



[ENG] NetPing Monitoring Solution GSM3G 72R11 &
NetPing Monitoring Solution 73R12, Firmware
Description

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[ENG] 1. [DKSF 72/73.1] Introduction

What This Document Is About?

This document describes the functionality of the DKSF 72/73.1 firmware for the next devices: NetPing Monitoring Solution GSM3G 72R11 & NetPing Monitoring Solution 73R12.

The devices NetPing Monitoring Solution GSM3G 72R11 & NetPing Monitoring Solution 73R12 with the firmware of the DKSF 72/73.1 version support the next management interfaces:

- HTTP (web-interface);
- SNMP v1;
- URL encoded HTTP commands;
- SMS-commands (for the models with a built-in GSM-modem).

Description of configurations an operating order for these management interfaces is provided in this document.

Description of physical specifications of the device, its controls, and indicators, a connection order of a device nad external sensors are given in the user guide.

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Developer and manufacturer:

NetPing east Co Ltd.

www.netpingdevice.com

sales@netpingdevice.com

[ENG] 2. [DKSF 72/73.1] Basic device information

To connect to the Web interface of the device, it is recommended to use the Chrome browser.

[ENG] 2.1. [DKSF 72/73.1] Default username, password and network settings

- Web interface login: visor
- Password: ping
- IP-address: 192.168.0.100 / 24
- Web port: 80
- SNMP port: 161
- Read/Write community: SWITCH

[ENG] 2.2. [DKSF 72/73.1] Basic device information

Basic information about the device is available in the "DEVICE IDENTIFICATION" block on the "MAIN" page of the Web interface.

NetPing Monitoring Solution GSM3G 72R11

Home

v72.1.1.E-3 / HW 1.4
NetPingMonito22r
Main office

[HOME](#) | [SETUP](#) | [E-MAIL](#) | [RS485 PORT](#) | [1-WIRE](#) | [TEMPERATURE](#) | [HUMIDITY](#) | [MONITORING V](#) | [NOTIFICATION](#) | [FIRMWARE](#) | [LOG SMS](#) | [DISCRETE IO 1..5](#) | [DISCRETE IO 6..12](#) | [RELAYS](#) | [EXTERNAL RELAYS](#) | [WATCHDOG](#) | [SCHEDULE](#) | [ANALOG INPUTS](#) | [LOGIC](#)

DEVICE IDENTIFICATION

| | |
|------------------|---|
| Hostname | NetPingMonito22r |
| Location | Main office |
| Contact | admin@example.com |
| Serial Number | SN: 500 205 696 |
| MAC Address | 00:a2:80:88:d0:1d |
| Device Model | NetPing Monitoring Solution GSM3G 72R11 |
| Firmware Version | v72.1.1.E-3 |
| Hardware Version | 1.4 |
| Uptime | 17d 14h 53m 21s |

NETWORK SETTINGS

| | |
|------------|---------------|
| IP Address | 192.168.0.31 |
| Netmask | 255.255.255.0 |
| Gateway | 192.168.0.1 |

Reboot

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Hostname — is the name of a device. It allows distinguishing between several NetPing devices of one type according to their hostnames. A hostname is represented at the home page and in a heading of a web interface and is sent in the notifications and available via SNMP.

Location — is a description of the location of the installation of a NetPing device. It is represented at the homepage and in a heading of a web interface, is available via SNMP.

Contact — is contact data (usually an email) of an administrator. It is represented at the homepage and is available via SNMP.

Serial Number — is a unique ID number of a device. It should coincide with the number on the sticker on the device. A serial number of a device cannot be changed.

MAC address — device MAC address.

Device model — the device model; for firmwares suitable for several models, several models can be specified at once.

Firmware Version — is a current firmware version installed on the device.

The firmware version looks like **DKSF PPP.VV.SS.C-M** (for example, DKSF 70.6.3.A-1), where:

- **DKSF** — is a specific prefix for all firmware versions of the company NetPing East Ltd.;
- **PPP** — is a number of the device model for which the firmware version is designed.

Usually but not necessarily, the numbers of projects coincide with the project number of the hardware of the device.

- **VV** — is a version number. Versions are numbered starting from 1. The version number is changed to the next one if, during the development, there is an extensive expansion or change in functionality;
- **SS** — is a subversion number. The subversion number is changed at any firmware update, including bug fixes, updating new modules, optimization;
- **C** — is a symbol that shows the type of this firmware version. R or A — mean a stable Russian firmware version, B — is a testing version or the first version of the new firmware and E — is a stable English firmware version;
- **M** — is a numeric suffix that shows the modification (variant) of the device model, for which the firmware is designed.

Hardware Version — is a version of the circuit board and/or equipment of the device.

Uptime — is the uptime of a device since the last switching on or rebooting.

[ENG] 2.3. [DKSF 72/73.1] Restart the device firmware.

You can restart the firmware in three ways:

1. Web-interface:

On the main page of the device, at the bottom of the interface there is a button "Reboot":

NetPing Monitoring Solution GSM3G 72R11

v72.1.1.E-3 / HW 1.4
NetPingMonito22r
Main office

Home

[HOME](#) | [SETUP](#) | [E-MAIL](#) | [RS485 PORT](#) | [1-WIRE](#) | [TEMPERATURE](#) | [HUMIDITY](#) | [MONITORING V](#) | [NOTIFICATION](#) | [FIRMWARE](#) | [LOG SMS](#) | [DISCRETE IO 1..5](#) | [DISCRETE IO 6..12](#) | [RELAYS](#) | [EXTERNAL RELAYS](#) | [WATCHDOG](#) | [SCHEDULE](#) | [ANALOG INPUTS](#) | [LOGIC](#)

DEVICE IDENTIFICATION

| | |
|------------------|---|
| Hostname | NetPingMonito22r |
| Location | Main office |
| Contact | admin@example.com |
| Serial Number | SN: 500 205 696 |
| MAC Address | 00:a2:80:88:d0:1d |
| Device Model | NetPing Monitoring Solution GSM3G 72R11 |
| Firmware Version | v72.1.1.E-3 |
| Hardware Version | 1.4 |
| Uptime | 17d 14h 53m 21s |

NETWORK SETTINGS

| | |
|------------|---------------|
| IP Address | 192.168.0.31 |
| Netmask | 255.255.255.0 |
| Gateway | 192.168.0.1 |

Reboot

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After this, the system is going to show the informational notification with the confirmation of the firmware restart.

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 Proceed Reboot

When clicking the button «**Proceed Reboot**», yellow CPU LEDs at Ethernet ports are going to blink several times, and the firmware is going to restart. The uptime of a device is going to reset to 0d 0h 0m 0s.

2. Using an **SNMP v1** protocol by setting OID values by the command **Set**:

| OID | Name | Type | Access | Description |
|--|---------------|---------|------------|--|
| .1.3.6.1.4.1.25728.91 1.1.0 | npSoftReboot | Integer | READ/WRITE | Software reboot of the firmware when writing the value «1» (analog to the rebooting of a device through a web interface). |
| .1.3.6.1.4.1.25728.91 1.3.0 | npForceReboot | Integer | READ/WRITE | An immediate forced restart of the firmware when writing the value «1» (resetting a processor, the same as when switching power on). |

3. SMS-command:

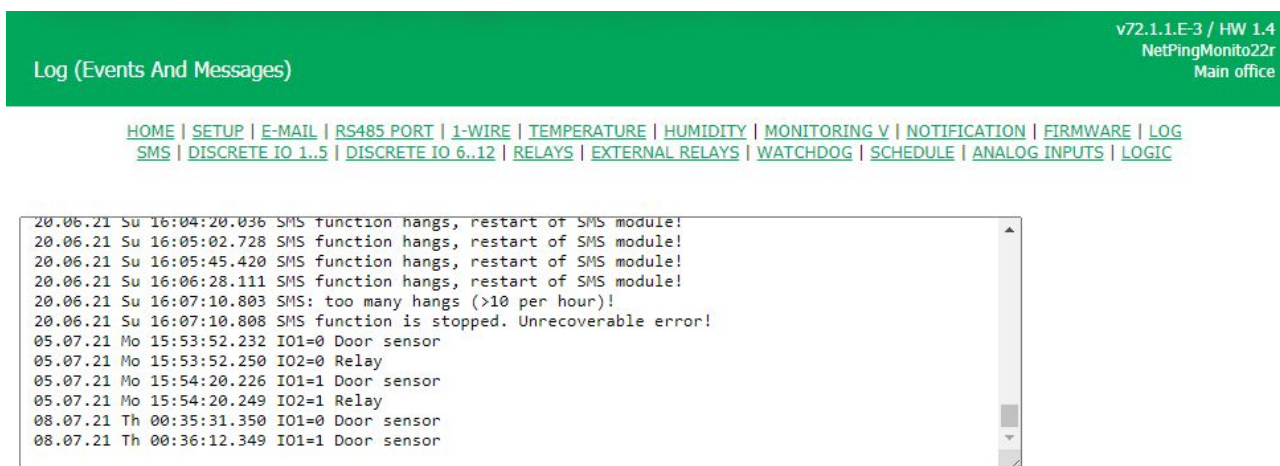
NETPING RB20 community_w

The documentation on controlling the device by SMS commands can be found in the section: [7.10. \[DKSF 72/73.1\] SMS commands](#).

[ENG] 2.4. [DKSF 72/73.1] The Log of a Device

The page «**Log**» of a device web interface represents a device operation. All events are saved in the log in a chronologic order. All notifications of the log are duplicated via SYSLOG protocol if an IP address of SYSLOG server is specified in the settings of a device.

The first time tag in the log is 01.01.70 Mon 00:00: 00.UTC. If an IP address of an NTP server is specified in the settings, a device will try to receive a precise time. If successful, a device will synchronize its internal clock with a precise time. After a time is synchronized in the log, two entries appear that represent a time jump when setting the clock correctly. If the time received when synchronising with an NTP server is different from the time of an internal clock for less than 5 min, its clock is not reset. The pace of internal clock is changed in the way for an internal time to coincide with a precise time received from an NTP server after a while. Therefore, there is no time jumps in the events list in a log, which makes analysing it easier.



General Events

Operation Start (Reboot) – is written into the log when a device is turned on.

Clock Reset – is written into the log if a received time from an NTP server is different from an internal time for more than 5 min. The entry is displayed in two rows: the first row has a time tag before resetting an internal clock, and the second one is made just after a reset is made.

Events from Temperature Sensors

Thermo chan.N "XXXX":normal YYC – is recorded into the log if a mode of sending SNMP TRAP notifications from temperature sensors is configured, and a temperature on a temperature sensor is within the limits set by a user. YY – is a current temperature on a temperature sensor.

Thermo chan.N "XXXX": above normal YYC – is recorded into the log if a mode of sending SNMP TRAP notifications from temperature sensors is configured and a temperature on a temperature sensor is above the upper threshold, set by a user. N – is a number of a temperature sensor. XXXX – is a description of a temperature sensor, specified by a user at the page of a web interface. YY – is a current temperature on a temperature sensor.

Thermo chan.N "XXXX": below normal YYC – is recorded into the log if a mode of sending SNMP TRAP notifications from temperature sensors is configured and a temperature on a temperature sensor is below the lower threshold, specified by a user. N – is a number of a temperature sensor. XXXX – is a description of a temperature sensor, specified by a user at the page of a web interface. YY – is a current temperature on a temperature sensor.

Thermo chan.N "XXXX": failure – is recorded into the log if a mode of sending SNMP TRAP notifications from temperature sensors is configured and a temperature sensor does not respond (is not connected). N – is a number of a temperature sensor. XXXX – is a description of a temperature sensor, specified by a user at the page of a web interface. When a sensor operation is restored, a notification about a status of a temperature range is sent (see above).

Events from IO Lines

Input/output: line N "XXXX": 0->1 – is recorded into the log if a mode of sending SNMP TRAP notifications from IO lines is configured, and an IO line has switched from the status «0» to the status «1». N – is a number of an IO line. XXXX – is a description of an IO line, specified by a user at the page of a web interface.

Input/output: line N "XXXX": 1->0 – is recorded into the log if a mode of sending SNMP TRAP notifications from IO lines is configured and an IO line has switched from the status «1» to the status «0». N – is a number 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 the «Watchdog» Module

Watchdog: resetting chan.N "XXXX". A (IPA) YYYY, B (IPB) YYYY, C (IPC) YYYY – is recorded into the log when the Watchdog is 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. IPA, IPB, IPC – are IP addresses, specified in the settings of the «Watchdog». YYYY – is a status of corresponding requested IP address. It may be: responds, silent, ignores.

Watchdog: chan.N "XXXX". - a limit of repeated resets is reached (Y). Resets are paused. – is recorded into the log if a limit of consequent resets of a connected device is reached in the operating mode «Watchdog». 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 an amount of consequent resets of a connected device that has been performed.

Watchdog: chan.N "XXXX" reset. - a response is received. Resetting pause is over.

SYSLOG Support

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

SYSLOG server is convenient to use for centralized collecting of notifications about events that take place at numerous devices and computers, operating in the network, particularly about the events at Netping devices.

[ENG] 3. [DKSF 72/73.1] Basic configuration

[ENG] 3.1. [DKSF 72/73.1] Name, location and contact details of the device

DEVICE IDENTIFICATION

| | |
|---|-------------------|
| Device Hostname (only Latin letters, digits, '-') | NetPingMonitor |
| Device Location | Main office |
| Contact | admin@example.com |

Apply Changes

Device Hostname — is the name of a device. It allows distinguishing between several NetPing devices of one type according to their hostnames. A hostname is displayed at the main page and in the heading of the web interface, in the email notification in the field «From:», in other notifications and is available via SNMP — sysName. **On default: empty line.**

Device Location — is a description of the installation place of a NetPing device. It is displayed on the home page and in the heading of the web interface. It is also available by SNMP. **On default: empty line.**

Contact — is contact data (usually, an email) of an administrator. It is displayed on the home page and is available via SNMP. **On default: empty line.**

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

In addition, it is possible to configure these parameters using a **SNMP v1** protocol by setting the 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 | Device Hostname |
| .1.3.6.1.2.1.1.6.0 | sysLocation | DISPLAYSTRING (SIZE (0..255)) | READ/WRITE | Device Location |
| .1.3.6.1.2.1.1.4.0 | sysContact | DISPLAYSTRING (SIZE (0..255)) | READ/WRITE | Contact |

[ENG] 3.2. [DKSF 72/73.1] Network Settings

NETWORK SETTINGS

| | |
|---------------------------|---------------|
| IP Address | 192.168.0.31 |
| Netmask | 255.255.255.0 |
| Gateway | 192.168.0.1 |
| DNS Server | 192.168.0.1 |
| Embedded HTTP Server Port | 80 |
| SNMP Agent Port | 161 |

[Apply Changes](#)

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.

Embedded HTTP server port — the field for setting the port number on which the web server will listen for incoming connections. **On default: 80.**

SNMP Agent Port — a field for setting the UDP port number that the SNMP agent listens to. **On default: 161.**

ℹ 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».

[ENG] 3.3. [DKSF 72/73.1] Access Restrictions

ACCESS RESTRICTIONS

| | |
|--|---------------------------------------|
| Username | <input type="text" value="visor"/> |
| Password | <input type="password" value="••••"/> |
| SNMP Community for Read | <input type="text" value="SWITCH"/> |
| SNMP Community for Write | <input type="text" value="SWITCH"/> |
| IP Filter (access granted for this subnet) | <input type="text" value="0.0.0.0"/> |
| IP Filter Netmask (0.0.0.0 - disable filter) | <input type="text" value="0.0.0.0"/> |

Username — is a field for setting up or changing a username when accessing a device using a web interface. Latin and Cyrillic letters, digits, and certain special characters are allowed. A maximum size if 16 characters. **On default: visor.**

Password — is a field for setting up or changing a user's password when accessing a device using a web interface. Latin and Cyrillic letters, digits, and certain special characters are allowed. A maximum size if 16 characters. **On default: ping.**

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**

IP Filter — is a field determining an IP address or a subnetwork, from which it is allowed to configure and view parameters of a device via HTTP, SNMP protocols. A subnet mask specified 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 control a device. To allow the access for one IP address, there is a need to specify a mask **255.255.255.255** in the field «**IP Filter Netmask**». **On default: 0.0.0.0**

IP Filter Netmask — is a field for setting up or changing an IP filter netmask to access a device. Its value **0.0.0.0** means an access filter is disabled. **On default: 0.0.0.0**

⚠ A device will still respond to an ICMP request (ping) from any address even when access filters are specified.

[ENG] 3.4. [DKSF 72/73.1] Disable all notifications


NOTIFICATIONS

Disable all notifications



Apply Changes

You can disable all types of notifications on the «**SETUP**» page of the device web interface. To do this, set the «**Disable all notifications**» checkbox and click the «**Apply changes**» button.

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

[ENG] 3.5. [DKSF 72/73.1] SNMP TRAP Sending

SNMP TRAP

| | |
|-------------------------------|---------------|
| SNMP Trap Destination #1 | 192.168.0.135 |
| SNMP Trap Destination #1 Port | 162 |
| SNMP Trap Destination #2 | |
| SNMP Trap Destination #2 Port | 162 |

Apply Changes

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.**

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

[ENG] 3.6. [DKSF 72/73.1] Syslog

SYSLOG

| | |
|-------------------------|---------------|
| SysLog Receiver Address | 192.168.0.135 |
| Syslog Facility | 16 |
| Syslog Severity | 5 |

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).

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

[ENG] 3.7. [DKSF 72/73.1] Date and Time Settings

NTP SETUP

| | |
|----------------------------|--|
| NTP Server #1 | <input type="text" value="ntp.netping.ru"/> |
| NTP Server #2 | <input type="text"/> |
| Timezone | <input type="text" value="(UTC+03:00) Baghdad, Istanbul"/> ▾ |
| Daylight Saving Time (DST) | <input type="checkbox"/> |

Apply Changes

Overall, it is possible to set up to 2 NTP-servers. If the first NTP-server 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 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.**

i 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

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.

EMBEDDED CLOCK (RTC)

| | |
|--|----------------------|
| Current Date and Time | 16.06.2021 08:56:09 |
| New Date and Time (14 digits, format DDMMYYYYHHmmSS without spaces, 24h) | <input type="text"/> |
| <input type="button" value="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.

[ENG] 3.8. [DKSF 72/73.1] Backup and Restore a Device Configuration

BACKUP, RESTORE, CLONE ALL SETTINGS

| | | |
|--|----------|--------|
| Operations with image file of all settings | Download | Upload |
| Status | | - |

Backup configuration

To save a backup copy of the configured device configuration to a binary file, go to the **«SETUP»** page of the device web interface. In the **«Backup, restore, clone all settings»** section, click the **«Download»** button:

After that, a settings file with the .bin extension will appear on the local disk of the PC, for example, USS-001-125-ServerRoom-1_setup.bin (the device name configured on the «SETUP» page of the web interface is substituted before the underscore in the file name).

Restore configuration


To save a backup copy of the configured device configuration to a binary file, go to the **«SETUP»** page of the device web interface. In the **«Backup, restore, clone all settings»** section, click the **«Upload»** button:


Afterward, there is a need to select a necessary file of the .bin format to upload the configuration. Successful uploading is followed by the representation of the status «Uploading of settings completed successfully» with the following reboot of the device:

 When restoring the settings, the indicated parameters are saved the same:


- A name of a device;
- IP address;
- Subnet mask;
- Gateway;
- HTTP server port

This can be used for the quick setting reproduction among identical devices. Specified parameters are not cloned and should be configured manually and individually for every device.

 A binary configuration file can contain sensitive information (passwords, IP addresses) in the unencrypted. If this is a dangerous situation, then the file should be stored using external safety means, for example, to put them to the archive protected with a password.

 Before uploading the configuration to the EEPROM, the identity of the versions of «donor» and «acceptor» of settings is automatically tested. If the version of the «donor» is not suitable, then there is no uploading, and the error notification is displayed: «The image of settings is incompatible!».

[ENG] 4. [DKSF 72/73.1] Working with 1-wire sensors and devices

-  The device does not support i2C temperature and humidity sensors:
- [Temperature sensor T811](#)
 - [Humidity sensor WS-2](#)

The device is equipped with four pairs of ports. The maximum length of wires connected to each pair of connectors is 50 meters. This means that the total weight of the 1-w network is 200 meters. The length can also be increased due to [NetPing 1-wire hub, R912R2](#).

The device supports the following 1-wire sensors:

- [Temperature sensor 1-wire \(THS\)](#);
- [Humidity sensor 1-wire \(HS\)](#);
- [NetPing Power Quality Monitoring Sensor 1-wire 910S21](#);
- NetPing Converter 0-20mA, 886A02.
- NetPing External Power Sockets 1-wire 888S0301 (888S0401, 888S0501).

You can find a description of support in the following sections:

[ENG] 4.1. [DKSF 72/73.1] How to Determine the Unique Number of a 1-Wire Sensor?

In order to determine the unique number with the use of the web-interface you need to:

1. Disconnect all 1-Wire sensors from the device;
2. Connect 1-Wire sensors to the device which unique number you need to know;
3. Open the «**1-WIRE**» page of the web-interface. The browser window will show the unique number of a 1-Wire sensor.



The unique number of a 1-Wire sensor has this view: **2818 1d24 0900 00e8** (consists of four four-digit numbers in hexadecimal notation: 0..9, a..f).

To connect a 1-Wire sensor, copy its unique number from this page into the corresponding section on the web interface page.

[ENG] 4.2. [DKSF 72/73.1] Working with Temperature Sensors

The following functionality is available for temperature sensors on the device:

- Web interface;
- HTTP API;
- SNMP, SNMP TRAP;
- All notification channels, available in the firmware;
- Logic;
- Customizable notifications.

In order to work with the sensor via web interface you need to open the «**TEMPERATURE**» page of the device web interface:

Thermo sensors

netpingmonitor Main office

[HOME](#) | [SETUP](#) | [E-MAIL](#) | [RS485 PORT](#) | [1-WIRE](#) | [TEMPERATURE](#) | [HUMIDITY](#) | [MONITORING V](#) | [NOTIFICATION](#) | [FIRMWARE](#) | [LOG](#)
[SMS](#) | [DISCRETE IO 1..5](#) | [DISCRETE IO 6..12](#) | [RELAYS](#) | [EXTERNAL RELAYS](#) | [WATCHDOG](#) | [SCHEDULE](#) | [ANALOG INPUTS](#) | [LOGIC](#)

| Parameter | Sensor 1 | Sensor 2 | Sensor 3 | Sensor 4 | Sensor 5 | Sensor 6 | Sensor 7 | Sensor 8 |
|---------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| Memo | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| Unique Id of 1W sensor | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| Current Temperature, °C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Status | ОТКАЗ | ОТКАЗ | ОТКАЗ | ОТКАЗ | ОТКАЗ | ОТКАЗ | ОТКАЗ | ОТКАЗ |
| Top Margin of Safe range, °C | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| Bottom Margin of Safe range, °C | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Notifications | <input type="button" value="Setup"/> | <input type="button" value="Setup"/> | <input type="button" value="Setup"/> | <input type="button" value="Setup"/> | <input type="button" value="Setup"/> | <input type="button" value="Setup"/> | <input type="button" value="Setup"/> | <input type="button" value="Setup"/> |

Memo — short description of the sensor. Memo is used in SYSLOG and log messages, and also included in SNMP TRAP, SMS reports and notifications (only for model with GSM modem), E-mail reports and notifications. The maximum size is 16 characters. **Default: empty.**

Unique Id of 1W sensor — to connect a 1-Wire temperature sensor, you must bind its unique number (see “1-WIRE”).

Current Temperature, °C — displays the current temperature of the sensor in degrees Celsius.

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

- *Fail* – the sensor is not connected or does not respond;
- *Safe* – the sensor is responding and the temperature is within the specified range for that sensor;
- *Above safe* – the sensor is responding and the temperature value has exceeded the set range for this sensor;
- *Below safe* – the sensor is responding and the temperature is below the specified range for this sensor;

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 a built-in 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, SYSLOG notifications, the notifications, sent in to the system of of the device as well as email and SMS notifications in devices with a built-in GSM modem. **On default: 10**

When clicking the «**Setup**» button, the menu of settings appears for configuring notifications for the corresponding sensor:

NOTIFICATIONS FOR TEMPERATURE SENSOR 1

| Event | Log | Syslog | E-mail | SMS | SNMP Trap | |
|---------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Temperature is above safe range | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Temperature is in safe range | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Temperature is below safe range | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Sensor fault | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Include in Summary Report | . | . | <input type="checkbox"/> | <input type="checkbox"/> | . | |
| Switch On/Off All Notifications | | | | | | <input type="checkbox"/> |

Repeat 3 Times Alarm Notification with Period

Off ▾

Cancel

Save

where:

- **Temperature is above safe range** — checkboxes enabling sending notifications when the top margin of the safe temperature range is exceeded. **On default: a checkbox is not set.**
- **Temperature is in safe range** — checkboxes enabling sending notifications if the current temperature is back to the safe range. **On default: a checkbox is not set.**
- **Temperature is below safe range** — checkboxes enabling sending notifications if the current temperature falls below the bottom margin of the safe range. **On default: a checkbox is not set.**
- **Sensor fault** — checkboxes enabling sending notifications in case if a sensor fails. **On default: a checkbox is not set.**
- **Include in Summary Report** — checkboxes enabling sending periodic reports about the status of a sensor via email and/or SMS. The time of sending reports is indicated on the «**SMS**» and «**EMAIL**» pages. **On default: a checkbox is not set.**
- **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 set.**
- **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).

To prevent frequent triggering of 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 you 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.

Temperature
value
degrees C

| | | | | | | | | | | | | | | |
|----|---|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|-------|-------|
| 26 | | | | | | | | | | | | | | |
| 25 | random temperature fluctuations around the threshold do not cause the status change | | | | | | | | | | | | | |
| 24 | as soon as the effective threshold (H) is shifted for the hysteresis value, | | | | | | | | | | | | | |
| 23 | i.e. +/- 1 degree at the status change | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | |
| 21 | bottom threshold + 1 | H | H | H | H | H | H | | | | | | H | H |
| 20 | bottom threshold of the normal range | | | | | | | | | | | | | |
| 19 | bottom threshold - 1 | | | | | | | H | H | H | H | H | | |
| 18 | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | |
| 16 | sensor temperature | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | |
| | status | below | below | below | below | below | normal | normal | normal | normal | normal | нормал | below | below |

effective threshold
hysteresis +/- 1 degree

[ENG] 4.3. [DKSF 72/73.1] Working with Humidity Sensors

The following functionality is available for humidity sensors on the device:

- Web interface;
- HTTP API;
- SNMP, SNMP TRAP;
- All notification channels, available in the firmware;
- Logic;
- Customizable notifications.

In order to work with the sensor via web interface you need to open the "**HUMIDITY**" page of the device web interface:

Relative Humidity Sensors

NetPingMonitor
Main office

[HOME](#) | [SETUP](#) | [E-MAIL](#) | [RS485 PORT](#) | [1-WIRE](#) | [TEMPERATURE](#) | [HUMIDITY](#) | [MONITORING V](#) | [NOTIFICATION](#) | [FIRMWARE](#) | [LOG](#)
[SMS](#) | [DISCRETE IO 1...5](#) | [DISCRETE IO 6...12](#) | [RELAYS](#) | [EXTERNAL RELAYS](#) | [WATCHDOG](#) | [SCHEDULE](#) | [ANALOG INPUTS](#) | [LOGIC](#)

| Parameter | Sensor 1 | Sensor 2 | Sensor 3 | Sensor 4 |
|---|----------|----------|----------|----------|
| Memo | | | | |
| Unique Id of 1W Sensor | | | | |
| Relative humidity | 0% | 0% | 0% | 0% |
| Status of RH | Failed | Failed | Failed | Failed |
| Temperature | 0°C | 0°C | 0°C | 0°C |
| Status of Temperature | Failed | Failed | Failed | Failed |
| Top Margin of Humidity Safe Range, % | 85 | 85 | 85 | 85 |
| Bottom Margin of Humidity Safe Range, % | 5 | 5 | 5 | 5 |
| Top Margin of Temperature Safe Range | 60 | 60 | 60 | 60 |
| Bottom Margin of Temperature Safe Range | 10 | 10 | 10 | 10 |
| Notification | Setup | Setup | Setup | Setup |
| Dew Point | - | - | - | - |

Apply Changes

Memo — short description of the sensor. Memo is used in SYSLOG and log messages, and also included in SNMP TRAP, SMS reports and notifications (only for model with GSM modem), E-mail reports and notifications. The maximum size is 16 characters. **Default: empty.**

Unique Id of 1W sensor — to connect a 1-Wire temperature sensor, you must bind its unique number (see “1-WIRE”).

Relative humidity — the readings of the sensor, which determines the relative humidity, in%.

Status of RH — the parameter defines the state of the humidity sensor at the current time:

- *Failed*– the sensor is not connected or is nor responding;
- *Safe* – the sensor is responding and the humidity value is within the specified range for that sensor;
- *Above safe* – the sensor is responding and the humidity value has exceeded the set range for this sensor;
- *Below нормы* – the sensor is responding and the humidity value is below the specified range for this sensor;

Temperature— are readings of a temperature sensor that is built in a humidity sensor, in °C.

Status of Temperature — this parameter defines the status of a temperature sensor that is built in a humidity sensor, at the current moment of time.

- *Fail* –the sensor is not connected or does not respond;
- *Safe* – the sensor is responding and the temperature is within the specified range for that sensor;
- *Above safe* – the sensor is responding and the temperature value has exceeded the set range for this sensor;
- *Below safe* – the sensor is responding and the temperature is below the specified range for this sensor;

Top Margin of Humidity Safe Range, % — is a humidity value, when exceeding which, the sensor is switched to the status «**above safe range**». Hysteresis ± 1 percentage point. **On default: 85.**

Bottom Margin of Humidity Safe Range, % — is a humidity value, when falling below which, the sensor is switched to the status «**below safe range**». Hysteresis ± 1 percentage point. **On default: 5.**

Top Margin of Temperature Safe Range, °C — is a temperature value, when exceeding which, the sensor is switched to the status «**above safe range**». Hysteresis ± 1 percentage point. **On default: 60.**

Bottom Margin of Temperature Safe Range, °C — is a temperature value, when falling below which, the sensor is switched to the status «**below safe range**». Hysteresis ± 1 percentage point. **On default: 10.**

Dew Point — is a temperature of a dew point, it is calculated using the readings of the relative humidity and temperature, in °C. More details about a dew point — https://en.wikipedia.org/wiki/Dew_point

When clicking the «**Setup**» button, the menu of settings appears for configuring notifications for the corresponding sensor:

NOTIFICATIONS FOR RELATIVE HUMIDITY SENSOR 1

| Event | Log | Syslog | E-mail | SMS | SNMP Trap |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Humidity is above Safe Range | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Humidity is in Safe Range | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Humidity is below Safe Range | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Temperature is above Safe Range | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Temperature in Safe Range | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Temperature is below Safe Range | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Sensor fault | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Include in Summary Report | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Use common snmpTrapOID for all Events | | | | | <input type="checkbox"/> |
| Use common snmpTrapOID for all Sensor Numbers | | | | | <input type="checkbox"/> |

Cancel
Save

where:

- **Humidity is above Safe Range** — is a checkbox, when checked the device will send notifications if the relative humidity exceeds above the top margin of a safe humidity range. **On default: checkbox is not set.**
- **Humidity is in Safe Range** — is a checkbox, when checked the device will send notifications if the relative humidity is back to the safe humidity range. **On default: checkbox is not set.**
- **Humidity is below Safe Range** — is a checkbox, when checked, the device will send notifications if the relative humidity fell below the safe humidity range. **On default: checkbox is not set.**
- **Temperature is above Safe Range** — is a checkbox, when checked, the device will send notifications if the temperature exceeds the top margin of the safe temperature range. **On default: checkbox is not set.**
- **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. **On default: checkbox is not set.**
- **Temperature is below Safe Range** — is a checkbox when checked, a device will send notifications if the temperature fell below the safe temperature range. **On default: checkbox is not set.**
- **Sensor fault** — is a checkbox, when checked, a device will send notifications if a connection with a sensor is lost/restored. **On default: checkbox is not set.**
- **Include in Summary Report** — is a checkbox, when checked, reports about a status of a humidity sensor will be emailed and/or sent in SMS (in a device with a built-in GSM-modem). The time for sending reports is configured at the pages «**SMS**» and «**E-MAIL**». **On default: checkbox is not set.**
- **Switch On/Off All Notifications** — is a checkbox that switches on and off all possible notification types for all events at once. **On default: checkbox is not set.**

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, the humidity sensor 3 getting damp or the 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.

Usually, snmpTrapOID is used that looks like the next .1.3.6.1.4.1.25728.8400.D.**127.99** (where D — is an accessory code, 6 — is a humidity Trap, 7 — is a temperature Trap). At the same time, there is a need to analyze variables included in a Trap notification when defining a notification source (a specific sensor) and an event (readings above/below a safe range, sensor failure). If a device or software accepting SNMP Trap, cannot check variables, it is possible to enable event code and/or sensor number right in a snmpTrapOID and thus receive unique SNMP Trap-notifications for all events at all sensors.

It is possible to enable encoding of event types, by unchecking the checkbox «**Use common snmpTrapOID for All Events**», and in this case, a Trap notification will look like the following:

.1.3.6.1.4.1.25728.8400.D.**S.99**, where S — is a status code of a sensors (i.e. events), possible variables are: 100 (failed), 101 (below safe range), 102 (in the safe range), 103 (above the safe range);

It is possible to enable encoding of event types, by unchecking the checkbox «**Use common snmpTrapOID for all Sensor Numbers**», in this case, a Trap notification will look like the following:

.1.3.6.1.4.1.25728.8400.D.**127.N**, where N — is a sensor number, from 1 to 4.

[ENG] 4.4. [DKSF 72/73.1] Working with Power Quality Monitoring Sensors

The following functionality is available for power quality monitoring sensors on the device:

- Web interface;
- HTTP API;
- SNMP, SNMP TRAP;
- All notification channels, available in the firmware;
- Logic;
- Customizable notifications.

In order to work with the sensor via web interface you need to open the «**MONITORING V**» page of the device web interface:

AC Voltage monitoring sensors

NetPingMonitor
Main office

[HOME](#) | [SETUP](#) | [E-MAIL](#) | [RS485 PORT](#) | [1-WIRE](#) | [TEMPERATURE](#) | [HUMIDITY](#) | [MONITORING V](#) | [NOTIFICATION](#) | [FIRMWARE](#) | [LOG SMS](#) | [DISCRETE IO 1..5](#) | [DISCRETE IO 6..12](#) | [RELAYS](#) | [EXTERNAL RELAYS](#) | [WATCHDOG](#) | [SCHEDULE](#) | [ANALOG INPUTS](#) | [LOGIC](#)

| Parameter | Sensor 1 | Sensor 2 | Sensor 3 |
|----------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| Memo | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| Unique Id of 1W Sensor | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| Voltage, V | 0V | 0V | 0V |
| Status | Failed <input type="checkbox"/> | Failed <input type="checkbox"/> | Failed <input type="checkbox"/> |
| Frequency, Hz | 0.00Hz | 0.00Hz | 0.00Hz |
| Status | Failed <input type="checkbox"/> | Failed <input type="checkbox"/> | Failed <input type="checkbox"/> |
| Voltage sag, V | 0V | 0V | 0V |
| Status | - <input type="checkbox"/> | - <input type="checkbox"/> | - <input type="checkbox"/> |
| Timestamp of the last sag | | | |
| Peak voltage, V | 0V | 0V | 0V |
| Status | - <input type="checkbox"/> | - <input type="checkbox"/> | - <input type="checkbox"/> |
| Timestamp of the last peak | | | |
| Nominal voltage, V | 230 <input type="button" value="v"/> | 230 <input type="button" value="v"/> | 230 <input type="button" value="v"/> |
| Notifications | <input type="button" value="Setup"/> | <input type="button" value="Setup"/> | <input type="button" value="Setup"/> |

Memo — short description of the sensor. Memo is used in SYSLOG and log messages, and also included in SNMP TRAP, SMS reports and notifications (only for model with GSM modem), E-mail reports and notifications. The maximum size is 16 characters. **Default: empty.**

Unique Id of 1W sensor — to connect a 1-Wire temperature sensor, you must bind its unique number (see “1-WIRE”).

Voltage, °V — a current average value of voltage, in volts (RMS). With the resolution of up to 1 V.

Status – displays the current status of the voltage. Possible values:

- Good (a green square) — the deviation of $\pm 5\%$ from the set nominal voltage.
- Warning (an orange square) — the deviation of more than $\pm 5\%$ and up to $\pm 10\%$ inclusive of the nominal set voltage.
- Bad (red square) — the deviation of more than $\pm 10\%$ from the set nominal voltage.
- No Voltage (a black square) — there is no power supply.
- - (a grey square) — the sensor is not connected or faulted.

Frequency, Hz — a current value, in Hertz. With the resolution of up to 1 Hz.

Status — displays the current status of frequency. Possible Values:

- Good (a green square) — the deviation of ± 0.2 Hz inclusive from the frequency standard
- Warning (an orange square) — the deviation of more than ± 0.2 Hz and up to ± 0.4 Hz inclusive from the frequency standard
- Bad (a red square) — the deviation of more than ± 0.4 Hz from the set nominal voltage.
- No Voltage (a black square) — there is no frequency
- - (a grey square) — the sensor is not connected or faulted.

Voltage Sag, V - a voltage dip, in volts (calculated from the average voltage RMS). With the resolution of up to 1 V.

Status — displays the current status of voltage dips. Possible values:

- No Sags (a green square) — $U_{min} \geq 0,9 U_{nom}$.
- Not big sags (a yellow square) — $0,7 U_{nom} \leq U_{min} < 0,9 U_{nom}$.
- Average sags (an orange square) — $0,5 U_{nom} \leq U_{min} < 0,7 U_{nom}$.
- Big sags (a red square) — $U_{min} > 0,5 U_{nom}$.
- No voltage (a black square) — no power supply.
- - (a grey square) — the sensor is not connected or faulted

Where:

- U_{min} — a minimum value for the polling period
- U_{nom} — nominal voltage

Peak Voltage, V — a voltage pulse, in volts. With the resolution of up to 1 V.

Status — displays the current status of the voltage pulses. Possible values:

- OK (a green square) — the maximum amplitude for the polling period is less than 500 V.
- The presence of dangerous voltage peaks (a red square) — the maximum amplitude for the polling period is more than 500 V or equal to it.
- No voltage (a black square) — no power supply.
- - (a grey square) — the sensor is not connected or faulted.

Timestamp of the last peak — the date and time of the last recorded voltage dip or impulse.

Nominal voltage — is the basic voltage with the help of which the device will compare the data received from the sensor. The following options are available: 100, 110, 115, 120, 127, 220, 230, 240. **On default: 230.**

When you press the "Setup" button, you can the the configuration menu for the notification sending of these types: Log, Syslog, E-mail, SMS (in the devices with a built-in GSM-modem) and SNMP Trap:

NOTIFICATIONS FOR VOLTAGE MONITORING SENSOR 1

| Event | Log | Syslog | E-mail | SMS | SNMP Trap |
|--------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Changes of voltage status | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Changes of frequency status | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Changes of voltage sag status | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Changes of peak voltage status | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Include in Summary Report | . | . | <input type="checkbox"/> | <input type="checkbox"/> | . |

where:

- **Changes of voltage status**— the notification sending when there is a change in voltage status. **On default: the checkbox is not set.**
- **Changes of frequency status** — the notification sending when there is a change in frequency status. **On default: the checkbox is not set.**
- **Change of voltage sag status** — the notification sending when there is a change in voltage sag status. **On default: the checkbox is not set.**
- **Change of peak voltage status** — the notification sending when there is a change in peak voltage sag status. **On default: the checkbox is not set.**
- **Include in Summery Report** — the sending of periodical reports about the sensor status via no email and/or SMS. The time of sending notifications is indicated on the «**SMS**» and «**EMAIL**» pages. **On default: the checkbox is not set.**

Configuration of the thresholds for voltage sags

Setting thresholds for voltage sags is possible only via SNMP. To change the values, you need to write the necessary values into the corresponding OIDs.

| Провалы напряжения | | | | |
|----------------------------------|-------------------------------|---------|------------|---|
| OID | Имя | Тип | Доступ | Описание |
| .1.3.6.1.4.1.25728.9000.1.1.12n | npVoltageSagSmallThreshold.n | Integer | READ/WRITE | The notification threshold for small voltage sags. On default: 90% |
| .1.3.6.1.4.1.25728.9000.1.1.13.n | npVoltageSagMediumThreshold.n | Integer | READ/WRITE | The notification threshold for average voltage sags. On default: 70% |
| .1.3.6.1.4.1.25728.9000.1.1.14.n | npVoltageSagBigThreshold.n | Integer | READ/WRITE | The notification threshold for big voltage sags. On default: 50% |

[ENG] 4.5. [DKSF 72/73.1] Working with an adapter of sensors with an analog interface.

For sensor adapters with an analog interface, the following functionality is available on the device:

- Web interface;
- HTTP API;
- SNMP, SNMP TRAP;
- All notification channels, available in the firmware;
- Logic;
- Customizable notifications.

In order to work with the adapter via web interface you need to open the «**ANALOG INPUT**» page of the device web interface:

[HOME](#) | [SETUP](#) | [E-MAIL](#) | [RS485 PORT](#) | [1-WIRE](#) | [TEMPERATURE](#) | [HUMIDITY](#) | [MONITORING V](#) | [NOTIFICATION](#) | [FIRMWARE](#) | [LOG SMS](#) | [DISCRETE IO 1..5](#) | [DISCRETE IO 6..12](#) | [RELAYS](#) | [EXTERNAL RELAYS](#) | [WATCHDOG](#) | [SCHEDULE](#) | [ANALOG INPUTS](#) | [LOGIC](#)

| | Sensor 1 | Sensor 2 | Sensor 3 | Sensor 4 | Sensor 5 |
|--------------------------------|----------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Memo | mbedded | | | | |
| Unique Id of I1W Sensor | | | | | |
| Status | Out of Working Range | Fail | Fail | Fail | Fail |
| Current, mA | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Voltage, V | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Resistance, Ω | 0.00 | 29999 | 29999 | 29999 | 29999 |
| Watch | Current ▾ | Current ▾ | Current ▾ | Current ▾ | Current ▾ |
| Top Margin of Working Range | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 |
| Top Margin of Safe Range | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Bottom Margin of Safe Range | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Bottom Margin of Working Range | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 |
| Hysteresis of Margins | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| Notification | Setup | Setup | Setup | Setup | Setup |
| Reset (Power Off for 10s) | Reset | Reset | Reset | Reset | Reset |
| Power | Выкл ▾ | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Apply Changes

Measuring range: current -30...30mA, voltage 0...30V, resistance 0.1...29999Ω
Margings must be set inside of measuring range limits.

First sensor

The first input is integrated into the device and does not require a 1-wire adapter 886A01.

Memo — short description of the sensor. Memo is used in SYSLOG and log messages, and also included in SNMP TRAP, SMS reports and notifications (only for model with GSM modem), E-mail reports and notifications. The maximum size is 16 characters. **Default: empty.**

Unique Id of 1W sensor — to connect a 1-Wire temperature sensor, you must bind its unique number (see “1-WIRE”).

Status - the status of the adapter. Possible statuses:

- In Safe Range — the observed parameter is within the safe range.
- Above Safe Range — the observed parameter is above the Safe range.
- Below Safe Range — the observed parameter is below the Safe range.
- Outside of Working Range — the observed parameter is out of range or the loop is de-energized.

- Failed or Absent — adapter is not connected or defective.

Current, mA — current value of current, mA. With decimal point.

Voltage, V — current voltage value, V. With decimal point.

Resistance, Ω — current value of resistance, Ohm.

Watch — the parameter monitored by the firmware. Must be selected according to the output of the connected sensor. Possible options are current, voltage, resistance. **Default: current.**

Top/bottom margin of working range — the limits of the range that indicates the maximum permissible parameters of the sensor - going beyond these parameters means an emergency or malfunction of the sensor. It is allowed to indicate only one limit (threshold value) or their absence (for example, if the sensor outputs 0..10V, there is no lower limit, since the input measures only positive voltage). It can also be used as a second, more serious level of notification. **Default: see table.**

Top/bottom margin of safe range — the limits of the range of "normal" sensor parameters, exceeding the range indicates an alarm. It is allowed to specify only one boundary (threshold value), complete absence of boundaries is not allowed. **Default: see table.**

Hysteresis of margin — "Dead zone" of the parameter near the threshold. It is necessary to eliminate state switching from small random fluctuations of the measured parameter near the specified thresholds as a result of electrical noise and measurement errors. Set for normal and working range. **Default: see table.**

Hysteresis

Hysteresis is used to prevent "spam" of notifications when the value is near the border. The hysteresis value must be higher than the typical noise level of the measured value. The border before comparison with the measured value is shifted by the hysteresis value, "starting off" from the previous measured value. For example, if the previous measured value was above the limit, the limit is shifted down by the hysteresis value before comparing with the new value. Part of the boundaries (norms and working range) may not be set, while their crossing is not checked, notifications are not sent. This can be used to control the threshold rather than the normal range. The values of the range limits should not come close to each other and to the limits of the physically measured range by more than $2 \cdot \text{hysteresis}$. Hysteresis range when checking the form for validity: for current and voltage 0.1 ... 5.0 units (mA or V), for resistance 100 ... 500 Ohm.

Default margins

| Margin / Parameter | Current, mA | Voltage, V | Resistance, Ohm |
|--------------------------------|-------------|------------|-----------------|
| Top of working range | 25,0 | 14 | 20 000 |
| Top of safe range | - | - | |
| Bottom of safe range | - | - | |
| Bottom of working range | 2,5 | - | 300 |
| Гистерезис | 0,5 | 0,25 | 150 |

When you click on the "Configure" button, a settings menu appears for sending notifications of the following types: Log, Syslog, Email, SMS (in devices with a built-in GSM modem) and SNMP Trap:

i When the loop is powered off (including during a reset), border notifications are deactivated.

NOTIFICATIONS FOR ANALOG INPUT 1

| Event | Log | Syslog | E-mail | SMS | SNMP Trap |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Above Safe Range | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| In Safe Range | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Below Safe Range | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Outside of Working Range (Broken/Shorted/NoPower) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Failed or Absent | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Include in Summary Report | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Switch On/Off All Notifications | <input type="checkbox"/> | | | | |

Event

Legend

Above Safe

Safe

Below Safe

Cancel

Save

where:

- **Above Safe Range** — Sends notifications when the upper limit of the normal range is exceeded. By default: the checkbox is not checked.
- **In Safe Range** — send notifications when the normal range is returned. By default: the checkbox is not checked.
- **Below Safe Range** — sending notifications when it falls below the lower limit of the normal range. By default: the checkbox is not checked.
- **Outside of Working Range (Broken/Shorted/NoPower)** — sending notifications when the working range is exceeded. By default: the checkbox is not checked.
- **Failure or Absent** — send notifications in case of sensor failure. By default: the checkbox is not checked.
- **Include in Summary Report** — sending periodic reports on the status of the sensor by email and / or SMS. The time of sending reports is indicated on the "SMS" and "EMAIL" pages. By default: the checkbox is not checked.
- **Switch On/Off All notifications** — enable or disable all possible notification methods for all events at once. By default: the checkbox is not checked.
- **Legend** — allows you to replace the standard text of notifications for the events "Above normal", "Normal", "Below normal". 15 characters max. Default: empty.

Reset (Power Off for 10s) — turn off the power for 10 seconds.

Power — a checkbox that turns the power on and off. For the changes to take effect, click "Apply changes". **Default: not installed.**

[ENG] 4.6. [DKSF 72/73.1] Work with an external power sockets

For sensor adapters with an analog interface, the following functionality is available on the device:

- Web interface;
- HTTP API;
- SNMP, SNMP TRAP;
- All notification channels, available in the firmware;

In order to work with the adapter via web interface you need to open the «**EXTERNAL RELAYS**» page of the device web interface:

Control of External Relays

NetPingMonitor
Main office

[HOME](#) | [SETUP](#) | [E-MAIL](#) | [RS485 PORT](#) | [1-WIRE](#) | [TEMPERATURE](#) | [HUMIDITY](#) | [MONITORING V](#) | [NOTIFICATION](#) | [FIRMWARE](#) | [LOG SMS](#) | [DISCRETE IO 1...3](#) | [DISCRETE IO 6...12](#) | [RELAYS](#) | [EXTERNAL RELAYS](#) | [WATCHDOG](#) | [SCHEDULE](#) | [ANALOG INPUTS](#) | [LOGIC](#)

ATTACHMENT AND SETUP

Unique 1W Id of External Relay Block

Link to the External Relay Block

Temporary Switch Off Button #1

☐ 1
 ☐ 2
 ☐ 3
 ☐ 4
 ☐ 5
 ☐ 6
 ☐ 7
 ☐ 8

Temporary Switch Off Button #2

☐ 1
 ☐ 2
 ☐ 3
 ☐ 4
 ☐ 5
 ☐ 6
 ☐ 7
 ☐ 8

Apply Changes

CONTROL OF EXTERNAL RELAYS

| | Relay 1 | Relay 2 | Relay 3 | Relay 4 | Relay 5 | Relay 6 | Relay 7 | Relay 8 |
|-----------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Memo | | | | | | | | |
| Notification | Setup | Setup | Setup | Setup | Setup | Setup | Setup | Setup |
| Switch Relay | On Off | On Off | On Off | On Off | On Off | On Off | On Off | On Off |
| Switch Off for Short Period | Off for 15s | Off for 15s | Off for 15s | Off for 15s | Off for 15s | Off for 15s | Off for 15s | Off for 15s |
| Relay State | On | On | On | On | On | On | On | On |

Apply Changes

Attachment and setup

Unique 1W Id of external relay block — to connect a 1-Wire device, you must bind its unique number. **Default:** empty.

Link to the external relay block — the current communication status with the socket strip. Green - there is a connection, gray - there is no connection.

Temporary Switch Off Button #1/2 — binding of sockets to local control buttons on the unit. Pressing the button turns off the selected sockets for 15 seconds. There is a field for a "memo" (text description, convenient for remembering the purpose of the button). **By default: there are no checkboxes, the memo is empty.**

Control of External Relays

Memo — textual description of the connected load. Will be used in notifications. The maximum size is 30 characters. **Default:** empty.

Switch Relay — relay control buttons.

Switch Off for Short Period — allows you to disable the relay for 15 s. If the relay is already disabled, there is no effect.

Relay State — the current state of the relay. Possible options are on (green), off (gray), temp. off (gray). A flashing light of the corresponding color indicates waiting for confirmation of receipt of a command from the external relay block.

Notification — relay notification configuration dialog.

NOTIFICATIONS FOR RELAYS 1

| Event | Log | Syslog | E-mail | SMS | SNMP Trap | |
|---|--------------------------|--------------------------|--------------------------|-----|--------------------------|--------------------------|
| Commands for Switching On/Off | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | . | <input type="checkbox"/> | |
| Reset (Switch Off for Short period) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | . | <input type="checkbox"/> | |
| Relay Switched | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | . | <input type="checkbox"/> | |
| Include in Summary Report | . | . | <input type="checkbox"/> | . | . | |
| Use common snmpTrapOID for all Events | | | | | | <input type="checkbox"/> |
| Use common snmpTrapOID for all Sensor Numbers | | | | | | <input type="checkbox"/> |

- **Command for Switching On/Off** — receiving a command to turn on / off the relay.
- **Reset (Switch Off for Short period)** — short-term switching (reset) of the relay.
- **Relay Switched** — the actual switching of the relay.
- **Include in Summary Report** — include the relay in the periodic report.

Checkboxes «**Use common snmpTrapOID for all Events**» and «**Use common snmpTrapOID for all Sensors Numbers**» you can send all events from all relays with a single snmpTrapOID message, or you can separate events and relay numbers by different snmpTrapOID messages, up to completely individual ones.

Usually, snmpTrapOID of the form .1.3.6.1.4.1.25728.5600.6.**127.99** is used, while to determine the source of the notification (a specific relay) and event (command received, reset requested, actual relay switching), the variables in the Trap message must be parsed. If a device or software that accepts SNMP Trap cannot perform variable checking, it is possible to include the event code and / or relay number directly in snmpTrapOID and thus receive unique SNMP Trap notifications for each event on each relay.

Decoding of the event type can be enabled by unchecking the checkbox «**Use common snmpTrapOID for all Events**», in this case, the Trap messages will look like this:

❗ .1.3.6.1.4.1.25728.5600.6.S.99, where S - event code, 100 (relay off), 101 (relay on), 102 (relay received an on / off command), 103 (reset, momentary relay switching).
Events 100, 101 serve to confirm the execution of the command. For example, a command to turn off an already turned off relay does not generate event 100 (off).

You can turn on the decoding of the channel number by unchecking the checkbox «**Use common snmpTrapOID for all Sensors Numbers**», in this case, the Trap messages will look like this:

❗ .1.3.6.1.4.1.25728.5600.6.127.N, where N is the relay number.

The Trap contains the variables (varbind list) described in the section **%ССЫЛКА%**. Additionally, the varbind list contains the source of the on/off/toggle command.

[ENG] 5. [DKSF 72/73.1] Work with built-in relays.

For sensor adapters with an analog interface, the following functionality is available on the device:

- Web interface;
- HTTP API;
- SNMP, SNMP TRAP;
- All notification channels, available in the firmware;
- Logic;
- Customizable notifications.

To interact with channels via the web interface, you need to go to the «**RELAYS**» page of the device web interface:

Control of Relays

[HOME](#) | [SETUP](#) | [E-MAIL](#) | [RS485 PORT](#) | [1-WIRE](#) | [TEMPERATURE](#) | [HUMIDITY](#) | [MONITORING V](#) | [NOTIFICATION](#) | [FIRMWARE](#) | [LOG](#)
[SMS](#) | [DISCRETE IO 1..5](#) | [DISCRETE IO 6..12](#) | [RELAYS](#) | [EXTERNAL RELAYS](#) | [WATCHDOG](#) | [SCHEDULE](#) | [ANALOG INPUTS](#) | [LOGIC](#)

| | Relay 1 | | Relay 2 | |
|-----------------------------|------------|-------------|------------|-------------|
| Memo | Siren | | Router | |
| Notification | Setup | | Setup | |
| Switch Relay | On | Off | On | Off |
| Flip Relay for Short Period | On for 15s | Off for 15s | On for 15s | Off for 15s |
| Relay State | On | | On | |

Apply Changes

Memo — short description. Memo is used in SYSLOG and log messages, and also included in SNMP TRAP, SMS reports and notifications (only for model with GSM modem), E-mail reports and notifications. The maximum size is 16 characters. **Default: empty.**

When you click on the «**SETUP**» button, a settings menu appears for sending notifications of the following types: Log, Syslog, email, SMS (in a device with a built-in GSM modem) and SNMP Trap:

NOTIFICATIONS FOR RELAY 1

| Event | Log | Syslog | E-mail | SMS | SNMP Trap |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Commands for Switching On/Off | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Reset (Flip for Short period) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Relay Switched | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Include in Summary Report | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Use common snmpTrapOID for all Events | <input type="checkbox"/> | | | | |
| Use common snmpTrapOID for all Sensor Numbers | <input type="checkbox"/> | | | | |

Cancel


Save

- **Commands for Switching On/Off** — notifications about the fact that the device has received a command to turn on and turn off the relay.
- **Reset (Flip for Short period)** — notifications about short-term relay switching.
- **Relay Switched** — relay state switching notifications.
- **Include in Summary Report** — include relay in periodic reports by E-mail and SMS.

Checkboxes «**Use common snmpTrapOID for all Events**» and «**Use common snmpTrapOID for all Sensors Numbers**» you can send all events from all relays with a single snmpTrapOID message, or you can separate events and relay numbers by different snmpTrapOID messages, up to completely individual ones.

Usually, snmpTrapOID of the form .1.3.6.1.4.1.25728.5600.6.**127.99** is used, while to determine the source of the notification (a specific relay) and event (command received, reset requested, actual relay switching), the variables in the Trap message must be parsed. If a device or software that accepts SNMP Trap cannot perform variable checking, it is possible to include the event code and / or relay number directly in snmpTrapOID and thus receive unique SNMP Trap notifications for each event on each relay.

Decoding of the event type can be enabled by unchecking the checkbox «**Use common snmpTrapOID for all Events**», in this case, the Trap messages will look like this:

 .1.3.6.1.4.1.25728.5600.6.S.99, where S - event code, 100 (relay off), 101 (relay on), 102 (relay received an on / off command), 103 (reset, momentary relay switching).
Events 100, 101 serve to confirm the execution of the command. For example, a command to turn off an already turned off relay does not generate event 100 (off).

You can turn on the decoding of the channel number by unchecking the checkbox «**Use common snmpTrapOID for all Sensors Numbers**», in this case, the Trap messages will look like this:

 .1.3.6.1.4.1.25728.5600.6.127.N, where N is the relay number.

On/Off — relay on/off.

On/Off for 15s — relay on/off for 15s.

[ENG] 6. [DKSF 72/73.1] Work with channels of discrete input-output.

For channels of discrete input-output, the following functionality is available on the device:

- Web interface;
- HTTP API;
- SNMP, SNMP TRAP;
- All notification channels, available in the firmware;
- Logic;
- Customizable notifications.

In order to work with the channels via web interface you need to open the «**DISCRETE IO 1..6**» and «**DISCRETE IO 7..12**» page of the device web interface:

Discrete Input-Output NetPingMon Main of

[HOME](#) | [SETUP](#) | [E-MAIL](#) | [RS485 PORT](#) | [1-WIRE](#) | [TEMPERATURE](#) | [HUMIDITY](#) | [MONITORING V](#) | [NOTIFICATION](#) | [FIRMWARE](#) | [LOG](#) | [SMS](#) | [DISCRETE IO 1..5](#) | [DISCRETE IO 6..12](#) | [RELAYS](#) | [EXTERNAL RELAYS](#) | [WATCHDOG](#) | [SCHEDULE](#) | [ANALOG INPUTS](#) | [LOGIC](#)

| Parameter | IO 1 | IO 2 | IO 3 | IO 4 | IO 5 | IO 6 |
|---|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Memo | Door sensor | Relay | Door | | | |
| IO Direction | Input | Output | Output | Input | Input | Input |
| Logic Level | 1 | 0 | 0 | 1 | 1 | 1 |
| Level Explained | - | - | - | - | - | - |
| Filter out short noise pulses (20-10 000ms) | 500 | 500 | 500 | 500 | 500 | 500 |
| Notification on Logic Level change | Setup | Setup | Setup | Setup | Setup | Setup |
| Output Logic Level | | | | | | |
| Logic 1 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Logic 0 | <input checked="" type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> |
| Start Single Pulse | | | | | | |
| Pulse Duration (100-25 500ms, step 100ms) | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |
| Start Single Pulse | Pulse | Pulse | Pulse | Pulse | Pulse | Pulse |

Apply Changes

Memo — short description of the sensor. Memo is used in SYSLOG and log messages, and also included in SNMP TRAP, SMS reports and notifications (only for model with GSM modem), E-mail reports and notifications. The maximum size is 16 characters. **Default: empty.**

IO Direction — setting the line operation mode: «**input**» (for connecting dry contact sensors to the IO-line), «**output**» (for controlling external devices). **Default: input.**

Logic Level — the current logic level on the IO-line. Refreshes automatically when the logical level of the line changes without having to refresh the entire page.

Level Explained — logical level text legend. **Default: empty.**

Filter out short noise pulses — field for setting the time during which the IO-line, configured as an «input», must remain in a stable state in order to register it. This parameter allows you to filter out short interference signals or bounce of mechanical contacts. **Default: 500 ms.**

Notification on Logic Level change — «**Setup**» button, a settings menu appears for sending notifications. Here you can also specify the decoding of the digital values of the current level of the IO-line, color indication and other settings:

NOTIFICATIONS FOR IO LINE 1

| Event | Log | Syslog | E-mail | SMS | SNMP Trap |
|---------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Front (Level Change 0 → 1) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Decay (Level Change 1 → 0) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Include in Summary Report | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Switch On/Off All Notifications | <input type="checkbox"/> | | | | |

Logic level

Legend

Color

| | | |
|---------|----------------------|-------|
| Logic 1 | <input type="text"/> | green |
| Logic 0 | <input type="text"/> | gray |

Suppression Of Repeating Notifications

Activation of Suppression

Suppression period, s

Disabled

0

Cancel


Save

- **Front (Level Change 0 → 1)** — IO-line status change from «0» to «1» .
- **Decay (изменение уровня 1 → 0)** — IO-line status change from «1» to «0».
- **Include in Summary Report** — add a line to a periodic report by SMS or E-mail. The time for sending reports is configured on the «SMS», «EMAIL» pages.
- **Switch On/Off All Notifications** — enabling and disabling all possible notification methods at once for all events.
- **Logic Level, Legend** — textual decoding of the logical level of the IO-line. It will be displayed in the «**Level Explained**», as well as be present in SYSLOG and log messages, in SNMP TRAP, SMS and e-mail notifications.
- **Logic Level, Color** — selection of the color of the virtual logic level indicator, It will be displayed in the «**Level Explained**» (the color of the physical LEDs on the front panel is not customizable), possible options are white, gray, orange, red, green. **Default: for «Log. 1» — green, for «Log. 0» — gray.**
- **Suppression Of Repeating Notifications** — a function that saves you from spam when the logical level on the line is frequently changed. This option allows you to suppress repeated uninformative notifications, taking into account the specifics of the connected sensor.
- **Activation of Suppression** — configures a transition that triggers a re-notification suppression period. It is set to a value corresponding to an alarm (for example, a power failure). Asymmetric activation is required so that exiting the alarm state does not trigger spam suppression. Until the suppression period expires, all notifications for any state transitions are discarded. Possible values — «**Disabled**», «0 → 1», «1 → 0» and «**Any Change**» (0 → 1 & 1 → 0).
- **Suppression Period, s** — the time during which recurring notifications will be suppressed. Possible values are 0–65500 seconds.

Output Logic Level — setting a logic level on a line that acts as an «**output**». The state of logic «1» means the presence of voltage on the output line (open collector circuit). The state of logic «0» means no voltage on the output line. **Default: Logic «0».**

Start Single Pulse — when you press the «**pulse**» button, the IO-line, working as «**output**», will be inverted for the set time. The duration of the impulse is set in the field «**Pulse Duration**» (100-25500ms, step 100ms). If the line is configured as «**input**», the pulse button is inactive.

[ENG] 7. [DKSF 72/73.1] Work with SMS-messages and built-in GSM-modem

 The function is available for devices with a GSM modem only.

[ENG] 7.1. [DKSF 72/73.1] Setting phone numbers for notifications and management.

To set one or several phone numbers for sending SMS notifications, you need to go to the «**SMS**» page of the device web interface:

SMS NOTIFICATION DESTINATIONS AND SMS COMMANDS SOURCES

| | Notif | Control | Memo | Mobile Number |
|------------------------------|--------------------------|--------------------------|----------------------|----------------------|
| Mobile Number for SMS, Main | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> | <input type="text"/> |
| Mobile Number for SMS, Aux 1 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> | <input type="text"/> |
| Mobile Number for SMS, Aux 2 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> | <input type="text"/> |
| Mobile Number for SMS, Aux 3 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> | <input type="text"/> |

Apply Changes

In the section «**SMS Notification Destinations And SMS Commands sources**» you need to specify the main and, if necessary, additional phone numbers for sending SMS-notifications.

Memo — convenient verbal designation of the phone number for easy identification of its owner.

Mobile Number — specified in the format [Country_code][Operator_code][Subscriber_Number], for example, +79127894561, where +7 is the country code, 912 is the operator code, 7894561 is the subscriber's number.

Also, in this section, you can separately enable the sending of notifications for each number and give permissions to control the device via SMS commands, the «Notif» and «Control» check boxes are responsible for these functions.

«**Notif**» — check-boxes allow sending notifications to the specified cell number. To receive SMS notifications, you must allow them to be sent to at least one mobile number.

«**Control**» — check-boxes allow reception of control commands from the specified cell number. If no «Control» check-box is checked, SMS commands are accepted from any cell number without restrictions.

To save phone numbers, click the «**Apply Changes**» button.

[ENG] 7.2. [DKSF 72/73.1] Network registration and signal strength

In order to check the registration and the level of the GSM signal of the SIM card installed in the device, you need to go to the «**SMS**» page of the device web interface:

GSM MODEM STATUS

| | |
|-----------------------------|---|
| Registration in GSM Network | Unrecoverable Error, SMS functions disabled |
| GSM Signal Strength | - |

Request

In the «**GSM Modem Status**» section, press the «**Request**» button. In a few seconds, in the field «**Registration in GSM network**» information about the cellular network in which the SIM card is registered will appear. In the field «**GSM signal strength**» information about the signal state in percent will appear.

[ENG] 7.3. [DKSF 72/73.1] SIM card balance

To find out the balance on the SIM-card installed in the slot of the built-in GSM-modem of the device, you need to go to the «SMS» page of the device web-interface:

USSD REQUEST

| | |
|--|------------------------------------|
| USSD Command for request of GSM Account status | <input type="text" value="*100#"/> |
| Reply on USSD Request | - |

In the «**USSD REQUEST**» section you need:

1. specify the USSD code to request the balance of the corresponding telecom operator;
2. apply changes;
3. click the «**Send USSD**» button.

After a few seconds, information about the balance on the SIM card will appear in the field «**Replay on USSD request**».

[ENG] 7.4. [DKSF 72/73.1] Pinger

To configure the «**PINGER**» module for the functionality of the built-in modem, you need to go to the «**SMS**» page:

PINGER

| | |
|---------------------------|---------------------------------|
| Address to poll with ping | <input type="text"/> |
| Period, s (30-9999) | <input type="text" value="30"/> |
| Ping Status | Failed |

Address to poll with ping — the address or name of the polled node.

Period, s (30-9999) — ping polling period.

Ping Status — communication status with the node.

[ENG] 7.5. [DKSF 72/73.1] SMS notifications about predefined events

In this section you can enable sending SMS notifications about predefined events programmed into the GSM modem operation module.

SMS NOTIFICATIONS

| | |
|-----------------------------|--------------------------|
| Ethernet link status change | <input type="checkbox"/> |
| Pinger status change | <input type="checkbox"/> |

Apply Changes

Pinger status change — changing the pinger status on the «**SMS**» page.

[ENG] 7.6. [DKSF 72/73.1] Daily SMS report.

To configure the time for sending the daily report in the form of SMS messages, go to the «**SMS**» page of the device web interface:

PERIODIC SUMMARY REPORT (SENSORS, RELAY, IO)

Time to send Summary Report (24h format hh:mm, up to 5 time points, separated by space)

Apply Changes

Time to send Summary Report — the time when SMS reports on the status of sensors, IO-lines and relays will be sent. **Default:** empty.

Enabling a sensor, relay, or I/O line in its notification dialog. After setting the time, it is necessary to save the changes to the parameters by clicking the «**Apply changes**» button.

[ENG] 7.7. [DKSF 72/73.1] Forwarding unrecognized SMS

FORWARDING OF SMS UNRECOGNIZED AS COMMANDS

| | |
|--------------------------------|--|
| Forwarding Destination | <input checked="" type="checkbox"/> Log <input checked="" type="checkbox"/> Syslog <input checked="" type="checkbox"/> E-mail <input checked="" type="checkbox"/> Trap |
| <button>Apply Changes</button> | |

The device firmware provides the ability to configure SMS forwarding that were not recognized as commands:

- in Log;
- by Syslog;
- by E-mail;
- SNMP TRAP-message;
- to any phone number (with customizable notifications. More details about custom notifications can be found in section 8. [\[DKSF 72/73.1\] Customizable notifications](#)).

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

Having selected the necessary delivery methods with check-boxes, save the changes by clicking the «**Apply changes**» button.

[ENG] 7.8. [DKSF 72/73.1] GSM Modem Troubleshoot

GSM MODEM TROUBLESHOOTING

| | |
|--|--------------------------|
| Log Communication with GSM Modem (Troubleshooting) | <input type="checkbox"/> |
| Last error of GSM modem (hit F5 to refresh) | |
| <div>Reboot GSM Test SMS Apply Changes</div> | |

Log Communication with GSM Modem (Troubleshooting) — a function, when enabled, information on all AT commands exchanged between the CPU and the GSM modem will be displayed on the «**LOG**» page. This function is necessary to diagnose possible problems with the GSM modem functioning.

In field «**Last error of GSM modem**» the date and time of the last modem error is indicated, and the error itself. To display the current error, press the F5 key.

Reboot GSM — reboot GSM modem.

Test SMS — sending test SMS («NetPing SMS Test») to the numbers registered in the section «**SMS Notification Destinations And SMS Commands sources**» on the «**SMS**» page of the web interface.

[ENG] 7.9. [DKSF 72/73.1] SMS notifications.

Syntax of SMS notifications

SMS notifications look like:

```
np_name (q) payload
```

where:

np_name — device name for identifying SMS messages. It is set on the «**SETUP**» page of the device web interface. If no device name is specified, the name «**NETPING**» is used.

q — sequential message number. The number is non-volatile - it is not reset when the power is turned off. Serves for registration of missed (lost) messages.

Payload — informational part of SMS messages.

Payload of messages

| Датчик | Сообщения | Событие | Примечание |
|-------------------|---|---|---|
| I/O line | IO n=0 1 label transcript | Logic leve change | n — line number label — « Memo » of IO Line. transcript — Logic level legend. |
| Built-in Relay | RELAY n "label" ORDERED TO SWITCH OFF ON | The relay received an off/on command. | n — relay number label — « Memo » of Relay. |
| | RELAY n "label" SWITCHED OFF ON | Relay off/on. | |
| Watchdog | WDOG n "label" RESET | Watchdog trigger | n — wathcdog number. label — « Memo » of the object connected to the watchdog. |
| Termo sensor | TEMP.SENSOR n "labe l" IS FAILED | Sensor failure (stopped responding when polling) | n — number of sensor. t — current temperature , °C. t1, t2 — safe ranges, °C. label — « Memo » of the sensor. |
| | TEMP.SENSOR n "labe l" IN SAFE RANGE (t1TO t2), NOW tC | Temperature returned to normal range | |

| Датчик | Сообщения | Событие | Примечание |
|--------------------------|--|--|---|
| | TEMP.SENSOR n "label" OUT OF RANGE (t1 TO t2), NOW tC | Temperature is out of range | |
| Relative humidity sensor | RHn "label" FAILED | Sensor failure (stopped responding when polling) | n — number of sensor. h — relative humidity , %. h1, h2 — safe ranges for relative humidity, %. t — current temperature, °C. t1, t2 — safe ranges for temperature, °C. h_status — humidity status, possible values: «above», «in safe range», «above». t_status — temperaturestatus, possible values: «above», «in safe range», «above». label — «Memo» of the sensor. |
| | RHn "label" is OK, h% h_status, tC t_status | Recovering a sensor after a failure | |
| | RHn "label" h% (below h1..h2%) | Rel. humidity dropped below normal | |
| | RHn "label" h% (in safe range h1..h2%) | Rel. humidity returned to normal | |
| | RHn "label" h% (above h1..h2%) | Rel. humidity has risen above normal | |
| | RHn "label" tC (below t1..t2C) | Temperature dropped below normal | |
| | RHn "label" tC (in safe range t1..t2C) | Temperature is back to normal | |
| | RHn "label" tC (above t1..t2C) | The temperature has risen above normal | |
| Power Quality sensor | VOLTAGE n "label" GOOD/WARN/BAD/NO VOLTAGE (v) | Voltage status change | n — number of sensor. V — voltage. Hz — frequency . Label — «Memo» of the sensor. |
| | VOLTAGE n "label" FREQ GOOD/WARN/BAF/OFF (Hz) | Changing the frequency status | |
| | VOLTAGE n "label" SMALL/MEDIUM/BIG SAG(S) (v) | Change in failure status | |

| Датчик | Сообщения | Событие | Примечание |
|-----------------------------|---|------------------------------|---|
| | VOLTAGE n "label" PEAKS/NO PEAKS (v) | Changing the status of peaks | |
| Адаптер аналоговых датчиков | AINn "label": Above safe/in safe/below safe/Out of work range/fail | Loop/sensor status change | n — number of adapter. Label — «Memo» of the sensor. If the notification text substitution for Above/in/ Below safe range events is configured in notifications for a specific adapter, then the message text will contain a custom text. |
| Pinger (On «SMS» page) | PINGER STATUS: OK FAILED (IP/ HOSTNAME) | Changing host availability | IP/HOSTNAME — IP address / DNS name of the checked node in the network. |

Periodic SMS reports


The device implements the ability to send a daily report in the form of SMS messages about the status of sensors, IO-lines and relays.

Customizable notifications

The device firmware has the ability to send custom notifications about various events. More details about custom notifications can be found in the **%LINK%** section. The syntax for such notifications is not explicitly defined and is user configurable.

[ENG] 7.10. [DKSF 72/73.1] SMS commands.

The device has the ability to remotely control using SMS commands.

 The device firmware implements the ability to set white lists - numbers that are allowed to control the device. More information about whitelisting can be found in the [7.1. \[DKSF 72/73.1\] Setting phone numbers for notifications and management](#) section.

Syntax of SMS Commands

General format of SMS command text:


NETPING fff community_w kkkkk

where:

fff — command code (see below).

community_w — password, corresponds to the SNMP community to write. It is set on the «**SETUP**» page of the device web interface. You can use Latin letters, numbers and some specials. symbols.

kkkkk — request identifier (arbitrary number from 3 to 9 digits). It is repeated in the response to establish a correspondence between the request and the response. Optional command element. If the identifier is not in the command, it is also missing in the response.

 The command text is case insensitive; you can use lowercase and uppercase letters. Command elements are separated by spaces. The characters «'», «"», «@» are not allowed. Enabling these characters may cause the firmware to crash. Execution of the command is confirmed by a response message (see below).

Command codes

| Command code | Command Description | Response | Note |
|-----------------|---------------------|----------|---|
| Common commands | | | |
| RB 20 | Reboot device | | The reboot will occur 20 seconds after it receives the command. |
| Relay | | | |

| Command code | Command Description | Response | Note |
|------------------|--|--|--|
| Pn + Pn - | Switch on/off relay | NP DONE Pn+ NP DONE Pn- | <ul style="list-style-type: none"> n — relay number. |
| Pn R | Reset relay | NP DONE PnR | <ul style="list-style-type: none"> n — relay number. <p>The polarity (direction) of switching the relay when resetting must correspond to the polarity specified in the settings of the «Watchdog» module (reset mode). If the relay is already in the reset state, the reset command has no effect, although a «NP DONE PnR» success notification will be sent back to the sender</p> |
| Pn ? | Request relay status | NP REPLY Pnb | <ul style="list-style-type: none"> n — relay number. b – the state of the relay, the possible state of the relay is coded by symbols: «+» (on), «-» (off); |
| P? | Query the status of all relays in short form | NP REPLY P1b .. Pnb kkkkk | <ul style="list-style-type: none"> b – the state of the relay, the possible state of the relay is coded by symbols: «+» (on), «-» (off); |
| I/O lines | | | |
| Ln + Ln - | Transfer the line to the state log.1 (+) or log.0 (-). | NP DONE Ln+ NP DONE Ln- | The line must be in the « output » mode. |
| Ln P | Give impulse to the line | NP DONE LnP | The line must be in the « output » mode. |
| Ln ? | Request line status | NP REPLY Ln=l(mode) | <ul style="list-style-type: none"> l — logical level of the IO-line, possible values: 0, 1. mode — IO line operating mode, possible values: IN (input), OUT (output). |

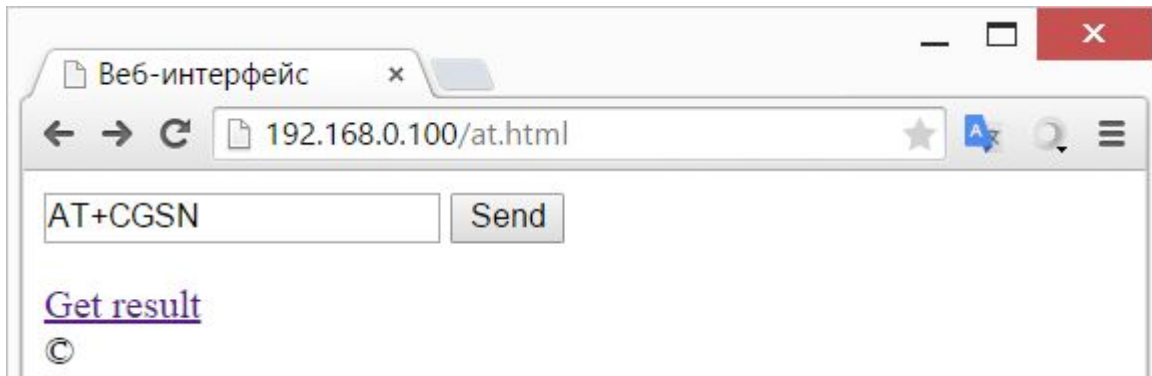
| Command code | Command Description | Response | Note |
|--------------------------|---|---|---|
| L? | Query the status of all IO lines in a short form | NP REPLY Ln=l(mode) Ln=l(mode) Ln=l(mode) Ln=l(mode) Ln=l(mode) Ln=l(mode) Ln=l(mode) Ln=l(mode) | <ul style="list-style-type: none"> l — logical level of the IO-line, possible values: 0, 1. mode — IO line operating mode, possible values: IN (input), OUT (output). |
| Pinger | | | |
| N? | Request pinger status (on the «SMS» page) | NP REPLY N=status | <ul style="list-style-type: none"> status — pinger state (1 - the address is responding, 0 - the address is silent) |
| Temperature sensor | | | |
| Tn ? | Request temperature sensor status | NP REPLY Tb=? SENSOR FAILED kkkkk NP REPLY Tb=tC BELOW SAFE RANGE (t1..t2C) kkkkk NP REPLY Tb=tC IN SAFE RANGE (t1..t2C) kkkkk NP REPLY Tb=tC ABOVE SAFE RANGE (t1..t2C) kkkkk | <ul style="list-style-type: none"> b – temperature sensor number; t – current temperature value, °C; t1, t2 – safe ranges, °C. |
| T? | Query the status of all connected temperature sensors in a short form | NP REPLY T2=21C SAFE (10..30C) T5=? T6=39C ABOVE (10..30C) kkkkk | Unused sensors with empty 1W addresses are skipped. <ul style="list-style-type: none"> BELOW / SAFE / ABOVE – temperature sensor status; ? – failed or disabled (but with the entered address) sensors are displayed as T5=? without status and ranges, °C; |
| Relative humidity sensor | | | |

| Command code | Command Description | Response | Note |
|--|----------------------------------|---|--|
| Hn ? | Request sensor status | NP REPLY Hx=? SENSOR FAILED kkkkk NP REPLY Hx=h% BELOW SAFE RANGE (h1..h2%) T= tC kkkkk NP REPLY Hx=h% IN SAFE RANGE (h1..h2%) T= tC kkkkk NP REPLY Hx=h% ABOVE SAFE RANGE (h1..h2%) T= tC kkkkk | <ul style="list-style-type: none"> • h – current reading of relative humidity, %; • h1, h2 – limits of the safe range of relative humidity, %; • t – current temperature value, °C; |
| H? | | | |
| Power quality sensor | | | |
| Vn ? | Request sensor status and values | NP REPLY Vn=V OK/ WARN/BAD/OFF Hz OK/WARN/BAD/OFF kkkkk NP REPLY Vn=? SENSOR FAILED kkkkk | <ul style="list-style-type: none"> • n – sensor number • V – current voltage value, V • 50 – current value of frequency, Hz. • OK/WARN/BAD/OFF – mains voltage and frequency status. |
| Analog sensors adapter (+ built-in analog input) | | | |
| AI Nn ? | Request adapter readings | NP REPLY AINn=status | <ul style="list-style-type: none"> • n - sensor number • status -sensor status, possible values: FAIL_1W, B.SAFE!, OK, A.SAFE!, FAIL_AN (adapter failure, below normal, normal, above normal, loop failure / out of range) |
| AI N? | Request readings of all adapters | NP REPLY AIN1=status .. AIN4=status | |

[ENG] 7.11. [DKSF 72/73.1] IMEI GSM модема и AT команды

To obtain the IMEI (International Mobile Equipment Identity) of the built-in GSM modem, go to the service page of the device web interface at: http://netping_ip/at.html

To find out the IMEI, you need to send an AT command:



To receive an answer, click on the "Get result" link:



[ENG] 7.12. [DKSF 72/73.1] Sending arbitrary SMS

Sending SMS via SNMP

To send arbitrary SMS in Cyrillic using the SNMP protocol, you must use the UTF-8 encoding ([Converting files to UTF-8](#)) or Windows-1251 in the text of the SMS message.

To send SMS using the SNMP protocol, you need to use the variable «**npGsmSendSmsUtf8**» or «**npGsmSendSmsWin1251**», into which the recipient's phone number and the text of the SMS-message are written.

| OID | Имя | Тип | Доступ | Описание |
|--|---------------------|---------------|------------|--|
| .1.3.6.1.4.1.25728.3.800.1.9.0 | npGsmSendSmsUtf8 | DisplayString | READ/WRITE | Sending an arbitrary SMS message in UTF-8 encoding. |
| .1.3.6.1.4.1.25728.3.800.1.10.0 | npGsmSendSmsWin1251 | DisplayString | READ/WRITE | Sending an arbitrary SMS message in Windows-1251 encoding. |

The format of an arbitrary SMS message:

[phone_number1,phone_number2,phone_number3,phone_number4] Message

где:

- **phone_number** — recipient number in square brackets (you can send SMS to several recipients by specifying them in square brackets separated by commas, without spaces. If you do not select recipients, SMS will be sent to the numbers specified in the settings on the «**SMS**» page of the device web interface);
- **Message** — the text of the message (written separated by a space from the square brackets).

Sending SMS via HTTP API

The maximum length of arbitrary SMS messages cannot exceed 255 characters.

To send SMS via third-party web applications, you can use the following JavaScript code:

```

1  var r = new XMLHttpRequest();
2  r.open('POST', 'http://192.168.0.100/sendsms.cgi?utf8', true, 'visor',
   'ping'); // visor:ping - username and password
3  r.withCredentials = true;
4  r.send('[+791300000001,+791300000002,+791300000003,+791300000004] Hello
   World!');
```

- **192.168.0.100** — The default IP address of the device.
- **visor / ping** — username and password for connecting to the web-based interface of the device.

You can send SMS to several recipients by specifying them in square brackets separated by commas, without spaces. If you do not select recipients, SMS will be sent to the numbers specified in the settings on the «**SMS**» page of the device web interface

If the data format is correct, a JavaScript code is returned as a result: `sendsms_result ('ok')`;

An example of sending a custom SMS using a PowerShell script:

```
1  $url = "http://192.168.0.100/sendsms.cgi?utf8"
2  $username = "visor"
3  $password = "ping"
4
5  $reqBody = "[+791300000001,+791300000002,+791300000003,+791300000004] Hello
6  World!"
7
8  $req = [System.Net.WebRequest]::Create($url)
9  $req.Method = "POST";
10
11 $req.Credentials = new-object System.Net.NetworkCredential($username,
12 $password)
13
14 $Body = [System.Text.Encoding]::UTF8.GetBytes($reqBody);
15
16 $stream = $req.GetRequestStream();
17 $stream.Write($Body, 0, $Body.Length);
18
19 $stream.Flush();
20 $stream.Close();
21
22 $resp = $req.GetResponse().GetResponseStream()
23 $resp.Close()
```

where:

\$url — The default IP address of the device;

\$username / \$password — default username and password for connecting to the web-based interface of the device;

\$reqBody — addressee's number in square brackets and the text of the SMS-message (written separated by a space from the addressee's number. You can send an SMS to several addressees, specifying them in square brackets separated by commas, without spaces).

[ENG] 8. [DKSF 72/73.1] Customizable notifications

In the web interface of the device, it is possible to create custom notifications (SMS and E-mail) with free text, in which you can include additional information about the event that triggered the notification. Custom notifications work in parallel with standard fixed text SMS and email notifications.

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

Customizable Notifications

[HOME](#) | [SETUP](#) | [E-MAIL](#) | [RS485 PORT](#) | [1-WIRE](#) | [TEMPERATURE](#) | [HUMIDITY](#) | [MONITORING V](#) | [NOTIFICATION](#) | [FIRMWARE](#) | [LOG SMS](#) | [DISCRETE IO 1..5](#) | [DISCRETE IO 6..12](#) | [RELAYS](#) | [EXTERNAL RELAYS](#) | [WATCHDOG](#) | [SCHEDULE](#) | [ANALOG INPUTS](#) | [LOGIC](#)

CUSTOMIZABLE NOTIFICATIONS

| Enable | Sensor | Event | Method | Notification |
|-------------------------------------|--------|--|--------|---|
| <input checked="" type="checkbox"/> | 3 | Failed Below Safe Safe Above Safe | SMS | [+79120000000] Termo{1}({6}) - {2}C |
| <input checked="" type="checkbox"/> | 1 | Below Safe Safe Above Safe | SMS | T{1}:{6} ({4}-{5}), {2}C |
| <input checked="" type="checkbox"/> | | Off On | e-mail | NetPing - Relay Relay{1} ({6}) - {2} |

[click here to add new record](#)

The notification settings window will appear with the following parameters (the screenshot below shows the already configured notification from the temperature sensor on channel 3).

SMS notification:

Enable Notification ☒

Sensor

Event ☒ Failed ☒ Below Safe ☒ Safe ☒ Above Safe

Notification Method

Текст SMS

Termo

3

SMS

[+79120000000] Termo{1}({6}) - {2}C

Delete Record

Cancel

Apply Changes

Email notification:

Enable Notification
☒

Sensor

Relay

any channel

Event
☒ Off
 ☒ On

Notification Method

e-mail

To

Subj

NetPing - Relay

Текст


Relay{1} ({6}) - {2}

Delete Record

Cancel

Apply Changes

Description of sensors and events:

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

| Датчик | Событие | Описание |
|--|------------|---|
| Termo 1..8 / Any channel | Failed | Sensor defective or not connected |
| | Below Safe | Temperature dropped below normal |
| | Safe | Temperature is back to normal |
| | Above Safe | The temperature has risen above normal |
| Humidity (Rel.Humidity) 1..4 / Any channel | Failed | Sensor defective or not connected |
| | Below Safe | Rel. humidity dropped below normal |
| | Safe | Rel. humidity returned to normal |
| | Above Safe | Rel. humidity has risen above normal |
| Humidity (Temperature) 1..4 / Any channel | Failed | Sensor defective or not connected |
| | Below Safe | Humidity sensor temperatures dropped below normal |
| | Safe | Humidity sensor temperatures returned to normal |
| | Above Safe | Humidity sensor temperatures rise above normal |
| Analog Input 1...5 / Any channel | отказ 1W | Adapter defective or not connected |

| Датчик | Событие | Описание |
|-----------------------------------|--------------------------------|---|
| | ниже нормы | The value of the observed parameter dropped below the lower range of the norm |
| | норма | The value of the observed parameter is within the normal range |
| | выше нормы | The value of the observed parameter has risen above the upper limit of the normal range |
| | вне раб. диапазона | The value of the observed parameter is out of the working range |
| Discrete IO 1..8 / Any channel | Log.0 | Line logic level switched to 0 |
| | Log.1 | Line logic level switched to 1 |
| Relay 1..2 / Any channel | Off | The relay has turned off |
| | On | The relay has turned on |
| Watchdog | Reset | The module has reset the relay |
| | Suspended | The module is suspended |
| | Resumed | The module has been resumed |
| Signal 1..4 / Any channel | Activation | The signal was activated by logic. That is, the logic rule has worked, the output of which is « Signal 1..4 ». More details about the rules of logic and, in particular, the signal can be found in the section 11.1. [DKSF 72/73.1] «Logic» . |
| External Relay 1..8 / Any channel | Off | The external relay has turned off |
| | On | The external relay has turned on |
| AC Voltage | Changes of voltage status | Voltage status changed |
| | Changes of frequency status | Frequency status changed |
| | Changes of sag status | Destination status changed |
| | Changes of peak voltage status | The status of voltage peaks (pulses) has changed |
| GSM | non-command SMS | Incoming SMS is not a command |

| Датчик | Событие | Описание |
|--------|-------------------------|---|
| | SMS from unknown sender | Incoming SMS from an unknown number (subject to setting up white lists of numbers). You can read more about setting up whitelists in the section 7.1. [DKSF 72/73.1] Setting phone numbers for notifications and management . |

Description of notification methods:

| Method | Description |
|--------|---|
| email | Email notifications are sent 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 » field (substitutions are possible) and the text of the email message itself. The destination cannot be specified, messages are sent to the destinations specified on the « EMAIL » page. |
| SMS | <p>Custom 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: [Country_code] [Operator_code] [Subscriber_Number]. 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!"</p> <p>If you do not specify addressees, that is, 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 web interface and marked with the «Notif» checkbox.</p> |

The text of a custom notification can include information from the NetPing MIB branch related to the sensor, IO-line or relay that triggered the event. Format: {N}, where N is the SNMP OID component preceding the sensor index.

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

| Substitution | OID | Name | Description |
|--------------|---------------------------------|----------------|---|
| {2} | .1.3.6.1.4.1.25728.8800.1.1.2.n | npThermoValue | Current temperature at the temperature sensor, n — number of the sensor. |
| {3} | .1.3.6.1.4.1.25728.8800.1.1.3.n | npThermoStatus | Thermal sensor status, n — number of the sensor. |
| {4} | .1.3.6.1.4.1.25728.8800.1.1.4.n | npThermoLow | The lower limit of the safe ranges values of temperature, n — number of the sensor. |
| {5} | .1.3.6.1.4.1.25728.8800.1.1.5.n | npThermoHigh | The upper limit of the safe ranges temperature values, n — number of the sensor. |

| Substitution | OID | Name | Description |
|--------------|---------------------------------|--------------|---------------------------------|
| {6} | .1.3.6.1.4.1.25728.8800.1.1.6.n | npThermoMemo | Memo, n — number of the sensor. |

Additionally

The following substitutions can be used in the SMS text in customizable event notifications from GSM (SMS is not a command and SMS from an unknown number):

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

[ENG] 9. [DKSF 72/73.1] SNMP support

[ENG] 9.1. [DKSF 72/73.1] Description

The device supports SNMP v1 protocol. SNMP TRAP partially in v2.

You can read more about the SNMP protocol at the links:

- <http://ru.wikipedia.org/wiki/SNMP>
- <http://www.SNMP.ru/doku.php>

The OIDs supported by the devices can be found in the MIB files on the device description pages in the «**Documentation and Files**» section.

Devices support:

- reading OID using **Get**, **Get-Next** requests via SNMP v1 protocol;
- setting OID values using the **Set** command via the SNMP v1 protocol;
- sending **TRAP** messages on events.

In order to configure the sending of SNMP TRAP messages, you need to:

1. On the «**SETUP**» page, in the SNMP TRAP section, configure the address and UDP port of the primary and secondary (if necessary) trap receivers.

SNMP TRAP

| | |
|-------------------------------|--------------|
| SNMP Trap Destination #1 | 192.168.0.20 |
| SNMP Trap Destination #1 Port | 162 |
| SNMP Trap Destination #2 | 10.15.17.102 |
| SNMP Trap Destination #2 Port | 32561 |

Apply Changes

2. On the pages of the sensors, in the notification settings dialogs for each sensor, enable the checkboxes of the events that send Traps.

SNMP TRAP messages from IO lines

NOTIFICATIONS FOR IO LINE 7

| Event | Log | Syslog | E-mail | SMS | SNMP Trap |
|---------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Front (Level Change 0 → 1) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Decay (Level Change 1 → 0) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Include in Summary Report | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Switch On/Off All Notifications | <input type="checkbox"/> | | | | |

| Logic level | Legend | Color |
|-------------|----------------------|-------|
| Logic 1 | <input type="text"/> | green |
| Logic 0 | <input type="text"/> | gray |

Suppression Of Repeating Notifications

Activation of Supression

Supression period, s

Front (Level Change 0 → 1) — when the logic level on the IO-line changes from low to high.

Decay (Level Change 1 → 0) — when the logic level on the IO-line changes from high to low.

SNMP TRAP messages from temperature sensors

NOTIFICATIONS FOR TEMPERATURE SENSOR 1

| Event | Log | Syslog | E-mail | SMS | SNMP Trap |
|---------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| Temperature is above safe range | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Temperature is in safe range | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Temperature is below safe range | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Sensor fault | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Include in Summary Report | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Switch On/Off All Notifications | <input checked="" type="checkbox"/> | | | | |

Repeat 3 Times Alarm Notification with Period

Temperature is above safe range — when exceeding the upper safe range specified for the sensor.

Temperature is in safe range — when the temperature returns to the safe range.

Temperature is below safe range — when the temperature falls below the safe range specified for the sensor.

Sensor fault — if the sensor fails.

SNMP TRAP messages from RH sensors

NOTIFICATIONS FOR RELATIVE HUMIDITY SENSOR 1

| Event | Log | Syslog | E-mail | SMS | SNMP Trap |
|---|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| Humidity is above Safe Range | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Humidity is in Safe Range | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Humidity is below Safe Range | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Temperature is above Safe Range | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Temperature in Safe Range | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Temperature is below Safe Range | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Sensor fault | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Include in Summary Report | * | * | <input type="checkbox"/> | <input type="checkbox"/> | * |
| Switch On/Off All Notifications | | | | | <input checked="" type="checkbox"/> |
| Use common snmpTrapOID for all Events | | | | | <input type="checkbox"/> |
| Use common snmpTrapOID for all Sensor Numbers | | | | | <input type="checkbox"/> |

Cancel Save

Humidity is above Safe Range — when the value of relative humidity exceeds the upper limit of the safe range.

Humidity is in Safe Range — when the relative humidity returns to the safe range.

Humidity is below Safe Range — when the value of relative humidity drops below the lower limit of the safe range.

Temperature is above safe range — when

exceeding the upper safe range specified for the sensor.

Temperature is in safe range — when the temperature returns to the safe range.

Temperature is below safe range — when the temperature falls below the safe range specified for the sensor.

Sensor fault — if the sensor fails: two SNMP Trap messages are received: one for humidity, the other for temperature.

Use common snmpTrapOID for all events and Use common snmpTrapOID for all channels — sending SNMP TRAP messages for all events from all humidity sensors with a single snmpTrapOID message or messages that allow you to separate events and humidity sensor numbers according to different snmpTrapOID messages, up to completely individual ones. This allows you to receive individual SNMP Trap messages for processing in monitoring systems, for example, "dampness of humidity sensor 3" or "humidity sensor 2 is normal".

SNMP TRAP messages from an analog smoke detector (current loop)

NOTIFICATIONS FOR ANALOG INPUT 1

| Event | Log | Syslog | E-mail | SMS | SNMP Trap |
|---|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| Above Safe Range | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| In Safe Range | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Below Safe Range | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Outside of Working Range (Broken/Shorted/NoPower) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Failed or Absent | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Include in Summary Report | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Switch On/Off All Notifications | | | | | <input type="checkbox"/> |

Event

Above Safe
Safe
Below Safe

Legend

Cancel Save

Above Safe Range — when the observed parameter has risen above the safe limit.

In Safe Range — when the observed parameter is returned to the safe boundary.

Below Safe Range — when the observed parameter has dropped below the safe limit.

Outside of Working Range (Broken/Shorted/NoPower) — when the observed

parameter goes beyond the limits of the working range (broken, short circuit or no power).

Failed or Absent — the adapter is defective or not connected.

SNMP TRAP messages from power quality sensors

NOTIFICATIONS FOR VOLTAGE MONITORING SENSOR 1

| Event | Log | Syslog | E-mail | SMS | SNMP Trap |
|--------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| Changes of voltage status | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Changes of frequency status | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Changes of voltage sag status | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Changes of peak voltage status | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Include in Summary Report | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Cancel Save

Changes of voltage status — when voltage status changes.

Changes if frequency status — when the frequency status changes.

Changes of voltage sag status — when the status of voltage sags changes.

Changes of peak voltage status —

when the status of voltage peaks changes.

SNMP TRAP messages from 1-Wire adapter of analog sensors

NOTIFICATIONS FOR ANALOG INPUT 1

| Event | Log | Syslog | E-mail | SMS | SNMP Trap |
|---|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| Above Safe Range | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| In Safe Range | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Below Safe Range | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Outside of Working Range (Broken/Shorted/NoPower) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Failed or Absent | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Include in Summary Report | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Switch On/Off All Notifications | | | | | <input checked="" type="checkbox"/> |

Event

Above Safe

Safe

Below Safe

Legend

Cancel

Save

Above Safe Range — when the observed parameter has risen above the safe limit.

In Safe Range — when the observed parameter is returned to the safe boundary.

Below Safe Range — when the observed parameter has dropped below the safe limit.

Outside of Working Range (Broken/Shorted/NoPower) — when the observed

parameter goes beyond the limits of the working range (broken, short circuit or no power).

Failed or Absent — the adapter is defective or not connected.

[ENG] 9.2. [DKSF 72/73.1] Supported OIDs

The description of the OIDs supported by the device is shown in the table:

For your convenience we recommend you to use any convenient MIB browser, where you can download the MIB file for the current firmware and get the data from the table below in the form of a tree.

| OID | Name | Type | Access | Description |
|-------------------------------|-------------|--------------|--------------|---|
| RFC1213 | | | | |
| .1.3.6.1.2.1.1.1.0 | sysDescr | Octet String | READ | A textual description of the device. |
| .1.3.6.1.2.1.1.2.0 | sysObjectID | OID | READ | Branch number with device parameters always «.1.3.6.1.4.1.1.25728» |
| .1.3.6.1.2.1.1.3.0 | sysUpTime | TimeTicks | READ | Runtime since last power on or reboot (uptime). |
| .1.3.6.1.2.1.1.4.0 | sysContact | Octet String | READ / WRITE | Contact details, usually the administrator's email. |
| .1.3.6.1.2.1.1.5.0 | sysName | Octet String | READ / WRITE | Device name. |
| .1.3.6.1.2.1.1.6.0 | sysLocation | Octet String | READ / WRITE | Location of the device. |
| .1.3.6.1.2.1.1.7.0 | sysServices | Integer | READ | The binary representation of this OID is the set of supported services. Always "72", the device acts as an end host. |
| .1.3.6.1.2.1.2.1.0 | ifNumber | Integer | READ | Number of device network interfaces. |
| .1.3.6.1.2.1.2.2.1.1.1 | ifIndex | Integer | READ | An interface index is a unique identification number associated with a physical or logical interface. For most software, ifIndex is the name of the interface |

| OID | Name | Type | Access | Description |
|---------------------------------------|---------------|--------------|--------------|---|
| .1.3.6.1.2.1.2.2.1.2 | ifDescr | Octet String | READ | A string containing information about the interface. The line contains the manufacturer's name, device model and hardware interface version |
| .1.3.6.1.2.1.2.2.1.3.1 | ifType | Integer | READ | Device network interface type |
| .1.3.6.1.2.1.2.2.1.4.1 | ifMtu | Integer | READ | Packet size by network interface. Always «1514». |
| .1.3.6.1.2.1.2.2.1.5.1 | ifSpeed | Integer | READ | The speed of the network interface. Always «100000000» |
| .1.3.6.1.2.1.2.2.1.6.1 | ifPhysAddress | Octet String | READ | Device MAC-Address |
| NetPing MIB | | | | |
| .1.3.6.1.4.1.25728.911.1.0 | npSoftReboot | Integer | READ / WRITE | Software restart of the device when writing the value "1" |
| .1.3.6.1.4.1.25728.911.2.0 | npResetStack | Integer | READ / WRITE | Software reboot of the network interface when writing the value "1" |
| .1.3.6.1.4.1.25728.911.3.0 | npForceReboot | Integer | READ / WRITE | Immediate forced reboot of the device when writing the value "1" (reset the MCU as at power on) |
| .1.3.6.1.4.1.25728.380.0.1.1.0 | npGsmFailed | Integer | READ | Built-in GSM modem status: <ul style="list-style-type: none"> 0 — OK 1 — Failed (no connection) 2 — FatalError (unrecoverable error, modem locked) |

| OID | Name | Type | Access | Description |
|--|---------------------|---------------|--------------|---|
| .1.3.6.1.4.1 .25728.380 0.1.2.0 | npGsmRegistration | Integer | READ | GSM network connection status: <ul style="list-style-type: none"> • 0 — Impossible • 1 — HomeNetwork • 2 — Searching • 3 — Denied • 4 — Unknown • 5 — Roaming • 255 — InfoUpdate |
| .1.3.6.1.4.1 .25728.380 0.1.3.0 | npGsmStrength | Integer | READ | GSM signal strength: <ul style="list-style-type: none"> • 0...31 = 0% ... 100% • 99 — unknown • 255 — updating info |
| .1.3.6.1.4.1 .25728.380 0.1.9.0 | npGsmSendSMSUtf8 | DisplayString | READ / WRITE | Sending an arbitrary SMS message in UTF-8 encoding . Format: [phone_number,phone_number,...] Message where: phone_number — номер адресата в квадратных скобках, указывается в формате: [Country_code] [Operator_code] [Subscriber_Number], for example — «+79998887766». Message — Message text Only Latin letters are allowed in the SMS text. You can send SMS to several (up to four) numbers, specifying them in square brackets separated by commas, without spaces. If there are no square brackets with the recipient's number at the beginning of the message, the message is sent to the recipients specified on the "SMS" page of the device's web interface. |
| .1.3.6.1.4.1 .25728.380 0.1.10.0 | npGsmSendSMSWin1251 | DisplayString | READ / WRITE | Sending an arbitrary SMS message in Windows-1251 encoding (see details in npGsmSendSMSUtf8). |
| Built-in relays | | | | |
| .1.3.6.1.4.1 .25728.550 0.5.1.1.n | npRelayN.n | Integer | READ | Relay number |

| OID | Name | Type | Access | Description |
|--|---------------------|---------------|--------------|---|
| .1.3.6.1.4.1 .25728.550 0.5.1.2.n | npRelayMode.n | Integer | READ / WRITE | Relay operating mode: <ul style="list-style-type: none"> • 0 - off • 1 - on • -1 - toggle between off and on |
| .1.3.6.1.4.1 .25728.550 0.5.1.3.n | npRelayStartReset.n | Integer | READ / WRITE | OID for forced momentary switching off of the relay. Write down the number «1» to turn off the channel for 15 seconds |
| .1.3.6.1.4.1 .25728.550 0.5.1.6.n | npRelayMemo.n | DisplayString | READ | Relay memo |
| .1.3.6.1.4.1 .25728.550 0.5.1.14.n | npRelayFlip.n | Integer | READ / WRITE | OID for switching between off and on states. Write down «-1» to toggle. |
| .1.3.6.1.4.1 .25728.550 0.5.1.15.n | npRelayState.n | Integer | READ | Current momentary state of the relay: <ul style="list-style-type: none"> • 0 - relay off • 1 - relay is on |
| 1-W Humidity sensor | | | | |
| .1.3.6.1.4.1 .25728.840 0.1.1.1.n | npRelHumN.n | Integer | READ | Humidity sensor index. |
| .1.3.6.1.4.1 .25728.840 0.1.1.2.n | npRelHumValue.n | Integer | READ | Relative humidity value, %. |
| .1.3.6.1.4.1 .25728.840 0.1.1.3.n | npRelHumStatus.n | Integer | READ | RH status: <ul style="list-style-type: none"> • 0 — sensor defective or not connected • 1 — below safe range • 2 — in safe range • 3 — above safe range |
| .1.3.6.1.4.1 .25728.840 0.1.1.4.n | npRelHumTempValue.n | Integer | READ | Temperature value, °C. |

| OID | Name | Type | Access | Description |
|--|-----------------------------|---------------|--------|---|
| .1.3.6.1.4.1 .25728.840 0.1.1.5.n | npRelHumTempStatus.n | Integer | READ | Temperature status: <ul style="list-style-type: none"> • 0 — sensor defective or not connected • 1 — below safe range • 2 — in safe range • 3 — above safe range |
| .1.3.6.1.4.1 .25728.840 0.1.1.6.n | npRelHumMemo.n | DisplayString | READ | Sensor memo |
| .1.3.6.1.4.1 .25728.840 0.1.1.7.n | npRelHumSafeRangeHigh.n | Integer | READ | The upper limit of the safe range for relative humidity values, %. |
| .1.3.6.1.4.1 .25728.840 0.1.1.8.n | npRelHumSafeRangeLow.n | Integer | READ | The lower limit of the safe range for relative humidity values, %. |
| .1.3.6.1.4.1 .25728.840 0.1.1.9.n | npRelHumTempSafeRangeHigh.n | Integer | READ | The upper limit of the safe temperature range, °C. |
| .1.3.6.1.4.1 .25728.840 0.1.1.10.n | npRelHumTempSafeRangeLow.n | Integer | READ | The lower limit of the safe temperature range, °C. |
| 1-W Thermal sensor | | | | |
| .1.3.6.1.4.1 .25728.880 0.1.1.1.n | npThermoSensorN.n | Integer | READ | Thermal sensor index. |
| .1.3.6.1.4.1 .25728.880 0.1.1.2.n | npThermoValue.n | Integer | READ | Current temperature on the thermal sensor, °C. |
| .1.3.6.1.4.1 .25728.880 0.1.1.3.n | npThermoStatus.n | Integer | READ | Thermal sensor status: <ul style="list-style-type: none"> • 0 — sensor defective or not connected • 1 — below safe range • 2 — in safe range • 3 — above safe range |
| .1.3.6.1.4.1 .25728.880 0.1.1.4.n | npThermoLow.n | Integer | READ | The lower limit of the safe range of temperature values, °C. |

| OID | Name | Type | Access | Description |
|--|----------------------|---------------------------|--------------|---|
| .1.3.6.1.4.1 .25728.880 0.1.1.5.n | npThermoHigh.n | Integer | READ | The upper limit of the safe range of temperature values, °C. |
| .1.3.6.1.4.1 .25728.880 0.1.1.6.n | npThermoMemo.n | DisplayString | READ | Thermal sensor memo. |
| .1.3.6.1.4.1 .25728.880 0.1.1.7.n | npThermoValuePrecise | Fixed Point1000 (Integer) | READ | The current temperature on the temperature sensor with an accuracy of three decimal places, °C. |
| Discrete IO lines | | | | |
| .1.3.6.1.4.1 .25728.890 0.1.1.1.n | npIoLineN.n | Integer | READ | IO line index. |
| .1.3.6.1.4.1 .25728.890 0.1.1.2.n | npIoLevelIn.n | Integer | READ | The current state of the line. |
| .1.3.6.1.4.1 .25728.890 0.1.1.3.n | npIoLevelOutput.n | Integer | READ / WRITE | IO-line control in the «output» mode. 0 — low level (GND) 1 — high level (3.3V or 5V or 12V, see User Guide). Also, this OID allows you to switch the state of the IO-line from state «0» to state «1» and vice versa. To change the state of the IO-line, write «-1». |
| .1.3.6.1.4.1 .25728.890 0.1.1.6.n | npIoMemo.n | DisplayString | READ | IO line memo. |
| .1.3.6.1.4.1 .25728.890 0.1.1.9.n | npIoPulseCounter.n | Counter32 | READ / WRITE | Counter of impulses on the IO-line. It is counted on the positive edge of the pulse after filtering short pulses. For forced zeroing, write down «0». Also clears when the power is turned off. |

| OID | Name | Type | Access | Description |
|--|---------------------------|---------------|--------------|--|
| .1.3.6.1.4.1 .25728.890 0.1.1.12.n | npIoSinglePulseDuration.n | Integer | READ / WRITE | The duration of one pulse at the output of the IO-line (permissible values are from 100 ms to 25 500 ms, with a step of 100 ms). |
| .1.3.6.1.4.1 .25728.890 0.1.1.13.n | npIoSinglePulseStart.n | Integer | READ / WRITE | To send a single pulse to the output of the IO-line, write «1». The pulse duration is taken from the npIoSinglePulseDuration.n variable. |
| 1-wire sensor adapter with analog interface | | | | |
| .1.3.6.1.4.1 .25728.820 0.1.1.1.n | npInputAnalogSensorN.n | Integer | READ | Adapter index. |
| .1.3.6.1.4.1 .25728.820 0.1.1.2.n | npInputAnalogStatus.n | Integer | READ | Status: <ul style="list-style-type: none"> • 0 — Failed or Absent • 1 — Above Safe Range • 2 — In Safe Range • 3 — Below Safe Range • 5 — Outside of Working Range (Broken/Shorted/NoPower) |
| .1.3.6.1.4.1 .25728.820 0.1.1.3.n | npInputAnalogCurrent.n | Integer32 | READ | Current, μ A |
| .1.3.6.1.4.1 .25728.820 0.1.1.4.n | npInputAnalogVoltage.n | Integer32 | READ | Voltage, mV |
| .1.3.6.1.4.1 .25728.820 0.1.1.5.n | npInputAnalogResistance.n | Unsigned32 | READ | Loop resistance, Ohm |
| .1.3.6.1.4.1 .25728.820 0.1.1.6.n | npInputAnalogMemo.n | DisplayString | READ | Adapter memo |
| .1.3.6.1.4.1 .25728.820 0.1.1.7.n | npInputAnalogPower.n | Integer | READ / WRITE | Power management: <ul style="list-style-type: none"> • 0 — off • 1 — on |

| OID | Name | Type | Access | Description |
|---|----------------------------------|-----------|--------------------|--|
| .1.3.6.1.4.1 .25728.820 0.1.1.8.n | npInputAnal ogReset.n | Integer | READ / WRITE | Power reset. Write 1–25 (seconds) to reset. |
| .1.3.6.1.4.1 .25728.820 0.1.1.11.n | npInputAnal ogWorkRangeHigh.n | Integer32 | READ | The upper limit of the working range, if not set, -32768 |
| .1.3.6.1.4.1 .25728.820 0.1.1.12.n | npInputAnal ogSafeRangeHigh.n | Integer32 | READ | The upper limit of the safe range, if not specified, is -32768 |
| .1.3.6.1.4.1 .25728.820 0.1.1.13.n | npInputAnal ogSafeRangeLow.n | Integer32 | READ | The lower limit of the safe range, if not specified, -32768 |
| .1.3.6.1.4.1 .25728.820 0.1.1.14.n | npInputAnal ogWorkRangeLow.n | Integer32 | READ | The lower limit of the working range, if not set, -32768 |
| 1-wire power quality sensor | | | | |
| .1.3.6.1.4.1 .25728.900 0.1.1.1.n | npVoltageN. n | Integer | READ | Sensor index. |
| .1.3.6.1.4.1 .25728.900 0.1.1.2.n | npVoltageR MS.n | Integer | READ | Voltage, V |
| .1.3.6.1.4.1 .25728.900 0.1.1.3.n | npVoltageSt atus.n | Integer | READ | Voltage status: <ul style="list-style-type: none"> • 0 — Sensor Failed • 1 — No Voltage (blackout) • 2 — bad • 3 — warning • 4 — good |
| .1.3.6.1.4.1 .25728.900 0.1.1.4.n | npVoltageFr eq.n | Integer | READ | Frequency, Hz |

| OID | Name | Type | Access | Description |
|---|--------------------------------|---------------|--------------|---|
| .1.3.6.1.4.1 .25728.900 0.1.1.5.n | npVoltageFrequencyStatus.n | Integer | READ | Frequency status: <ul style="list-style-type: none"> • 0 — Sensor Failed • 1 — No Voltage of Frequency (blackout) • 2 — bad • 3 — warning • 4 — good |
| .1.3.6.1.4.1 .25728.900 0.1.1.6.n | npVoltageMemo.n | DisplayString | READ | Sensor memo |
| .1.3.6.1.4.1 .25728.900 0.1.1.10.n | npVoltageSagsCounter.n | Counter32 | READ / WRITE | Sags Counter |
| .1.3.6.1.4.1 .25728.900 0.1.1.11.n | npVoltageSagsStatus.n | Integer | READ | Sags status: <ul style="list-style-type: none"> • 0 — Sensor Failed • 1 — No Voltage • 2 — High • 3 — medium • 4 — small • 5 — no sags |
| .1.3.6.1.4.1 .25728.900 0.1.1.12.n | npVoltageSagsSmallThreshold.n | Integer | READ / WRITE | The boundary between no sags and low sags. Default: 90 |
| .1.3.6.1.4.1 .25728.900 0.1.1.13.n | npVoltageSagsMediumThreshold.n | Integer | READ / WRITE | The boundary between low sags and medium sags. Default: 70 |
| .1.3.6.1.4.1 .25728.900 0.1.1.14.n | npVoltageSagsBigThreshold.n | Integer | READ / WRITE | The boundary between medium sags and high sags. Default: 50 |
| .1.3.6.1.4.1 .25728.900 0.1.1.20.n | npVoltageStandard.n | Integer | READ / WRITE | Rated voltage, V. |

| OID | Name | Type | Access | Description |
|---|------------------------|---------------|--------------|---|
| .1.3.6.1.4.1 .25728.900 0.1.1.30.n | npVoltagePeak.n | Integer | READ | Peak voltage, V. |
| .1.3.6.1.4.1 .25728.900 0.1.1.31.n | npVoltagePeakStatus.n | Integer | READ | Peak Voltage Status: <ul style="list-style-type: none"> • 0 — Sensor Failed • 1 — No Voltage • 2 — dangerous • 3 — No Peaks |
| 1-Wire External socket | | | | |
| .1.3.6.1.4.1 .25728.560 0.5.1.1.n | npExtRelayN.n | Integer | READ | Relay index. |
| .1.3.6.1.4.1 .25728.560 0.5.1.2.n | npExtRelayMode.n | Integer | READ / WRITE | Relay state: <ul style="list-style-type: none"> • 0 — off • 1 — on • -1 — flip |
| .1.3.6.1.4.1 .25728.560 0.5.1.3.n | npExtRelayStartReset.n | Integer | READ / WRITE | OID for forced momentary switching off of the relay. Write down the number «1» to disable the channel for 15 seconds. |
| .1.3.6.1.4.1 .25728.560 0.5.1.6.n | npExtRelayMemo.n | DisplayString | READ | Relay memo. |
| .1.3.6.1.4.1 .25728.560 0.5.1.15.n | npExtRelayState.n | Integer | READ | urrent momentary state of the relay (taking into account reset and turn-on delays): <ul style="list-style-type: none"> • 0 — off • 1 — on |

[ENG] 9.3. [DKSF 72/73.1] SNMP TRAP

A formal description of SNMP TRAP messages can be found in the MIB files supplied with the device firmware. They can be downloaded on the pages of the site with the description of devices in the "Documentation and files" section. The SNMP TRAP message is sent in SNMP v1 / v2c format, while the description in the MIB files is in SNMP v2c format.

The one-to-one correspondence of SNMP TRAP message authentication for v1 and v2c is described in RFC3584 «Coexistence between Version 1, Version 2, and Version 3 of the Internet-standard Network Management Framework.» Programs for processing SNMP notifications, as a rule, convert between the two formats without difficulty.

- [SNMP TRAP when changing the level on the IO-line](#)
- [SNMP TRAP when the status of the temperature sensor changes](#)
- [SNMP TRAP when the humidity sensor changes state](#)
- [SNMP TRAP when the status of 1-wire adapter of analog sensors \(analog input\) is changed](#)
- [SNMP TRAP on the state of the GSM modem](#)
- [SNMP TRAP when the status of the built-in relay changes](#)
- [SNMP TRAP when power quality sensor status changes](#)
- [SNMP TRAP when the external relay state changes](#)

SNMP TRAP when changing the level on the IO-line

Identification nploTrap

| | |
|-----------------------|--------------------------------------|
| 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 |

Variables in the set of nploTrap (varbind list)

| | | |
|--------------------------------------|----------------|--|
| .1.3.6.1.4.1.25728.8900.2.1.0 | Integer | The number of an IO line, the change of which triggered sending of a TRAP message |
| .1.3.6.1.4.1.25728.8900.2.2.0 | Integer | The logic level value on the IO-line («0» or «1») |
| .1.3.6.1.4.1.25728.8900.2.6.0 | Display String | Memo (win1251) |
| .1.3.6.1.4.1.25728.8900.2.7.0 | Display String | Logical level Explained. Human-readable description of the numeric value of the logic level of the IO-line |

SNMP TRAP when the status of the temperature sensor changes

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 |

Variables in the set of *npThermoTrap* (*varbind* list)

| | | |
|--------------------------------------|----------------|---|
| .1.3.6.1.4.1.25728.8800.2.1.0 | Integer | The number of the sensor, the status change of which caused the TRAP message to be sent |
| .1.3.6.1.4.1.25728.8800.2.2.0 | Integer | Current temperature value, °C |
| .1.3.6.1.4.1.25728.8800.2.3.0 | Integer | Sensor status: <ul style="list-style-type: none"> • 0 — sensor defective or not connected • 1 — below safe range • 2 — in safe range • 3 — above safe range |
| .1.3.6.1.4.1.25728.8800.2.4.0 | Integer | Lower safe range, °C |
| .1.3.6.1.4.1.25728.8800.2.5.0 | Integer | Upper safe range, °C |
| .1.3.6.1.4.1.25728.8800.2.6.0 | Display String | Memo (win1251) |

SNMP TRAP when the humidity sensor changes state

Identification *npRelHumTrap*

| | |
|--|---|
| A general view of SNMP TRAP from a humidity sensor about humidity readings | .1.3.6.1.4.1.25728.8400.6.127.99 |
|--|---|

snmpTrapOID npRelHumTrap (SNMP TRAP messages when the status of humidity changes)

The decoding of a type of event and channel number can be switched on by the corresponding checkboxes in the notification configuration dialog.

NOTIFICATIONS FOR RELATIVE HUMIDITY SENSOR 1

| Event | Log | Syslog | E-mail | SMS | SNMP Trap |
|---|-------------------------------------|--------------------------|-------------------------------------|--------------------------|-------------------------------------|
| Humidity is above Safe Range | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Humidity is in Safe Range | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Humidity is below Safe Range | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Temperature is above Safe Range | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Temperature in Safe Range | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Temperature is below Safe Range | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Sensor fault | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Include in Summary Report | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Use common snmpTrapOID for all Events | | | | | <input checked="" type="checkbox"/> |
| Use common snmpTrapOID for all Sensor Numbers | | | | | <input checked="" type="checkbox"/> |

Cancel Save

| | |
|---|--|
| .1.3.6.1.4.1.25728.8400.6.100.n | Sensor failure. |
| .1.3.6.1.4.1.25728.8400.6.101.n | Value of relative humidity exceeds the upper limit of the safe range. |
| .1.3.6.1.4.1.25728.8400.6.102.n | Relative humidity returns to the safe range. |
| .1.3.6.1.4.1.25728.8400.6.103.n | Value of relative humidity drops below the lower limit of the safe range. |
| .1.3.6.1.4.1.25728.8400.6.127.n | Common snmpTrapOID for all events. |
| .1.3.6.1.4.1.25728.8400.6.m.99 | Common snmpTrapOID for all channels, where m is the event code (100, 101, 102, 103). |
| .1.3.6.1.4.1.25728.8400.6.127.99 | Common snmpTrapOID for all events and for all channels. |

Identification *npRelHumTrapTemp*

| | |
|---|---|
| A general view of the SNMP TRAP from the humidity sensor about the temperature readings | .1.3.6.1.4.1.25728.8400.7.127.99 |
|---|---|

snmpTrapOID npRelHumTrapTemp (SNMP TRAP messages when the status of humidity changes)

The decoding of a type of event and channel number can be switched on by the corresponding checkboxes in the notification configuration dialog.

| | |
|--|-----------------|
| .1.3.6.1.4.1.25728.8400.7.100.n | Sensor failure. |
|--|-----------------|

| | |
|---|--|
| .1.3.6.1.4.1.25728.8400.7.101.n | Temperature exceeding the upper safe range specified for the sensor. |
| .1.3.6.1.4.1.25728.8400.7.102.n | Temperature returns to the safe range. |
| .1.3.6.1.4.1.25728.8400.7.103.n | Temperature falls below the safe range specified for the sensor. |
| .1.3.6.1.4.1.25728.8400.7.127.n | Common snmpTrapOID for all events. |
| .1.3.6.1.4.1.25728.8400.7.m.99 | Common snmpTrapOID for all channels, where m is the event code (100, 101, 102, 103). |
| .1.3.6.1.4.1.25728.8400.7.127.99 | Common snmpTrapOID for all events and for all channels. |

Variables in the set of npRelHumTrapData (varbind list)

| | | |
|--------------------------------------|----------------|---|
| .1.3.6.1.4.1.25728.8400.3.1.0 | Integer | The number of the sensor, the status change of which caused the TRAP message to be sent |
| .1.3.6.1.4.1.25728.8400.3.2.0 | Integer | The value of relative humidity, %. Or temperature, °C |
| .1.3.6.1.4.1.25728.8400.3.4.0 | Integer | Relative humidity or temperature status |
| .1.3.6.1.4.1.25728.8400.3.6.0 | Display String | Memo (win1251) |
| .1.3.6.1.4.1.25728.8400.3.7.0 | Integer | Lower safe range, °C or % |
| .1.3.6.1.4.1.25728.8400.3.8.0 | Integer | Upper safe range, °C or % |

SNMP TRAP when the status of 1-wire adapter of analog sensors (analog input) is changed

Identification npSmokeTraps

| | |
|-----------------------|--------------------------------------|
| 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 |

Variables in the set of npSmokeTraps (varbind list)

| OID | The type of data | Description |
|---|------------------|---|
| .1.3.6.1.4.1.25728.8200.2.1.0 | Integer | A number of an input, which status change caused the TRAP message to be sent |
| .1.3.6.1.4.1.25728.8200.2.2.0 | Integer | The status of the input: <ul style="list-style-type: none"> • 0 — The adapter is faulted or not connected • 1 — Below safe range • 2 — In safe range • 3 — Above safe range • 5 — Breakage of the loop |
| .1.3.6.1.4.1.25728.8200.2.3.0 | Integer32 | Current, μ A |
| .1.3.6.1.4.1.25728.8200.2.4.0 | Integer32 | Voltage, mV |
| .1.3.6.1.4.1.25728.8200.2.5.0 | Unsigned32 | Resistance, Ohm |
| .1.3.6.1.4.1.25728.8200.2.6.0 | DisplayString | Memo |
| .1.3.6.1.4.1.25728.8200.2.7.0 | Integer | The loop power status: <ul style="list-style-type: none"> • 0 — Off • 1 — On • 3 — Resetting |
| .1.3.6.1.4.1.25728.8200.1.1.11.0 | Integer32 | The upper limit of the working range, if it is not set, -32768 |
| .1.3.6.1.4.1.25728.8200.1.1.12.0 | Integer32 | The upper limit of the safe range, if it is not set, -32768 |
| .1.3.6.1.4.1.25728.8200.1.1.13.0 | Integer32 | The lower limit of the safe range, if it is not set, -32768 |
| .1.3.6.1.4.1.25728.8200.1.1.14.0 | Integer32 | The lower limit of the working range, if it is not set, -32768 |

SNMP TRAP on the state of the GSM modem

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 |

Variables in the set npGsmTraps (varbind list)

| | | |
|--------------------------------------|---------|---|
| .1.3.6.1.4.1.25728.3800.1.1.0 | Integer | Состояние встроенного GSM-модема: <ul style="list-style-type: none"> • 0 — OK • 1 — Failed (no connection) • 2 — FatalError |
| .1.3.6.1.4.1.25728.3800.1.2.0 | Integer | GSM network connection status: <ul style="list-style-type: none"> • 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 level: <ul style="list-style-type: none"> • 0...31 = 0% ... 100% • 99 — Unknown • 255 — Updating info |

Identification npGsmTrapUnparsedSms

| | |
|-----------------------|--------------------------------------|
| 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 | .1.3.6.1.4.1.25728.3800.2.0.2 |

Variables in the set npGsmTrapUnparsedSms (varbind list)

| | | |
|---------------------------------------|---------------|--|
| .1.3.6.1.4.1.25728.3800.1.11.0 | DisplayString | Incoming unidentified SMS phone number |
| .1.3.6.1.4.1.25728.3800.1.12.0 | DisplayString | SMS text, encoded in Windows-1251 |
| .1.3.6.1.4.1.25728.3800.1.13.0 | DisplayString | SMS text, encoded in UTF-8 |

SNMP TRAP when the status of the built-in relay changes

Identification *npRelayTrap*

| | |
|---|----------------------------------|
| General view of SNMP TRAP from the built-in relay | .1.3.6.1.4.1.25728.5500.6 |
|---|----------------------------------|

snmpTrapOID npRelayTrap (SNMP TRAP messages when the status of the built-in relay has changed)

Decoding of the event type and channel number can be enabled by the corresponding checkboxes in the notification settings dialog.

NOTIFICATIONS FOR RELAY 2

| Event | Log | Syslog | E-mail | SMS | SNMP Trap |
|---|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|-------------------------------------|
| Commands for Switching On/Off | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Reset (Flip for Short period) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Suspension of Resets in Watchdog | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Relay Switched | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Include in Summary Report | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Use common snmpTrapOID for all Events | | | | | <input type="checkbox"/> |
| Use common snmpTrapOID for all Sensor Numbers | | | | | <input type="checkbox"/> |

| | |
|--|---|
| .1.3.6.1.4.1.25728.5500.6.10.0.n | The relay is off |
| .1.3.6.1.4.1.25728.5500.6.10.1.n | The relay is on |
| .1.3.6.1.4.1.25728.5500.6.10.2.n | The relay has received a command for its status change (for off/on) |
| .1.3.6.1.4.1.25728.5500.6.10.3.n | The reset of the relay has started |
| .1.3.6.1.4.1.25728.5500.6.12.7.n | Common snmpTrapOID for all the events |
| .1.3.6.1.4.1.25728.5500.6.m.99 | Common snmpTrapOID for all the channels |
| .1.3.6.1.4.1.25728.5500.6.12.7.99 | Common snmpTrapOID for all the events and channels |

Variables in the set of npRelayTrap (varbind list)

| | | |
|---------------------------------------|---------------|--|
| .1.3.6.1.4.1.25728.5500.3.1.0 | Integer | The number of the relay |
| .1.3.6.1.4.1.25728.5500.3.2.0 | Integer | The condition of the relay, on (1) or off (0), not taking into account the command for the relay reset |
| .1.3.6.1.4.1.25728.5500.3.6.0 | DisplayString | Relay memo |
| .1.3.6.1.4.1.25728.5500.3.15.0 | Integer | The actual instant status of a relay at the time of sending a Trap message: <ul style="list-style-type: none"> • 0 — the relay is off; • 1 — the relay is on |
| .1.3.6.1.4.1.25728.5500.3.18.0 | Integer | A relay switching source <ul style="list-style-type: none"> • -1 — unknown • 1 — web-интерфейс • 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 | The time of the event |

SNMP TRAP when power quality sensor status changes

Identification npVoltageTrap

| | |
|-----------------------|--------------------------------------|
| SNMP v1 enterprise | .1.3.6.1.4.1.25728.9000.2 |
| SNMP v1 generic-trap | enterpriseSpecific(6) |
| SNMP v1 specific-trap | 1 |
| SNMP v2 snmpTrapOID | .1.3.6.1.4.1.25728.9000.2.0.1 |

Variables in the set of npVoltageTrap (varbind list)

| | | |
|--------------------------------------|---------|---|
| .1.3.6.1.4.1.25728.9000.2.1.0 | Integer | A sensor number, which status change caused the TRAP message to be sent |
| .1.3.6.1.4.1.25728.9000.2.2.0 | Integer | Voltage, V |

| | | |
|---------------------------------------|----------------|--|
| .1.3.6.1.4.1.25728.9000.2.3.0 | Integer | The status of the voltage: <ul style="list-style-type: none"> • 0 — the sensor is faulted or not connected • 1 — no voltage (blackout) • 2 — bad • 3 — warning • 4 — good |
| .1.3.6.1.4.1.25728.9000.2.4.0 | Integer | Frequency, Hz |
| .1.3.6.1.4.1.25728.9000.2.5.0 | Integer | The status of frequency: <ul style="list-style-type: none"> • 0 — the sensor is faulted or not connected • 1 — there is no voltage or frequency • 2 — bad • 3 — warning • 4 — good |
| .1.3.6.1.4.1.25728.9000.2.6.0 | Display String | Sensor memo (win1251) |
| .1.3.6.1.4.1.25728.9000.2.10.0 | Counter32 | A counter of sags |
| .1.3.6.1.4.1.25728.9000.2.11.0 | Integer | Статус провалов напряжения: <ul style="list-style-type: none"> • 0 — the sensor is faulted or not connected • 1 — there is no voltage • 2 — high • 3 — average • 4 — small • 5 — no sags |
| .1.3.6.1.4.1.25728.9000.2.30.0 | Integer | Peak voltage, V |
| .1.3.6.1.4.1.25728.9000.2.31.0 | Integer | The status of peak voltage: <ul style="list-style-type: none"> • 0 — the sensor is faulted or not connected • 1 — no voltage • 2 — dangerous • 3 — no peaks |

SNMP TRAP when the external relay state changes

Identification *npExtRelayTrap*

| | |
|---------------------|----------------------------------|
| SNMP v2 snmpTrapOID | .1.3.6.1.4.1.25728.5600.6 |
|---------------------|----------------------------------|

snmpTrapOID npExtRelayTrap (SNMP TRAP messages when the status of the relay has changed)

| | | |
|---|---------------------|--|
| .1.3.6.1.4.1.25728.5600.6.100.n | npExtRelayTrapOff | The relay is off |
| .1.3.6.1.4.1.25728.5600.6.101.n | npExtRelayTrapOn | The relay is on |
| .1.3.6.1.4.1.25728.5600.6.103.n | npExtRelayTrapReset | he reset of the relay has started |
| .1.3.6.1.4.1.25728.5600.6.127.n | | Common snmpTrapOID for all the events, where n — a number of a relay |
| .1.3.6.1.4.1.25728.5600.6.m.99 | | Common snmpTrapOID for all the channels, where m — a code of an event (100, 101, 102, 103) |
| .1.3.6.1.4.1.25728.5600.6.127.99 | | Common snmpTrapOID for all the events and channels |

Variables in the set of npExtRelayTrap (varbind list)

| | | | |
|---------------------------------------|----------------------|---------------|--|
| .1.3.6.1.4.1.25728.5600.3.1.0 | npExtRelayTrapN | Integer | The number of the relay |
| .1.3.6.1.4.1.25728.5600.3.2.0 | npExtRelayTrapMode | Integer | The status of the relay, on (1) or off (0), excluding the on-delay and the command to reset the realy |
| .1.3.6.1.4.1.25728.5600.3.6.0 | npExtRelayTrapMemo | DisplayString | The memo of the relay |
| .1.3.6.1.4.1.25728.5600.3.15.0 | npExtRelayTrapState | Integer | The actual momentary status of the relay (taking into account the delay while switching on and resetting) at the moment of sending a Trap message, on (1) or off (0) |
| .1.3.6.1.4.1.25728.5600.3.18.0 | npExtRelayTrapCmdSrc | Integer | A relay switching source <ul style="list-style-type: none"> • -1 — unknown • 1 — web-интерфейс • 2 — SNMP • 3 — SMS • 4 — HTTP API • 5 — Watchdog • 6 — Schedule • 7 — Logic • 8 — the button on the case of the device |

| | | | |
|--|---------------------|---------------|-------------------|
| .1.3.6.1.4.1.257 28.5600.3.19.0 | npRelayTrapDateTime | DisplayString | The time of event |
|--|---------------------|---------------|-------------------|

[ENG] 10. [DKSF 72/73.1] HTTP API Support

| HTTP API | | | |
|---|---|---|-------|
| Description | Request | Response | Notes |
| Internal relays or sockets | | | |
| Relay status query | /relay.cgi?rN <ul style="list-style-type: none"> N — relay number; | relay_result('error'); relay_result('ok', 2, 1); <ul style="list-style-type: none"> the first argument is always 'ok'; the second argument is the state of the relay; the third argument is the momentary state of the relay. | |
| Relay control | /relay.cgi?rN=S <ul style="list-style-type: none"> N — relay number; S — mode (1 - on, 0 - off) | relay_result('ok') relay_result('error') | |
| Switching the relay to inverse state (flip) | /relay.cgi?rN=f <ul style="list-style-type: none"> N — relay number; | relay_result('ok') relay_result('error') | |
| Reset, switching the relay to the inverse state for a while | /relay.cgi?rN=f,time <ul style="list-style-type: none"> N — relay number; time — reset time. | relay_result('ok') relay_result('error') | |
| Input-Output Lines | | | |

| HTTP API | | | |
|---|--|---|--|
| Line status query | /io.cgi?ioN • N — line number | io_result('error') io_result('ok', -1, 1, 339) • First argument: always 'ok' (on request error - 'error'). • Second argument: always "-1", for future API extensions. • Third argument: the current momentary state of the IO-line, including the reset state. • The fourth argument: the pulse counter on this IO-line, is counted on the edge. | |
| Requesting the status of all lines | /io.cgi?io | io_result('error') io_result('ok', 246); • First argument: always 'ok' (on request error - 'error'). • Second argument: bitmap of line status. | Bitmap (represented in decimal format): • bit 0 = line 1 • bit 1 = line 2 • ... • bit 7 = line 8 For example: • 00000000 — 0 (all lines - log.0) • 11100111 — 231 (4 and 5 - log.0, rest - log.1) |
| Line control in «Output» mode | /io.cgi?ioN=S • N — line number • S — operating mode (1 - on (log.1), 0 - off (log.0)) | io_result('error') io_result('ok') | |
| Switching the line to the inverse state in the «Output» mode | /io.cgi?ioN=f • N — line number | io_result('error') io_result('ok') | |
| Reset, switching the line to the inverse state for a while in the «Output» mode | /io.cgi?ioN=f,time • N — line number • time — reset time. | io_result('error') io_result('ok') | |

| HTTP API | | | |
|----------------------------------|--|--|--|
| Changing the line mode | /io.cgi?ioN&mode=S <ul style="list-style-type: none"> • N — line number • S — mode (1 — «Output», 0 — «Input») | io_result('error') io_result('ok') | |
| Thermal sensors | | | |
| Sensor status query | /thermo.cgi?tN N — sensor number | thermo_result('error') thermo_result('ok', 36, 2); <ul style="list-style-type: none"> • First argument: always 'ok' (on request error - 'error'). • Second argument: current temperature. • Third argument: sensor status. <ul style="list-style-type: none"> 0 — sensor failed or not connected; 1 — below safe rang; 2 — in safe range; 3 — above safe range. | |
| Relative humidity sensors | | | |
| Relative humidity status request | /relhum.cgi?hN <ul style="list-style-type: none"> • N — sensor number | relhum_result('error') relhum_result('ok', 55, 2) <ul style="list-style-type: none"> • First argument: always 'ok' (on request error - 'error'). • Second argument: relative humidity, %. • Third argument: sensor status. <ul style="list-style-type: none"> 0 — sensor failed or not connected; 1 — below safe rang; 2 — in safe range; 3 — above safe range. | |

| HTTP API | | | |
|--|--|--|--|
| Temperature status request | /relhum.cgi?tN <ul style="list-style-type: none"> N — sensor number | relhum_result('error') relhum_result('ok', 25, 2) <ul style="list-style-type: none"> First argument: always 'ok' (on request error - 'error'). Second argument: temperature, C. Third argument: sensor status. 0 — sensor failed or not connected; 1 — below safe rang; 2 — in safe range; 3 — above safe range. | |
| 1-wire analog sensor adapter | | | |
| Getting a summary report of several parameters | /inputanalog.cgi?inN <ul style="list-style-type: none"> N — adapter number | inputanalog_result('error'); inputanalog_result('ok', status, A, V, R); <ul style="list-style-type: none"> The first argument is always 'ok' status — adapter status: 0 — failuer or not connected; 1 — below safe range; 2 — in safe range; 3 — above safe range; 4 — out of working range. A — Current, μA V — Voltage, μV R — Resistanse, Ohm | |

| HTTP API | | | |
|-----------------------|---|--|---|
| Loop power management | <input type="text" value="/inputanalog.cgi?inN&pwr=S"/> <ul style="list-style-type: none"> N — adapter number S — 0 - off, 1 - on. | <input type="text" value="inputanalog_result('error');"/> <input type="text" value="inputanalog_result('ok')"/> | |
| Loop power reset | <input type="text" value="/inputanalog.cgi?inN&rst"/> <input type="text" value="/inputanalog.cgi?inN&rst=T"/> <ul style="list-style-type: none"> N — adapter number T — shutdown time (1...25 s), if not specified — 10 s | <input type="text" value="inputanalog_result('error');"/> <input type="text" value="inputanalog_result('ok')"/> | |
| GSM-modem | | | |
| Sending SMS, UTF8 | <input type="text" value="/sendsms.cgi?utf8"/> <input type="text" value="[+7xxxxxxxxxx,+7yyyyyyyyyy..] Text"/> | <input type="text" value="smssend_result('ok'); - successful command execution"/> <input type="text" value="smssend_result('error') - error in the request text"/> <input type="text" value="smssend_result('busy') - GSM modem is busy"/> | The URL is called by the POST method. POST data is a UTF-8 encoded SMS text |
| Отправка СМС, Win1251 | <input type="text" value="/sendsms.cgi"/> <input type="text" value="[+7xxxxxxxxxx,+7yyyyyyyyyy..] Text"/> | <input type="text" value="smssend_result('ok'); - successful command execution"/> <input type="text" value="smssend_result('error') - error in the request text"/> <input type="text" value="smssend_result('busy') - GSM modem is busy"/> | The URL is called by the POST method. POST data is a win 1251 encoded SMS text |
| USSD request | <input type="text" value="/ussdstart.cgi?code"/> <i>code — a100x, which means *100#. in code USSD request «*» replaced on «a», «#» replaced on «x» (latin characters)</i> | <input type="text" value="ussdsend_result('ok');"/> | To get a response to a request, call <input type="text" value="/ussdread.cgi"/> Response <input type="text" value="ussdsend_result('response_from_operator')"/> |

| HTTP API | | | |
|-----------------------------|---|---|--|
| 1-wire power quality sensor | | | |
| Status request | /voltage.cgi?vN <ul style="list-style-type: none"> N — sensor number | voltage_result('error'); voltage_result('ok', 220, 4, 50, 4); <ul style="list-style-type: none"> The first argument is always 'ok' the second argument is the current voltage value, V; third argument - voltage status: <ul style="list-style-type: none"> 0 — failure or not connected; 1 — blackout (no power); 2 — bad; 3 — warning; 4 — good. The fourth argument is the current value of the frequency, Hz. The fifth argument is the frequency status: <ul style="list-style-type: none"> 0 — failure or not connected; 1 — blackout (no power); 2 — bad; 3 — warning; 4 — good. | |
| 1-w external relays | | | |

| HTTP API | | | |
|--|--|--|--|
| Relay status query | /extrelay.cgi?rN <ul style="list-style-type: none"> N — relay number | extrelay_result('error'); extrelay_result('ok', 0, 1); relay_result('ok', 2, 1); <ul style="list-style-type: none"> the first argument is always 'ok'; the second argument is the state of the relay; the third argument is the momentary state of the relay. | |
| Relay control | /extrelay.cgi?rN=S <ul style="list-style-type: none"> N — relay number; S — mode (1 - on, 0 - off) | extrelay_result('ok') extrelay_result('error') | |
| witching the relay to inverse state | /extrelay.cgi?rN=f <ul style="list-style-type: none"> N — relay number; | extrelay_result('ok') extrelay_result('error') | |
| Switching the relay to the inverse state for a while | /extrelay.cgi?rN=f,time <ul style="list-style-type: none"> N — relay number; time — reset time | extrelay_result('ok') extrelay_result('error') | |
| Reset relay, 15 s off | /extrelay.cgi?rN&rst <ul style="list-style-type: none"> N — relay number; | extrelay_result('ok') extrelay_result('error') | |

[ENG] 11. [DKSF 72/73.1] Internal logic and automation.

The device allows you to implement simple automation scenarios thanks to built-in logic and automation modules.

[ENG] 11.1. [DKSF 72/73.1] «Logic»

- [Control elements](#)
- [Input → Conditions](#)
- [Output → Actions](#)
- [Pinger](#)
- [SNMP SETTER](#)

It is strictly forbidden to use a NetPing device to control electrical circuits if a control violation can cause significant damage.

The logic module is designed for simple automation and can perform tasks such as maintaining a microclimate, controlling automatic on/off of backup equipment, delay and sequence of switching on equipment, simple logic of repetitions of certain actions, counting the number of triggering of sensors, etc. The logic works on the basis of rules programmed by the user through the web interface. The «LOGIC» page of the device web interface describes the module operation algorithm and its configuration options.

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

LOGIC

Enable Logic ☒

Reset and Restart Logic

Reset ☒

Apply Changes

RULES

| 2 | 3 | 4 | 5 | 6 | 7 |
|-------------------------------------|-----------------|-------------|-----------------|---------------|-------------------|
| Enable | Input | Condition | Output | Action | |
| <input checked="" type="checkbox"/> | Discrete IO 1 | = logic 0 | Discrete IO 8 | clear (log.0) | Move Up Move Down |
| <input checked="" type="checkbox"/> | Discrete IO 1 | = logic 1 | Discrete IO 8 | set (log.1) | Move Up Move Down |
| <input type="checkbox"/> | Discrete IO 7 | = logic 0 | Timer/Counter 1 | decrement | Move Up Move Down |
| <input type="checkbox"/> | Timer/Counter 1 | reached -5 | Discrete IO 8 | flip | Move Up Move Down |
| <input type="checkbox"/> | Timer/Counter 1 | reached -10 | Discrete IO 8 | flip | Move Up Move Down |
| <input type="checkbox"/> | Initial Reset | started | Timer/Counter 1 | start from 0 | Move Up Move Down |
| <input type="checkbox"/> | Timer/Counter 1 | reached 10 | Discrete IO 8 | flip | Move Up Move Down |
| <input type="checkbox"/> | Timer/Counter 1 | reached 10 | Timer/Counter 1 | start from 0 | Move Up Move Down |
| <input type="checkbox"/> | | | | | Move Up Move Down |
| <input type="checkbox"/> | | | | | Move Up Move Down |
| <input type="checkbox"/> | | | | | Move Up Move Down |
| <input type="checkbox"/> | | | | | Move Up Move Down |
| <input type="checkbox"/> | | | | | Move Up Move Down |
| <input type="checkbox"/> | | | | | Move Up Move Down |
| <input type="checkbox"/> | | | | | Move Up Move Down |
| <input type="checkbox"/> | | | | | Move Up Move Down |
| <input type="checkbox"/> | | | | | Move Up Move Down |

Example of a time threshold of a counter

8 Apply Changes

Control elements

1. Control buttons for the «LOGIC» module:

- **«Enable Logic»** — check-box that enables and disables the work of logic. After changing the state of the check-box, it is necessary to save the current settings by clicking the «Apply Changes» button.
- **«Reset»** — initiates a logic reset ("Initial Reset" signal).
- **«Apply Changes»** saves the current settings.

2. Rule enable checkbox — logic rule activation checkbox. Inactive rules are grayed out.


3. Input — source of information for the rule to work. Possible values are shown in the table below.

4. Condition — the condition under which the rule is applied and a command is issued that changes the exit state. The available set of conditions varies depending on which input type is selected and reflects the meaning of the input state. Possible values depending on the type of input are presented below.

5. Output — the entity that will be acted upon when the rule is triggered. Possible values are shown in the table below.

6. Action — the action to be performed on the output entity. Possible values are shown in the table below.

7. Check-box for activation of the «Move Up»/«Move Down» buttons of the logic level. Inactive rules are grayed out. The buttons are used to change the position of the rule in the list, does not affect the functionality.

 Conflicting rules should be avoided if they could lead to an attempt to control the same output at the same time.

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

Input → Conditions

Conditional (4, see the figure) event at which the rule is applied and a command is issued that changes the output state. The available set of conditions changes depending on which input type (3, see the figure) is selected, and reflects the meaning of the input state. Possible values depending on the type of input are presented below.

| Input | Description | Conditions | Description |
|--------------------------|--|------------|---|
| Initial Reset | <p>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.</p> <p>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.</p> | Started | The rule is triggered 5 seconds after the reset. |
| | | Ended | The rule is triggered 10 seconds after the reset. |
| Discrete IO 1..12 | Current logic level of the IO-line | = logic 0 | The logic level of the selected IO-line has switched to 0 or 1. |
| | | = logic 1 | |
| Termo 1..8 | 1-Wire temperature sensor readings | above [N] | The temperature sensor readings dropped below or rose above the N threshold, where N is the specified temperature threshold. It is allowed to set the threshold with a floating point, up to decimal, for example, 5.3. |
| | | below [N] | |
| | | failed | The sensor has failed. |

| Input | Description | Conditions | Description |
|---------------------------|--|-----------------|--|
| Rel. Humidity 1..4 | Readings of 1-Wire relative humidity sensor with built-in temperature sensor | t above [N] | The humidity sensor temperature reading dropped below or rose above the N threshold, where N is the specified temperature threshold. It is allowed to set the threshold with a floating point, up to decimal, for example, 5.3. |
| | | t below [N] | |
| | | hum. above [N] | The relative humidity has risen above N, where N is the specified humidity threshold. |
| | | hum. below [N] | The relative humidity dropped below N, where N is the specified humidity threshold. |
| | | failed | The sensor has failed. |
| Pinger 1..2 | Checking a remote host via ping (ICMP Echo requests) | got no response | Missing or receiving a response from the host being checked by the pinger. |
| | | got response | |
| Relay 1..2 | Relay status | = on | The relay has turned on or off. |
| | | = off | |
| Timer/Counter 1..4 | Program timer/counter | reached [N] | <p>The internal timer / counter has become \geq the set threshold [N].</p> <p>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) .</p> <p>It is not recommended to mix the functions of timer and counter.</p> |
| Analog Input 1..5 | Analog input (internal or analog adapter) | below [N] | The value of the observed parameter has dropped below N |
| | | above [N] | The value of the observed parameter has become higher than N |
| | | below safe | The input changed its status to «below safe» (the value of the observed parameter is below the lower limit of the safe) |
| | | in safe | The input changed its status to «normal» (the value of the observed parameter returned to the safe range) |

| Input | Description | Conditions | Description |
|------------------------|-----------------------------|--------------------|---|
| | | above safe | The input changed its status to «above safe» (the value of the observed parameter is higher than the upper limit of the safe) |
| | | out of work. range | The input has changed its status to «out of work. range» (the value of the observed parameter is outside the working range) |
| | | 1w failed | Adapter defective or not connected |
| Monitor V 1...3 | 1-Wire power quality sensor | failed | Sensor failure |
| | | bad | Voltage status — bad |
| | | no voltage | No voltage (blackout) |
| | | warn | Voltage status — warning. |
| | | good | Voltage status — good |

Output → Actions

Actions (6, see the figure) that can be performed with one or another of the outputs (5, see the figure) of the device.

| Output | Description | Actions | Description |
|--------------------------|---|------------|---|
| Analog input 1..4 | Analog Input Power Management | power off | Switch off the power supply to the current loop. |
| | | power on | Switch on the power supply to the current loop. |
| | | reset | Reset current loop power (off-on power) |
| | | power flip | Switch the power supply of the current loop |
| Relay 1..2 | The control of the built-in relay | switch off | Turn off relay |
| | | switch on | Turn on relay |
| | | flip | Switch the relay to the opposite state |
| Signal 1..4 | Activation of a signal to send a custom notification — 8. [DKSF 72/73.1] Customizable notifications | activate | Send a signal. For a custom notification on the « NOTIFICATIONS » page, start sending it using a Boolean rule. |

| Output | Description | Actions | Description |
|---------------------------|--|-----------------------------------|--|
| Timer/Counter 1..4 | The control of a built-in timer/counter. <div> <i>i</i> it is not recommended to mix the functions of timer and counter. </div> | start from 0 (the timer function) | Start the timer from 0. The countdown is carried out in seconds with a resolution of 0 ... 1sec. |
| | | reset | Stop and reset the timer. Reset counter. |
| | | increment (the counter function) | Add 1 (increment) to the current counter value. |
| | | decrement (the counter function) | Decrease 1 (decrement) from the current counter value. The counter value does not decrease below zero. |
| Discrete IO 1..12 | The control of IO line | clear (log.0) | Set the line to log.0 state. |
| | | set (log.1) | Set the line to log.1 state. |
| | | flip | Flip log. state of the line |
| | | pulse | To send an impulse to the line. Duration is set in the settings of the IO line. |
| SNMP Setter 1..4 | The sending of SNMP SET commands to the other devices | switch off | Record the value corresponding to «off» to the specified OID in Setter's settings. |
| | | switch on | Record the value corresponding to «on» to the specified OID in Setter's settings. |

Pinger

PINGER

| | PINGER 1 | PINGER 2 |
|---------------------------|-----------------------------------|-----------------------------------|
| Address | <input type="text"/> | <input type="text"/> |
| Polling Period, 5-900s | <input type="text" value="15"/> | <input type="text" value="15"/> |
| Ping Timeout, 100-10000ms | <input type="text" value="1000"/> | <input type="text" value="1000"/> |
| Status | <input type="text"/> | <input type="text"/> |

Apply Changes

In the «**PINGER**» section, you can configure the network accessibility of the specified IP address/DNS name. The result of the check (pinger status) can be selected as the «input» of the logic rule. You can configure no more than two pingers — «**PINGER 1**», «**PINGER 2**». A typical application of pinger is automatic power-up of backup equipment in case of connection line failure.

where:

Address — IP address/DNS name of the device which is checked for availability. An empty line disables the poll.

Default: empty.

Polling Period, 5-900s — the value is selected according to the speed of detecting the fault. A regular check is carried out with the indicated period. Please note that overly frequent power switching can reduce equipment service life. **Default: 15.**

Ping Timeout, 100-10000ms — ping response timeout. The timeout is selected for 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. If after four periods of sending there is no answer, the status of the pinger changes to «no response», and retries stop until the next verification period. **Default: 1000.**

Status — possible values: «no response», «response», «-». If the poll is not completed, the status can be unidentified. In this case rules that depend on the pinger are triggered when the pinger status changes to the specified one.

⚠ If you use domain names, you should take into account 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 «no response» status.
If the polled address is not set or the DNS server (if the address is set by a domain name) is not available, the pinger is in the «no response» status.

SNMP SETTER

SNMP SETTER

| | SNMP 1 | SNMP 2 | SNMP 3 | SNMP 4 |
|------------------------------|--|--|--|--|
| Memo | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| Address | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| UDP Port | <input type="text" value="161"/> | <input type="text" value="161"/> | <input type="text" value="161"/> | <input type="text" value="161"/> |
| OID (.1.3.6...) | <input type="text" value=".1.3.6.1.4.1.25728.5800.3.1.3"/> | <input type="text" value=".1.3.6.1.4.1.25728.5800.3.1.3"/> | <input type="text" value=".1.3.6.1.4.1.25728.5800.3.1.3"/> | <input type="text" value=".1.3.6.1.4.1.25728.5800.3.1.3"/> |
| Community | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 'On' Value (Type Integer32) | <input type="text" value="1"/> | <input type="text" value="1"/> | <input type="text" value="1"/> | <input type="text" value="1"/> |
| 'Off' Value (Type Integer32) | <input type="text" value="0"/> | <input type="text" value="0"/> | <input type="text" value="0"/> | <input type="text" value="0"/> |
| Test It | <input type="button" value="On"/> <input type="button" value="Off"/> | <input type="button" value="On"/> <input type="button" value="Off"/> | <input type="button" value="On"/> <input type="button" value="Off"/> | <input type="button" value="On"/> <input type="button" value="Off"/> |
| Status | - | - | - | - |

SNMP 1..4 — SNMP SETTER Channel.

Memo — textual description of the remote object, for ease of perception (up to 30 symbols). **Default: empty.**

Address — an IP address or domain name (up to 62 characters) where the SNMP SET request will be sent to. **Default: empty.**

UDP Port — a port, where the SNMP SET requests are sent to. **Default: 161.**

OID (.1.3.6...) — OID 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 OID's is contained in the MIB file from the device or in the documentation to the device. **Default: .1.3.6.1.4.1.25728.5800.3.1.3.1.**

Community — SNMP Community write of remote device. **Default: empty.**

'On' Value (Type Integer32) — the value that will be recorded in the OID on the remote device when the «switch on» action is called in the logic rule. The value type is a 32-bit signed integer. **Default: 1.**

'On' Value (Type Integer32) — the value that will be recorded in the OID on the remote device when the «switch off» action is called in the logic rule. The value type is a 32-bit signed integer. **Default: 0.**

Test It — when you press the «**On**» and «**Off**» buttons the device sends the corresponding requests with the values immediately. They are used to check the operation of SNMP SETTER.

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 approval has been received. This can happen as a result of the unavailability of the controlled device, its failure, the wrong address, port or community. A dash «-» means that the SNMP SETTER has not sent a command yet. «**Waiting for a response**» means that SNMP SETTER sent a command to a remote device and is waiting for a response. Other options mean that an answer was received with an error code, its text decryption is displayed in the status line.

[ENG] 11.2. [DKSF 72/73.1] «Watchdog»

«**Watchdog**» — This is a special module that constantly, at a specified frequency, ping the specified addresses (ICMP Echo) using ping. If there is no response, a short-term impulse (change of state) of the relay or the I/O line (in the «output» mode) resets the power supply of the connected device or performs other actions.

To configure the module «**Watchdog**», there is a need to go to the page «**WATCHDOG**» of a device web interface:

[HOME](#) | [SETUP](#) | [E-MAIL](#) | [RS485 PORT](#) | [1-WIRE](#) | [TEMPERATURE](#) | [HUMIDITY](#) | [MONITORING V](#) | [NOTIFICATION](#) | [FIRMWARE](#) | [LOG SMS](#) | [DISCRETE IO 1..5](#) | [DISCRETE IO 6..12](#) | [RELAYS](#) | [EXTERNAL RELAYS](#) | [WATCHDOG](#) | [SCHEDULE](#) | [ANALOG INPUTS](#) | [LOGIC](#)

| Parameter | Channel 1 | Channel 2 | Channel 3 | Channel 4 |
|--|---|---|---|---|
| Enable Control of Relay | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Memo of Output | | | | |
| Watchdog Output | Relay 2 | IO 4 | IO 9 | Test |
| Polling of Address A,B,C | A <input checked="" type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> | A <input checked="" type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> | A <input checked="" type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> | A <input checked="" type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> |
| Address A | 192.168.0.10 | 192.168.0.101 | 192.168.0.12 | 192.168.0.108 |
| Address B | | | | |
| Address C | | | | |
| Reset Counter (cleared on firmware reboot) | 0 | 0 | 0 | 0 |
| Ping Polling Period, 10-300s | 15 | 15 | 15 | 15 |
| Ping Timeout, 600-9000ms | 1000 | 1000 | 1000 | 1000 |
| Max Ping Repeats after Timeout | 8 | 8 | 8 | 8 |
| Reset Duration, 1-900s | 12 | 12 | 12 | 12 |
| Ping Polling Pause After Reset, 1-3600s | 15 | 15 | 15 | 15 |
| Limit Number of Consecutive Reset Attempts, 1-255, 0 - Off | 0 | 0 | 0 | 0 |
| Reset Polarity | Switch Relay Off | Switch Relay Off | Switch Relay Off | Switch Relay Off |
| Reset Condition Logic | | | | |
| No reply from any of Address A,B,C | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| No reply from all of Address A,B,C | <input checked="" type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> |
| No reply from Address A and from one of B,C | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| No reply from Address A, but B or C replies | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Notification | Setup | Setup | Setup | Setup |

[Apply Changes](#)

Enable Control of Out — check-box that allows the «Watchdog» module to control the output. **Default: off.**

Memo of Output — text description description, filled in the "Memo" field on the page of the managed object. **Default: empty.**

Polling of Address A, B, C — is a set of checkboxes that allow to specify addresses that are included to polling individually. **Default: all off.**

❗ If no checkboxes are installed or IP-addresses for checked checkboxes are not specified, polling will not be executed and the «**Watchdog**» mode will be de-facto disabled.

Address A (B, C) — fields for configuring addresses for polling. Both the IP address and the domain name can be specified. Up to three addresses can be configured. An empty field disables polling. **Default: all empty.**

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 a number the number of reboots in the «manual mode». A counter is cleared when if firmware rebooted.

Ping Polling Period, 10-300s — is a field for setting a time period of how frequently ping is repeated. The period is strict, which means that it is set from the start of the previous poll to the beginning of the next poll, and does not depend on the time of receiving responses. **Default: 15 s.**

Ping Timeout, 600-9000ms — is a field for setting a timeout before ping repeats. The value should not exceed the usual time of the response to the ping for the network with some reserve to ensure avoiding false positives of the module «**Watchdog**». **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 «no response». 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. **Default: 8.**

Reset Duration, 1-900s — is a field for setting the time for which a relay changes its status to the opposite one. **Default: 12 s.**

Ping Polling Pause After Reset, 1-3600s — is a field for setting the time for which the polling is stopped after the reset is completed. **Default: 15 s.**

Limit Number of Consecutive Reset Attempts, 1-255, 0-Off — 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. **Default: 0.**

Reset Polarity — is a field that allows indicating what action is going to be done to reboot the connected load: «Switch Relay Off» or «Switch Relay On» at outcoming terminals. **On 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 — if at least one of addresses did not respond.

No reply from all of Address A,B,C — if all requested addresses did not respond.

No reply from Address A and from one of B,C — 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 — if address A did not respond but address B and/or address C did respond. That said, if all addresses do not respond, a connected device will not be rebooted.

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 «[Automatic Reloading of a Hanging Router that Is Connected to NetPing 2/PWR-220 V3/ETH Power Distribution Unit](#)» in the NetPing company blog.

[ENG] 12. [DKSF 72/73.1] Autonomous power supply

Autonomous power supply of the device is realized due to a built-in super-capacitor module and a plug-in battery module. More details about their work in the sections below.

[ENG] 12.1. [DKSF 72/73.1] Built-in supercapacitor module

The built-in supercapacitor is a small «battery» for the MCU and some modules of the device.

The time it takes to fully charge the supercapacitor is 30 minutes. Discharge 1..6 minutes, depending on the functionality involved.

Designed to send notifications in the absence of the main backup power supply.

[ENG] 13. [DKSF 72/73.1] RS-485

The purpose of the interface is to tunnel the RS-485 port through the TCP / IP network.

The «RS485 PORT» page displays the parameters and settings of the RS-485 device:

USAGE OF SERIAL PORT

| | |
|----------------------|------------|
| Serial Port Function | DISABLED ▼ |
|----------------------|------------|

NETWORK-TO-SERIAL COMMUNICATION SETUP

| | |
|--|-----|
| Local TCP Server Port | 0 |
| Amount of Received Serial Data to form next network packet (1..512 byte) | 96 |
| Timeout to form network packet if no new Serial Data (5..999 ms) | 100 |
| Buffer Overflow Event Counter | 0 |

SERIAL PORT SETTINGS

| | |
|-------------------------|--------|
| Serial Port Rate, bit/s | 9600 ▼ |
| Word Length, bit | 8 ▼ |
| Parity | No ▼ |
| Stop Bits | 1 ▼ |

Apply Changes

Usage of Serial Port

Serial Port Function – the mode in which the COM port (RS-485) operates. Available options: Disabled, TCP-COM.
Default: Disabled

Network-To-Serial Communication Setup

This section sets the parameters of the «TCP-COM» function:

Local TCP Server Port – this parameter specifies the TCP port number that the device listening for the client software to connect. you should specify any unoccupied port in the range 1-65535 (excluding port 80 - web server, 161 - SNMP agent). It is recommended to use a value greater than 1024. Default: 0.

Amount of Received Serial Data to form next network packet (1..512 byte) – the number of bytes received from the RS-485 port, upon reaching which the device will send the accumulated data via the Ethernet interface. If this number of bytes is not reached, the packet will be sent by the timeout of receiving data from the RS-485 port. Default: 96 bytes.

Timeout to form network packet if no new Serial Data (5..999 ms) – time interval for waiting for data on the serial port. If no new data is received during this interval, the device will send the data accumulated in the buffer to the network. Default: 100ms.

Buffer Overflow Event Counter – the counter is incremented every time when the send buffer for the RS-485 is overflow. Counter is reset on reboot.

Serial Port Settings

Serial Port Rate, bit/s – RS-485 port speed. Default: 9600 bps

Word Length, bit – the number of bits in the word transmitted / received via RS-485. Default: 8

Parity – a type of parity control in data transmitted via RS-485. «No» - parity is disabled, «Odd» - add the number of single data bits to odd, «Even» - add the number of single data bits to even. Default: No

Stop Bits – the number of stop bits in the RS-485 word. Default: 1

After setting, click the «**Apply Changes**» button.