Environmental
Infrastructure monitoring

VUTLAN
Monitoring & Control Systems

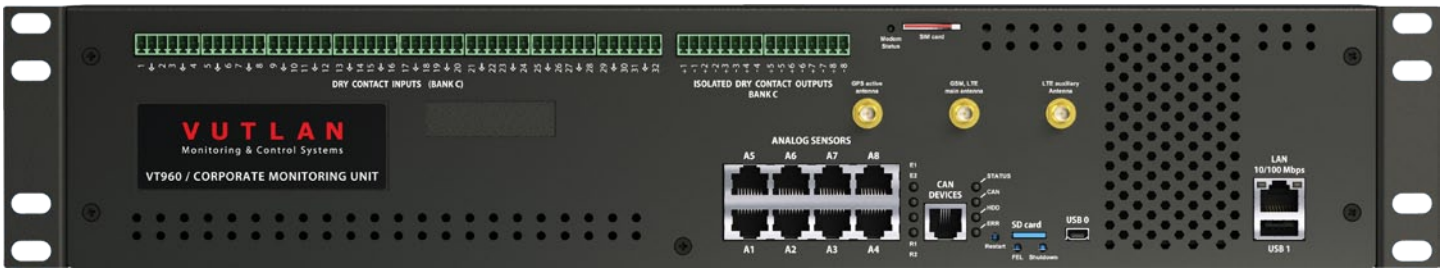
VT960 & VT960DC

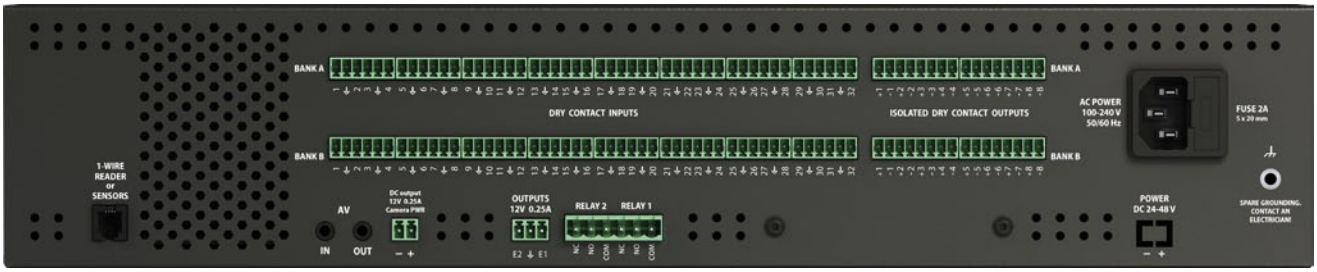
CORPORATE INFRASTRUCTURE MONITORING and CONTROL

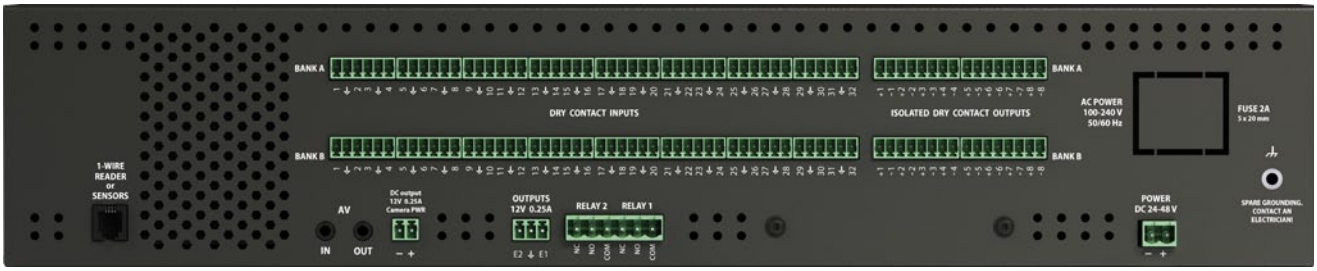
Up to x120 dry contacts & 1000 different elements.

Overview

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







HARDWARE:

- CAN port for digital sensors
- 8 AutoSense RJ-12 ports for sensors
- Min. x16, Max. 120 dry contacts (Bank A, B, C)
- USB port for web camera or for USB flash for saving logs
- x2 latching relays, x2 12V 0.25A output relays
- LEDs: power, relays, errors, CAN
- Onboard temperature, voltage and current sensor
- Internal access LTE modem extension slot (can work as a router)
- 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 (VT960) or DC 48 V (VT960DC)

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

"VT960, VT960 DC / Corporate 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, SSH. 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 elements

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

Internal LTE, GPS modem

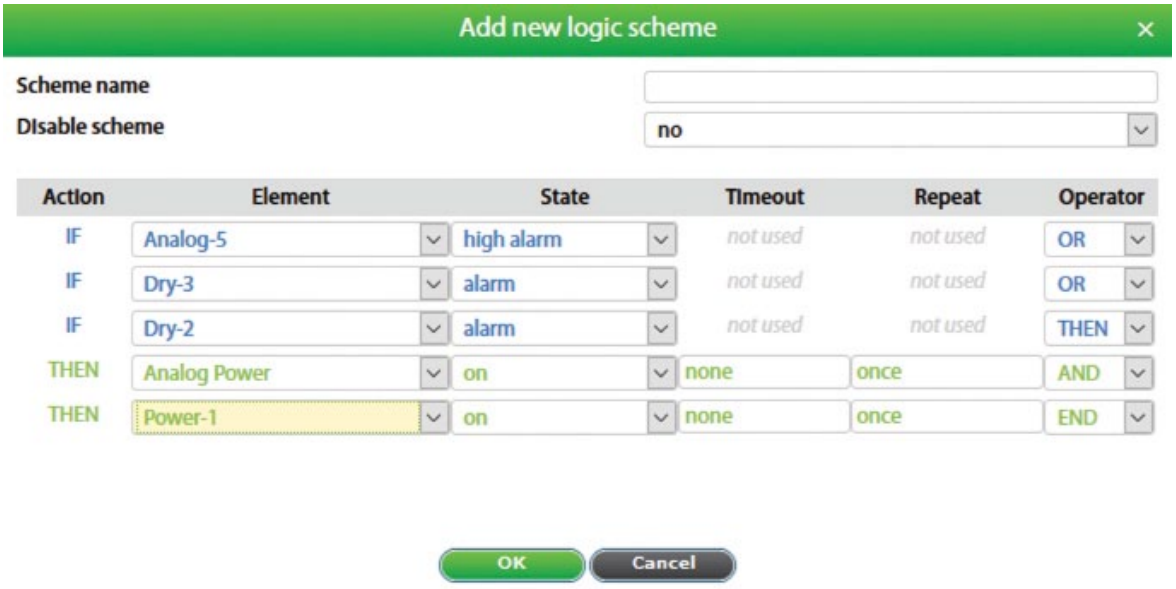
Provides ethernet over LTE. Can work as a router. Adds time over GPS. Allows to receive and send messages. Ordered separately. Possible to order additional auxiliary and GPS antennas.

Cameras

The unit can display pictures from a maximum of x4 IP cameras (p to 640x480 px), x1 USB camera, x1 analog camera (up to720x576 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.

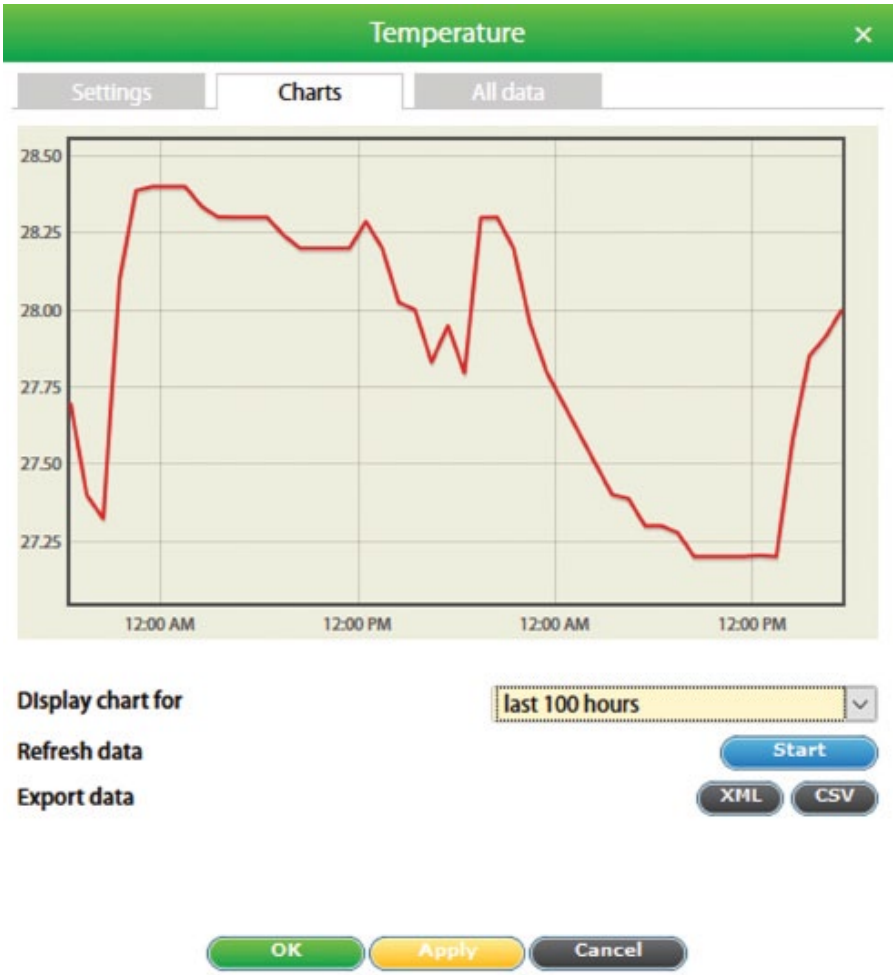


Virtual elements

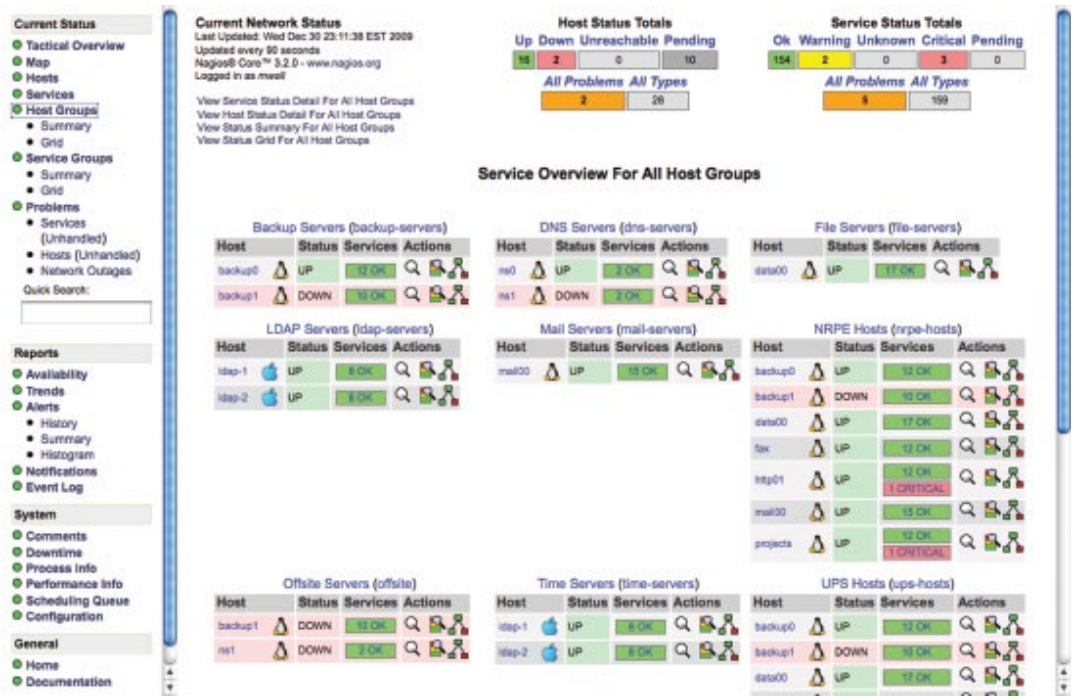
- E-mail, SNMP trap, SMS notifications
- Timers
- Triggers
- Pings
- IP Cams
- Groups
- Get SNMP

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 "VT960, VT960DC / Corporate Monitoring units":

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

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

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

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

and other...

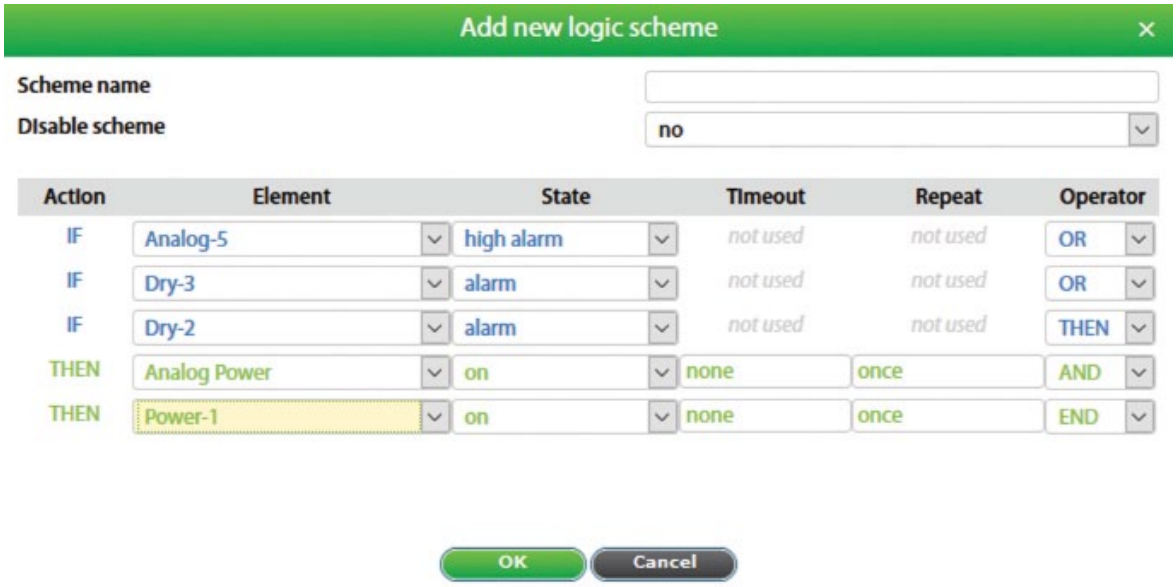
Please refer to www.vutlan.com for a complete list of Vutlan products. Products may change over time.

Security, Notifications and Alarms

"VT960, VT960DC/ Corporate 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.



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 мм2 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

Dimensions
1U, l 440 mm, L 44mm, D 110 mm
19" Rack mount (1U)
Weight 1.8 Kg

Power Requirements
90-240V, IEC C14, Fuse 2A or DC 48 V

Mounting
19" rack mount (1U))

System
Dual-core ARM Cortex-A7 / 1GHz / 1Gb
OS: Linux 4.14

Operation
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)

Power Consumption
30 Watt

Inputs
x1 CAN open port for digital sensors
Min. x16 dry contact inputs, Max. x120
x8 RJ-12 sensor ports
x1 Ethernet 10/100 Mbit/s port
AV IN (Video / Audio)

Outputs
x2 12V 0.25A relay outputs
x2 latching relays
x8, x16 or x24 dry contact outputs (with VTX40 boards)
AV OUT (Video / Audio)

Network Interface
Ethernet 10/100 Mbit/s

Status Indicators
LED indication for Power / Network connectivity
LED indication for CAN bus connection
Error LED
Relay LEDs
LEDs: CAN, Power, Relays and Error

Accessories
VT101 / Battery holder
VT112 / Rotatable mounting brackets

Operating Environment
Temperature: Min. -10° C - Max.80° C
Humidity : Min. 5%, Max. 80% (Non-Condensing)

Expansion Devices
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

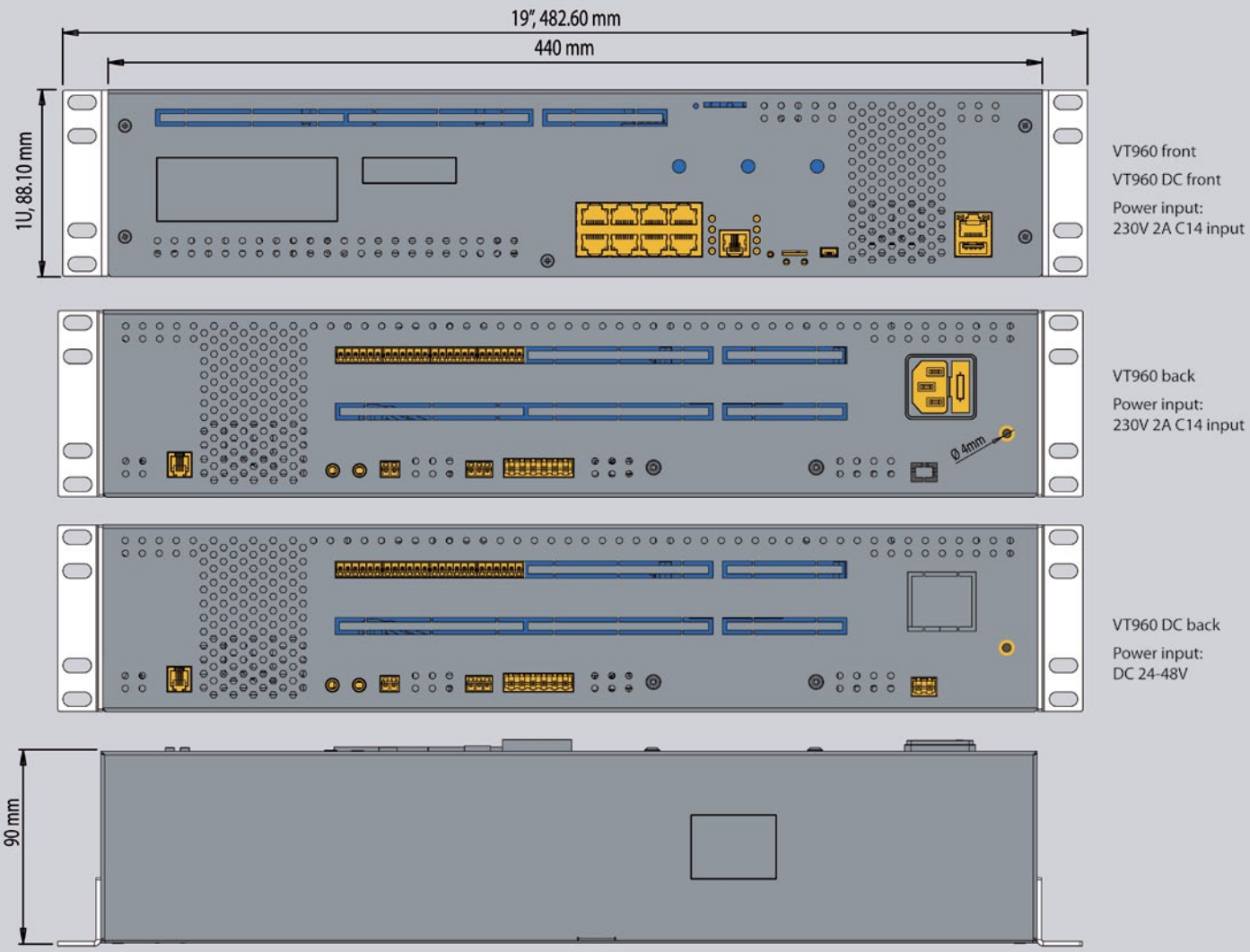
Sensors
Temperature sensor (1%)
Power supply voltage, current sensor (1%)

Other
USB (for USB Camera or or USB Flash for saving logs)
External earthing

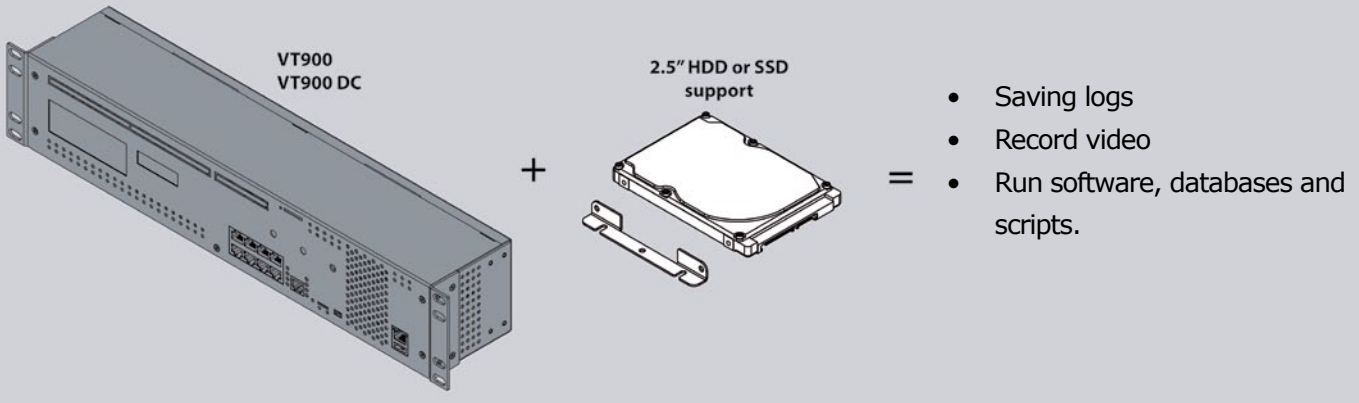
Components
Manufactured in EU.

Mounting, Dimensions & Order options

Dimensions

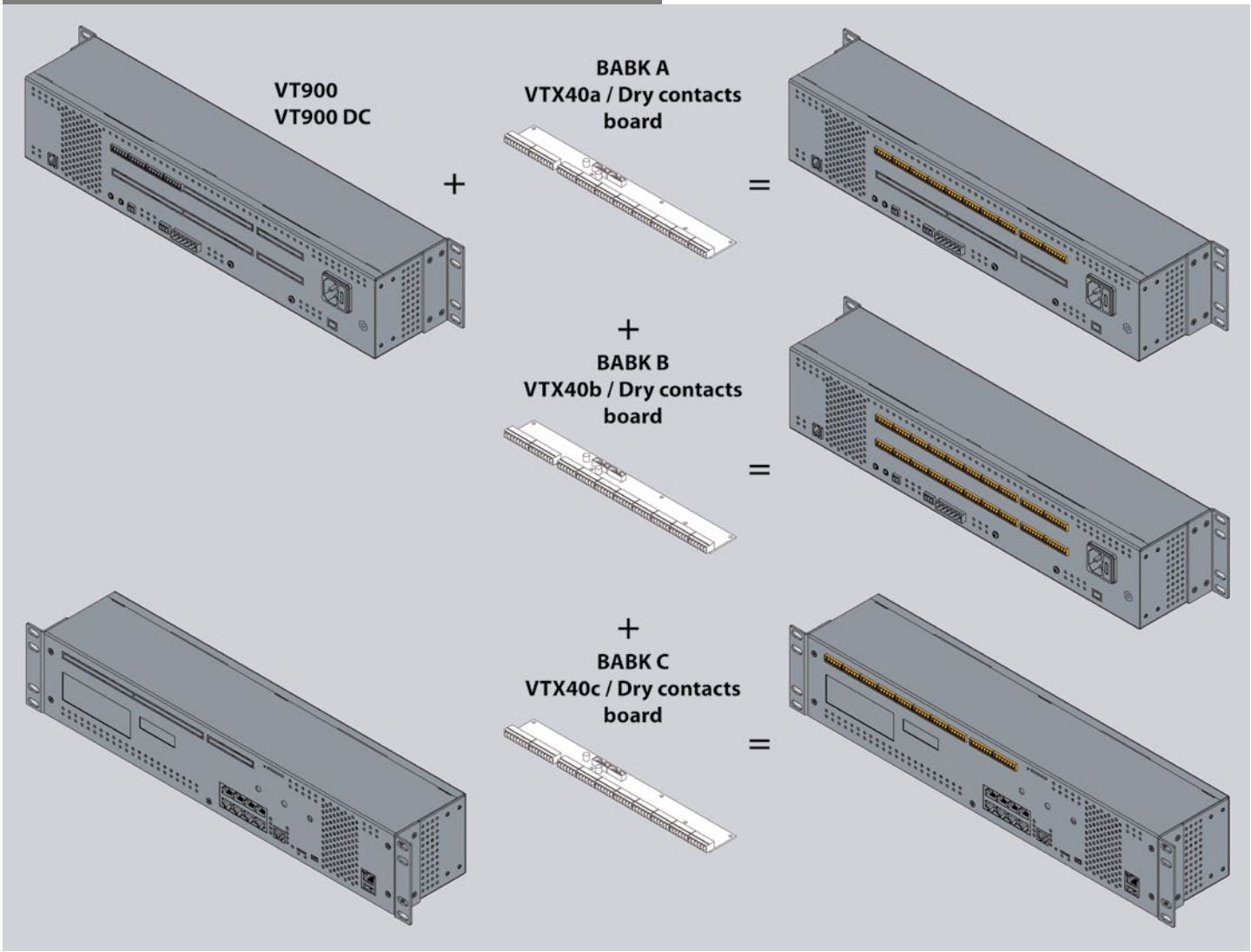


SATA support



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

Dry contacts extensions

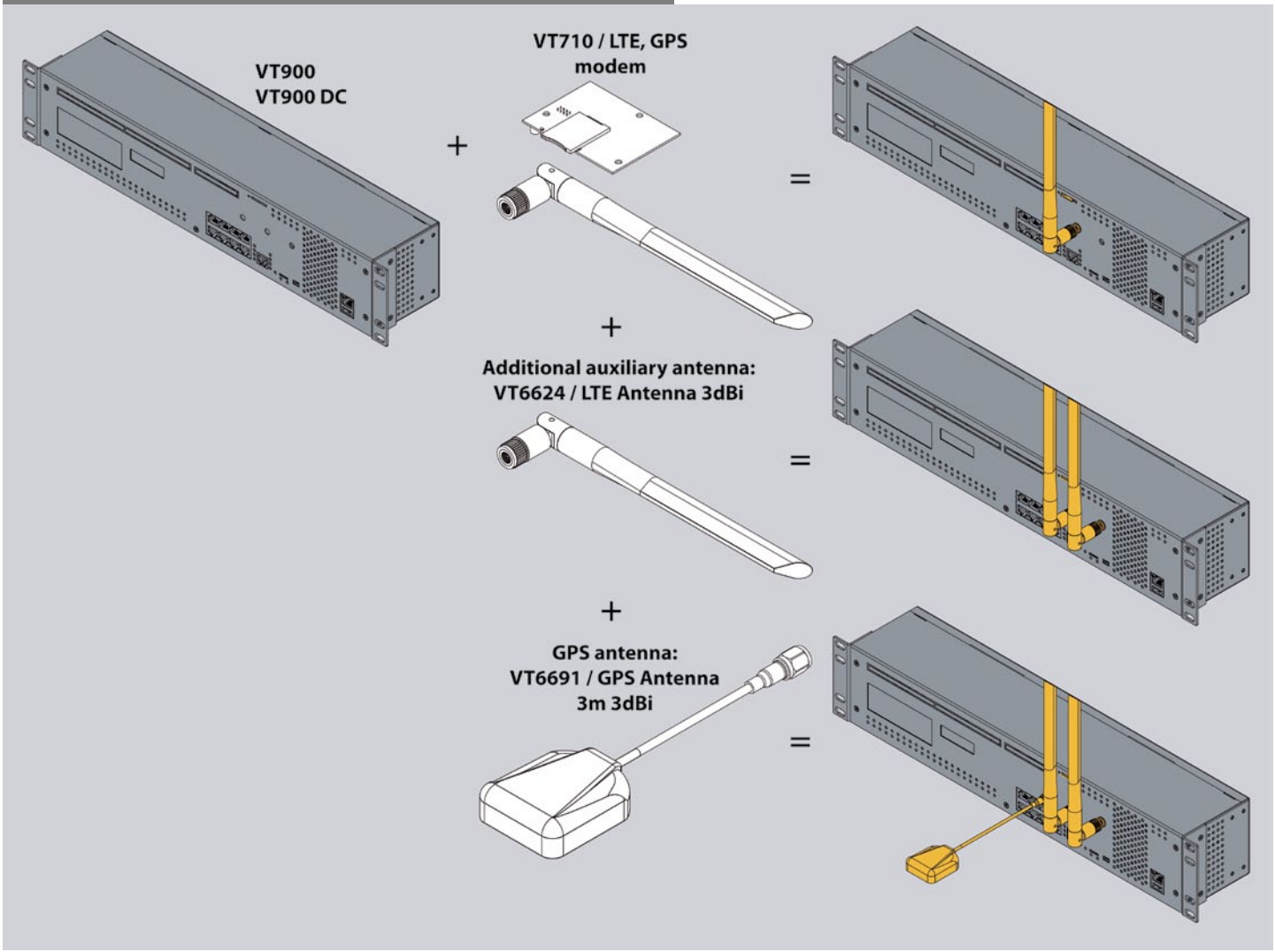


The unit has a built-in "VTX16 / Dry contacts board" which includes x16 dry contact inputs (two wire interface). Used for contacts of windows, doors, fire / burglar alarms, power systems, exit / push buttons. VTX16 is supplied by default.

Bank A, Bank B, Bank C (Max. x96 dry contact inputs, x24 dry contact outputs)

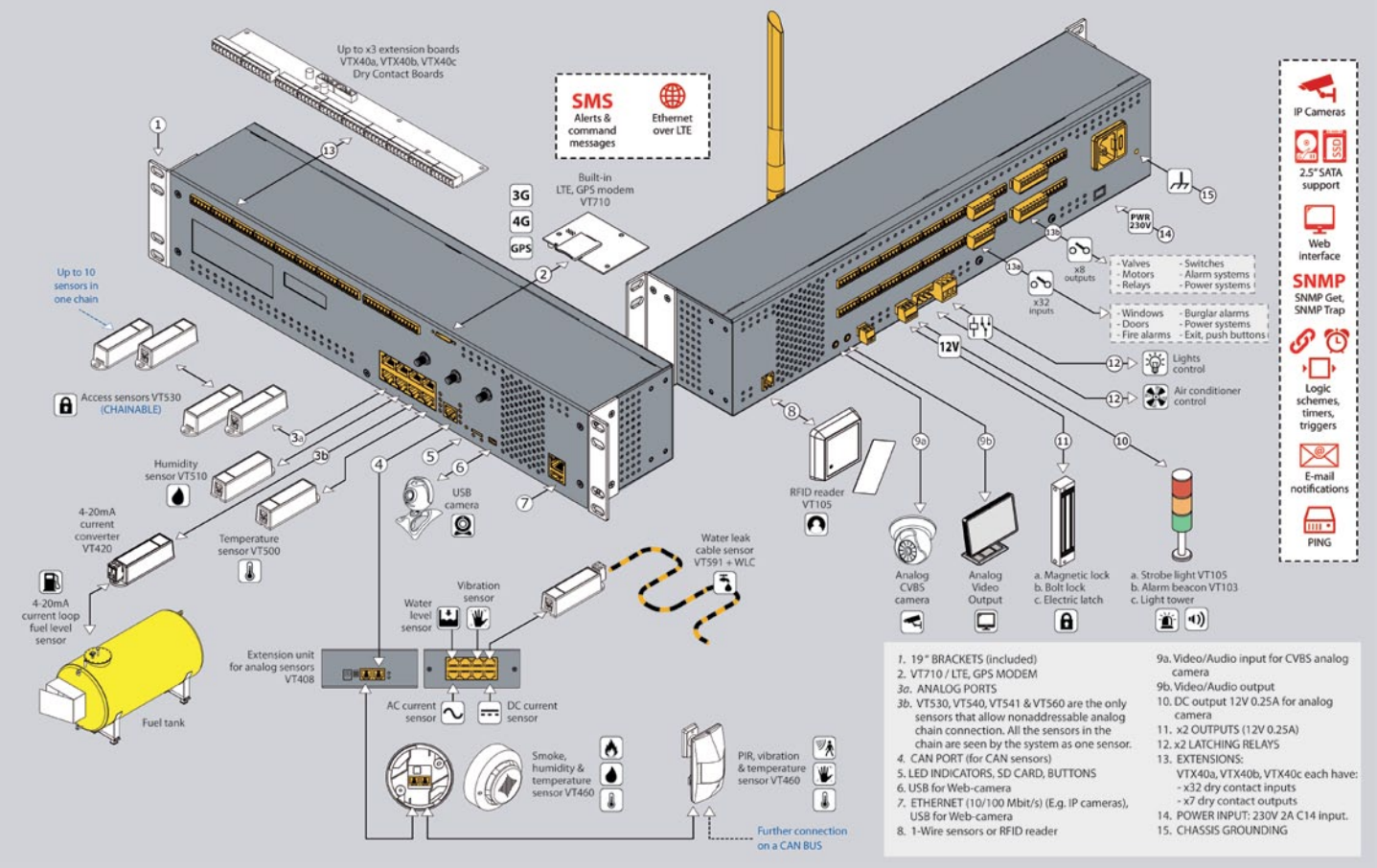
Possible to upgrade the unit using "VTX40a, VTX40b and VTX40c" for each corresponding bank. Each VTX40 has x32 dry contact inputs and x8 dry contact outputs. VTX40a replaces default VTX16 board.

LTE and GPS support



"VT710 / 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 for more stable signal and GPS antennas.

Connection example



- 50 branches
- 37 countries

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VUTLAN
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