

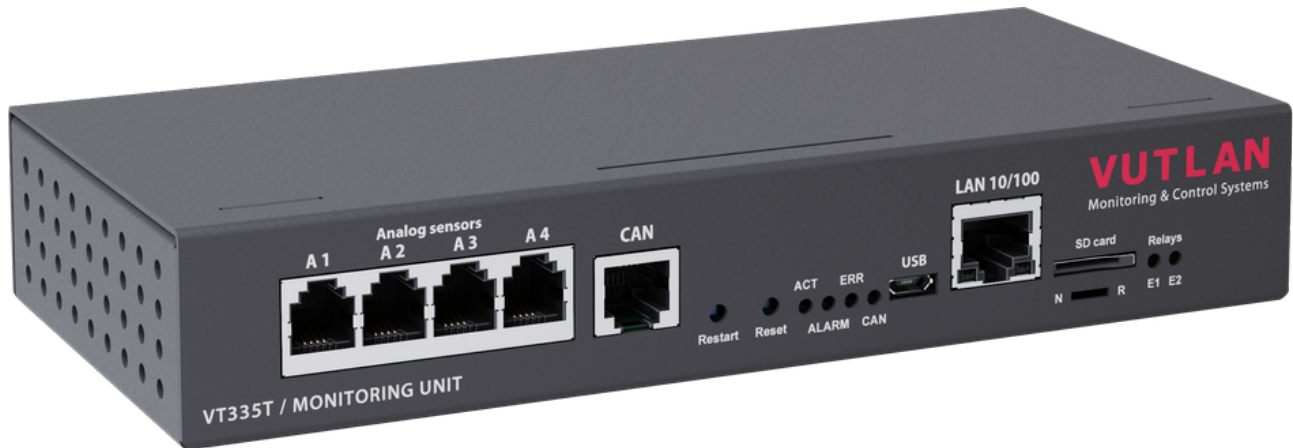
# VT335t / Monitoring unit

Documentation page: <https://vutlan.atlassian.net/l/cp/Z5ujzQHc>

Product page: <https://vutlan.com/remote-monitoring-units/178-vt335t-monitoring-unit.html>

Brochure: [PDF VT335t Room monitoring unit brochure.pdf](#)

Other names: Rack monitoring and control unit, Monitoring and control unit, Mini monitoring and control unit, I/O module,



## Function and purpose

The unit is used for environmental monitoring (e.g. temperature, humidity, voltage, leakage, smoke, airflow). It is also used as an I/O controller (e.g. door control, fans, generator, control panels, UPS, circuit breakers, and alarms). Can use up to 1000 different elements - notifications, triggers, timers, logic schemes, sensors, and dry contacts. Has a built-in Web interface with virtual sensors, logic schemes, different types of notifications, and control panels. Has a slot for an LTE modem for an ethernet connection reservation.

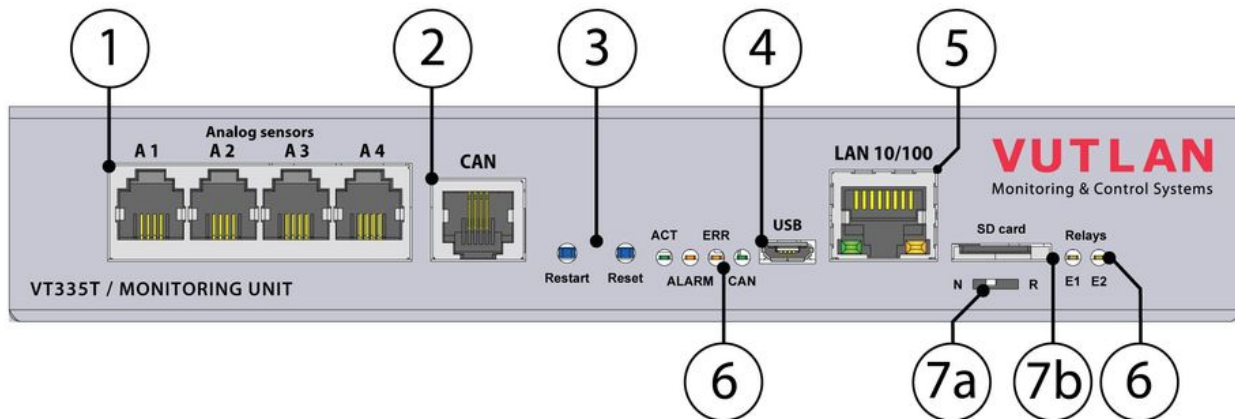
**i** VT335t is a new model and it replaces VT335i. New features include:

- faster processor
- memory doubled

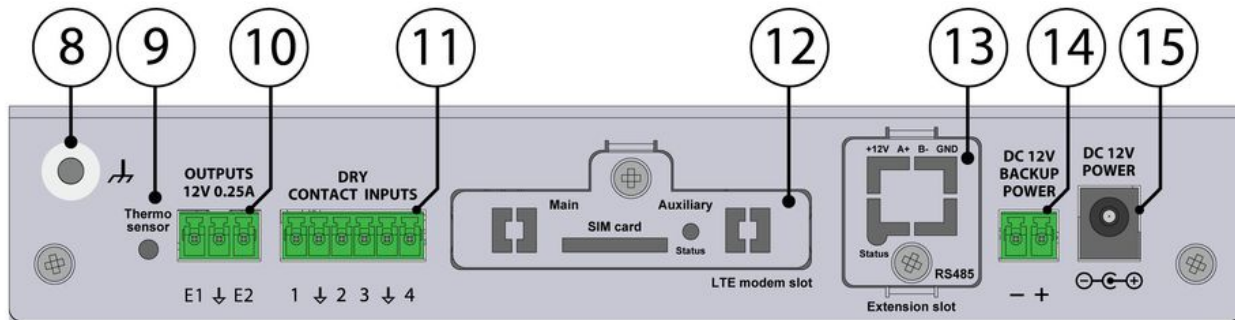
- ability to handle more elements (+300)
- VT740 slot modem (added fixation)
- Modbus RTU extension
- OSDP v2 reader extension

## Physical Description

Front panel:



Back panel:



1. "Analog sensors: A1..A4" - x4 RJ12 6P4C analog sensor inputs with auto-sensing. Read instructions at "[Analog sensors connection](#)", and "[Sensor configuration](#)".

2. "CAN" - digital connector RJ12 6P4C for the connection of CAN sensors/extensions/devices on a CAN bus. Modules can be chained together. Read the instructions in "[CAN devices connection](#)", and "[Setting up CAN](#)".

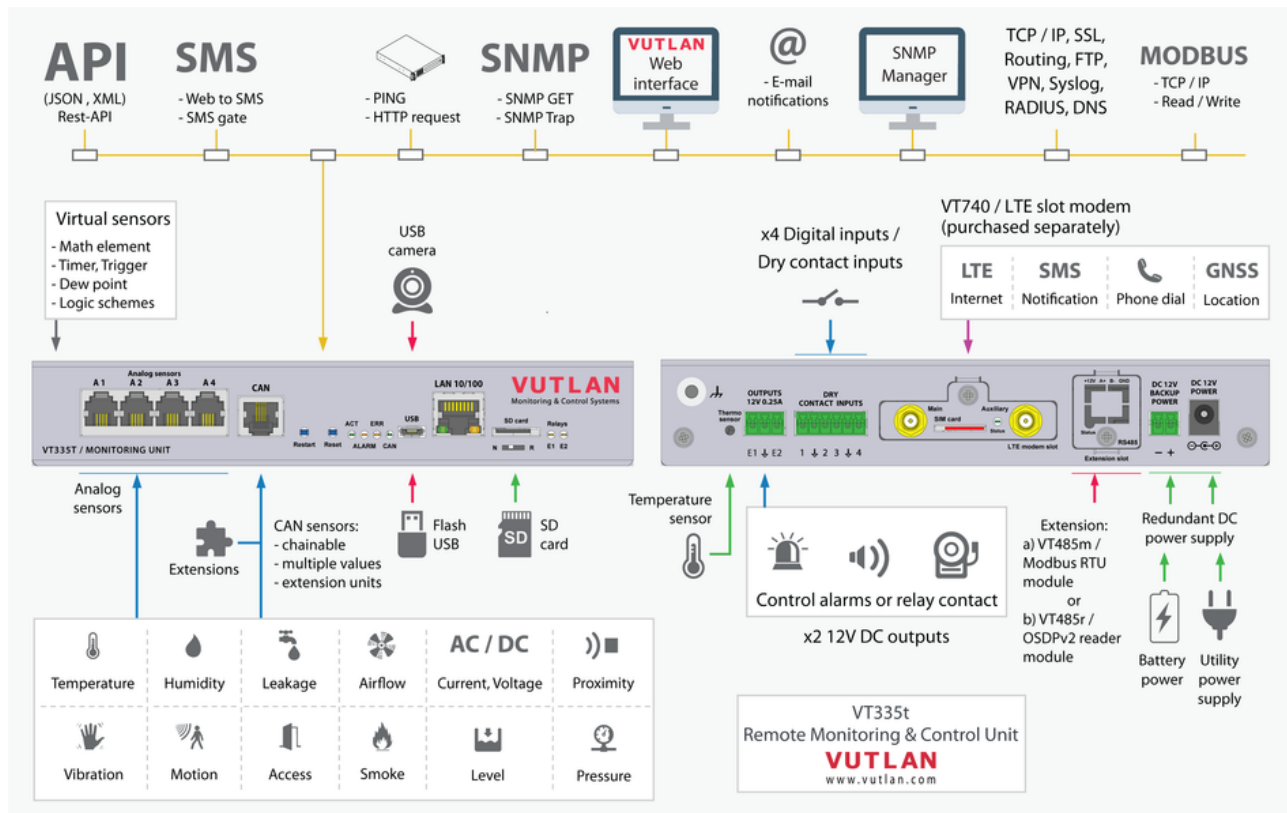
- "LED: CAN" - green LED indicates CAN bus status.
- The LED blinks slowly - nothing is connected
- The LED blinks fast - configuration is in process
- The LED glows constantly - connected to CAN devices

3a. "Restart" - the button restarts the appliance. Hold the button for 2 seconds and then let go, and the system will restart.

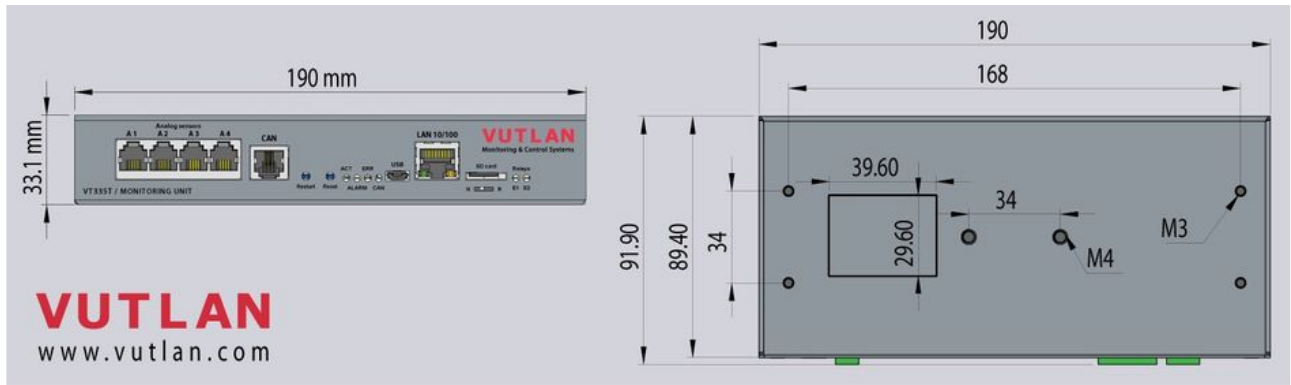
3b. "Reset settings" - reset settings to default factory settings. Keep pressing the button for more than 5 seconds. The "ERR" LED will start blinking. This indicates that the factory restoration has started. Wait for 20-60 seconds for the system to restart. The "ACT" LED will start blinking once the system has been restarted. The device can be accessed now.

4. **"USB"** - micro USB-port 2.0 is needed for USB camera recording, USB Flash for system logs, and system restoration. Read instructions at ["Connecting USB camera"](#), ["USB camera settings. How to save a video"](#), ["Saving system logs on USB flash drive"](#), and ["USB upgrade or restore of default settings"](#).
5. **"LAN port"** - Ethernet 10/100 Base-T port, provides an Ethernet connection. Read more in this section ["LAN, GSM, LTE, RADIUS, DNS, SSL, VPN"](#).
  - **"Orange LED"** - orange LED for Ethernet port. It shows network traffic.
  - **"Green LED"** - green LED for Ethernet port. It shows network traffic. Flashes green when the system starts up. Shows the connection state (constant green light - the connection is established, blinking green - the connection attempt).
- 6a. **"LED: ACT"** - green LED indicates appliance system status,
  - - operating mode of the device: switches at a frequency of 2 times per second;
  - - successful completion of the software update process: switches at a frequency of 4 times per second;
- 6b. **"LED: ALARM"** - The LED can be programmed from the interface for alarm indication.
- 6c. **"LED: ERR"** - red LED indicates error and traffic.
  - the operating mode of the device: If everything is normal, the LED is extinguished, if not - there's a constant glow;
  - software update mode: switches at a rate of 2 times per second;
- 6d. **"LED: CAN"** - green LED indicates CAN bus status.
- 6e. **"LEDs: E1, E2"** - status indicators for two 12V 0.25A outputs on the front panel.
- 7a. **"Dip switch"**
  - Normal mode: The switch is switched to the left ← . The switch should be always in this position.
  - Restore of appliance: The switch is switched to the right → . Used to load the clean system image from an SD card. Read instructions at ["Restore of appliance \(for VT335i, VT825i, VT855i, VT960i & VT960ii series and VT855t series\)"](#)
- 7b. **"SD card"** - MicroSD card slot with an ejector. The card is needed for data storage or the "system restore". Read instructions at ["Saving system logs to SD card"](#), and ["Restore of the appliance \(for VT960 series\)"](#)
8. **"Chassis grounding"** - Chassis grounding, M4 thread. Enhances the immunity of the equipment against conducted and radiated RF disturbances. Please contact a professional electrician before connecting it.
9. **"TEMPERATURE SENSOR"** - accuracy +/- 1 °C.
10. **"OUTPUTS 12V 0.25A"** - 12V 0.25A (for each output) terminals outputs (electronic relay). Pitch 3.81mm, 3P. Read instructions at ["Connecting 12V devices to 12V outputs"](#).
  - **"LEDs: E1, E2"** - status indicators for two 12V 0.25A outputs on the front panel.
  - The LED is ON (orange) - the output is ON (the initial state can be configured).
  - The LED is OFF (orange) - the output is OFF ((the initial state can be configured).
11. **"DRY CONTACT INPUTS 1...4"** - Digital inputs (Type IN). Pitch 3.5mm, 6P. Read the instructions at ["Connecting dry contacts"](#), and ["Dry contacts settings"](#).
12. **"Modem slot"** - ["VT740 / LTE slot modem"](#) can be installed in this slot. *This modem is ordered separately. Read instructions at ["VT740 / LTE slot modem"](#), and ["LAN, GSM, LTE, RADIUS, DNS, SSL, VPN"](#).*
13. "Extension slot" - Only one of the two extensions can be installed ["VT485m / Modbus RTU extension"](#) or ["VT485r / OSDP v2 reader extension"](#).
14. **"DC 12V BACKUP POWER"** - 12V DC 2A alternative power input. Pitch 3.81mm, 2P.
15. **"DC 12V POWER"**- 12V DC 2A main power input.

# Connection overview diagram

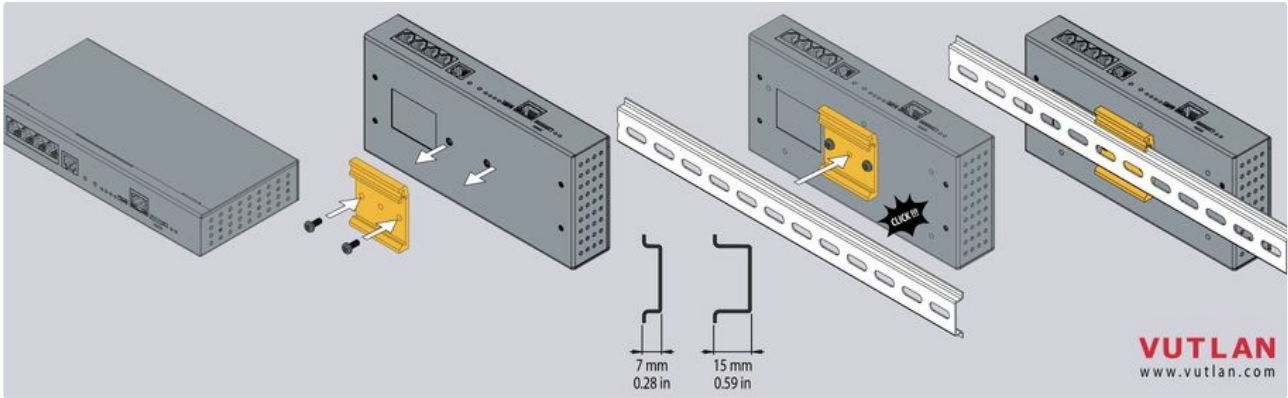


### Drawing dimensions



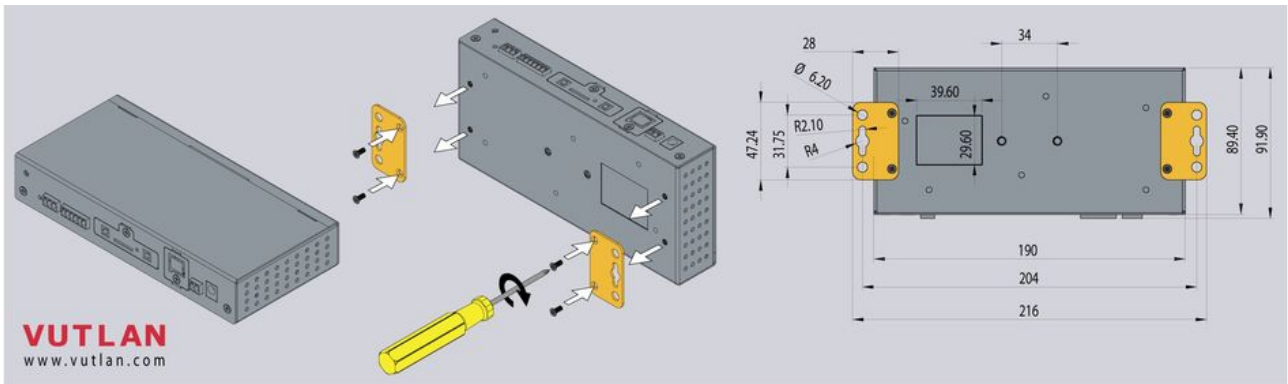
### DIN rail installation

“VT124 / DIN rail holder” (also named **DRP-03**) for mounting on DIN rail. VT124 is ordered separately. The package includes a holder and screws.



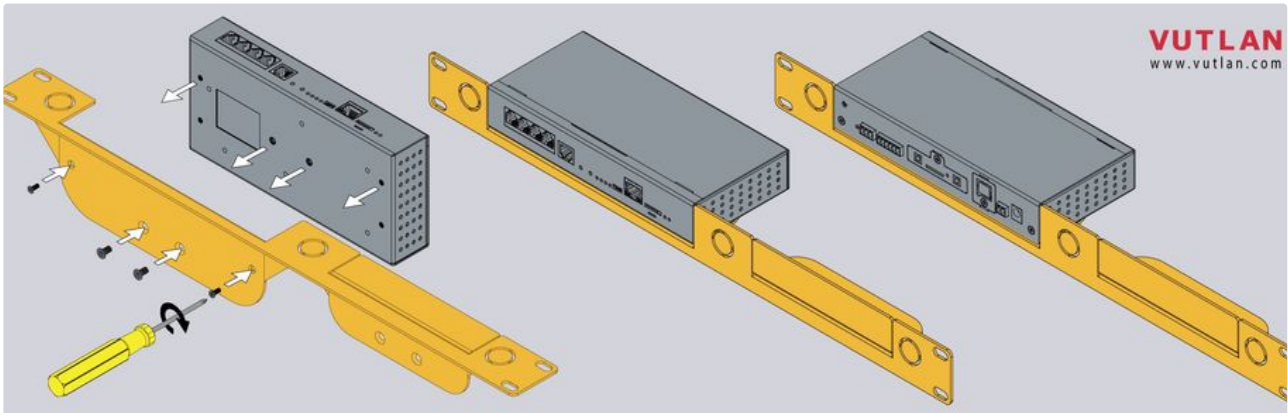
## Wall installation

“VT123 / Wall mounting brackets” for mounting onto the wall. The package includes 2 brackets and screws.



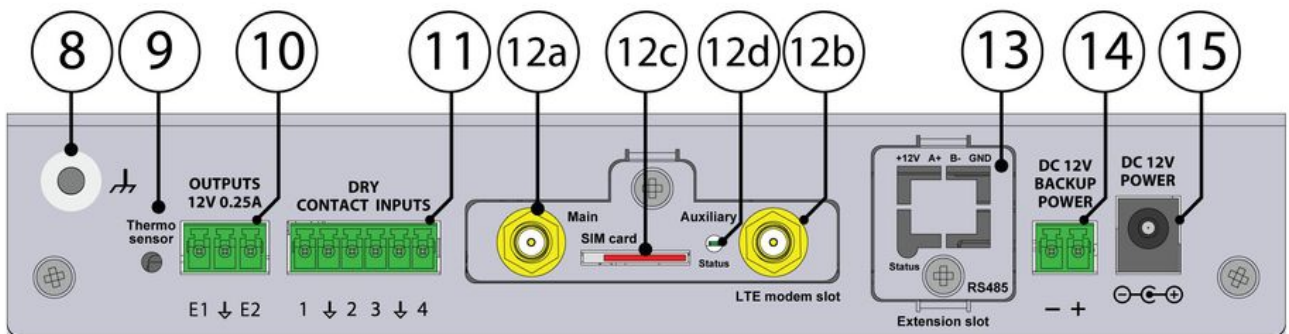
## 19" 1U installation in a rack-cabinet

“VT122t / 19" holder” for mounting onto a 19" 1U rackmount.





### Installing LTE slot modem



A modem (point 12 at picture above) can be installed (purchased separately) inside the system.

Product page: <https://vutlan.com/modems/165-vt740-lte-slot-modem.html>

Datasheet page: <https://vutlan.atlassian.net/wiki/spaces/DEN/pages/2735931393/VT740+LTE+slot+modem>



## Usage

Allows to receive and send SMS messages (2G, 3G). Provides Ethernet over LTE (4G). Can be installed in [VT335t](#), [VT336t](#), [VT825t](#), [VT855t](#), and [VT960t](#) monitoring systems. Power cycling is an embedded function.

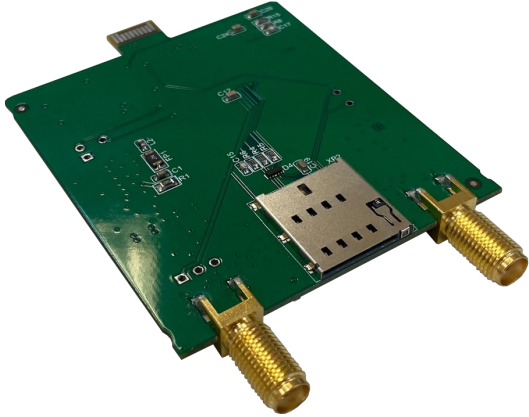
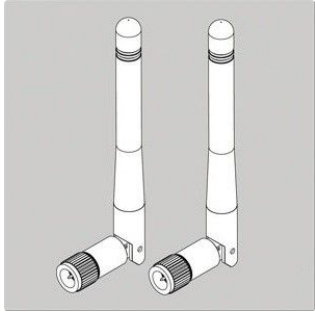

**i** The same PCB of VT740 is used for **i** and **t** series (e.g. VT335i and VT335t). But The metal enclosures use a different metal panel for holding the modem. **t** series have an additional screw to hold the panel. Thus the installation is slightly different. But in all other regards, it is the same.

## Package content

Make sure that the contents of the delivery meet the following configuration.

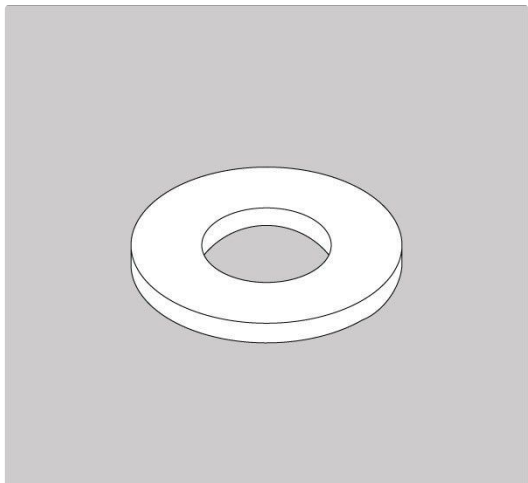
Report a missing or damaged component to your supplier.

If damage occurred during transportation, contact the appropriate delivery service.

	Package content	Description
1		x1 LTE modem PCB board
2		x2 LTE antennas
3		x2 pieces

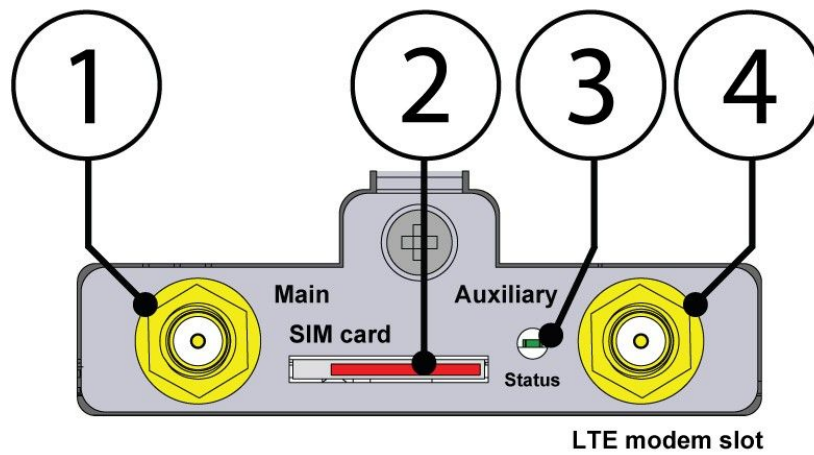


4



x2 pieces

## Panel



1. **"Main antenna"** - Connector, used when the modem is installed inside of the appliance to connect the LTE main antenna. ( The main antenna is supplied together with the modem).
2. **"SIM card"** - SIM card slot with an injector.
3. **"Status"** - displays modem status. Blinking = working.
4. **"Auxiliary"** - Connector, used when the modem is installed inside of the appliance to connect LTE auxiliary antenna. The additional antenna helps to strengthen the signal level. ( Auxiliary LTE antenna is supplied together with the modem).

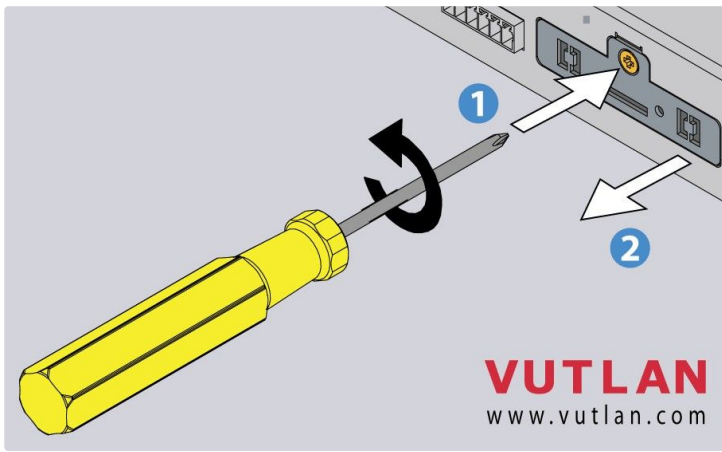
## Technical specifications

Specifications
GSM/GPRS/EDGE 900/1800 MHz
Control Via AT Commands
GNSS gpsOne Gen 8B;standalone;assisted,XTRA
Uplink up to 5Mbps, Downlink up to 10Mbps
ROHS, REACH, CE

## Installation

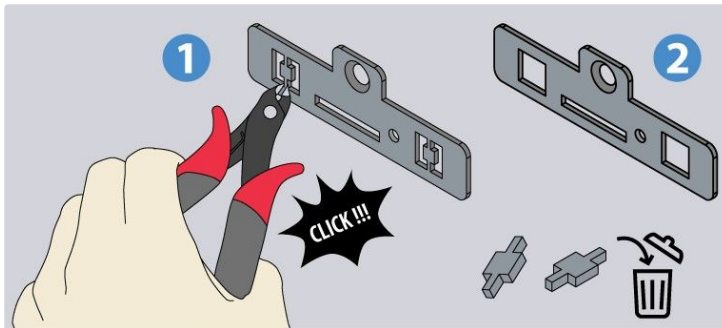
You can install the modem while the system is turned On. You may wait up to 3 minutes until the Telecom operator information is renewed.

Step 1



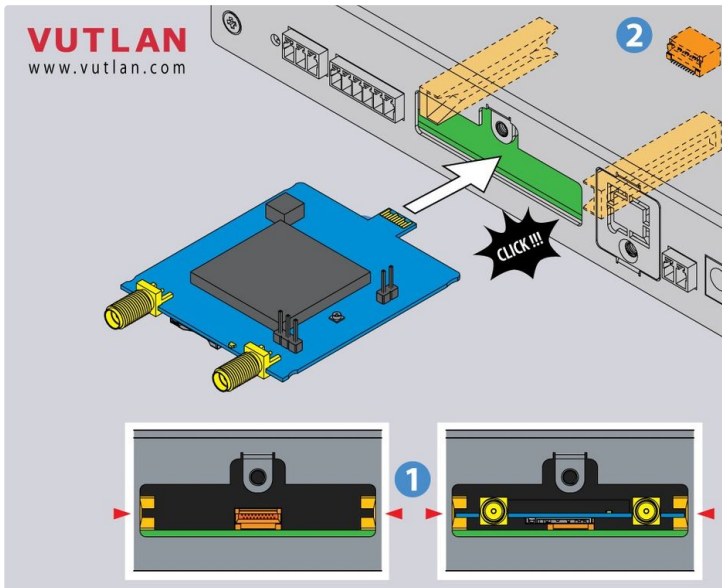
Unscrew the M3 screw from the **LTE metal panel**.

Step 2



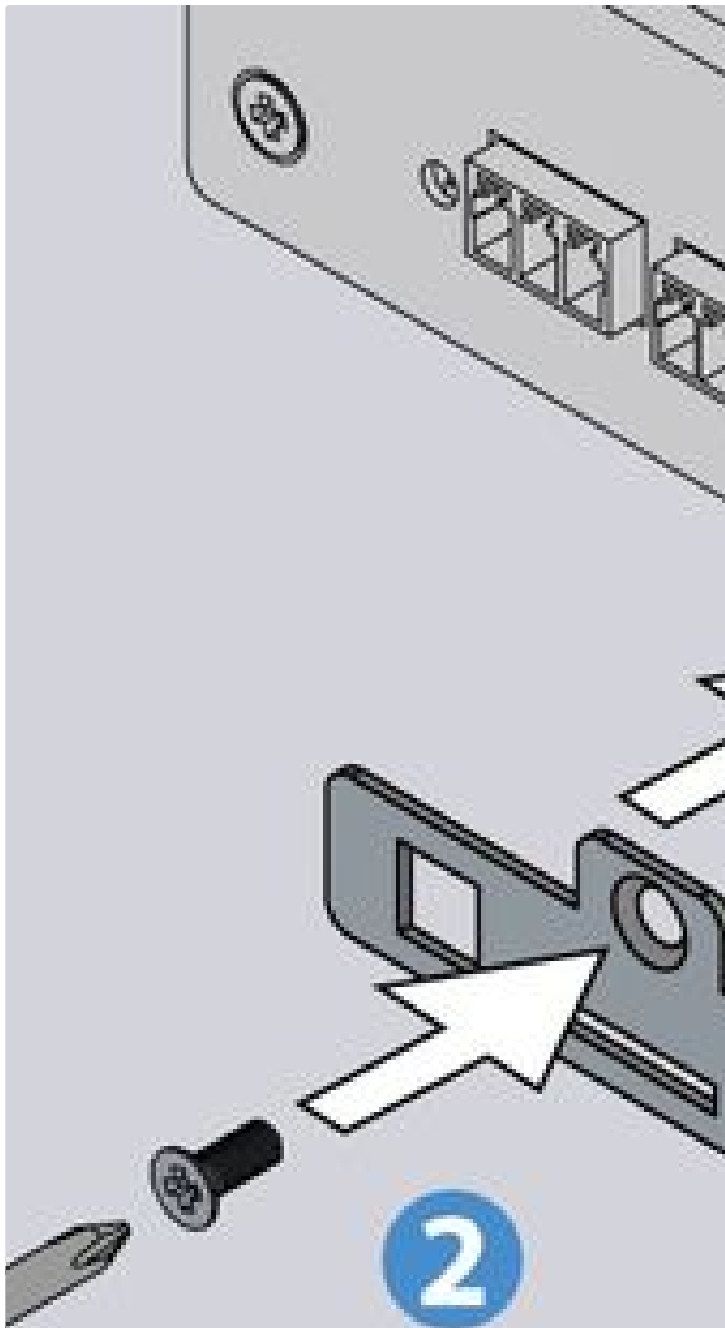
Use the **wire cutter tool** to cut off the **metal inserts**.  
You can dispose of the metal inserts.

Step 3



Plug the **VT740 slot modem** as shown on the picture into the opening. The board should slide into the guide rails (marked as "1") and plug into the jack (marked as "2").

Step 4



Put the **LTE metal panel** back in (marked as "1").

Screw the **M3 screw** back in fixating the **LTE metal panel** (marked as "2").

## Setting up (

The modem is used in the system to send SMS notifications and receive SMS commands.

To operate with a modem:

1. Install the SIM card in the mobile phone and make sure that it is functional, check the PIN code;
2. Insert the SIM card in the modem;
3. Turn on the power of the monitoring system;
4. Configure the modem;
5. Add SMS notifications and configure the [logic](#) or [group notifications](#).

### Configuring the modem for sending and receiving SMS

To configure the modem, use the modem settings tab (*Main Menu* → *SMS messages*):

## SMS settings

Status	registered, home network
Operator	Tele22
Signal level	64%
PIN code	<input type="text" value="1234"/>
Choose an operator	<input type="text" value="Automatic selection"/> <input type="button" value="↻"/>
SMS center number	<input type="text" value="900603112233"/>
Request current balance	<input type="text" value="USSD command"/> <input type="button" value="OK"/>
Clear SMS list	<input type="button" value="OK"/>

Fields characterizing the properties of the modem element in a system:

- **Status** – the state of the cellular network;
- **Operator** – the state of the cellular network;
- **Signal level** – the signal level;
- **PIN code** – pin-code of sim-card;
- **Choose an operator** – an actual list of operators present on the GSM network and the button for refreshing this list;
- **SMS center number** – SMS service center number, leave it blank to auto-detect;

We highly recommend writing the SMS center number in this field manually. Some SIM cards have problems with auto-detect features.

- **Request current balance** – the number on which the account balance is requested, to see the answer, click on the "OK" button and wait for an answer, which will be shown in the log;

**USSD is not supported in LTE mode.** The USSD query has a specific format, usually starts with an asterisk, for example: \*111# or \*222\*  
Do not enter the phone number in this field.  
Some operators abandoned the use of USSD and do not support it.

- **Clear SMS list** – clear list of SMS messages.

The "List of SMS messages" contains up to 100 recent SMS messages (1000 for VT9xx systems) that the system or user attempted to send. When the device is rebooted, the list is not saved.

If the sim card has a pin, you must specify this pin in the corresponding field in the configuration form.

**Attention!**

After 3 incorrect attempts, you must remove the sim card and use the PUK code to unlock it.

If an error occurs during the operation of the modem, or the SIM card is not installed, or the PIN code is not correct, the message written into the log queue ("GSM modem: Error, check your SIM card and PIN code" or "GSM modem: modem error, restart smsd"). The message is displayed only 5 times in order not to overflow the log.

## GSM operators list

Step 5

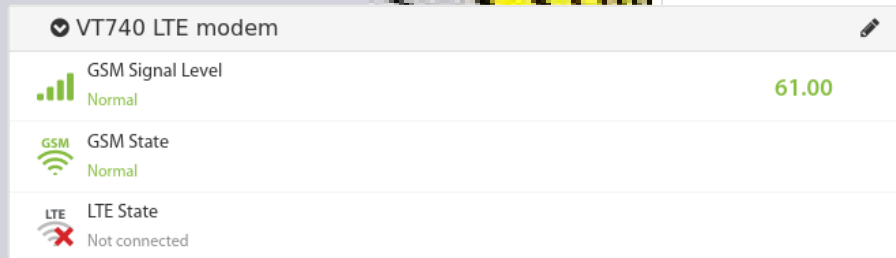
The list of operators is updated once a few minutes after the system is turned on. Next time the list can be updated by the button. Getting the list is a long procedure and can take several minutes. When successfully receiving the list the corresponding message is displayed in the log.

If it is not possible to setup the connection with the network of the selected operator, then the modem switches to the automatic selection mode.

The name of the operator on the network of which works the modem is showing in the **Operator** field.

## GSM modem elements

The "System Tree" menu has elements corresponding to the status of the modem. These elements correspond to the state of the element "System". Elements can be used in logical schemes.



- **GSM Signal Level** - analog value, shows the signal level in percent from 0 to 100%;
- **GSM State** - discrete value, shows the state of the GSM network:
  - **Not connected** - if the connection has not yet been established;
  - **Alarm** - if an error has occurred;
  - **Normal** - if the connection is established successfully.
- **LTE State** - discrete value, shows the state of the LTE connection if modem support it:
  - **Not connected** - if the connection has not yet been established or disabled;
  - **Alarm** - if an error has occurred;
  - **Normal** - if the connection is established successfully.

## SMS messages

To add an SMS notification recipient, first, open the *System Tree* menu, further open window  → SMS:

- **Name** – name of the notification. Can be arbitrary (name, the position of the recipient, ...);
- **Phone number** – the telephone number to which the notification has to be sent.
- **Message text** – text message can be in any language. Also in this field, you can use various macros (%1 - %8), which insert the current values of variables into the text.

To apply the settings, click the "Save" button. To test SMS, click the "Test" button.



When You press "Test", the system sends a message to test if the SMS is sent correctly. Test SMS may contain incorrect information about sensors (macros %1 and %2) for testing purposes only.

After filling in the notification parameters, you must specify the event (events) by which the SMS message will be sent. To do this, open the Preferences → Logic schemes → Add window and specify the condition for sending the SMS message in the logic. In one logic, it is possible to send SMS notifications to not more than 15 recipients for one or more events. If you need to send SMS notifications to more than 15 recipients in the same logic, then create new logic with the same input condition.

SMS messages are sent to the queue, which allows you not to wait until the end of sending the previous message. The information about the sent messages is displayed in the monitoring system log. The capacity of the queue is 100 messages, if overflowed, the sent messages are automatically deleted.

If an error occurs while the message is being sent, the message with the status of SMS send error is displayed in the log, the reasons of which may be:

- the negative balance on the sim card account.
- low signal level;
- wrong format or nonexistent recipient phone number.

If these items do not fit your situation, try to restart the monitoring system. Also, check the sending of messages from your mobile phone.

## Sending SMS using third-party programs

To send SMS, you can use, for example, the cURL utility. Either other programs with similar functionality.

To send SMS, use the following command in the console:

```
gcc -O2 -o sendsms sendsms.c
```

### Script for sending SMS

```
#!/bin/bash
# SMS sending script for version 2.4.x and higher
```

```
usage()
```

```
{
```

```
cat << EOF
```

```
usage: $0 options
```

```
OPTIONS:
```

```
-?, -h Show this message
```

```
-H Hostname or IP address
```

```
-u User name
```

```
-p Password
```

```
-P Phone for sending
```

```
-m Message for sending
```

```
EOF
```

```
}
```

```
HOSTIP=
```

```
USERNAME=
```

```
PASSWORD=
```

```
TOPHONE=
```

```
MESSAGE='Test'
```

```
while getopts "hH:u:p:P:m:" OPTION
```

```
do
```

```
case $OPTION in
```

```
h)
```

```
usage
```

```
exit 1
```

```
;;
```

Step 6

H)

```
HOSTIP=$OPTARG
```

```
;;
```

```
u)
```

```
USERNAME=$OPTARG
```

```
;;
```

```
p)
```

```
PASSWORD=$OPTARG
```

```
;;
```

```
P)
```

```
TOPHONE=$OPTARG
```

```
;;
```

```
m)
```

```
MESSAGE=$OPTARG
```

```
;;
```

```
?)
```

```
usage
```

```
exit
```

```
;;
```

```
esac
```

```
done
```

```
if [[ -z $HOSTIP ]] || [[ -z $USERNAME ]] || [[ -z $PASSWORD ]] || [[ -z $TOPHONE ]] || [[ -z $MESSAGE ]]
```

```
then
```

```
usage
```

```
exit 1
```

```
fi
```

```
# 1) password hash
```

```
HASH=`echo -n ${PASSWORD} | openssl dgst -sha1 | awk '{print $NF}'`
```

```
# 2) authorization
```

```
RESPONSE=`curl -s -d "querytype=auth&name=${USERNAME}&h=${HASH}" "${HOSTIP}/engine.htm`
```

```
# or for HTTPS case
```

```
#RESPONSE=`curl -s -d "querytype=auth&name=${USERNAME}&h=${HASH}" -k "https://${HOSTIP}/engine.htm"
```

```
# 3) session key
```

```
KEY=`echo -n ${RESPONSE} | awk -F"\"" '{print $4}'`
```

```
# 4) send SMS
```

Plug in the **micro SIM card**. The SIM card slot has an **injector**.

```
curl -d "querytype=send_sms_message&k=${KEY}" --data-urlencode "to_phone=${TOPHONE}" --data-urlencode "message=${MESSAGE}" ${HOSTIP}/engine.htm > /dev/null 2>&1

# or for HTTPS case

#curl -d "querytype=send_sms_message&k=${KEY}" --data-urlencode "to_phone=${TOPHONE}" --data-urlencode "message=${MESSAGE}" -k https://${HOSTIP}/engine.htm > /dev/null 2>&1
```

In case of errors, leave comments below on the page or at our [forum](#). Please indicate in the message the current version of the firmware of the monitoring system (System menu → About this system → Firmware version).

## LTE modem mode

### Check if the modem is operational.

1. Make sure the SIM card is inserted into the modem. Make sure you have sufficient funds on the card or a contract for an LTE connection.
2. Make sure the external antennas are mounted onto the modem. Both "MAIN" and "AUXILIARY".
3. Turn on the system. When the system loads, the modem will appear in the system automatically.
4. If you inserted the SIM card while the system was already "ON", it may take up to 15 minutes for the operator to register. You may wait up to 3 minutes until the Telecom operator information is renewed.
5. If the modem is installed, the panel "SMS messages" should appear in the menu panel.
6. Check the strength of the signal. E.g. in the window below the strength of the signal is 48%.
7. See the image below:

You are ready to go! Turn on the system.

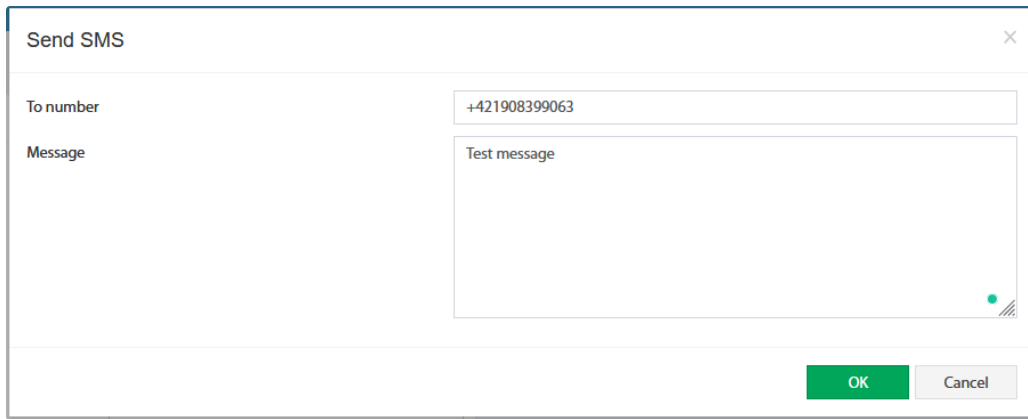
You can install the modem while the system is turned On.

You may wait up to 3 minutes until the Telecom operator information is renewed.

The screenshot shows the VUTLAN Monitoring & Control Systems interface. The sidebar menu on the left includes: Dashboard, Overall stats, System tree, Dry outputs, Dry inputs, SMS messages (selected), Event log, Logic schemes, Cameras, Map, Users, CAN configuration, Graphs, Reset smoke detectors, Preferences, and System menu. The main content area is titled 'SMS messages' and contains two panels. The 'SMS settings' panel shows: Status: not registered, searching a new operator; Operator: -; Signal level: 48%; IMEI: 861123059974863; PIN code: [input field]; SMS center number: [input field]; List of allowed phone numbers: [input field]; Request current balance: USSD comma [input field] OK; Clear SMS list: OK; Save Defaults. The 'List of SMS messages' panel shows a table with columns: Date and time, To number, Message, State. Below the table, it says 'Currently there are no data to display'. The footer shows 'Last update: 2:53:24 PM / Next update: 2:53:54 PM' and 'Copyright: Vutlan s.r.o., © 2015-2022'.

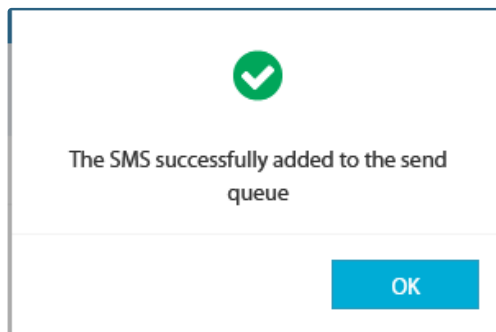
1. You can test if the modem is working correctly with your SIM card. press "+" to the right of "List of SMS messages". A model window should appear.
2. See the image below:





A dialog box titled "Send SMS" with a close button (X) in the top right corner. It contains two input fields: "To number" with the value "+421908399063" and "Message" with the value "Test message". At the bottom right, there are two buttons: "OK" (green) and "Cancel" (grey).

1. Fill in your mobile number and a text message and press "OK".
2. You should receive a message on this mobile phone number.
3. See the image below:



1. You should see a confirmation that the message has been sent.
2. See image below:

List of SMS messages				+
Date and time	To number	Message	State	
2017-01-01 12-09-38 AM	+421908399063	Test message	sent	

## Connecting to the Internet

From version 2.7.4, when installing an LTE modem, it becomes possible to use an LTE connection to connect to Internet services (VPN, SMTP, FTP, etc.) and access the device.

LTE settings are available in the "Preferences" menu, in the "LTE" tab.

# Preferences

Web GUI

Network

LTE

Time

Logging

DynDNS

SNMP

Enable LTE modem



Connect at startup



APN

internet

PIN

Authorization type

CHAP

User name

Password

Enable routing for internal network



Enable Watchdog



Watchdog period

15 seconds

Watchdog timeout

5 minutes

IP Address or hostname of ping destination

11.22.33.44

Enable logging



Save log to disk

OK

Save

Here are the following items available for configuration:

- **Enable LTE modem** - allows you to enable or disable the LTE modem if the installed modem support it;
- **Connect at startup** - working mode of LTE connection, always maintaining connection (at startup) or setting up a connection only when necessary;
- **APN** - Access point name;
- **PIN** - PIN code, if modem uses it;
- **Authorization type** - set authorization type if needed, supported PAP, CHAP or 'none' authorization modes;
- **User name** - user name for provider authentication, if needed;
- **Password** - user password, if needed;
- **Enable routing for the internal network** - allow devices in the internal network to use this connection like a gateway for internet access (if available);
- **Enable Watchdog** - use watchdog ping to verify connection status;
- **Watchdog period** - watchdog ping frequency, in seconds;
- **Watchdog timeout** - if during this time there is no ping, the connection is considered to be broken, in seconds;
- **IP Address or hostname of ping destination** - address to verify the LTE connection;

- **Enable logging** - set this checkbox to enable the connection log. Use this only to find out the cause of a failed connection, don't keep the log enabled on all the time;
- **Save the log to disk** - button for connection log downloading.

LTE modem operation mode is used as a failover connection. If the checkbox **Connect at startup** is **clear**, then the LTE connection is automatically established when there is no response (ICMP ping via the Ethernet interface) from the DNS servers specified in the "Network" settings. The established connection is terminated if at least access to one of the DNS servers is restored via the Ethernet interface. Thus, for normal failover, the DNS must be located outside the local network.

If the checkbox **Connect at startup** is **set**, then the LTE connection is established right after the modem initialization and the unit uses it as the primary connection for internet domains (like e-mail servers, etc.). VT900 unit only supports this mode of LTE connection.

Watchdog Ping can be used to restore the LTE connection. When setting a timeout, it is recommended that it be at least 3 times longer than the ping period. If during the timeout period, no successful ping passes to the specified address, the connection is considered to be broken and the modem will attempt to establish a new LTE connection.

If the device requires constant access to the Internet, then you can use the [OpenVPN client](#). The connection to the VPN server will be maintained when connected via Ethernet or LTE (if the connection to the Internet via Ethernet is lost) and thus it ensures permanent access to the protected private network and the device's permanent IP address (with the appropriate settings of the VPN server).

### Warning

Don't forget that access to the unit by LTE also is open for SNMP. Set up passwords or disable these protocol for security purposes if using LTE access.

## Connecting to the device from the Internet using LTE

If the installed SIM card supports a personal APN with a static IP address, then the unit can be accessed by this IP address directly. To obtain these SIM cards contact your mobile service provider.

You can find this LTE IP address in the **Network** tab when it is assigned (**LTE IP address** field). Or use the **Determination of IP-address** procedure: [Network settings](#).

### By default, a regular LTE connection does not provide an static IP address to access the device.

By default, a regular LTE connection does not provide a static IP address to access the device. You need to request GSM LTE provider to give you a static IP address on LTE connection.

## Preferences

Web GUI	Network	LTE	Time	Logging	DynDNS	SNMP	RADIUS	FTP Backup	VPN Client	Modbus RTU
---------	---------	-----	------	---------	--------	------	--------	------------	------------	------------

MAC address	54:10:ec:ff:6b:5b
Current IP address	192.168.0.190
LTE IP address	10.195.55.136

	Description
MAC address	A MAC (Media Access Control) address, sometimes referred to as a hardware or physical address, is <b>a unique, 12-character alphanumeric attribute that is used to identify individual electronic devices on a network.</b>  This is a MAC address of the ethernet network.
Current IP address	Actual IP address of the ethernet network specified as static or assigning by the DHCP server (if DHCP is enabled).
LTE IP address	The IP address of the mobile network assigned by the telecom operator.  Your LTE IP address can be <code>Static</code> or <code>Dynamic</code>  By default, a regular LTE connection does not provide a static IP address to access the device. You need to request telecom provider to give you a static IP address on LTE connection.  A <code>Static</code> IP address is always <code>whitelisted</code> . <code>whitelisted</code> means that ports 80, 443 and others are open for entry, and you can access the device using this IP address.

A **Dynamic** IP address can be **Whitelisted** or **Greylisted**. **Greylisted** means that ports are closed by NAT provider, and you can not access the device using this IP address.

If you can access the Vutlan system's Web Interface using this IP address, the IP is **Whitelisted**.

Vutlan systems may not check if the IP address is **Whitelisted** or **Greylisted**. Can not check if the IP address is **Static** or **Dynamic**. It all depends on your telecom provider and the service you ordered (e.g. your telecom contract).

## Other articles of interest

[Sending SMS via another Vutlan device equipped with a GSM modem \(SMS Gate\) \(link\)](#)

[Incoming SMS forwarding and SMS commands](#)

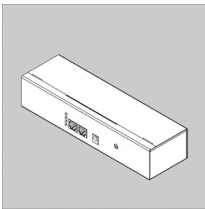
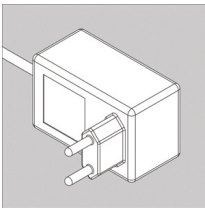

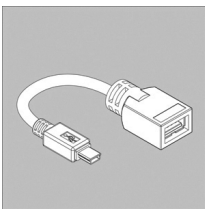
[How to use SMS commands](#)

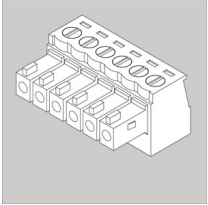
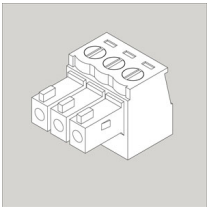
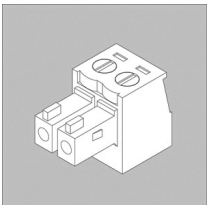
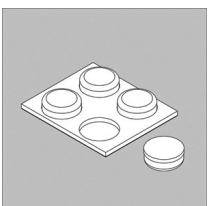

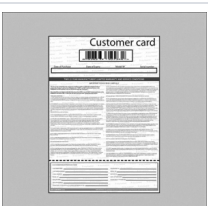
[Send SMS through the Vutlan device](#)

## Frequently asked questions:

## Inventory - Package content

Make sure that the contents of the delivery meet the following configuration. Report a missing or damaged component to your supplier. If damage occurred during transportation, contact the appropriate delivery service.

	Package content	Description
1		Monitoring unit VT335t.
2		12V adapter.
3		RJ-45 3m patch cable
4		OTG Micro USB cable adapter

5		Terminal plug 6 pins, 3.5 mm - 1 pc
6		Terminal plug 3 pins, 3.81 mm - 1 pc
7		Terminal plug 2 pins, 3.81 mm -1pc
8		Self-adhesive rubber foot - 4 pcs
9		Short configuration manual
10		Warranty card

## Technical details

VT335i, VT336, VT825i, VT825ii, VT855i, VT855ii, VT960i, and VT960ii are the monitoring units and can not connect to each other. For scalability please use extension units and embedded boards.

● Built-in   □ None   ◆ Extension possible   ◇ Not extendable

Versions	VT960i	VT855t	VT825t	VT335t	VT325t
<b>Device Management:</b> Web, SNMP, manually via SMS	Yes	Yes	Yes	Yes	Yes
<b>Sensor access:</b> Three-level by login	Yes	Yes	Yes	Yes	Yes
Interface	VT960i / VT960ii	VT855t	VT825t	VT335t	VT325t
<b>LAN:</b> Ethernet 10/100 Mbit	Yes	Yes	Yes	Yes	Yes
<b>OS:</b> Linux	v.5.10	v.6.2	v.6.2	v.6.2	v.6.2
<b>Interface:</b> Any browser	Yes	Yes	Yes	Yes	Yes
<b>Memory RAM:</b>	1 Gb	128 Mb	128 Mb	128 Mb	128 Mb
<b>CPU speed:</b>	720 MHz	1 GHz	720 MHz	720 MHz	600 MHz
<b>Total CPU cores:</b>	4	2	2	2	2
<b>Clock:</b> Built-in clock	Yes	Yes	Yes	Yes	Yes
<b>Timer:</b> Built-in watchdog	Yes	Yes	Yes	Yes	Yes
<b>The maximum amount of sensors:</b> physical sensors, dry contacts, relays	400	150	130	100	70
<b>The maximum amount of elements:</b> notifications, triggers, timers, logic, sensors, dry contacts, SNMP Get, SNMP Trap, Dial task, and other elements	2000	1000	1000	700	700
Networking / Protocol support	VT960i / VT960ii	VT855i / VT855ii	VT825i / VT825ii	VT335t	VT325t
<b>LTE Gateway mode:</b> Internet access (routing for internal network) (modem ordered separately)	Yes	Yes	Yes	Yes	Yes
<b>LTE Access mode:</b> Internet access over LTE (modem ordered separately)	Yes	Yes	Yes	Yes	Yes
<b>Network protocols:</b> DHCP; HTTP; HTTPS; SNMP v1, v2c, v3; SMTP; FTP; Syslog; TLS;	Yes	Yes	Yes	Yes	Yes
<b>Modbus RTU</b>	Yes	Yes	No	No	No
<b>RS485 / OSDPv2:</b> reader access control	No	No	No	No	No
<b>Modbus TCP / IP</b>	Yes	Yes	Yes	Yes	No
<b>Static routing</b>	Yes	Yes	Yes	Yes	
Dynamic <b>DynDNS</b>	Yes	Yes	Yes	Yes	Yes
Access via <b>RADIUS</b> server	Yes	Yes	Yes	Yes	Yes
<b>VPN:</b> secure data communications; secure change of connection between LTE and LAN	Yes	Yes	Yes	Yes	No

SSL installation	Yes	Yes	Yes	Yes	Yes
NTP server	Yes	Yes	Yes	Yes	Yes
Alerts / Notifications	VT960i / VT960ii	VT855i / VT855ii	VT825i / VT825ii	VT335t	VT325t
<b>Alert types:</b> E-mail, FTP log, Syslog, SMTP, SNMP Traps, SMS (Modem is ordered separately), Web-to-SMS,	Yes	Yes	Yes	Yes	Yes
<b>A maximum number of "mail to" recipients in an E-mail notification:</b>	50	20	20	20	20
<b>A maximum number of "SMS to" recipients in an SMS notification:</b> also the maximum amount of phone numbers	50	20	20	20	20
Virtual sensors	VT960i / VT960ii	VT855i / VT855ii	VT825i / VT825ii	VT335t	VT325t
<b>Pings:</b> Built-in function for server pinging. Test the reachability of a host in a network.	Yes	Yes	Yes	Yes	Yes
<b>IP cameras:</b> Connect the IP MJPEG camera with a proxy via the master module. Only view, no record.	4	4	4	4	4
<b>Get SNMP:</b> Read data from external equipment via SNMP PDU GET (v1/2c)	Yes	Yes	Yes	Yes	Yes
<b>User keys:</b> Add users who have access using an RFID reader.	Yes	Yes	Yes	No	No
<b>Logic schemes:</b> Used to specify automatic actions to events that occur in the system.	Yes	Yes	Yes	Yes	Yes
<b>Timers:</b> Allows you to plan the events in the system.	Yes	Yes	Yes	Yes	Yes
<b>Triggers:</b> Generate events in the system if logic is triggered.	Yes	Yes	Yes	Yes	Yes
<b>SNMP traps</b>	Yes	Yes	Yes	Yes	Yes
<b>Virtual Math element</b> (combine several sensor data and calculate new data)	Yes	Yes	Yes	Yes	Yes
<b>Logic schemes</b>	Yes	Yes	Yes	Yes	Yes
<b>Modbus TCP/IP:</b> read/write	Yes	Yes	Yes	Yes	No
<b>Power</b>	VT960i / VT960ii	VT855i / VT855ii	VT825i / VT825ii	VT335t	VT325t
<b>Power input (230V AC):</b>	x2 inputs option	x2 inputs option	x2 inputs option	No	No
<b>Power input (24 ÷ 48V DC):</b>	x2 inputs option	x2 inputs option	x2 inputs option	No	No

<b>Power input (12V DC):</b>	No	x1 input option	x1 input option	x2 inputs	Input
<b>Fuse:</b> Fuse at the inlet	1 A	1 A	1 A	1 A	No
<b>Min. power consumption:</b>					1 W
<b>Max. power consumption:</b>	30 W	10 W	10 W	10 W	6 W
<b>The maximum current load on the relay:</b>	10A	10A	10A	250mA	250mA
<b>Redundant power supply:</b> built-in voltage monitor, voltage range 9-12.6V.	Yes AC/DC DC/DC	Yes AC/DC DC/DC	Yes AC/DC DC/DC	Yes DC 12V	-
<b>Outputs</b>	VT960i / VT960ii	VT855i / VT855ii	VT825i / VT825ii	VT335t	VT325t
<b>Relay outputs:</b> latching relays 240V*10A	2	2	2	-	-
<b>Relays outputs:</b> 12V 0.25A	2	2	2	2	2
<b>Max. dry contact outputs (contact closures/digital outputs)</b>	8	8	-	-	-
<b>Inputs</b>	VT960i / VT960ii	VT855i / VT855ii	VT825i / VT825ii	VT335t	VT325t
<b>Analog port:</b> 6P6C for connection of an analog sensor. (extendable using CAN bus)	8 built-in ports, up to 16 on the CAN bus extension unit	8 built-in ports, up to 16 on the CAN bus extension unit	8 built-in ports, up to 16 on the CAN bus extension unit	4 built-in ports, up to 16 on the CAN bus extension unit	4 built-in ports, up to 16 on the CAN bus extension unit
<b>CAN port:</b> Max number of sensors Use <a href="#">CAN-12V-1A</a> for connecting more than 12 devices.	x1 port, max. 32 devices	x1 port, max. 32 devices	x1 port, max. 32 devices	x1 port, max. 32 devices	x1 port, max. 10 devices
<b>Dry contact inputs: (contact closures/digital inputs)</b> Extadable using CAN bus and <a href="#">Dry contacts unit</a>	32	32	16	4	2
<b>Modbus RTU (RS-485):</b> Max. line length 1000m	1 built-in port, up to 50 sensors	1 built-in port, up to 50 sensors	-	-	-
<b>OSDP v2 reader extension:</b>	-	-	-	-	-
<b>Video</b>	VT960i / VT960ii	VT855i / VT855ii	VT825i / VT825ii	VT335t	VT325t
AV camera	x1	-	-	-	-
USB cameras	x2	x1	x1	x1	x1
IP cameras	x4	x4	x4	x4	x4
RTSP IP camera	x1	-	-	-	-
<b>Other connectors</b>	VT960i / VT960ii	VT855i / VT855ii	VT825i / VT825ii	VT335t	VT325t
<b>Ethernet port:</b> 10/100Mbit	Yes	Yes	Yes	Yes	Yes
<b>USB 2.0 Type A</b>	1	1	1	-	-



USB 2.0 micro	1	1	1	1	1
Switch Normal / Recovery: returns the device to factory settings	<input type="checkbox"/>	Yes	Yes	Yes	Yes
<b>External Memory / Logs</b>	VT960i / VT960ii	VT855i / VT855ii	VT825i / VT825ii	VT335t	VT325t
Micro SD card slot (SDXC up to 512 Gb)	Yes	Yes	Yes	Yes	64Gb
SD card formatting function (FAT32)	Yes	Yes	Yes	Yes	Yes
USB flash drive: logs, sensor readings, item settings, etc.	Yes	Yes	Yes	Yes	Yes
Send system log to e-mail: Logs, sensor data, elements settings, etc.	Yes	Yes	Yes	Yes	Yes
Sensor dump files: save the per-second samples of analog and discrete sensors	Yes	Yes	Yes	Yes	Yes
Syslog	Yes	Yes	Yes	Yes	Yes
Send to FTP server: Logs, sensor data, elements settings, etc.	Yes	Yes	Yes	Yes	Yes
Maximum amount of log files: 10,000 logs/days = 27 years	Yes	Yes	Yes	Yes	Yes
Sample rate/period (logs, graphs)	1 s	1 s	1 s	1 s	1 s
Modem (extension ordered separately)	VT960i / VT960ii	VT855i / VT855ii	VT825i / VT825ii	VT335t	VT325t
4G LTE modem: ordered separately.	VT790	VT740	VT740	VT740	-
Modem modes: <ul style="list-style-type: none"> <li>Gateway: Internet access</li> <li>Access: Internet access over LTE</li> <li>SMS: SMS notifications</li> </ul>	Gateway / Access / SMS	Gateway / Access / SMS	Gateway / Access / SMS	Gateway / Access / SMS	-
Modem LED: STATUS	Yes	Yes	Yes	Yes	-
Embedded onboard sensors	VT960i / VT960ii	VT855i / VT855ii	VT825i / VT825ii	VT335t	VT325t
Temperature sensor: +/- 1 °C PCB temperature.	Yes	Yes	Yes	Yes	Yes
Power supply voltage sensor: Accuracy (1%)	1	Main & Reserve	Main & Reserve	Main & Reserve	Yes
LED indication	VT960i / VT960ii	VT855i / VT855ii	VT825i / VT825ii	VT335t	VT325t
Ethernet LAN: LINK	Yes	Yes	Yes	Yes	Yes
Ethernet LAN: ACT	Yes	Yes	Yes	Yes	Yes
CAN bus: STATUS	Yes	Yes	Yes	Yes	Yes
System: STATUS (ACT)	Yes	Yes	Yes	Yes	Yes

System: ERROR (ERR)	Yes	Yes	Yes	Yes	Yes
System: ALARM	-	Yes	Yes	-	Yes
<b>12V 0.25A outputs:</b> STATUS (e.g. E1, E2)	x2	x2	x2	x2	x2
<b>MODBUS RTU:</b> STATUS	VT485M	VT485M	VT485M	VT485M	-
<b>ODSP Reader.</b>	VT485R	VT485R	VT485R	VT485R	-
NC/NO/COM Relay (e.g. R1, R2)	x2	x2	x2	-	-
<b>HDD:</b> Hard drive STATUS	Yes	-	-	-	-
<b>Environmental characteristics</b>	VT960i / VT960ii	VT855i / VT855ii	VT825i / VT825ii	VT335t	VT325t
<b>Operating temperature:</b> -10 to 80 °C	Yes	Yes	Yes	Yes	Yes
<b>Storage temperature:</b> -25 to 85 °C	Yes	Yes	Yes	Yes	Yes
<b>Operating humidity:</b> 0 to 90 %, non-condensing	Yes	Yes	Yes	Yes	Yes
<b>Storage humidity:</b> 0 to 95 %, non-condensing	Yes	Yes	Yes	Yes	Yes
<b>Other Features</b>	VT960i / VT960ii	VT855i / VT855ii	VT825i / VT825ii	VT335t	VT325t
<b>Installation:</b>	19" 1U	19" 1U	19" 1U	Desktop	Desktop
<b>Casing:</b>	Sheet metal	Sheet metal	Sheet metal	Sheet metal	Plastic
<b>Dimensions (L x W x H) in mm:</b>	440x44x120	440x44x90	440x44x90	180x35x80	150x29x100
<b>Weight:</b>	2 kg	1,6 kg	1,5 kg	0,7 kg	0,5 kg
<b>External chassis grounding:</b> M4 thread	Yes	Yes	Yes	Yes	Yes
<b>Web interface (panels)</b>	VT960i / VT960ii	VT855i / VT855ii	VT825i / VT825ii	VT335t	VT325t
<b>Dashboard panel:</b>	Yes	Yes	Yes	Yes	Yes
<b>Overall statistics panel:</b>	Yes	Yes	Yes	Yes	Yes
<b>System tree panel:</b> sensors and devices displayed in a hierarchy	Yes	Yes	Yes	Yes	Yes
<b>Dry outputs panel:</b>	Yes	Yes	Yes	No	Yes
<b>Dry inputs panel:</b>	Yes	Yes	Yes	Yes	Yes
<b>Event log panel:</b> amount of logs	500	300	300	300	200
<b>Logic schemes panel:</b>	Yes	Yes	Yes	Yes	Yes
<b>Cameras panel:</b>	Yes	Yes	Yes	Yes	Yes
<b>Map panel:</b> 5 layers	Yes	Yes	Yes	Yes	Yes

<b>Users panel:</b>	Yes	Yes	Yes	Yes	Yes
<b>CAN configuration panel:</b>	Yes	Yes	Yes	Yes	Yes
<b>Graphs panel:</b>	Yes	Yes	Yes	Yes	Yes
<b>Reset smoke detectors panel:</b>	Yes	Yes	Yes	Yes	Yes
<b>Preferences panel:</b> Web GUI, Network, Time, Logging, DynDNS, SNMP, RADIUS, FTP backup, VPN Client, Modbus RTU, GPS, SMTP, Routing	Yes	Yes	Yes	Yes	Yes
<b>System menu panel:</b> About, Firmware, Export, Support	Yes	Yes	Yes	Yes	Yes
<b>List of latest sent SMS messages:</b>	500	200	200	150	200
<b>Analog sensor power reset:</b> resets smoke sensors	<input checked="" type="radio"/> <sup>Yes</sup> Built-in <input type="radio"/> None	<input checked="" type="radio"/> <sup>Yes</sup> Extension possible	<input type="radio"/> <sup>Yes</sup> Not extendable	Yes	Yes

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