The return of the groups of outletss to the main input, if previously they were automatically transferred to the reserve and there is voltage on the main input:

```
/ats.cgi?g1&revert

/ats.cgi?g1&revert
```

where:

N — the number of the outlets groups, 1 (1..4) or 2 (5..8)

RETURN VALUES

An error is issued if the command format is incorrect:

```
ats_result('error')
```

Successful execution of the command

```
ats_result('ok')
```

AUTHORIZATION

To add a login and password to the structure of a URL-encoded command, it is possible to use the next scheme:

- http://<username>:<password>@<host>:<port>/<URL-path>?<parameters>

where:

<username>:<password> – are credentials for authorization in a device web interface;

<host> – is an IP address of a device;

<port> – is a port of an HTTP server;

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<URL-path>?<parameters> – is a URL-encoded command

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[ENG] 15.4. [DKSF 48.5 IU] The Control of the 1-wire Smoke Sensors

The interface of URL-encoded commands in the device can be used to integrate with web applications without using the SNMP protocol. Through the interface of URL-encoded commands, control of 1-wire smoke detectors is available.

REQUEST ABOUT THE RELAY STATE

```
http://192.168.0.100/smoke.cgi?sN
```

where:

N — the number of the smoke sensor.

RETURN VALUES

Error in the request (wrong format, wrong number of sensor)

```
relay_result('error');
```

Successful execution of the command

```
smoke_result('ok', 1, 'Норма');
smoke_result('ok', 1, 'OK');
```

where:

The first argument is 'ok',

The second - status in numbers, the third - status in text:

0 - Norm;

1 - Alert;

4 - The loop power is off;

5 - Sensor failure, or the sensor is absent on the 1-wire bus.

CONTROL OF THE LOOP POWER

Switching on, off, short-term shutdown of the voltage supplied to the current loop to power an external fire detector. Voltage relief is used to reset the triggered detector to its initial state:

```
/smoke.cgi?sN&on
/smoke.cgi?sN&off
/smoke.cgi?sN&reset
```

where:

N — the number of the state.

RETURN NUMBER

Error (wrong format of the request or wrong relay number

```
relay_result('error');
```

Successful execution of the command

```
relay_result('ok');
```

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To add a login and password to the structure of a URL-encoded command, it is possible to use the next scheme:

- http://<username>:<password>@<host>:<port>/<URL-path>?<parameters>

where:

<username>:<password> – are credentials for authorization in a device web interface;

<host> – is an IP address of a device;

<port> – is a port of an HTTP server;

<URL-path>?<parameters> – is a URL-encoded command

[ENG] 15.5. [DKSF 48.5 IU] The Control of Temperature Sensors

The interface of URL-encoded commands in the device can be used to integrate with web applications without using the SNMP protocol. Via the interface of URL-encoded commands, control of temperature sensors is available.

REQUEST OF THE STATE

http://192.168.0.100/thermo.cgi?tN

where:

N — number of the temperature sensor, indicated after ?t.

RETURN VALUES

Error in the request (wrong format or wrong number of sensor):

thermo_result('error')

Successful completion of the command

thermo_result('ok', 36, 2);

where:

The first argument: always 'ok' (upon request error - 'error').

The second argument: current temperature.

The third argument: the sensor status

0 - Sensor not connected or malfunctioning

1 - Temperature is below normal

2 - Temperature is normal

3 - Temperature above normal

AUTHORIZATION

To add a login and password to the structure of a URL-encoded command, it is possible to use the next scheme:

- http://<username>:<password>@<host>:<port>/<URL-path>?<parameters>

where:

<username>:<password> – are credentials for authorization in a device web interface;

<host> – is an IP address of a device;

<port> – is a port of an HTTP server;

<URL-path>?<parameters> – is a URL-encoded command

[ENG] 15.6. [DKSF 48.5 IU] Control of the Humidity Sensors

The interface of URL-encoded commands in the device can be used to integrate with web applications without using the SNMP protocol. Via the interface of URL-encoded commands, humidity sensor control is available.

REQUEST ABOUT THE STATE

> http://192.168.0.100/relhum.cgi

RETURN VALUES

Successful execution of the command

> relhum_result('ok', 55, 25, 2)

where:

The first argument: always 'ok'.

The second argument: relative humidity,%.

The third argument: temperature of the humidity sensor

The forth argument: ths sensor status

0 - the sensor is not connected or fails;

1 - humidity is below the safe range;

2 - humidity is in the safe range;

3 - humidity is above the safe range.

AUTHORIZATION

> To add a login and password to the structure of a URL-encoded command, it is possible to use the next scheme:
>
> - http://<username>:<password>@<host>:<port>/<URL-path>?<parameters>
>
> where:
>
> <username>:<password> – are credentials for authorization in a device web interface;
>
> <host> – is an IP address of a device;
>
> <port> – is a port of an HTTP server;
>
> <URL-path>?<parameters> – is a URL-encoded command

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[ENG] 15.7. [DKSF 48.5 IU] Control of the Transceiver of the IR Commands

An interface of URL-encoded commands in a device can be used to integrate with web applications without using an SNMP protocol. It is possible to control an IR command transceiver through the interface of URL-encoded commands.

SENDING AN IR COMMAND

http://192.168.0.100/ir.cgi?play=N

where:

N – is a number of a command.

RETURNED VALUES

ir_result('ok')

ir_result('error')

An error is returned only if a request format is incorrect or a command number is wrong. Errors of the module IRC-TRv2 are not checked when a response is formulated.

AUTHORIZATION

To add a login and password to the structure of a URL-encoded command, it is possible to use the next scheme:

- http://<username>:<password>@<host>:<port>/<URL-path>?<parameters>

where:

<username>:<password> – are credentials for authorization in a device web interface;

<host> – is an IP address of a device;

<port> – is a port of an HTTP server;

<URL-path>?<parameters> – is a URL-encoded command

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[ENG] 15.8 [DKSF 48.5 IU] Control of The GSM Modem

The interface of URL-encoded commands in the device can be used to integrate with web applications without using the SNMP protocol. Via the interface of URL-encoded commands, control of the built-in GSM modem is available.

SENDING SMS

> http://192.168.0.100/sendsms.cgi?utf8

The URL is called by the POST method. POST data is an SMS text encoded in UTF-8. You can read more about sending arbitrary SMS messages in the section [ENG] 12.1. [DKSF 48.5 IU] How to Find Out a USSD Balance on a SIM-card

In order to send SMS in encoding Windows 1251, you can use:

> http://192.168.0.100/sendsms.cgi

RETURN VALUES

Successful completion of the command

> smssend_result('ok');

Error in the request text

> smssend_result('error');

GSM modem is busy

> smssend_result('busy');

SIM CARD BALANCE REQUEST

> http://192.168.0.100/ussdstart.cgi?coderequest

where:

code request — a[code]x.For example, a100x, which means * 100 #. In the USSD code of the request, "*" is replaced by "a", "#" is replaced by "x" (Latin characters).

RETURN VALUES

Successful execution of the command

> ussdsend_result('ok');

RECEIVING A RESPONSE TO A SIM CARD BALANCE REQUES

> http://192.168.0.100/ussdread.cgi

Call in 20 minutes after requesting SIM card balance.

RETURN VALUES

Successful execution of the command

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```
ussdsend_result("request_gsm_operator");
```