



EXAGATE SYSGUARD 7001 USER GUIDE



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1. Background

1.1. Target Audience

Target audience of this document is SYSGuard users and the technical personnel, who will install and configure SYSGuard.

1.2. Provisions and Conditions

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2. SYSGuard Concept

2.1. Product Features

SYSGuard 7001 is a Zero U environmental monitoring device. The SYSGuard solution consists of 3 hardware components, namely the main unit, the sensors and the Exabus communication protocol. It runs on a Linux operating system and has the following ports and components:

- 16 x Sensor Inputs (up to 256 with daisy chain)
- 20 x Configurable Input
- 8x (Dry contact / Analog Input (0-5V, 0-10V) / Flood detect cable input)
- 12x (Isolated dry contact / 4 pcs Digital Output(500mA)
- 4 x Relay Outputs (N/O – N/C max 5A)
- 2 x RS485 (1 pcs Isolated)
- 1 x 12V DC Output (for external sensors)
- Optional 2G Module (SMS)
- Optional 4G Module (SMS - Voice Calling) and Network Back-up function
- 2 x Ethernet Port (redundant)
- 2 x USB port
- HTTPS-MODBUS TCP - SNMP - MQTT
- Supports 256 pcs sensors connection on one SYSG7001
- Electricity meter can be connected directly to the SYSG7001
- Modbus devices with RS-485 output can be connected directly to the SYSG7001 also

their values can be monitored and alarmed.

- SYSG7001 can be used RS485 to Ethernet converter
- Storage 4 GB (Up to 16GB with SD Card)

2.2. Package Content

- SYSGuard 7001 Main Unit
- 220VAC-12VDC Power Supply
- Mounting Bracket
- GSM Antenna
- 1012 Temperature/Humidity Sensor
- Quick Installation Guide

2.3. SYSGuard 7001 Models

2.3.1. SYSGuard 7001

Standard model for SYSGuard 7001 main unit device which includes: Temperature & Humidity Sensor, 16 pcs sensor input (up to 256 sensor support), 16 digital input / analog / water detect cable input, 4 pcs relay output, 2 pcs RS-485.

2.3.2. SYSGuard 7001-2G

2G model for SYSGuard 7001 main unit device which includes: Temperature & Humidity Sensor, 16 pcs sensor input (up to 256 sensor support), 16 adet digital input / analog / water detect cable input, 4 pcs relay output, 2 pcs RS-485 and 2G Module (SMS).

2.3.3. SYSGuard 7001-4G

4G model for SYSGuard 7001 main unit device which includes: Temperature & Humidity Sensor, 16 pcs sensor input (up to 256 sensor support), 16 adet digital input / analog / water detect cable input, 4 pcs relay output, 2 pcs RS-485 and 4G Module (SMS, Network backup and voice calling function).

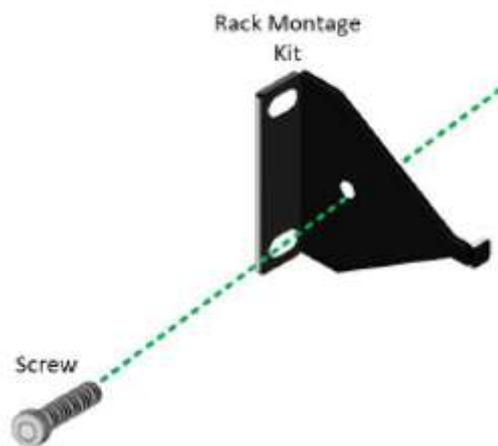
Installation and Configuration

2.4. Before Installation

Make sure the installation area is clean and not exposed to extreme temperatures or humidity. Allow sufficient space around the SYSGuard 7001 for cabling and sensor connections.

2.4.1. Mounting and installing the SYSGuard Device

1. Screw the Rack Montage Kit to the device and ensure the bracket is fastened securely with mounting nut.



2. After the bracket is installed on the device, mount the device by screwing a mounting button in the back of the center of Rack Montage Kit bracket and mounting nut.

2.4.2. Powering SYSGuard 7001

The SYSGuard 7001 Main Unit is connected to 200VAC network voltage by a power supply, which is provided with the product. It is recommended to feed the SYSGuard 7001 Main Unit via an Uninterruptible Power Supply (UPS).

When you place SYSGuard 7001 Main Unit on its location and connect to the power supply, the device will be ready for configuration. For the first configuration, you should connect any CAT type network cable to the device's Ethernet Port.



The sensors with a UTP-connection can be connected directly to the device by using a CAT6 network cable.



Exagate sensors can be cascaded. The top left RJ45 input on the SYSGuard device can be used to set up sensors and dry contact modules (see above).

3. Connecting the Exagate SYSGuard to Your Network

3.1. SYSGuard 7001 Main Unit Configuration

3.1.1. Connection to Main Unit

Main unit is equipped with default IP address (192.168.1.234). For the first access to the device a PC must be used to access the main unit and devices should be connected to the same network.

Your PC should have a static IP in order to access SYSGuard 7001. You can carry out these settings in TCP/IP Settings sections of Local Area Network Connection options. Please make your settings as shown in figure and save it.

To use the web interface to administer the Exagate SYSGuard , you must connect the device to your local area network (LAN).

To make a wired connection:

1. Connect a standard Category 5e/6 UTP cable to the ETHERNET port on the Exagate SYSGuard device.
2. Connect the other end of the cable to your LAN.

Initial Network Configuration

After the Exagate SYSGuard device is connected to your network, you must provide it with an IP address and some additional networking information.

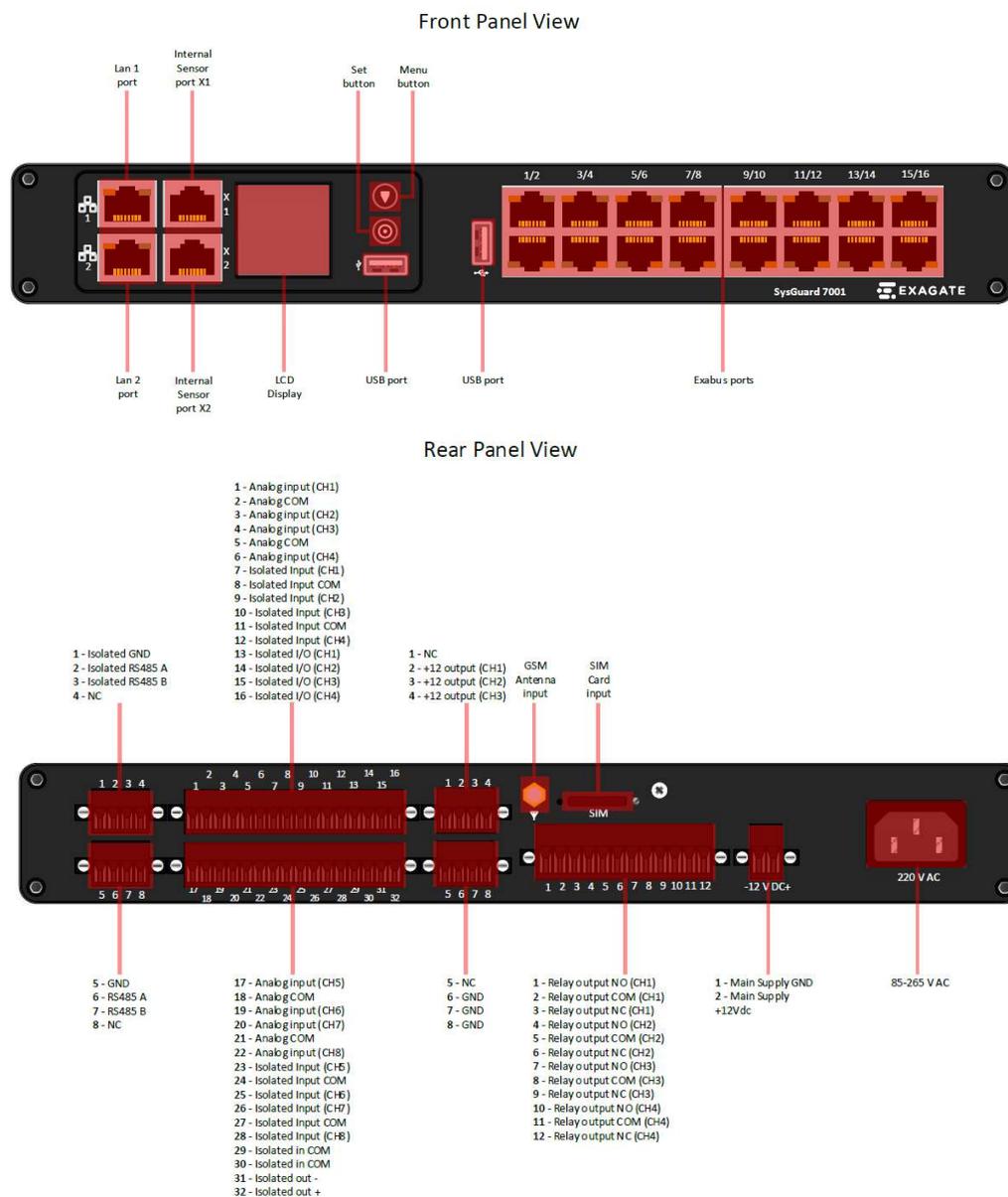
4. Physical Structure

4.1. Physical overview

4.1.1. SYSGuard 7001 Main Unit

SYSGuard 7001 Main Unit is the core of the SYSGuard concept that ensures communication with sensors and modules, shares instant received values with users via its built-in WebPack User Interface, determines alarming cases as per the values received from sensors, informs user by e- mail, SMS in alarm cases, archives data received from sensors within a specific rule.

4.2. Physical Structure



4.3. Technical Specifications

Operational Properties

Power Supply Voltage	10,5 - 14,4 VDC typical 12 VDC
Power Consumption	0,22 - 0,36 A typical 0,24 A 2,64 - 4,62 W typical 2,88 W
Operational Temperature Range	-10 +70 °C
Operational Humidity Range	0 - 90 % Rh
Storage Temperature Range	-40 +85 °C
Storage Humidity Range	0 - 90 % Rh

Physical Properties

Dimensions (H x W x D)	43x330x126 mm 1.69x12.99x4.96 inch
Color	Black
Weight	850 (+/- 5%) grams

Internal Temperature & Humidity Sensor Properties

Temperature Measurement Range	-10 +70
Temperature Measurement Tolerance	+/- 0,2
Temperature Measurement Resolution	0,1
Humidity Measurement Range	0 - 85 % Rh
Humidity Measurement Tolerance	+/- 2 % Rh
Humidity Measurement Resolution	%0,1 Rh
Maximum Distance from Main Unit	3 m

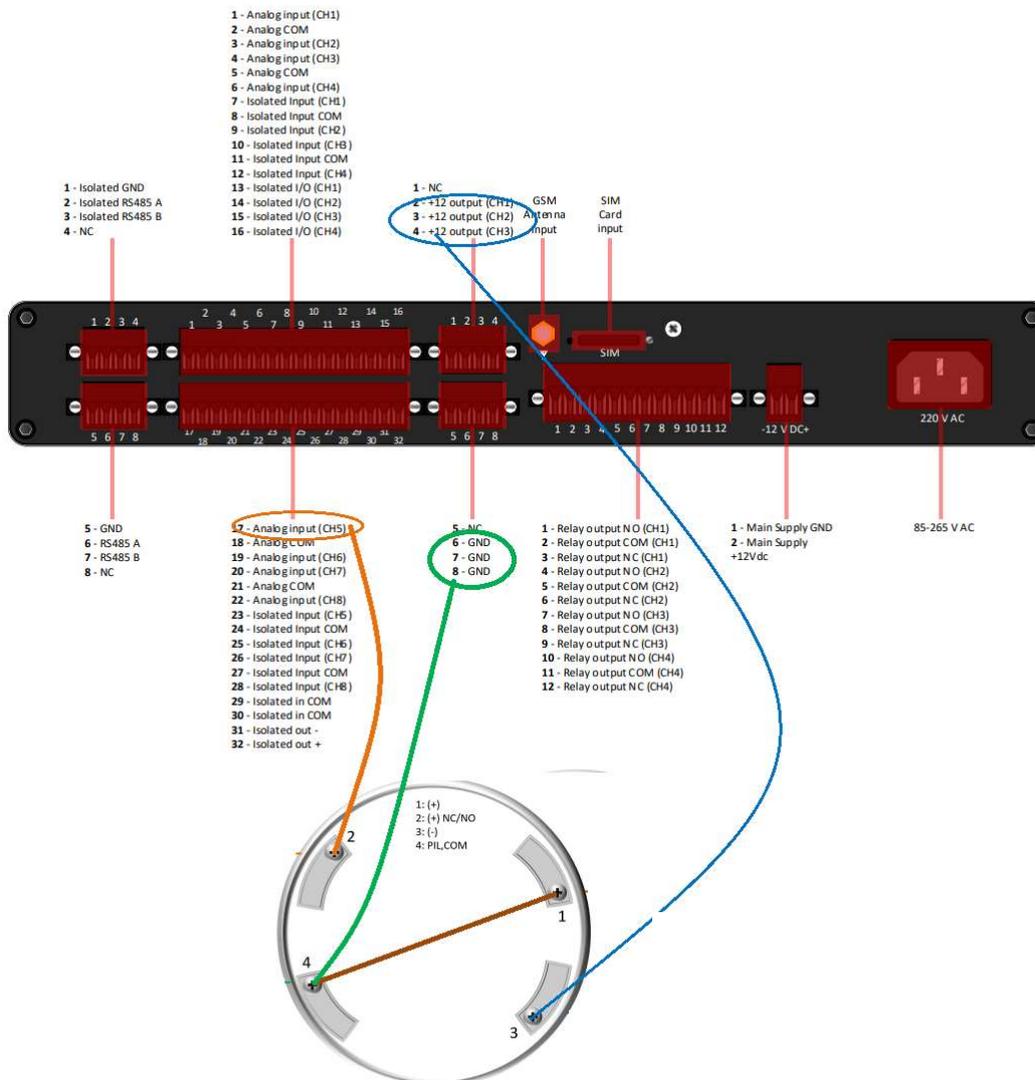
Technical Properties

Power Supply	Redundant power supply function with 1 x 12V DC – 1 x 220V or -48v DC Power supply
CPU	Dual Core 580 Mhz CPU
RAM	128 MB
Storage	4 GB (Up to 16GB with SD Card)
Alert	E-mail (Optional SMS with SYS7001-2G / SMS + Voice Calling with SYSG7001-4G) - SNMP-Trap
Display	128x128 px 256K Color Display
Sensor Inputs	16 x Sensor Inputs (up to 256 with daisy chain) 20 x Configurable Input 8x (Dry contact / Analog Input (0-5V, 0-10V) / Flood detect cable input) 12x (Isolated dry contact / 4 pcs Digital Output(500mA)
Sensor Outputs	4 x Relay Outputs (N/O – N/C max 5A)
	2 x RS485 (1 pcs Isolated)
	1 x 12V DC Output (for external sensors)
Communication	Optional 2G Module (SMS)
	Optional 4G Module (SMS – Voice Calling) and Network Back-up function
	2 x Ethernet Port (redundant)
	2 x USB port
	HTTPS-MODBUS TCP – SNMP – MQTT
Software Properties	Supports 256 pcs sensors connection on one SYSG7001
	Electricity meter can be connected directly to the SYSG7001
	Modbus devices with RS-485 output can be connected directly to the SYSG7001 also their values can be monitored and alarmed.
	SYSG7001 can be used RS485 to Ethernet converter

5. Sensor Installation Guide

5.1. How to Connect a SYSGuard Smoke Sensor Installation

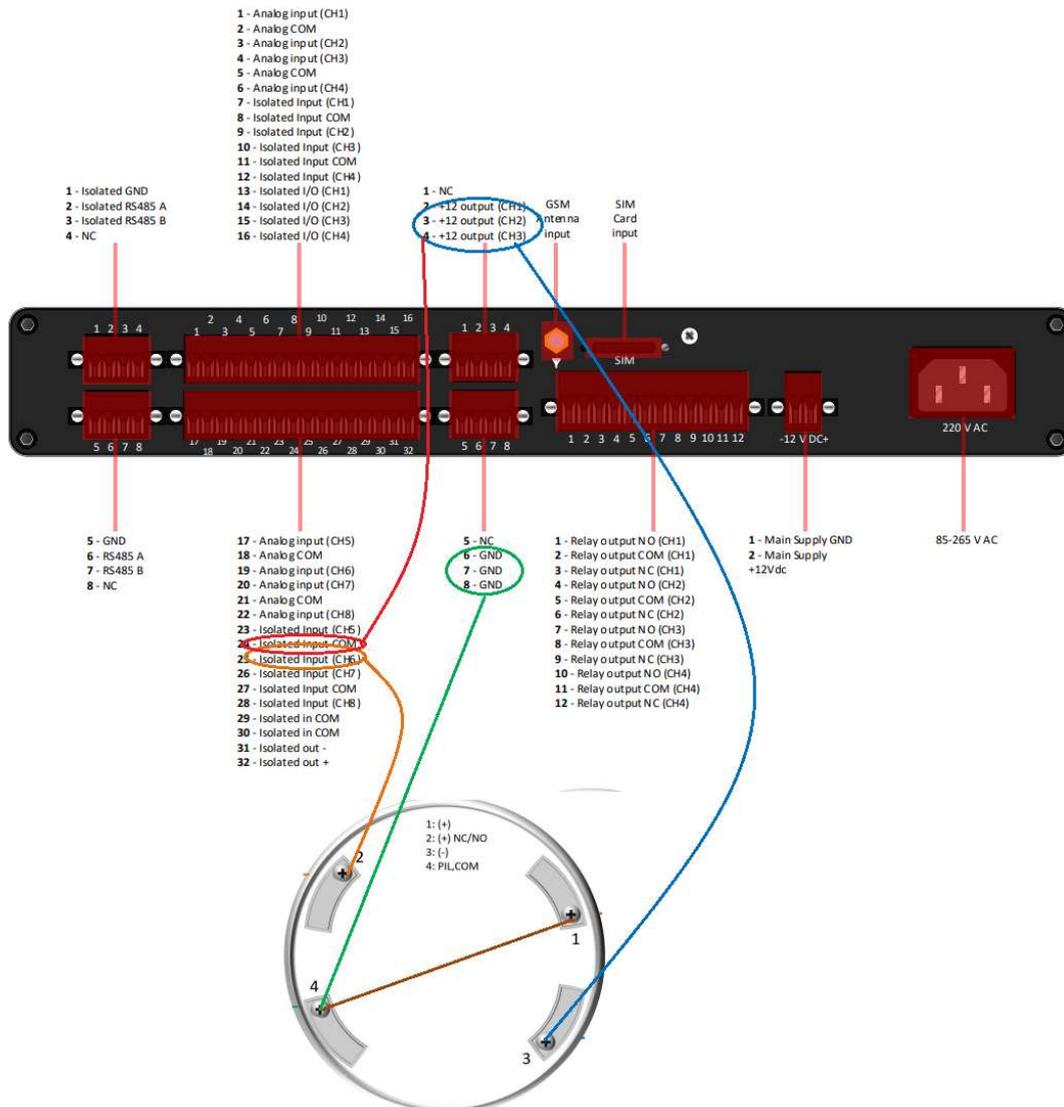
To set up the smoke sensor (Max. 150m distance from main unit):



- Terminals 1 and 4 made a connection
- Terminal 4 is then connected to GND
- Terminal 2 is connected to any Analog Input CH
- Terminal 3 is connected to +12 Output CH

5.2. How to Connect a SYSGuard Smoke Sensor Installation (Isolated Connection)

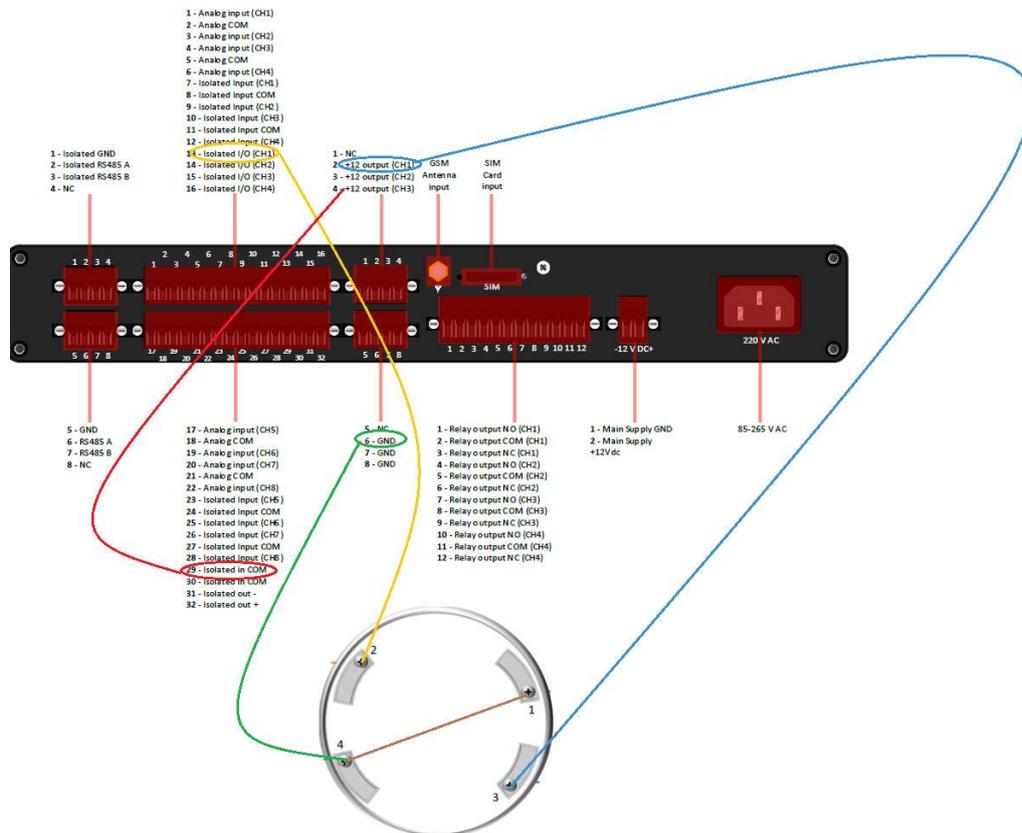
To set up the smoke sensor with isolated terminals (Max. 150m distance from main unit):



- Terminals 1 and 4 connected to each other
- Terminal 4 is then connected to GND
- Terminal 2 is connected to any Isolated Input CH
- Terminal 3 is connected to +12 Output CH
- +12 Output CH is then connected to Isolated COM next to where Isolated Input CH is connected previously

5.3. How to connect a SYSGuard Smoke Sensor Installation (Isolated I/O Connection)

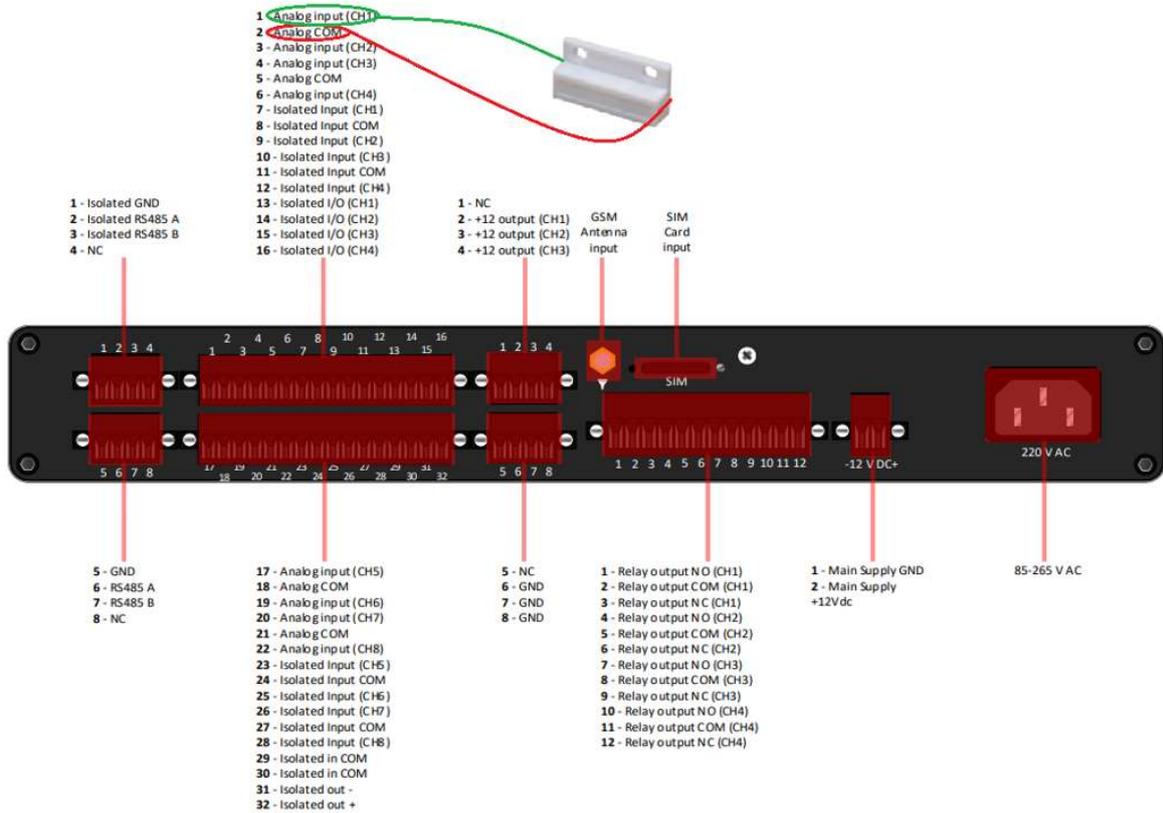
To set up the smoke sensor with isolated I/O terminals (Max. 150m distance from main unit):



- Terminals 1 and 4 connected to each other
- Terminal 4 is then connected to GND
- Terminal 2 is connected to any Isolated I/O Input CH
- Terminal 3 is connected to +12 Output CH
- +12 Output CH is then interconnected to Isolated I/O COM next to where Isolated Input CH is connected previously

5.4. How to connect a SYSGuard Door/Air Flow Sensor

To set up the door sensor (Max. 150m distance from main unit):

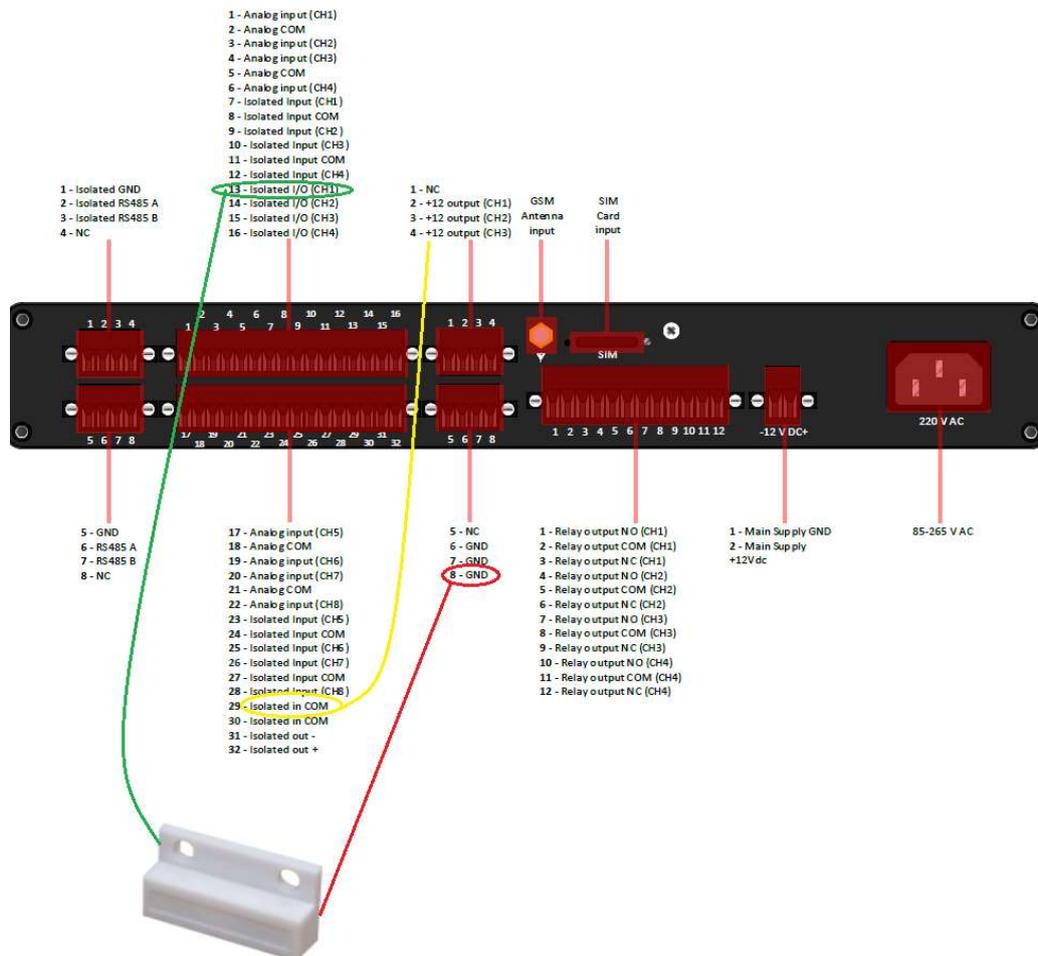


- Door sensor cable is connected to any Analog Input CH
- Other end of the cable is then connected to Analog COM

Note: Same methods can be used to connect Air Flow, HVAC and fire extinguishing systems.

5.6. How to Connect SYSGuard Door/Air Flow Sensor I/O Connection (Isolated)

To set up door sensor with isolated I/O terminals (Max. 150m distance from main unit)

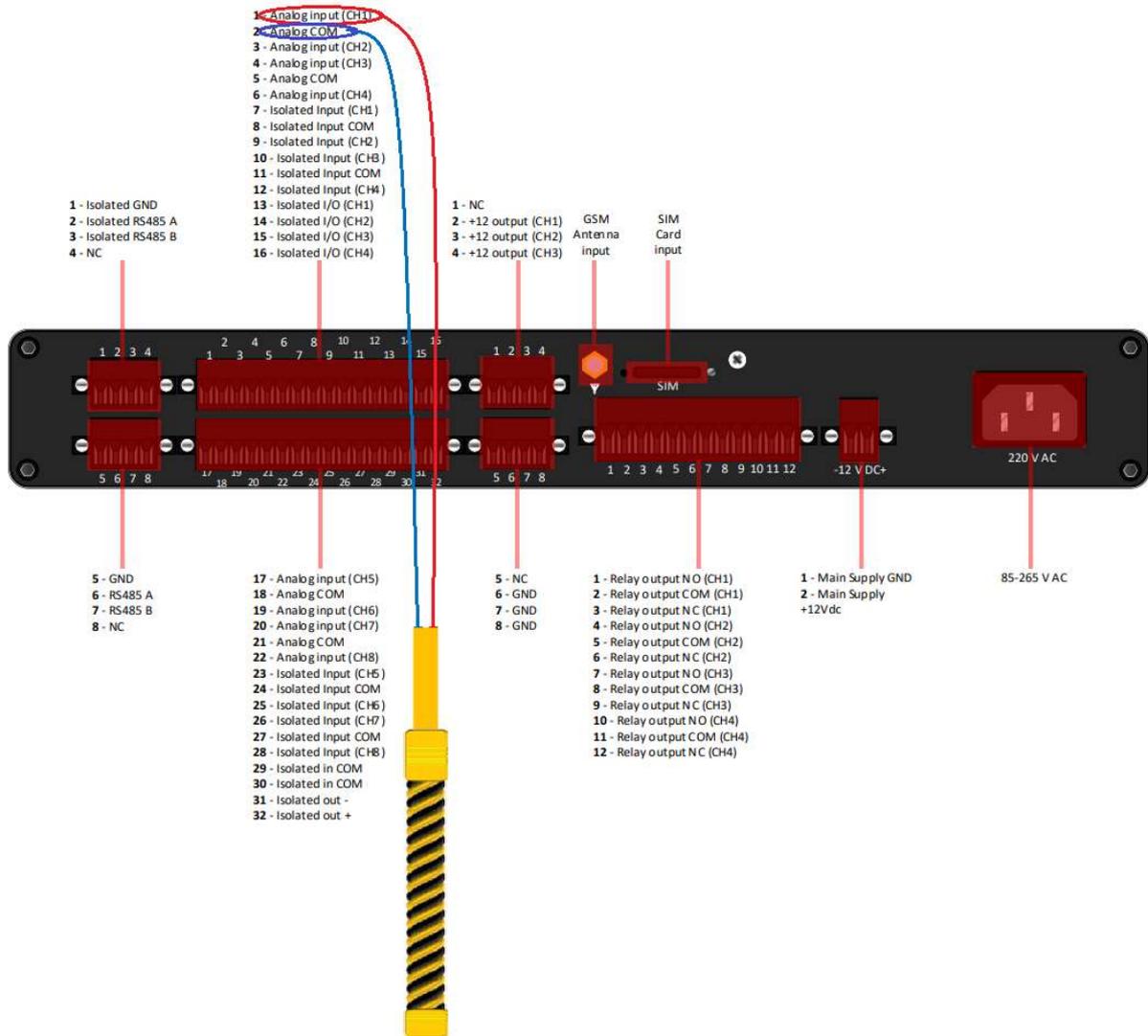


- One of the Door sensor cable is connected to any Isolated I/O Input CH
- One of the other sensor cable is then connected to GND
- Then +12 Output and Isolated Input COM interconnected with each other

Note: Same methods can be used to connect Air Flow, HVAC and FM200 systems.

5.7. How to connect a SYSGuard Flood Detection Cable

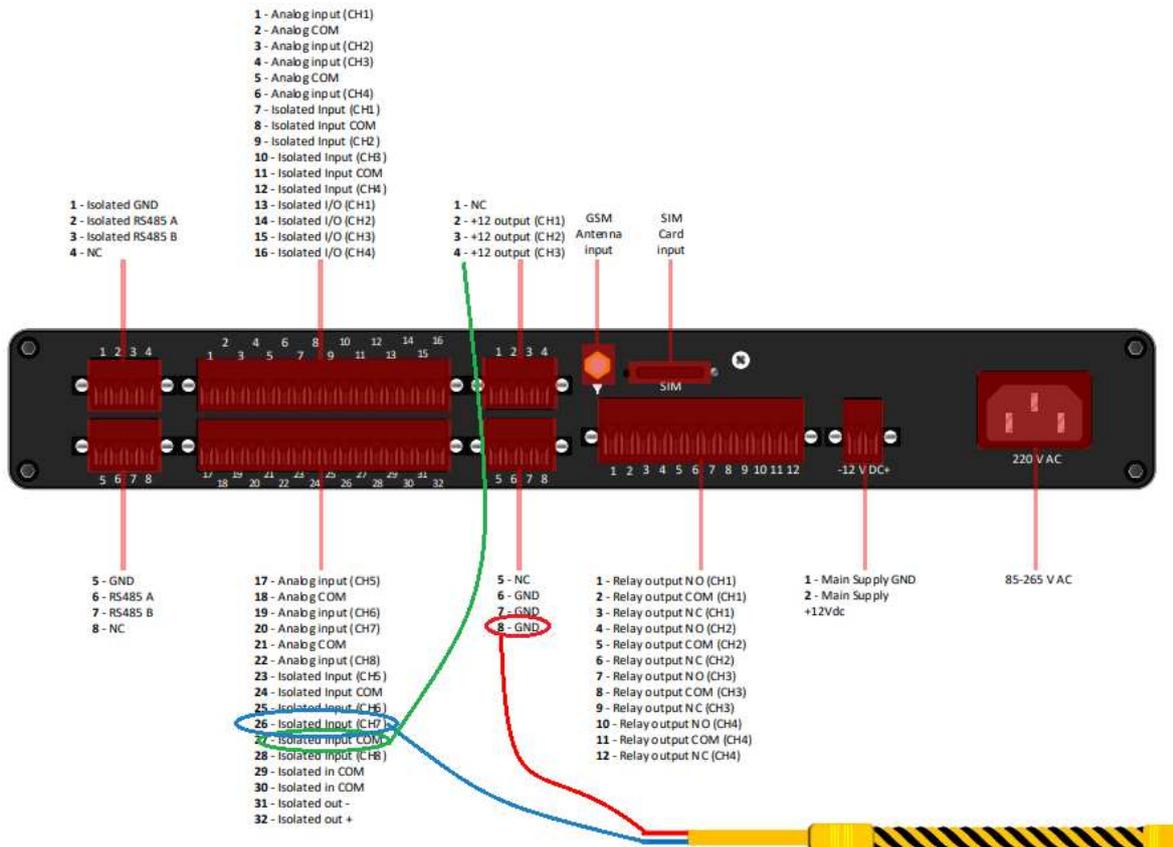
To set up the Flood Detection Cable (Max. 100m distance from main unit):



- Cable 1 is connected to any Analog Input CH
- Cable 2 is connected to Analog COM next to Analog Input CH where Cable 1 is connected next to it.

5.8. How to Connect a SYSGuard Flood Detection Cable Connection (Isolated)

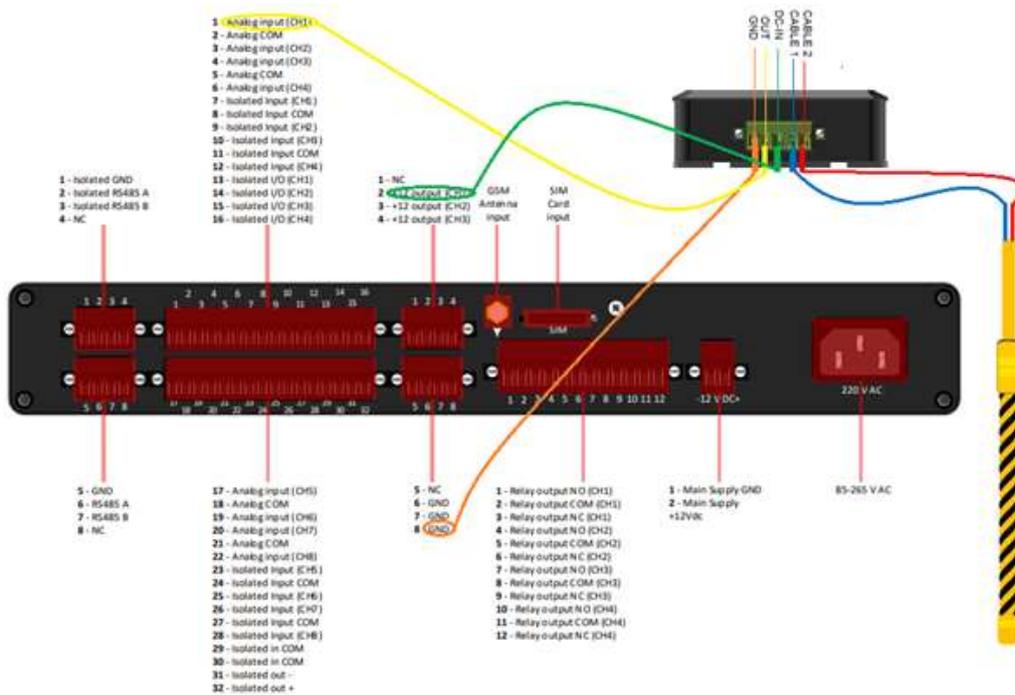
To set up the Flood Detection Cable with isolated terminals (Max 100m distance from main unit):



- Cable 1 is connected to any Isolated Input Ch
- Cable 2 is connected to GND
- Another cable is interconnected on adjacent Isolated Input COM and +12 Output Ch

5.9. How to Connect a SYSGuard Flood Detection Cable Connection (With a 7030 Extension Module)

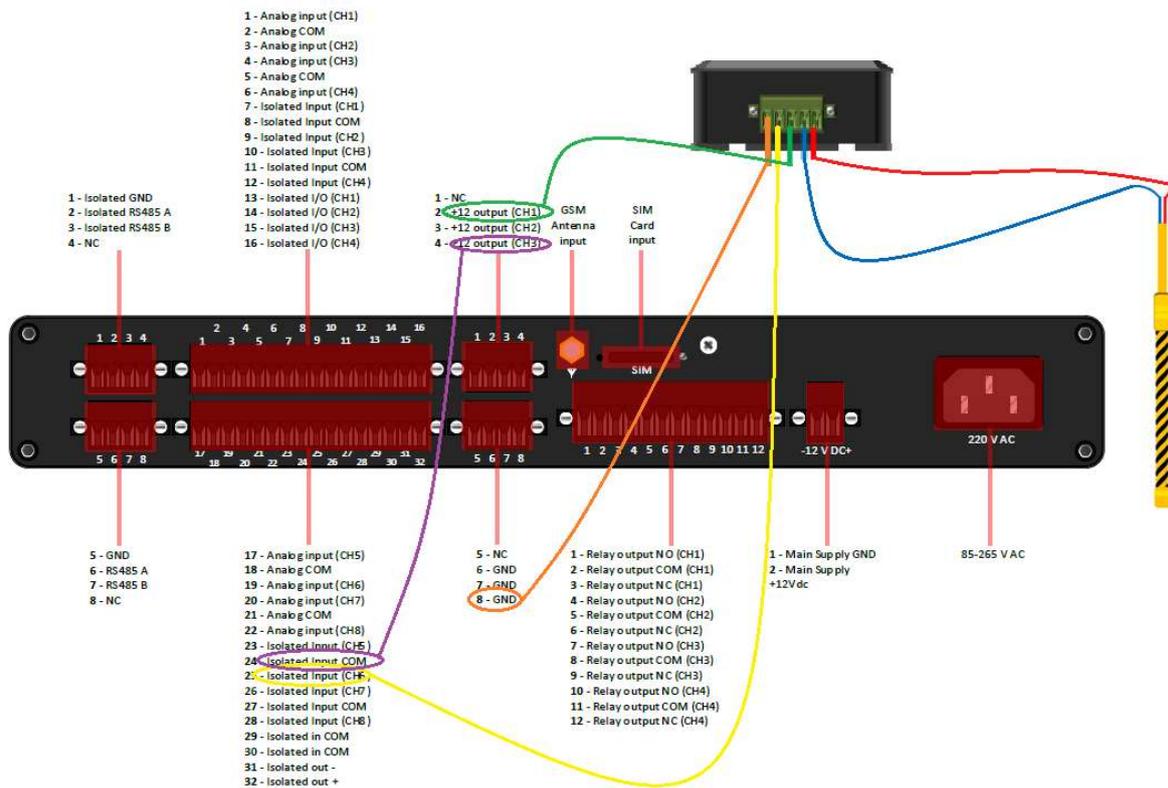
To set up the Flood Detection Cable with an extension module (SYSGuard 7030, max 200m distance from main unit):



- GND is connected to GND input on 7001
- OUT is connected to any Analog Input Ch
- DC-IN is connected to 12+ Output
- Cable 1 is connected from Flood Detection Cable
- Cable 2 is connected from Flood Detection Cable

5.10. How to Connect a SYSGuard Flood Detection Cable Isolated Connection (With a 7030 Extension Module)

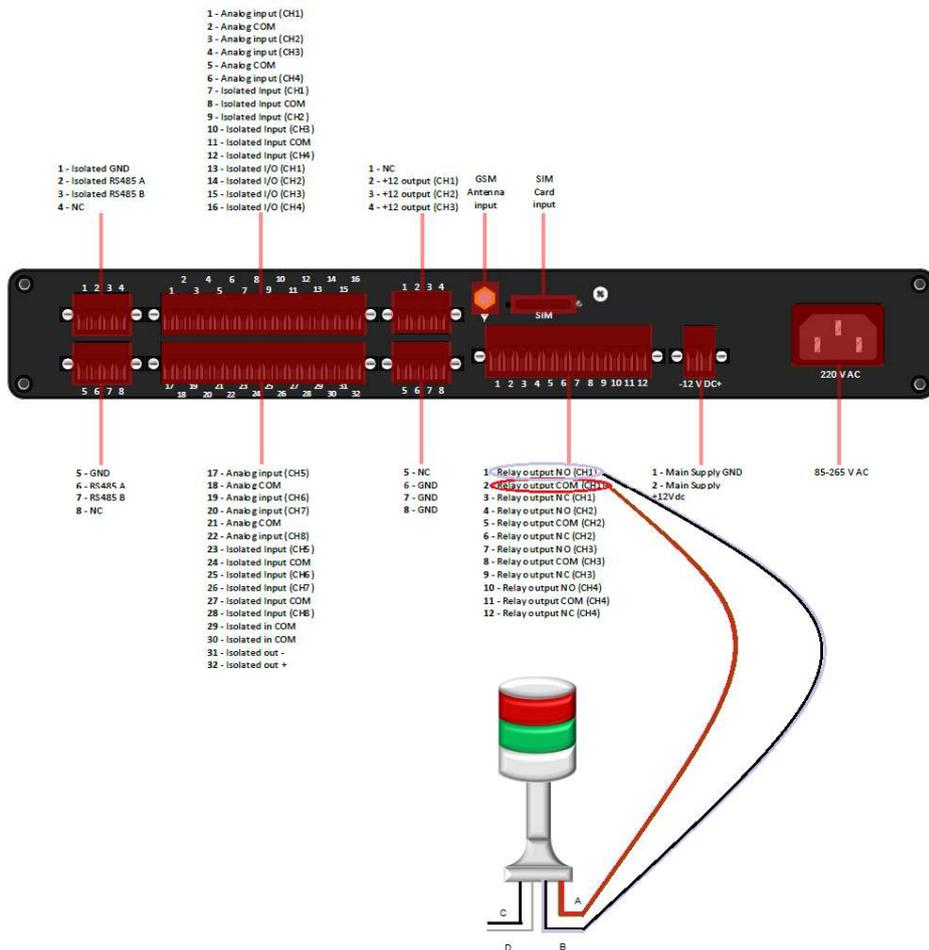
To set up the Flood Detection Cable on Isolated connection with an extension module (SYSGuard 7030, max 200m distance from main unit):



- GND is connected to GND input on 7001
- OUT is connected to any Isolated Input Ch
- DC-IN is connected to 12+ Output
- Cable 1 is connected from Flood Detection Cable
- Cable 2 is connected from Flood Detection Cable
- Another cable is interconnected between adjacent Isolated CH COM and any 12 Output CH

5.11. How to connect a SYSGuard Relay Sensor Tower

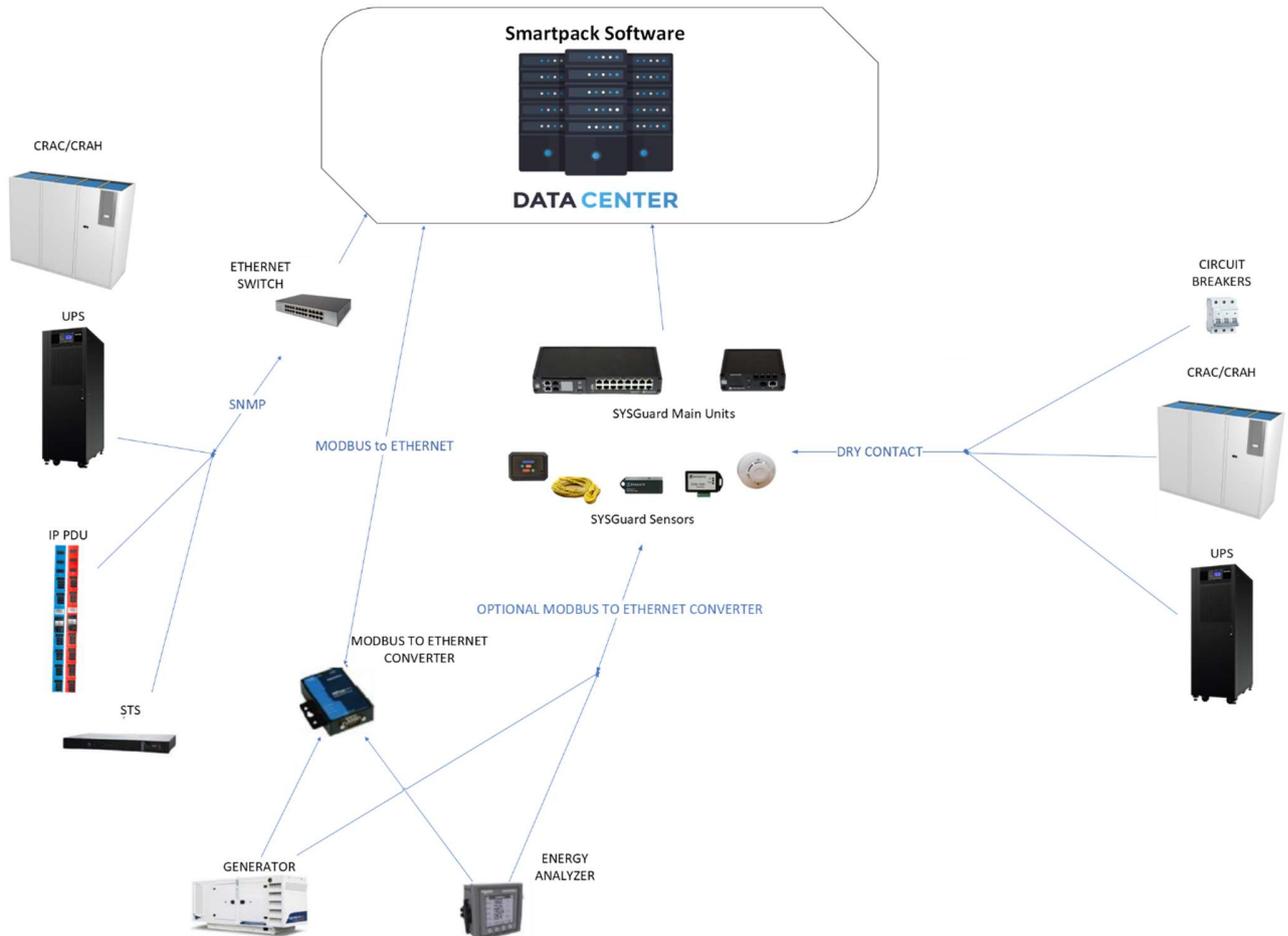
To set up Relay Sensor Tower (Max. 200m distance from main unit):



- Cables on A joined together (slim red and brown cable) and then connected to Relay Output COM(CH)
- Cables on B joined together (slim black and grey cable) and then connected to Relay Output NO
- Cable on C (thick Black cable) connected to phase
- Cable on D (thick White cable) connected to neutral

5.12. System Architecture and 3rd Party Device Integration

Below figure shows how most used 3rd party devices interconnect with Exagate environment main units and communicates.

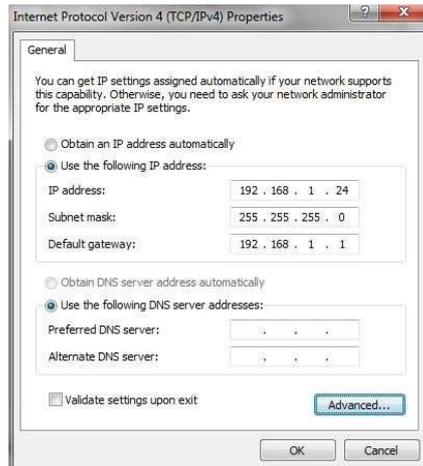


6. SYSGuard 7001 System Configuration Overview

6.1. SYSGuard 7001 Main Unit Configuration

6.1.1. Connection to Main Unit

Main unit is equipped with default IP address (192.168.1.234). For the first access to the device a PC must be used to access the main unit and devices should be connected to the same network.



Your PC should have a static IP in order to access SYSGuard 7001. You can carry out these settings in TCP/IP Settings sections of Local Area Network Connection options. Please make your settings as shown in figure and save it.

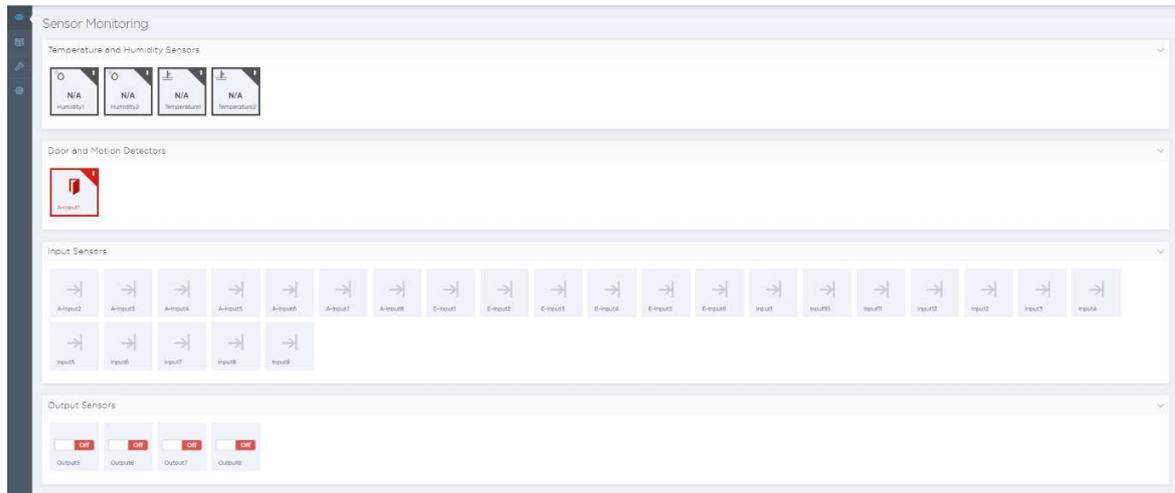
Write 192.168.1.234 on the address bar of your browser (for instance Internet Explorer) and press Enter button. Homepage of the SYSGuard7001 Main Unit is as follows: Default username is “admin” and password is “123456”.

7. SYSGuard 7001 Webpack Interface

7.1. Monitoring

7.1.1. Sensor

In sensors page you can monitor all the added sensors in the SYSGuard device. You can monitor the alarm status and control the relays in this page.



When a sensor goes into alarm you can quickly check the top right bar to see which sensor is currently having an alarm.

Symbol	Detector Name	Explanation
	Temperature	Detects the temperature in terms of Centigrade Degrees (°C). Warns/Alerts when the temperature is above or below the critical/alarm values.
	Relative Humidity	Detects the relative humidity in terms of percentage; i.e. Ratio of Actual and saturated vapor densities, in terms of %RH. Warns/Alerts when the RH is above or below the critical/alarm values.
	Dry Contact	Detects the sensor alarms those are connected to the PDU via dry contact module.
	Leak	Detects the leakage. Alerts when there is leakage or flood incident.
	Smoke	Detects the smoke. Alerts when there is smoke due to anything.
	Door	Detects the movement of the door, which the sensor connected. Alerts when the door is opened.

	Movement	Detects the movement.
	Energy	Detects whether the PDU is powered or not. Alerts when there is no energy at master or slave.
	Alarm List	Lists the actual alarms.
	Account	Log Out and Change Password option shortcuts.

7.1.2. List

Under “Monitoring” tab you can find sensor “List”, from here you can monitor sensor status along with sensor values in detail.

Listed Monitoring

Type	Name	Value	Unit	Status	Min.AL	Min.Cr	Max.Cr	Max.AL
	Internal.A-Input1	Alarm		Alarm				
Humidity	Temp-Hum.Humidity1	--	%Rh	N.A.	2	12	80	85
Humidity	Temp-Hum.Humidity2	--	%Rh	N.A.	2	12	80	85
Temperature	Temp-Hum.Temperature1	--	°C	N.A.	10	15	28	33
Temperature	Temp-Hum.Temperature2	--	°C	N.A.	10	15	28	33
	Internal.A-Input2			Normal				
	Internal.A-Input3			Normal				
	Internal.A-Input4			Normal				
	Internal.A-Input5			Normal				
	Internal.A-Input6			Normal				
	Internal.A-Input7			Normal				
	Internal.A-Input8			Normal				
Input	Input Module E-Input1	Normal		Normal				
Input	Input Module E-Input2	Normal		Normal				
Input	Input Module E-Input3	Normal		Normal				
Input	Input Module E-Input4	Normal		Normal				
Input	Input Module E-Input5	Normal		Normal				
Input	Input Module E-Input6	Normal		Normal				
Input	Internal.Input1	Normal		Normal				
Input	Internal.Input10	Normal		Normal				
Input	Internal.Input11	Normal		Normal				
Input	Internal.Input12	Normal		Normal				
Input	Internal.Input2	Normal		Normal				

7.2. Archive

7.2.1. Sensor

In “Sensor Archive” section you can see all the alarm status and alarm details in this page

SYSGuard archives all data received from all sensors and modules in accordance with a specific rule. You can find below what kind of data is archived:

- Data received from sensors generating figures such as humidity, temperature, voltage current frequency, UPS is archived in every 5 minutes.
- In case any sensor or module generated an alarm, values are archived.
- In case any sensor or module goes to normal operation from the alarm mode, values are filed.
- In case dry contact sensor changes its mode other than normal status, data is filed.
- When dry contact sensor transits from abnormal status to normal status, the values are filed.
- Data is filed when flood occurs and is eliminated.
- If users intervene any relay output module manually, data including which user makes the intervention is filed.
- If any relay output module automatically changes its mode, information is filed.
- The latest date when users use web interface is also archived.
- In case any sensor or module disconnected from the system, this status is also filed.

Here you can select the date and choose different inputs and outputs on device to see when it went into alarm status.

Sensor Archive

Parameters

Start: 08/11/2022 00:00:00 Finish: 16/11/2022 00:00:00 Sensor: A-Input1 Alarm Only [Get Data](#)

A-Input1 - 08/11/2022 00:00:00 - 16/11/2022 00:00:00

Show 10 entries

Time	Sensor Type	Sensor Name	value	Unit	State	Min.AL	Min.Cr	Max.Cr	Max.AL
2022-11-15 12:06:17		A-Input1	1		Alarm				
2022-11-15 12:06:17		A-Input1	1		Alarm				
2022-11-15 12:06:01		A-Input1	0		Normal				
2022-11-15 12:05:35		A-Input1	0		Normal				
2022-11-15 12:04:31		A-Input1	1		Alarm				
2022-11-15 12:04:11		A-Input1	1		Alarm				
2022-11-15 11:55:02		A-Input1	0		Normal				
2022-11-15 11:48:38		A-Input1	0		Normal				
2022-11-15 11:48:12		A-Input1	0		Normal				

Showing 1 to 9 of 9 entries

[Previous](#) [1](#) [Next](#)

It is possible to see only alarm status if “Alarm Only” checkbox is selected. Afterwards, you must press “Get Data” button to get said alarms in given time period.

Sensor Archive

Parameters

Start: 08/11/2022 00:00:00 Finish: 16/11/2022 00:00:00 Sensor: All Alarms Alarm Only **Get Data**

All Alarms: 08/11/2022 00:00:00 - 16/11/2022 00:00:00

Show 10 entries

Time	Sensor Type	Sensor Name	value	Unit	State	Min.AL	Min.Cr.	Max.Cr.	Max.AL
2022-11-15 12:08:20	Temperature	Temperature2		°C	N.A.	10.0	15.0	28.0	33.0
2022-11-15 12:08:13	Temperature	Temperature1		°C	N.A.	10.0	15.0	28.0	33.0
2022-11-15 12:06:17		A-Inout1	1		Alarm				
2022-11-15 12:04:11		A-Inout1	1		Alarm				
2022-11-15 11:56:54	Temperature	Temperature1		°C	N.A.	10.0	15.0	28.0	33.0
2022-11-15 11:50:41	Temperature	Temperature1		°C	N.A.	10.0	15.0	28.0	33.0
2022-11-15 11:27:25	Temperature	Temperature1		°C	N.A.	10.0	15.0	28.0	33.0

Showing 1 to 7 of 7 entries

Previous 1 Next

Note: Listed min-max values representing actual settings, not archive

7.2.2. Last Alarms

In “Archive” section “Last Alarms” can help you see the last occurred alarms (up to 25 alarms) these alarm notifications can be cleared with “Clear” button on top right, this action will not erase them from “Sensor Archive” memory.

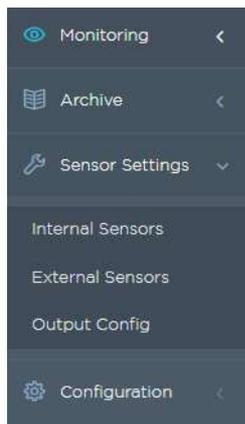
Last Alarms

Clear

Time	Sensor Type	Sensor Name	value	State
15/11/2022 12:08:20	Temperature	Temperature2		N.A.
15/11/2022 12:08:13	Temperature	Temperature1		N.A.
15/11/2022 12:06:17	Input	A-Inout1	Alarm	Alarm
15/11/2022 12:04:11	Input	A-Inout1	Alarm	Alarm
15/11/2022 11:56:54	Temperature	Temperature1		N.A.
15/11/2022 11:50:41	Temperature	Temperature1		N.A.
15/11/2022 11:27:25	Temperature	Temperature1		N.A.
30/12/2020 14:00:37	Temperature	Temperature1		N.A.
23/12/2020 17:31:29	Temperature	Temperature1		N.A.

8. Sensor Settings

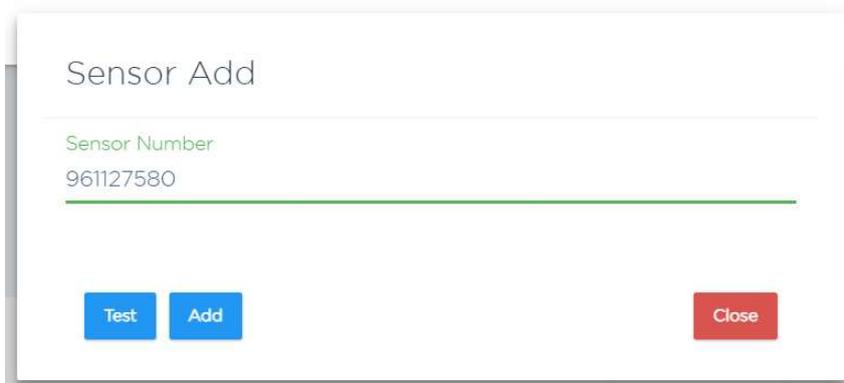
Sensor assignment is the addition of a new sensor to SYSGuard. There are 3 sections in SYSGuard to add a new sensor. These are External, Internal and Output Configuration. In order to add a new sensor to device you must first apply sensor information (mainly ID written on the sensor) in this section.



8.1. External Sensor

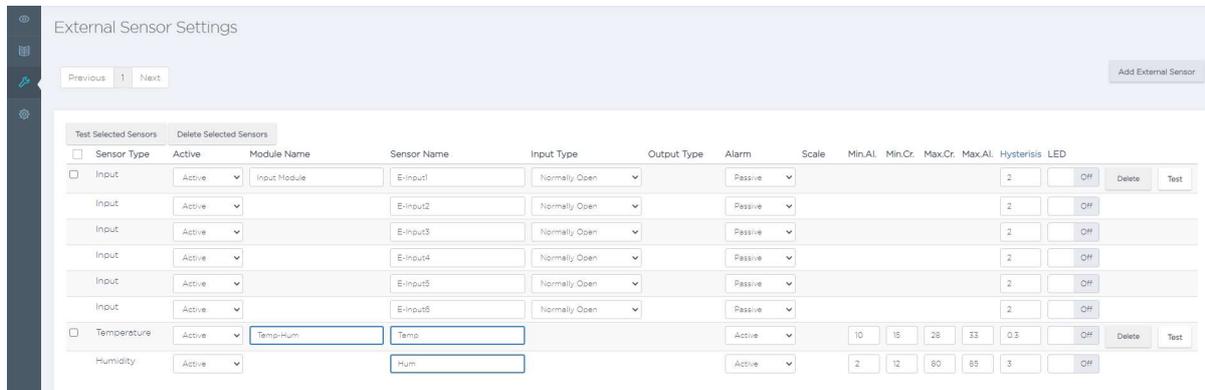
Sensor addition and configuration operations are done in sensor assignment page. Operations such as naming a sensor, defining operational range and assigning hysteresis will be concluded on this page.

In order to add a sensor to the system, ID of the sensor must be written (ID's of sensors can be seen on the front of the sensor) then pressing on "Add" will add the sensor to the system. With "Test" button you can test to see if the entered Sensor ID is correct.



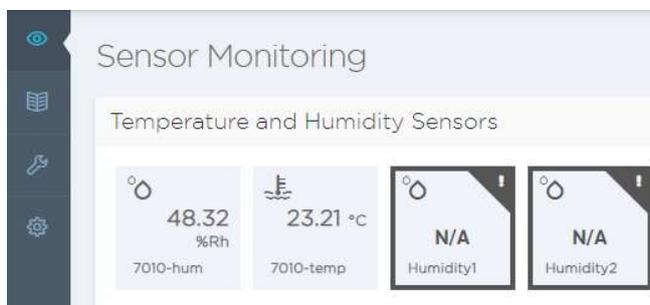
After this, you can see the added sensor on the screen. In order to complete the sensor addition process, you must press the “Submit” button at the bottom left of the screen.

From now on you can monitor your added sensor in “Monitoring” Tab in “Sensor” Section.



In “External Sensors” page you can change sensor settings such as maximum and minimum critical points, maximum-minimum critical alarm points. After each adjusting “Submit” must be pressed in order to confirm setting changes.

Afterwards you can see your sensor in “Monitoring” section.



8.2. Internal Sensor

To add dry contact sensors to the device “Internal Sensor” page must be selected. After that, you must select an Input or Output to add a device. *Important Input 13,14,15 and 16 are switchable I/O terminals.*

Type	Active	Module Name	Sensor Name	Unit	Input Type	Output Type	Alarm	Scale	Min.AL	Min.Cr	Max.Cr	Max.AL	Hysteresis
Input	Active	Internal	Input1		Normally O		Passive						2
Input	Active		Input2		Normally O		Passive						2
Input	Active		Input3		Normally O		Passive						2
Input	Active		Input4		Normally O		Passive						2
Output	Active		Output5			Normally							
Output	Active		Output6			Normally							
Output	Active		Output7			Normally							
Output	Active		Output8			Normally							
Input	Active		Input5		Normally O		Passive						2
Input	Active		Input6		Normally O		Passive						2
Input	Active		Input7		Normally O		Passive						2
Input	Active		Input8		Normally O		Passive						2
Input	Active		Input9		Normally O		Passive						2

For example, in order to add a door sensor to your SYSGuard;

- Firstly, we select an input

- After socketing the cables to the A-Input1 (Analog Input number 1 on device) it is ready to be monitored on “Monitor” screen
- For further configuration of the added dry contact sensor you can change its name or its state from “Internal Sensor” screen
- To specify a sensor you can change the Input type to Door and from monitoring screen you will be seeing this sensor as door from now on.

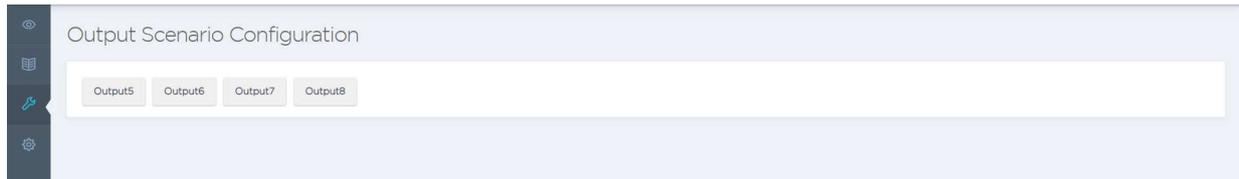
Type	Active	Module Name	Sensor Name	Unit	Input Type	Output Type	Alarm	Scale	Min.AL	Min.Cr	Max.Cr	Max.AL	Hysteresis
Input	Active		A-Input1		Door		Active						2

- If you don't want to show this device on monitoring screen you can change the “Active” status of the device to “Passive” in “Active” section in this menu
- If you don't want to receive any alarms via sms or e-mail you can set the “Alarm” to “Passive” (You can still monitor the occurring alarms in the “Monitoring” section)
- You can adjust the hysteresis (for door sensor example how long sensor will wait before sending an alarm if the door is opened or closed) value for the sensor in “Hysteresis” tab
- Important; All changes made must be saved via “Submit” button on bottom left side of the screen.

8.3. Output Configuration

In “Output Scenario” section we can set up relays on device which has 4 open/close relays.

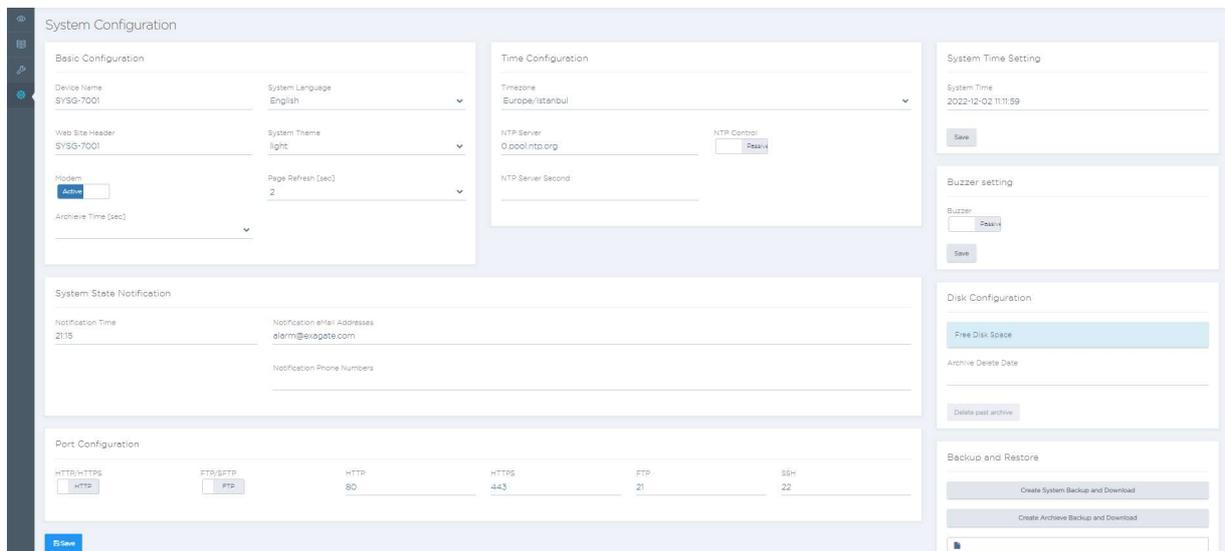
For more information please contact support@exagate.com



9. Settings Configuration

9.1. System Configuration

System Configuration Tab is the main hub where you can make changes in most of your system settings.



These settings are:

Basic Configuration

- Naming and renaming your device
- Setting system language
- Setting website header
- System theme light/dark
- Modem status on/off
- Page refresh period
- Archiving intervals

Time Configuration

- Time zone settings
- NTP Server
- NTP backup server

System Time Setting

- System time that is configured to your OS time

Buzzer Setting

- To set connected buzzer's status

Disk Configuration

- Archive deletion and free disk space monitor

Backup and Restore

- Creating system backup and download
- Creating archive backup and download
- Restoring system from downloaded backup

Port Configuration

- Port forwarding option

Software Update

- Manually installing latest firmware update for system

Packet Update

- Manually installing latest web packet update for system

All changed settings must be saved by using "Save" button located at bottom left corner of the page.

9.2. Network Configuration

Network settings that you access SYSGuard system is configured in Network Settings page under Network Settings Configuration Menu. It is of great importance to enter the data with due diligence. Inaccurate access may cause to make your access to SYSGuard impossible. If you encounter such a problem, please refer to **Reset to default IP settings** page.

Network Configuration

TCP/IP v4

Method
 Static

IP Address
192.168.1.237

Subnet Mask
255.255.255.0

Default Gateway
192.168.1.1

TCP/IP v6

Method
 Static

IP Address
2001:db80:1::2

Subnet Mask
64

Default Gateway
2001:db80:1::1

Submit

Remark: these settings are local area network settings and do not change when you access remotely.

Please enter IP address, subnet mask and gateway, which are allocated for SYSGuard by your network administrator, in this section. After saving the new values, a message stating that you can reach web interface via new IP address pops up and SYSGuard closes your browser window. You can access SYSGuard web interface by new IP address upon opening a new browser window.

9.3. Modem

In order to set up a GSM module for SMS alarms you must insert a SIM card **first** and turn on the modem setting in “System configuration” tab.

System Configuration

Basic Configuration

Device Name SYSG-7001	System Language English
Web Site Header SYSG-7001	System Theme light
Modem <input checked="" type="checkbox"/> Active	Page Refresh [sec] 2
Archive Time [sec]	

After the configuration is saved by “Save” button, the installation will be completed.

If you have successfully connected the module GSM status will turn into “OK” in Modem Configuration.

Modem Configuration

Modem ○○○○

GSM Status: Modem disconnected.

LTE <input checked="" type="checkbox"/> Active	Connection Setting off
APN internet	

In case there is an error, this error will be shown as:

- “PIN error” which can be resolved by using correct pin code

- “Sim Card error” can be resolved by checking the status of sim card whether it is connected properly
- “PUK error” can be resolved by using correct puk code
- “Operator disconnected” can be resolved by checking the operator status

In connection settings, you can choose which internet connection method you want to use.

Note: you can use this with either 2G, 4G or without any connection method, this will result in whether you can use SMS and Voice call options.

- Primary, 4G modem connection takes priority and ethernet connection is activated

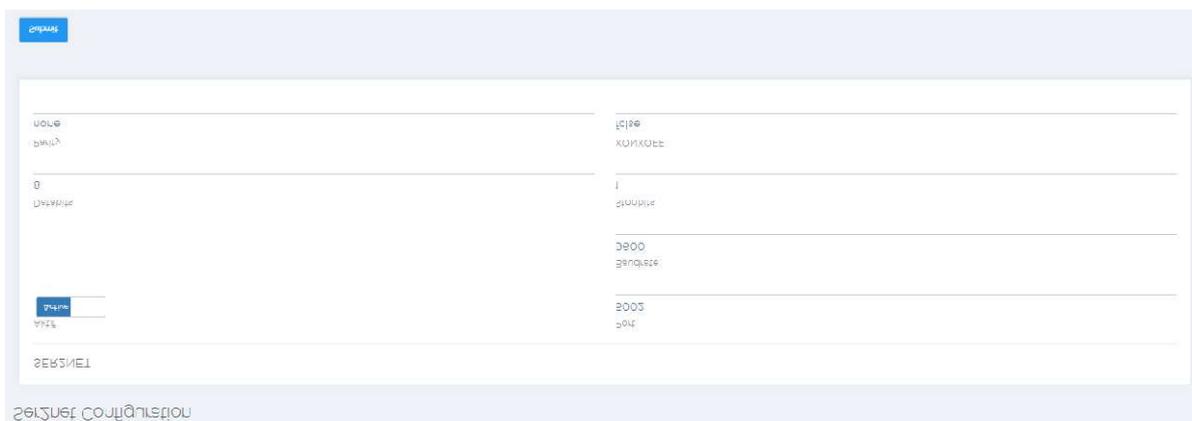
If there are no 4G connection is available.

- Backup, if there are no ethernet connection is available the device will try to connect via 4G modem

Lastly, APN setting is set to be “internet” by default. In case you have a contract with a GSM operator this field will take operator’s name.

9.4. Serial-to-Ethernet

In “Serial-to-Ethernet” tab, you can configure modbus devices that are connected via the RS485 ports at the rear section of the device. In this menu you can setup your modbus devices with the given specifications you have set via the web interface. Then you can connect via its IP and given port (default is 5002)



9.5. Users

In SYSGuard 7001 system, user configuration is done in this tab. Here you can add or remove and set privileges for configured users according to their authorization level.

3 authorization levels can be assigned to users each with different rights, namely *monitoring only*, *monitoring and management* and *administrator*.

9.5.1. Only Monitoring:

This is the lowest level of user authorizations. In this level, users can only monitor instant values of the sensors and modules or archive values. Users do not have authorization to intervene any output (for instance turning on/off the air conditioner). They cannot configure the system.

9.5.2. Monitoring and Management:

This type of user can carry out all operations that users with “Only Monitoring” authorization can do. Besides they have the output intervention authorization. They cannot configure the system.

9.5.3. Administrator:

Users with this authorization level can carry out all operations that users having “Monitoring and Management” authorization can do. Also, they can configure the system. It is recommended for this kind of users to connect the system just for making system configuration. It is not recommended that users, who use the system on a constant and daily basis, have this authorization level.

9.6. Email

“Email” section is used for configuring alarm mails and user notification options.

- DNS settings
- Email server setting
- Port

These sections will be filled by your email server settings and after that,

- Periodic email[min] (1 by default)
- Timeout (15 by default)

Values are to be put. After that you can configure email address you want to use as Sender in case of an alarm occurring.

- Sender address and User has to be put identical for email account you want to use as sender
- Header can be changed as the alarm name you want to put as

Email Configuration

Email

DNS

Sender Address
alarm@exagate.com

Server

Periodic Email (min)

User
alarm@exagate.com

Port

Timeout

Password

Validation
Active

TLS
Active

Header
Exagate Alarm

Save

E-mail Logs Send Test E-mail

Once this setup is completed use “Save” button on bottom left to save changes.

In order to make a recipient you must first add a user by using “Users” section on top right.

Users

Email

test1@exagate.com

Add

test1@exagate.com

Sensors Delete

Here you can assign sensors and alarms for specified users for notifications.

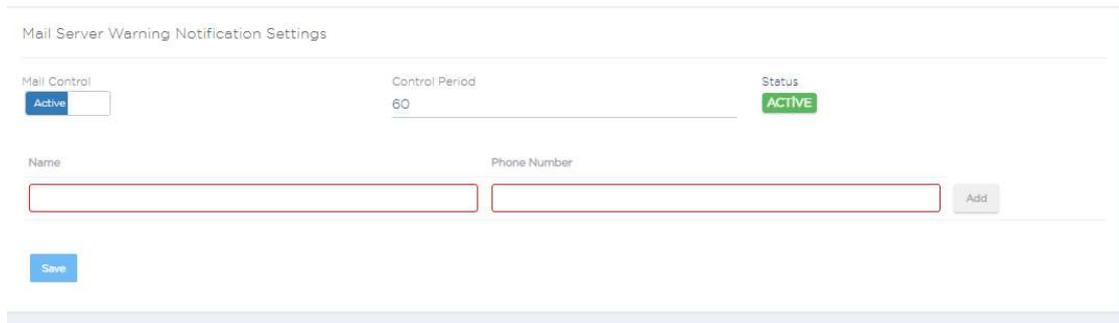
test1@exagate.com

Sensor Type	Sensor Name	Alarm		Critical		N.A.		Periodic Alarm	
		All	OFF	All	OFF	All	OFF	All	OFF
Input	A-Input1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Humidity	Humidity1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Humidity	7010-hum	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Temperature	Temperature1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Temperature	Temperature2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temperature	7010-temp	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Input	E-Input1	<input type="checkbox"/>	<input type="checkbox"/>						

OK Cancel

In case there is an error with email server, “Mail Server Warning Notification Settings”

option can be set up to check up on whether mails are sent or received correctly

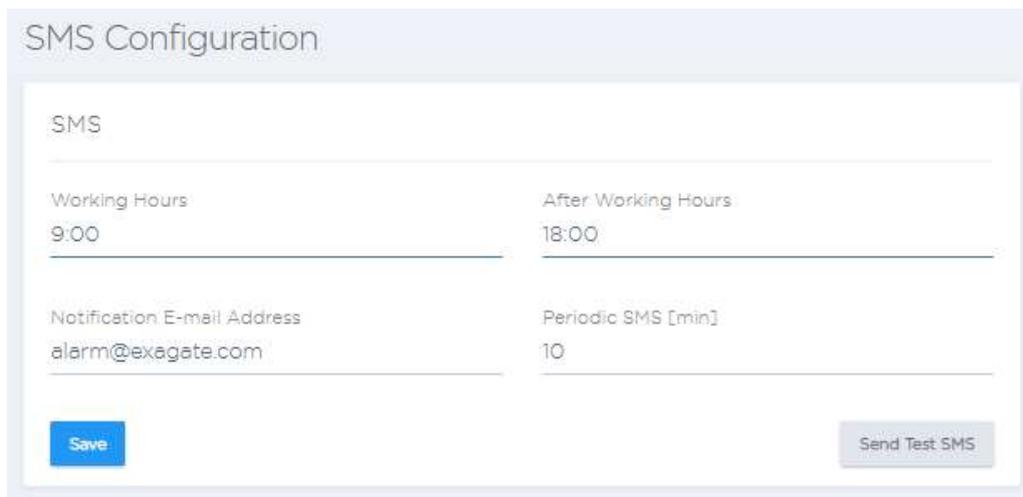


The image shows a web interface for "Mail Server Warning Notification Settings". It includes a "Mail Control" dropdown menu set to "Active", a "Control Period" input field with the value "60", and a "Status" indicator showing "ACTIVE" in green. Below these are two input fields for "Name" and "Phone Number", with an "Add" button to the right of the "Phone Number" field. A "Save" button is located at the bottom left of the form.

You can turn this setting on or off by checking "Mail Control" to active or passive. Also, mail control period can be set up (60 seconds by default).

9.7. SMS

In "SMS" tab you can configure SMS notification settings and users.



The image shows a web interface for "SMS Configuration". It features several input fields: "Working Hours" set to "9:00", "After Working Hours" set to "18:00", "Notification E-mail Address" set to "alarm@exagate.com", and "Periodic SMS [min]" set to "10". There is a "Save" button at the bottom left and a "Send Test SMS" button at the bottom right.

On the first section you can set up your alarm hours and its period. Notification address set up can be configured in "Email" tab.

In "Users" section, you can set up users to receiver alarms via SMS and select Sensors accordingly.

Here you can also configure when to receive alarms by setting up with “Working hours” and “After Working Hours” as well as add a voice call to said alarms.

Inside sensor options you can configure so that what type of alarms to be received as SMS message. All of the configured options has to be “Saved” in order to take effect after every change.

9.8. Siren

In the “Siren” configuration menu you can set up your connected sirens/buzzers and configure alarm settings.

To set up a sensor, you must set your “Internal Sensor” setting to have an output type of either “Normally Open Siren” or “Normally Closed Siren”.

Once your siren type is selected in the siren config screen you will see the following:

Name	Action
Buzzer	<input type="button" value="Sensors"/>
Output5	<input type="button" value="Sensors"/>

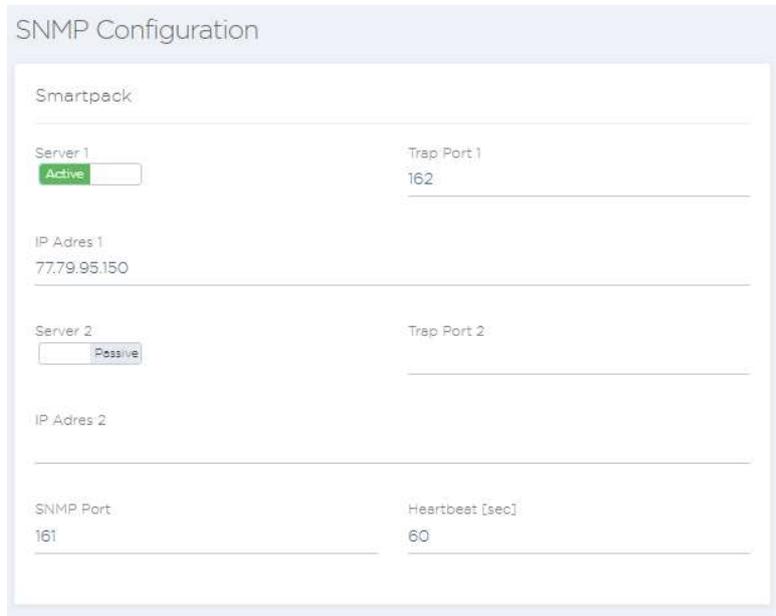
Via this menu you select the sensors which are connected to the sirens/buzzers and set alarm thresholds.

Sensor Name	Alarm	Critical	N.A.
	<input checked="" type="checkbox"/> ON <input type="checkbox"/> All	<input checked="" type="checkbox"/> ON <input type="checkbox"/> All	<input type="checkbox"/> All <input type="checkbox"/> OFF
A-Input1	<input checked="" type="checkbox"/> ON <input type="checkbox"/>		
Humidity1	<input checked="" type="checkbox"/> ON <input type="checkbox"/>	<input type="checkbox"/> OFF <input type="checkbox"/>	
7010-hum	<input type="checkbox"/> OFF <input type="checkbox"/>	<input type="checkbox"/> OFF <input type="checkbox"/>	
Temperature1	<input checked="" type="checkbox"/> ON <input type="checkbox"/>	<input checked="" type="checkbox"/> ON <input type="checkbox"/>	<input type="checkbox"/> OFF <input type="checkbox"/>
7010-temp	<input checked="" type="checkbox"/> ON <input type="checkbox"/>	<input checked="" type="checkbox"/> ON <input type="checkbox"/>	<input type="checkbox"/> OFF <input type="checkbox"/>

Once the alarms are set for the selected output pressing "OK" will save the selected configuration.

9.9. SNMP

In the “SNMP” tab you can configure your data collecting server options



SNMP Configuration

Smartpack

Server 1 Active

Trap Port 1
162

IP Adres 1
77.79.95.150

Server 2 Passive

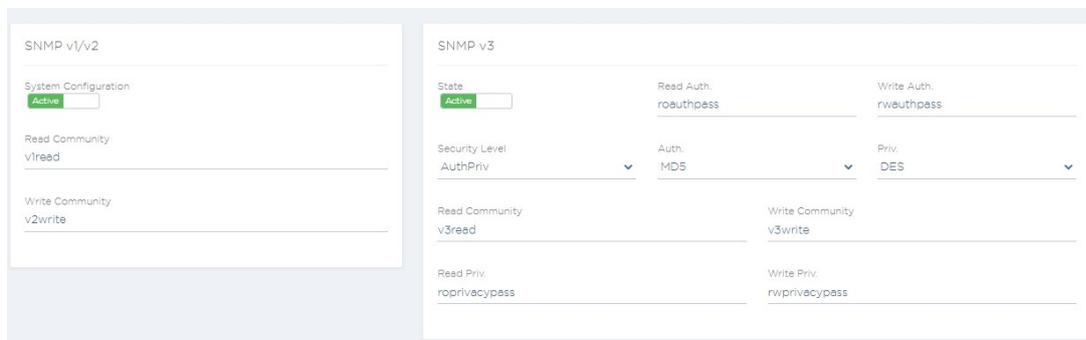
Trap Port 2

IP Adres 2

SNMP Port
161

Heartbeat [sec]
60

Figure above shows how to set up SNMP configurations in regard to SNMP data collecting software being used for your devices. “IP address” section filled for trap receiving server. You can also set up multiple so that information gathered by SYSGuard to send to these SNMP data collecting software.



SNMP v1/v2

System Configuration Active

Read Community
v1read

Write Community
v2write

SNMP v3

State Active

Read Auth
roauthpass

Write Auth
rwauthpass

Security Level
AuthPriv

Auth
MD5

Priv
DES

Read Community
v3read

Write Community
v3write

Read Priv.
roprivacypass

Write Priv.
rwprivacypass

You can also enable or disable SNMP v1/v2 or SNMP v3 in this section.

10. Summary

10.1. Alarm Generation

SYSGuard generates alarm under following conditions:

- When any sensor or module disconnects from the main unit.
- When values received from sensors such as temperature, humidity, voltage, current, frequency, UPS etc are not within the normal operational range.
- When flood, smoke, vibration etc. detects any alarm.
- When devices connected to the dry contact sensor go to the alarm mode.

10.1.1. Connection Problem Alarm

When any sensor module disconnects from the main unit, connection problem alarm is generated. After sensor is checked by device three times and can't get any response from the device then the alarm is generated for connection problem. Connection problem alarm is not affected whether the sensor or module configuration is in "Alarm Active/Alarm Passive" option, it is generated in any case.

Automatic operations that are carried out by SYSGuard when this alarm is generated is listed below:

- Informing by e-mail depending on the configuration
- Informing by SMS depending on the configuration
- Informing by voice call depending on the configuration (4G only)
- Recording the alarm case in the archive

10.1.2. Maximum / Minimum Alarm

Alarm is generated when values measured by humidity, temperature, voltage, frequency, UPS sensors are not within the operational range determined by the user. Maximum / Minimum alarm is only generated on condition that related sensor or module is configured with "Alarm Active" option. In this type of control systems, it is of great importance to use hysteresis value in order to avoid constant alarm during value increases/decreases. SYSGuard enables the user to assign this hysteresis value. In many cases, hysteresis value assigned by SYSGuard is adequate for an effective use. You can change the hysteresis value according to your environment conditions.

Conditions required to generate maximum alarm is as follows:

Measured value > Defined Maximum Value + Hysteresis

Condition required to eliminate alarm when maximum alarm is generated, is as follows: Measured value < Defined Maximum Value - Hysteresis

Conditions required to generate minimum alarm is as follows:

Measured value > Defined Maximum Value - Hysteresis

Condition required to eliminate alarm when maximum alarm is generated, is as follows: Measured value < Defined Maximum Value + Hysteresis

Automatic operations that are carried out by SYSGuard when maximum or minimum alarm is generated is listed below:

- Informing by e-mail depending on the configuration
- Informing by SMS depending on the configuration
- Informing by voice call depending on the configuration
- Recording the alarm case in the archive
- Turning on/off the device connected to a specific output according to the configuration (for instance turning on the back up AC when temperature alarm is generated)

10.1.3. Flood Alarm

This alarm is generated in max. 5 seconds when any water sensor detects water.

In order to generate this alarm, water sensor should be configured as “Alarm Active” . Operations that are carried out by SYSGuard when flood alarm is generated are explained below:

- Informing by e-mail depending on the configuration
- Informing by SMS depending on the configuration
- Informing by voice call depending on the configuration
- Recording the alarm case in the archive

10.1.4. Alarms Received from Devices connected with Dry Contact Sensors

All kinds of environment monitoring device that can give on or off contact may be connected to dry contact sensor (for instance smoke sensor, magnetic key, PIR sensor etc.) During configuration it is selected whether the device gives on contact or off contact. In case any device connected to the dry contact sensor changes its settings (for instance dry contact sensor reads “off” value although “on” value is set during configuration) this alarm is generated. Transition to alarming phase varies as per the hysteresis selected by the user. After the hysteresis period, alarm is generated accordingly. For instance, the magnetic key of the IT room is connected to the dry contact sensor. Consider the each opening of the door is an alarm but request to generate an alarm when the door is open for 2 minutes. If 120 seconds is written in the hysteresis space of the related dry contact module, alarm is generated on condition that the door is opened for 120 seconds. In order to generate an alarm by dry contact sensor "Alarm active" option should be selected during configuration.

Operations that are carried out by SYSGuard when any device connected to dry contact sensor generates an alarm is listed below:

- Informing by e-mail depending on the configuration
- Informing by SMS depending on the configuration
- Informing by voice call depending on the configuration
- Recording the alarm case in the archive
- Turning on/off the device connected to a specific output according to the configuration (for instance turning on the light when the door of any room is opened)

10.2. Management

External devices connected to SYSGuard can be remotely turned on/off in manual or automatic manner. It is recommended to connect the contactors having the capacity to pass high level of current to the relay output module and control external devices via these contactors.

During configuration it is selected whether the activated mode of the relay output is on contact or off contact. Upon your connection, you should choose the appropriate configuration setting. For more information, please contact support@exagate.com

10.2.1. Manual Management

It is done via management page in WebPack User Interface. Users with required authorizations can turn on/off the devices they want. It is archived each operation concluded by each user.

10.2.2. Automatic Management

SYSGuard may change the status of specific outputs in specific alarming cases. This operation solely depends on configuration. In case of alarms,

- It may be ensured that any external device may start to operate,
- It may be ensured that any external device may be turned off.

In alarm cases, external device may maintain its status as per the configuration or reset to pre-alarm status.

Output configuration can be carried out in 4 different ways:

Turn on: When alarm is generated device connected to the output port turns on and when alarm is eliminated device continues to be on.

Automatic Turn On: When alarm is generated device connected to the output port turns on and when alarm is eliminated device resets to off mode.

Turn off: When alarm is generated device connected to the output port turns off and when alarm is eliminated device continues to be off.

Automatic Turn off: When alarm is generated device connected to the output port turns off and when alarm is eliminated device resets to on mode.

All these configurations can be made separately in each maximum alarm, minimum alarm as well as any alarm generated by the water or dry contact sensor.

11. Troubleshooting

In this section you can find any possible problems that SYSGuard users may encounter and their solution methods.

11.1. Connection Problems

Check power and ready leds on the device. If no led is lighting on the device, check your feeding unit. If Power led is lighting but ready led is not lighting within a couple of minutes after the device is turned on, please contact with your authorized technical service.

If you could not access the device via web interface, you should check your network with the device.

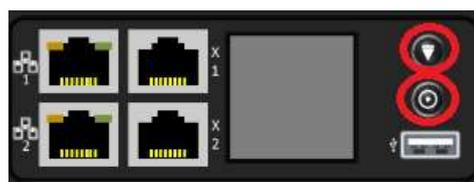
If you write Start \square Run \square cmd and press enter button, you will be transferred to the command line. In command line write ping sysguard_ip_number, check the network connection with your device. If you do not get any response;

- There may be a problem in SYSGuard IP configuration, setting that you have entered may be appropriate for your internal network. Check your network configuration by connecting to the SYSGuard via network cable.
- There may be a physical problem in SYSGuard network connection. Check whether the network cable of SYSGuard is correctly connected to your network or not.

If you could not access the web interface although you could ping the device, turn off the device and restart, if the problem sustains, please contact with your authorized technical service.

11.2. How to Reset the IP Address of the Device to Default

In order to reset IP address to default value, during startup after hearing buzzer (approx. 5 second) sound two buttons on top of the module has to be pressed simultaneously. After this LCD screen will start displaying maintenance mode message which will require a password to configure.



After entering the password IP reset option will appear on screen. Then pressing the button 4 times in a row will reset the IP to its default value.

This process would not cause to lose your sensor configurations, only IP address and user assignments are deleted.

11.3. If Sensors Are Not Generating Alarms

Confirm that “Alarm Active” option is selected for the sensor in Configuration page.

Alarm generation precondition for sensors measuring numerical figures such as humidity, temperature, voltage current frequency, ups is maximum value + hysteresis or minimum value – hysteresis. You could get more information in **operating theory alarm generation** section.

Dry contact sensors only go into alarm mode after the specified period in hysteresis. Check the period entered in hysteresis.

11.4. Dry contact sensor constantly generates alarm

On sensor configuration page control the input type settings for dry contact module.

Accurately set either normally turn on or off.

11.5. W-Detect sensor constantly generates alarm

Check your water sensor installation. It is required that active surface of the water sensor cable should not directly contact with any conductor.

11.6. Alarm is generated but I did not receive an e-mail

SYSGuard is a system that can be configured to define which alarm message is sent to which user individually. Check whether the option to send an e-mail to a specific user is selected or not. Control if the e-mail account settings are correct.

11.7. Alarm is generated but I did not receive sms

SYSGuard is a system that can be configured to define which alarm SMS is sent to which user individually. Check whether the option to send an SMS to a specific user is selected or not.

Connection cable of SYSGuard and control if there is any valid SIM card is inserted. PIN code may be deactivated on SIM card or message center number is not entered accurately.

11.8. Temperature sensor measures the environment higher/cooler than it is

Temperature sensor may be assembled in an inappropriate location. For example, when it is assembled next to the device generating heat, it measures the environment more than it actually is. In this setup, your humidity/temperature sensor may give different values than actual room values due to heat or cool air generating devices affect sensor's measuring process.

11.9. Some sensors often generate disconnection alarm

Check the sensor cable connected to your sensor and renew it when necessary.

LIMITED PRODUCT WARRANTY

All Exagate products are covered with 2 years limited guarantee from the date of original purchase. (Warranty duration may change depending on your country) Your sales or delivery receipt, showing the date of purchase of product is your proof of purchase. ExaGate is obliged to repair or replace the defective hardware (or any part of it's) with nocharge to owner.

Conditions Void of Warranty

- Damages on unit, cable or screen.
- Defections due to electrical wiring and/or city network.
- Interference to unit by non-authorized staff.
- Any problems caused by act of nature.