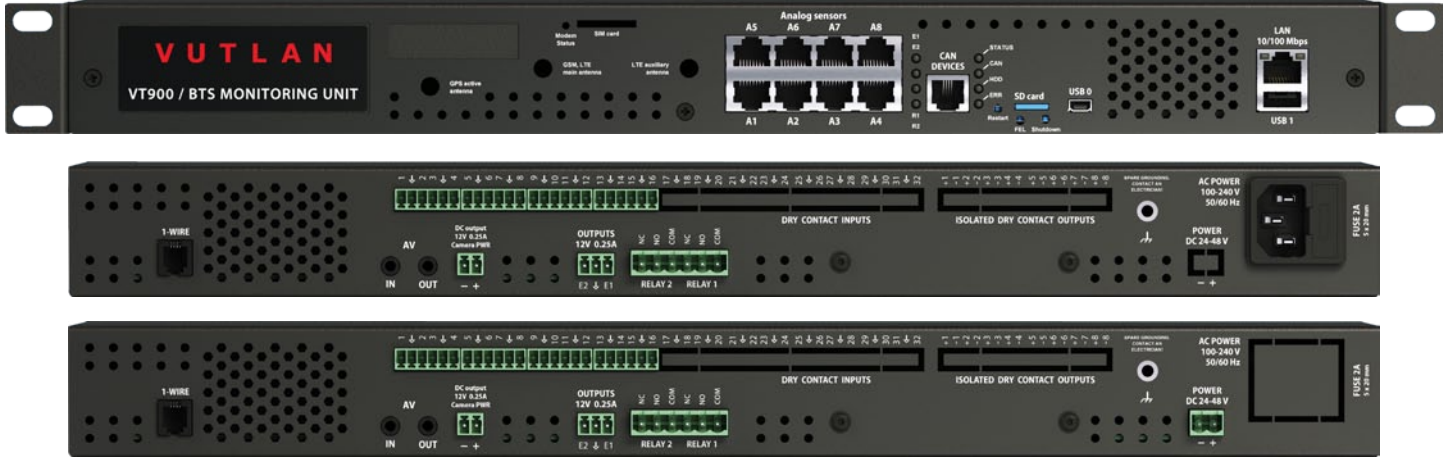




# Overview



The unit is used for environmental monitoring and control of equipment of IT facilities. Can use up to 1000 different elements - notifications, triggers, timers, logics, sensors, dry contacts.



## HARDWARE:

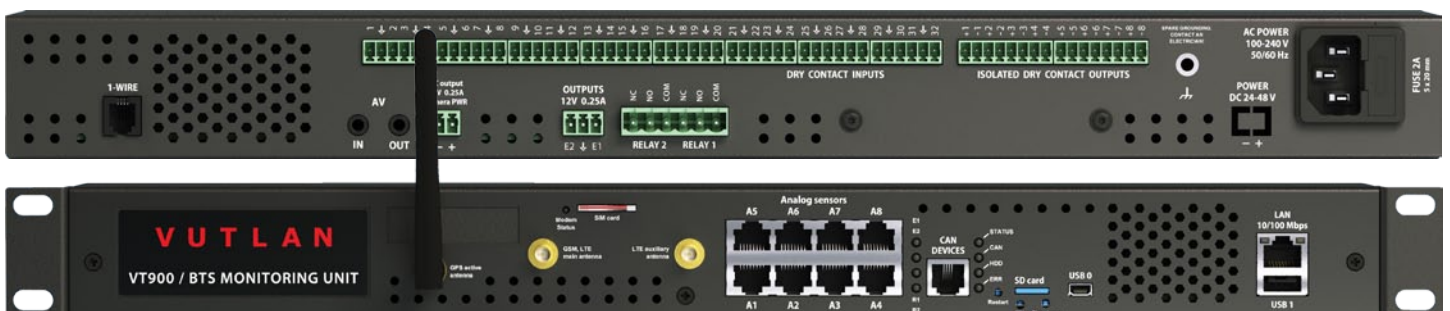
- CAN port for digital sensors
- 8 AutoSense RJ-12 ports for sensors
- Min. x16, Max. 40 dry contacts
- USB port for web camera or for USB flash for saving logs
- Two latching relays
- Two 12V 0.25A output relays
- LEDs: power, relays, errors, CAN
- Onboard temperature, voltage and current sensor
- Internal access router LTE, GPS modem extension slot
- AV IN / AV OUT (analog video, audio input & output)
- 12V power supply for analog camera
- 1-Wire slot for RFID reader
- Internal Dry contacts board (max. x32 inputs, x8 outputs) (ordered separately)
- 10/100 Mbit Ethernet port
- External chassis earthing
- Internal 2.5" SATA (SSD or HDD), SD card support
- Power supply: 230V (VT900) or DC 48 V (VT900DC)

## SOFTWARE:

- Embedded Web interface
- Virtual sensors & elements: Group, E-mail, SNMP trap, SNMP Get, SMS, PINGs, Triggers, Timers
- Up to x4 IP cameras
- Notifications: E-mail, SMS, Syslog, Event log, SNMP Trap, SNMP Get, Web-to-SMS
- Network protocols: DHCP, HTTP, HTTPS, SNMP v.1, v.2c, v.3, SMTP, SSL, FTP, Syslog, SSH
- Configurable embedded logic
- Sensor graphing
- Multilanguage support
- User Access and Permissions
- NMS: Infrastructure Monitoring Software (free)
- RADIUS server, OpenVPN client, Watchdog, Built-in clock with time synchronization

## OTHER:

- 2 Year warranty
- Manufactured in E.U.



# Features



"VT900, VT900 DC / Monitoring units" have a Dual-core ARM Cortex-A7 / 1GHz / 1GB CPU. It is TCP / IP compliant and runs lighttpd web server including HTTPS (SSL), SMTP, DHCP, SNMP, FTP, Syslog, Radius. Web interface is mobile ready and runs on HTML5.

## Multilanguage interface

Web interface is has a multilanguage GUI and can be easily customized at request.

## SNMP

All SNMP functions including SNMP v.1, v.2c, v.3 are supported.

Unit supports CAN bus commands, easy to configure CAN data to SNMP gateway.

Unit has a Built-in Watchdog timer with NTP synchronisation.

SNMP Get function supported.

## CAN bus connection

Up to 8 CAN devices can be connected to the unit. When plugged in, user needs to configure CAN units, and save configuration, then after reboot or energy lost, the system automatically reconfigures sensors.

Using such CAN bus with max length 300 m, it is possible to connect up to 120 different sensor elements to a single monitoring unit.

## 5-level sensor thresholds

Sensors with 5-level thresholds allows direct connection to the SCADA system. The thresholds are usually: very low, low, normal, warning and alarm. Sensor levels can be inverted.

## SATA support

Possible to use 2.5" HDD or SSD. Used for: saving logs of sensor data for analysis and evaluation; record digital video and audio to remote servers or internal SATA drive. Stream video directly to the operator via analog or through a web interface; Linux based software. For example, NMS SNMP built in client, database, SMS server.

## Multiple sensors and devices

Can use up to 1000 different elements - notifications, triggers, timers, logics, sensors, dry contacts, relays, video streaming, PINGs.

## Internal LTE, GPS modem

Provides ethernet over LTE. Can work as a router. Adds time over GPS. Allows to receive and send messages. Ordered separately. Possible to order additional auxiliary and GPS antennas.

# Cameras

The unit can display pictures from a maximum of x4 IP cameras (p to 640x480 px), x1 USB camera, x1 analog camera (up to 720x576 px) simultaneously in several sizes.



# Configurable logic

Web interface allows you to set up logic rules for alerts, notifications & actions to avoid unplanned downtime due to overdrawn circuits.

Add new logic scheme
×

Scheme name

Disable scheme

Action	Element	State	Timeout	Repeat	Operator
IF	Analog-5	high alarm	not used	not used	OR
IF	Dry-3	alarm	not used	not used	OR
IF	Dry-2	alarm	not used	not used	THEN
THEN	Analog Power	on	none	once	AND
THEN	Power-1	on	none	once	END

OK
Cancel



## Virtual elements

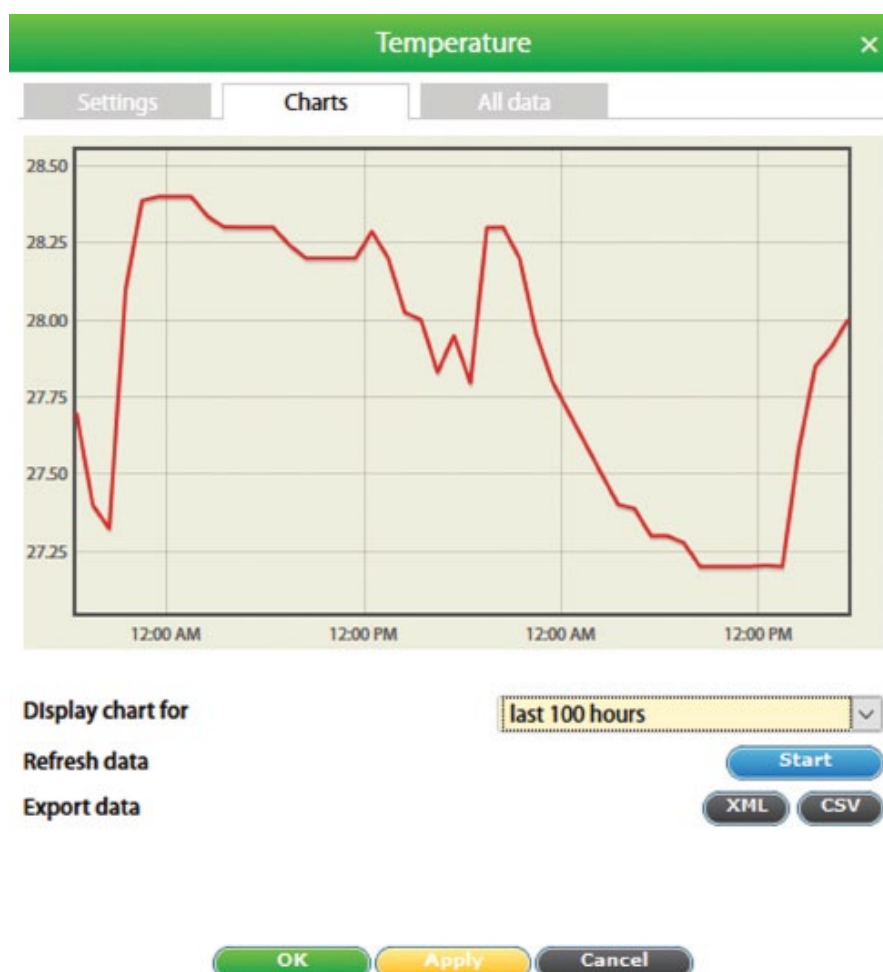
- E-mail, SNMP trap, SMS notifications
- Timers
- Triggers
- Pings
- IP Cams
- Groups
- Get SNMP

## Sensor Graphing

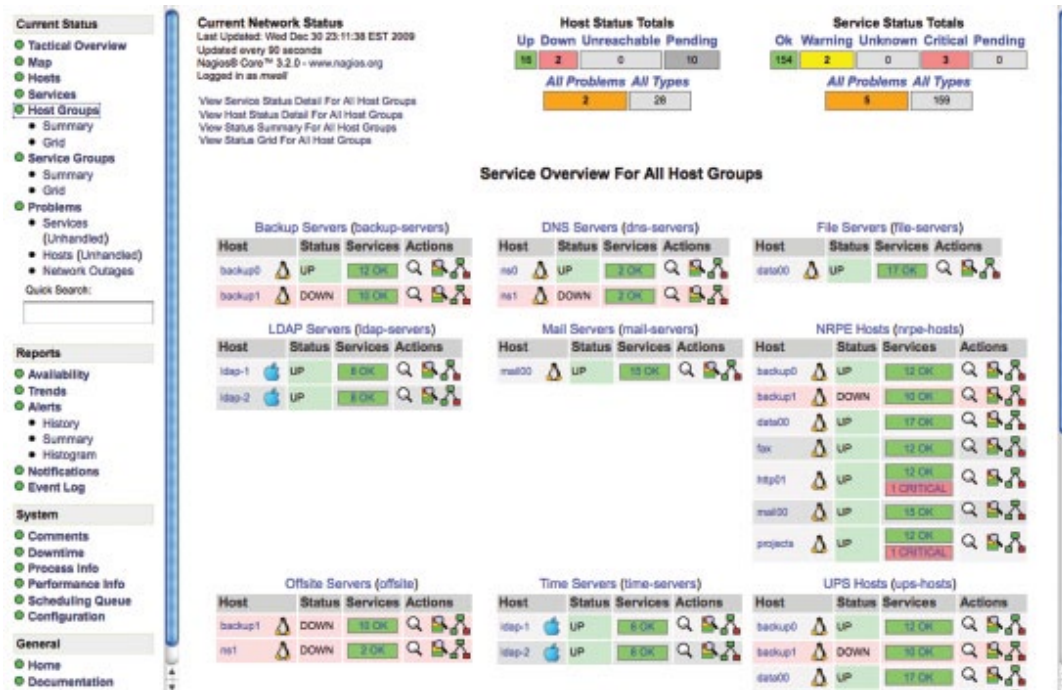
GUI integrates and displays graphs of all sensor data. The individual graph (seconds, minutes, hours, days) for each sensor type can be selected. RRD tool is used to build an embedded database of sensor data.

This data can be accessed in interface, or downloaded to Syslog or to FTP or saved on SD card, USB flash or SATA drive.

You can compare sensor data using a Multiplot by plotting a few sensor data along each other.



# SNMP based NMS software



NMS monitors your network 24/7 to timely alert you to issues before they become emergencies. Allow you to achieve instant awareness of IT infrastructure problems, so downtime doesn't adversely affect your business. Usual NMS software offers complete monitoring and alerting for servers, switches, applications, and services. By integrating Vutlan's environmental monitoring systems and PDUs, you achieve a complete control over your IT infrastructure in one place.

All Vutlan's master systems support SNMP v.1, v.2c, v.3. Required MIB files are included with all systems. Some of the supported NMS systems are listed below, for a full list please visit our website.

HP Network Node Manager	ServersCheck
IBM Tivoli	Zabbix
PRTG Network Monitor	Nagios
Open NMS	Cacti
Monitorix	and many more

## Infrastructure monitoring program (Nagios)

We have preconfigured Nagios to automatically work with any of our products. You can download and install Vutlan plugin directly into Nagios or download a disk image that includes VirtualBox, CentOS 6.5, Nagios 3.5.1 and Vutlan plugin preinstalled into Nagios.

## Scalability

Following sensors and devices can be connected to "VT900, VT900DC / BTS Monitoring units":

<b>CAN sensors</b>	<i>Description</i>
<b>VT408 / Extension unit</b>	Allows to increase the number of sensors connected to any monitoring unit. Adds 8 analog sensors.
<b>VT430 / Rack control unit</b>	The unit has all possibilities for rack control, PIR sensor for door control, 2 dry contacts, temperature and humidity sensors.
<b>VT440 / Dry contacts unit</b>	Allows to increase the number of dry contacts connected to any Vutlan monitoring unit. Adds 32 or 64 dry contacts.
<b>VT460 / Smoke, humidity &amp; temperature sensor</b>	Monitors occurrence of smoke, temperature and humidity inside the building.
<b>VT470 / PIR, vibration &amp; temperature sensor</b>	Sensor is needed for control of movement over an infra-red range and measurement of temperature and vibration indoors.
<b>VT490 / Humidity &amp; temperature sensor</b>	Monitors temperature and humidity inside the building.

<b>Embedded modules (ordered separately)</b>	<i>Description</i>
<b>VT710 / LTE modem</b>	Adds ability to receive and send SMS for control and notifications.
<b>VT6624 / LTE antenna 3dBi</b>	Extra LTE antenna for auxiliary antenna slot of "VT710, VT760 / LTE, GPS modem".
<b>VT6691 / GPS antenna 3m 3dBi</b>	Needed for correct time by geographic location.
<b>VTX16 / Dry contacts board (IN)</b>	2-wire interface has 16 dry contact inputs.
<b>x3 VTX40 / Dry contact board</b>	With this extension amount of dry contacts are: x32, 64, 96 inputs, x8, x16, x24 outputs.
<b>SATA drive</b>	HDD or SSD can be mounted inside the unit for saving logs or running software or scripts.

<b>Analog sensors</b>	<i>Description</i>
<b>VT11 / Dry contact OUT</b>	Switchable contact. Can be used together with equipment, for example for switching ON/OFF air conditioners.
<b>VT420 / Converter 4-20mA</b>	Converter of current loop 4-20mA.
<b>VT500 / Temperature sensor</b>	For measurement of temperature indoors.
<b>VT501 / Outdoor temperature sensor</b>	For measurement of temperature outdoors.
<b>VT510 / Humidity sensor</b>	Measures relative humidity 10-95% indoors with relative accuracy 5%.
<b>VT520 / AC voltage monitor</b>	Measures AC 110-240V
<b>VT530 / Access sensor</b>	Sensor controls the status of a door or a window: opened, closed.
<b>VT540 / Vibration sensor</b>	Detects vibration, allows daisy chain connection
<b>VT550 / Wind velocity meter</b>	At installation on Air conditioners, fans, etc., sensor controls airflow.
<b>VT560 / Smoke detector</b>	Detector detects smoke indoors, allows daisy chain connection
<b>VT570 / PIR sensor</b>	Infrared motion sensor
<b>VT590 / Leak sensor</b>	When water is in contact with the metal cores, the sensor indicates the emergence of moisture.
<b>VT591 / Water leak cable sensor</b>	When water is in contact with detection cable, sensor indicates the emergence of moisture.

<b>AC / DC meters</b>	<i>Description</i>
<b>VT406 / HOS sensor transducer</b>	Transducer is used together with HOS-100Q1 dc Hall current sensors and converting data into format of IP monitoring system.
<b>VT407 / HAT sensor transducer</b>	Transducer is used together with HAT-100Q1 current transducer and transferring data into a monitoring system.
<b>VT410 / DC voltage monitor</b>	DC monitor is used for measurement of DC voltage up to 60V and converting data into format of IP monitoring system.

and other..

Please refer to [www.vutlan.com](http://www.vutlan.com) for a complete list of Vutlan products. Products may change over time.

## Security, Notifications and Alarms

"VT900, VT900DC/ BTS Monitoring unit" authorization is going through the Radius protocols, that highly increases resistance to forced attacks.

Notifications and alarms can be configured in "Logic menu" of web-interface using the states of sensors, timers, triggers and so on. In case of a problems the notification scheme can alert user via email, SMS or SNMP, automatically send pictures and data.

The complete status of the unit and / or sensors can be taken through HTTP, SMS, or SNMP, saved on FTP and Syslog servers or on installed SD card.

Add new logic scheme
✕

Scheme name

Disable scheme

Action	Element	State	Timeout	Repeat	Operator
IF	Analog-5	high alarm	not used	not used	OR
IF	Dry-3	alarm	not used	not used	OR
IF	Dry-2	alarm	not used	not used	THEN
THEN	Analog Power	on	none	once	AND
THEN	Power-1	on	none	once	END

## Support and Warranty

- Full Two Year Global Warranty
- Unlimited Lifetime Support
- Free Firmware Updates
- Full, Easy to Follow Documentation

## Basic package includes

- RJ-45 1m patch cable
- Self-adhesive rubber foot - 4 pcs
- Terminal plugs for all terminal connectors
- EU Schuko C13 0.75 mm<sup>2</sup> 230V 10A cable
- x2 19" rack brackets with screws
- Warranty card
- Short description and connection guide



# Features List

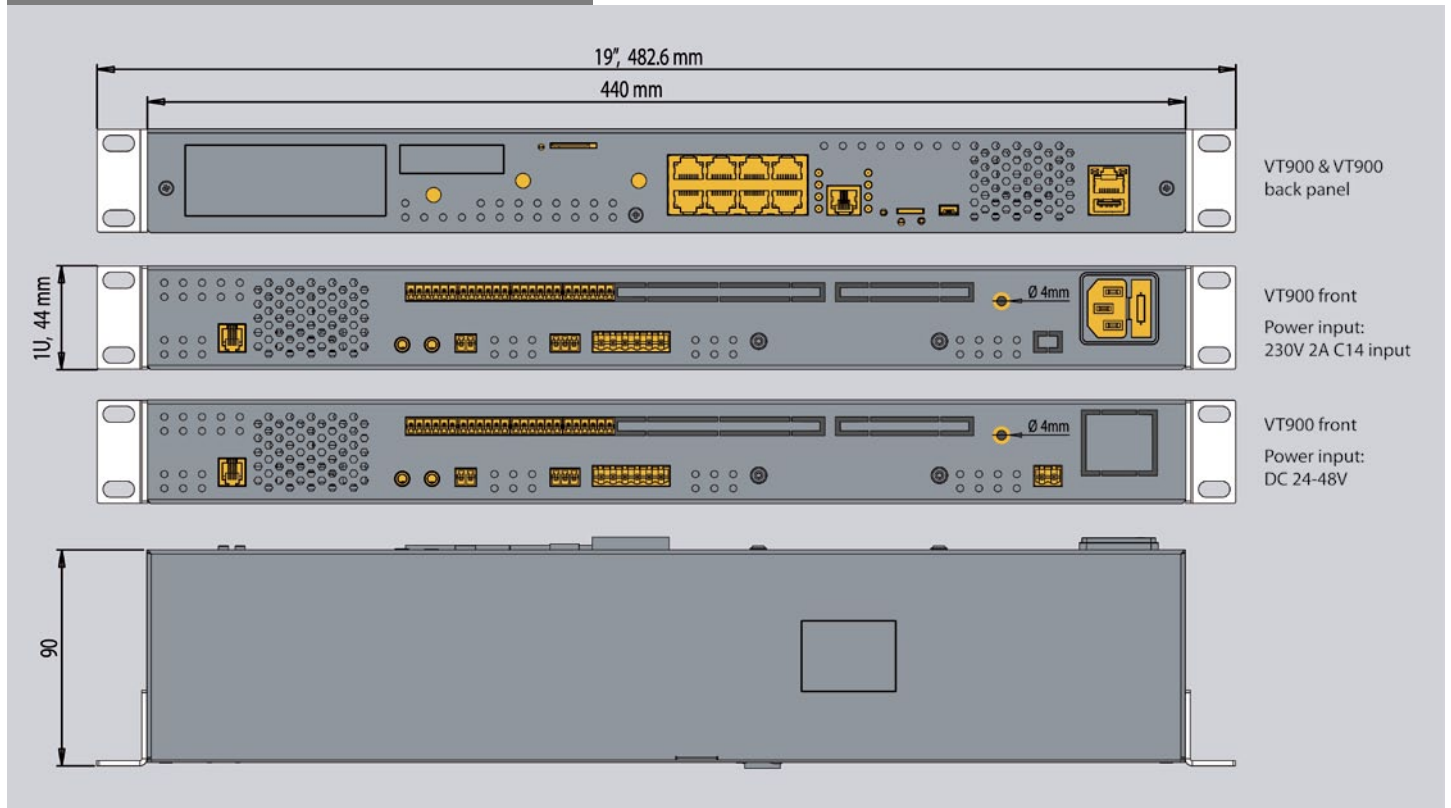
- Receive notifications of anomalous events via email, SMS / MMS, SNMP traps.
- Integrates with network management systems via SNMP v.1 and Encrypted SNMP v.3.
- Uses Linux operating system for maximum stability and flexibility.
- Web GUI for PC, smartphones and tablets; free firmware upgrades and utilities.
- Monitor up to 200 different sensors.
- Compatible with full range of different third-party sensors.
- Embedded web server displays sensor information and live video from connected cameras.
- Record, play and view in real time video from video cameras.
- Support for SATA drive allows to save logs, video stream or run software and scripts.
- LTE, GPS modem can work as a router to allow internet access.

# Specifications

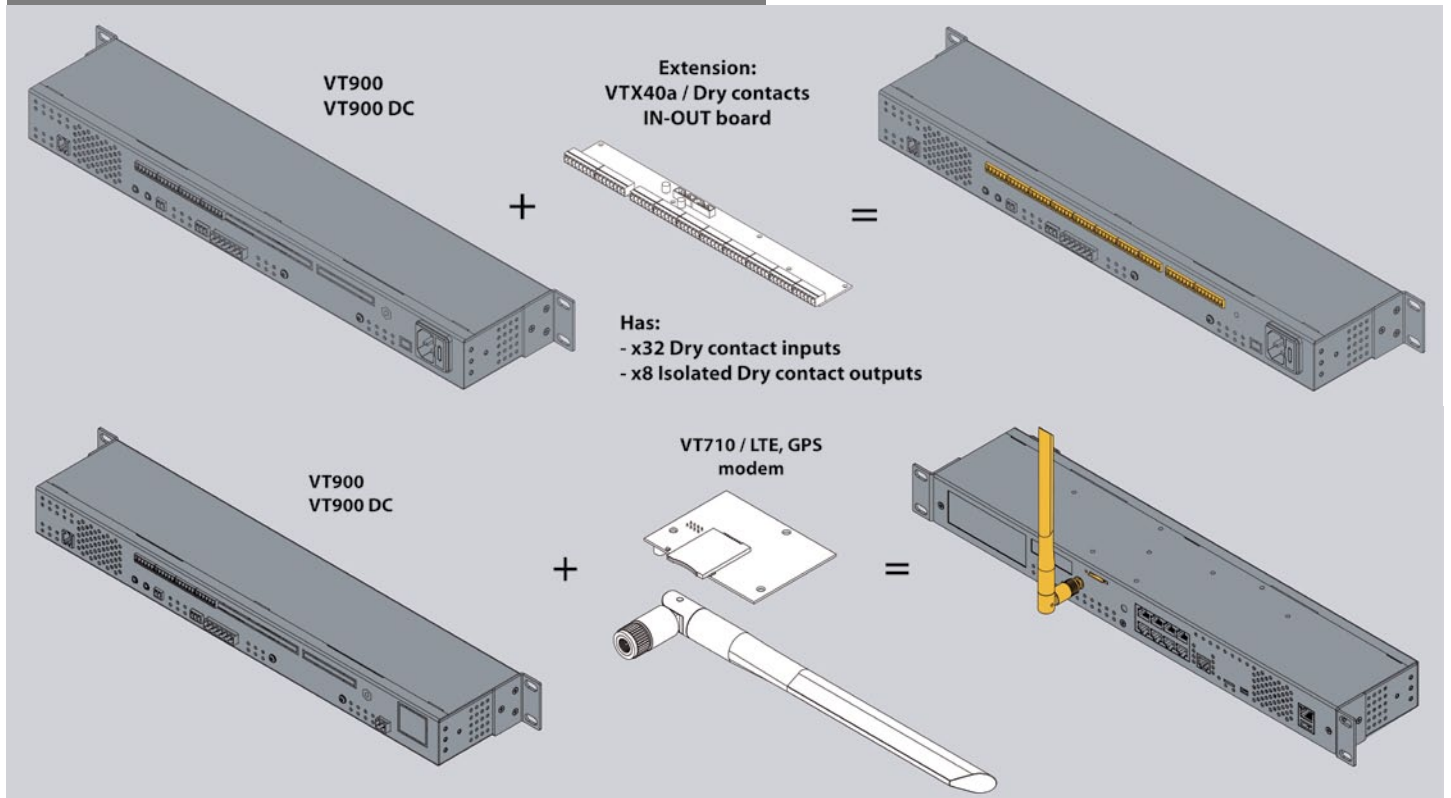
<b>Dimensions</b> 1U, I 440 mm, L 44mm, D 110 mm 19" Rack mount (1U) Weight 1.8 Kg	<b>Inputs</b> x1 CAN open port for digital sensors Min. x16 dry contact inputs, Max. x32 x8 RJ-12 sensor ports x1 Ethernet 10/100 Mbit/s port AV IN (Video / Audio)	<b>Operating Environment</b> Temperature: Min. -10° C - Max.80° C Humidity : Min. 5%, Max. 80% (Non-Condensing)
<b>Power Requirements</b> 90-240V, IEC C14, Fuse 2A or DC 48 V	<b>Outputs</b> x2 12V 0.25A relay outputs x2 latching relays x8 dry contact outputs (with VTX40) AV OUT (Video / Audio)	<b>Expansion Devices</b> VT710 / LTE modem VT6624 / LTE antenna 3dBi VT6691 / GPS antenna 3m 3dBi VTX16 / Dry contacts board (x16 dry contact inputs) Up to three VTX40 / Dry contacts board (Each board has x32 dry contact inputs, x8 dry contact outputs) SATA: 2,5" HDD or SSD
<b>Mounting</b> 19" rack mount (1U)	<b>Network Interface</b> Ethernet 10/100 Mbit/s	<b>Other</b> USB (for USB Camera or or USB Flash for saving logs) External earthing
<b>System</b> Dual-core ARM Cortex-A7 / 1GHz / 1Gb OS: Linux 4.14	<b>Status Indicators</b> LED indication for Power / Network connectivity LED indication for CAN bus connection Error LED Relay LEDs LEDs: CAN, Power, Relays and Error	<b>Components</b> Manufactured in EU.
<b>Operation</b> Operating temperature: Min. -10° C - Max.80° C Storage temperature: -25 to 85 °C Operating humidity: 0 to 90 %, non-condensing Storage humidity: 0 to 95 %, non-condensing AV IN (Video / Audio)	<b>Sensors</b> Temperature sensor (1%) Power supply voltage sensor (1%)	<b>Accessories</b> VT101 / Battery holder VT112 / Rotatable mounting brackets
<b>Power Consumption</b> 30 Watt		

# Mounting, Dimensions & Order options

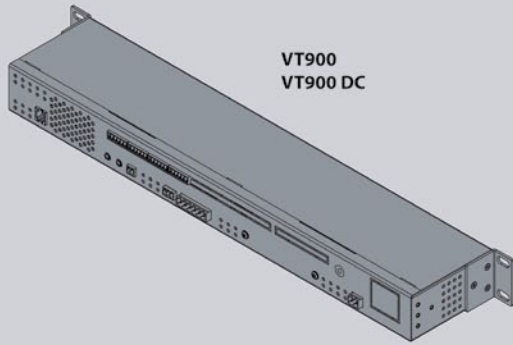
## Dimensions



## Order options

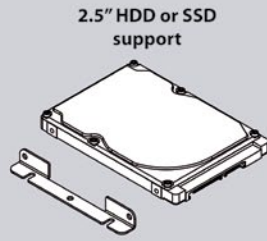


## Order options



VT900  
VT900 DC

+

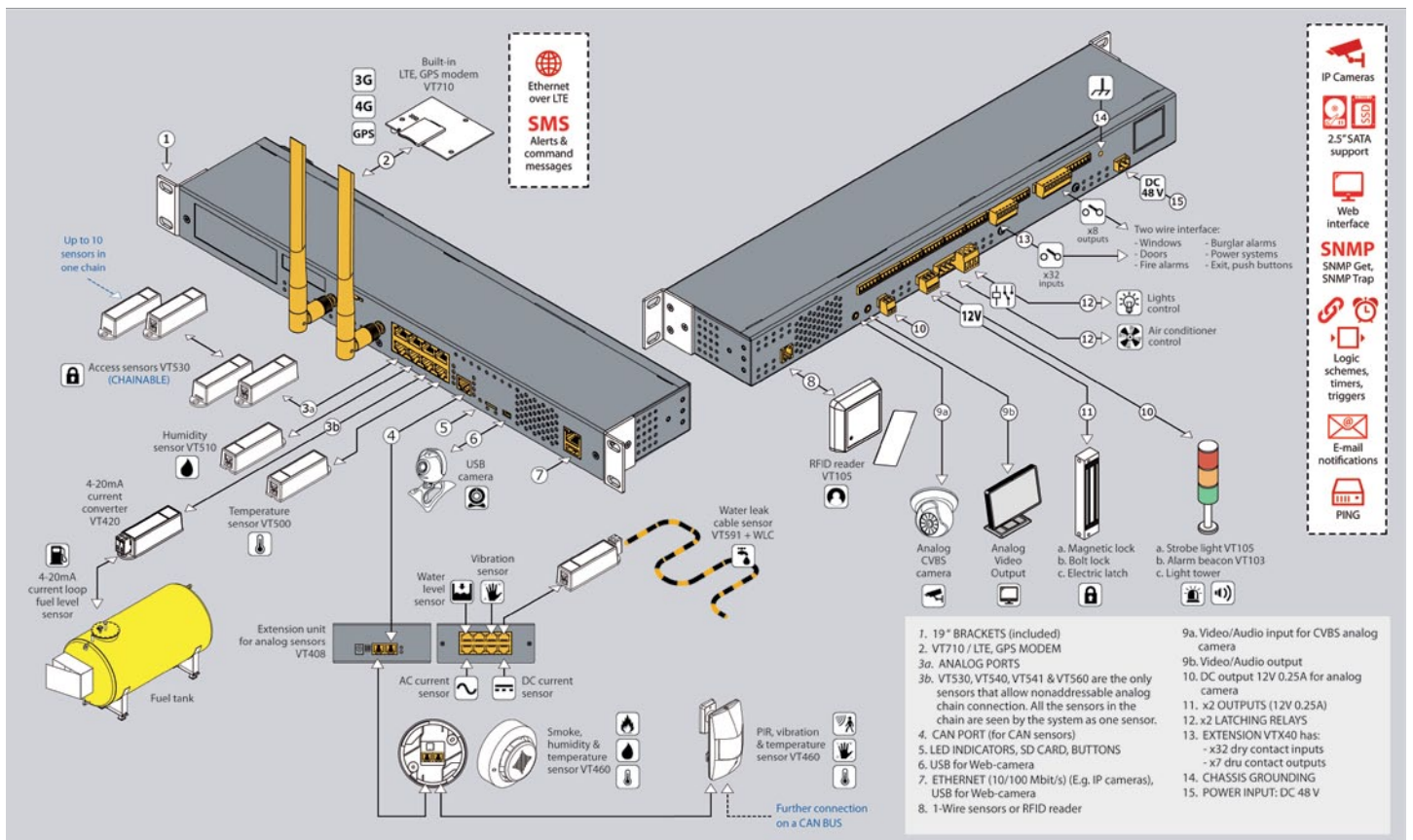


2.5" HDD or SSD  
support

=

- Saving logs
- Record video
- Run software, databases and scripts.

## Connection example





- 50 branches
- 37 countries

[www.vutlan.com](http://www.vutlan.com)

**VUTLAN**  
Monitoring & Control Systems

## Data center & Telecom environment monitoring and control

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