

# Environmental Infrastructure monitoring

# VUTLAN

Monitoring & Control Systems

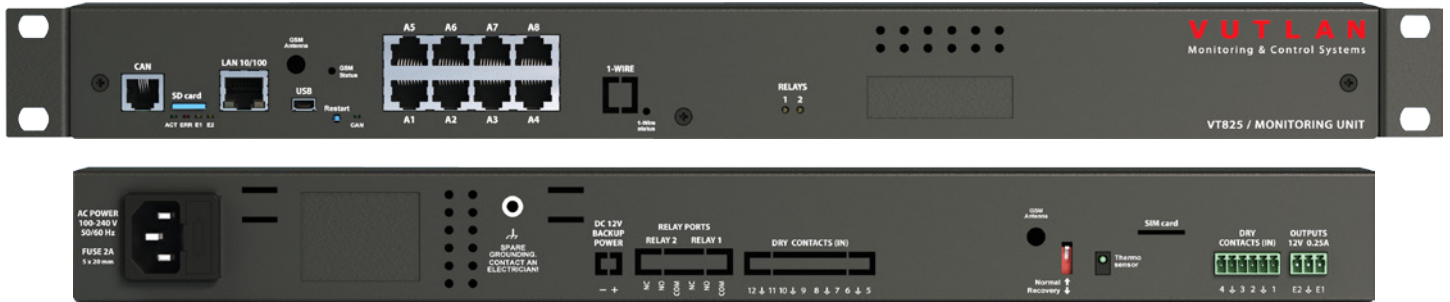


## VT825 / Environmental Monitoring unit

The unit is used for IT environmental control in data-centers, remote facilities, offices, industrial facilities & remote shelters.

# Overview

"VT825" is used for environment monitoring (room temperature, humidity, leakage, voltage, vibration, access, smoke, ...), notifications (SMS, SNMP, E-mail, Video, Alarm beacons) and control of cabinets, data centers, outdoor cabinets, telecom sites and other mission critical facilities.



## HARDWARE:

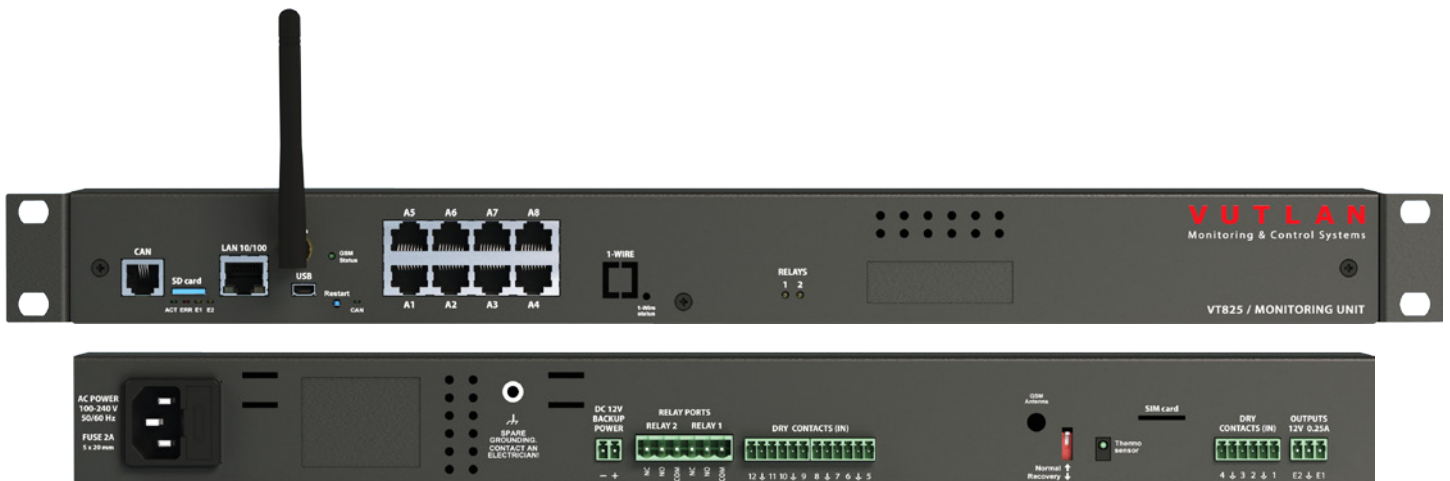
- CAN port for digital sensors
- 8 AutoSense RJ-12 ports for sensors
- 4 dry contact inputs
- USB port for web camera or for USB flash for saving logs
- Two 12V 0.25A output relays
- 100 Mbit Ethernet port
- External chassis earthing
- LEDs: power, relays, errors, CAN
- Onboard temperature sensor (1%)
- Internal GSM modem extension slot (GSM modem is ordered separately)
- Internal "VT10 / 1-Wire extension" slot or internal "VT18 / Extension slot" (extensions are ordered separately)

## SOFTWARE:

- Web interface
- Virtual sensors & elements: Group, E-mail, SNMP trap, SNMP Get, SMS, IP cams, PINGs, Triggers, Timers
- SNMP traps, SMS & E-mail notifications
- Supports SNMP v.1, v.2c, v.3
- Notifications: E-mail, SMS, Syslog, Event log, SNMP Trap, SNMP Get
- Configurable embedded logic
- Sensor graphing
- Multilanguage support
- User Access and Permissions

## OTHER:

- 2 Year warranty
- Manufactured in E.U.



"VT825 / Monitoring unit" has a Linux OS running an 300 MHz ARM 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.

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

"VT825 / Monitoring 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 VT800. 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.

<b>Processor: ARM926EJ 300 MHz</b>
<b>OS: Linux 3.10.101</b>
<b>ROM: 512 Mbit NAND Flash</b>
<b>RAM: 64 Mb</b>
<b>Operating temperature: 0 to 60 °C</b>
<b>Storage temperature: -25 to 85 °C</b>
<b>Operating humidity: 0 to 90 %, non-condensing</b>
<b>Storage humidity: 0 to 95 %, non-condensing</b>

<b>Ethernet 10/100 Mbit port</b>
<b>Built-in clock with time synchronization</b>
<b>RADIUS access with Login</b>
<b>Device Management: Web, SNMP, manually via SMS</b>
<b>Built-in watchdog timer</b>
<b>Alert types: FTP, Syslog, SMTP or SNMP, SMS (GSM modem is ordered separately)</b>
<b>Network protocols: DHCP, HTTP, HTTPS, SNMP, SMTP, SSL, FTP, Syslog, CAN, Get SNMP, TLS</b>

## Connect up to 4 IP Cameras

"VT825 / Monitoring unit" can display pictures from a maximum of four IP cameras simultaneously in several sizes, up to 640x480 pixels resolution.



## 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

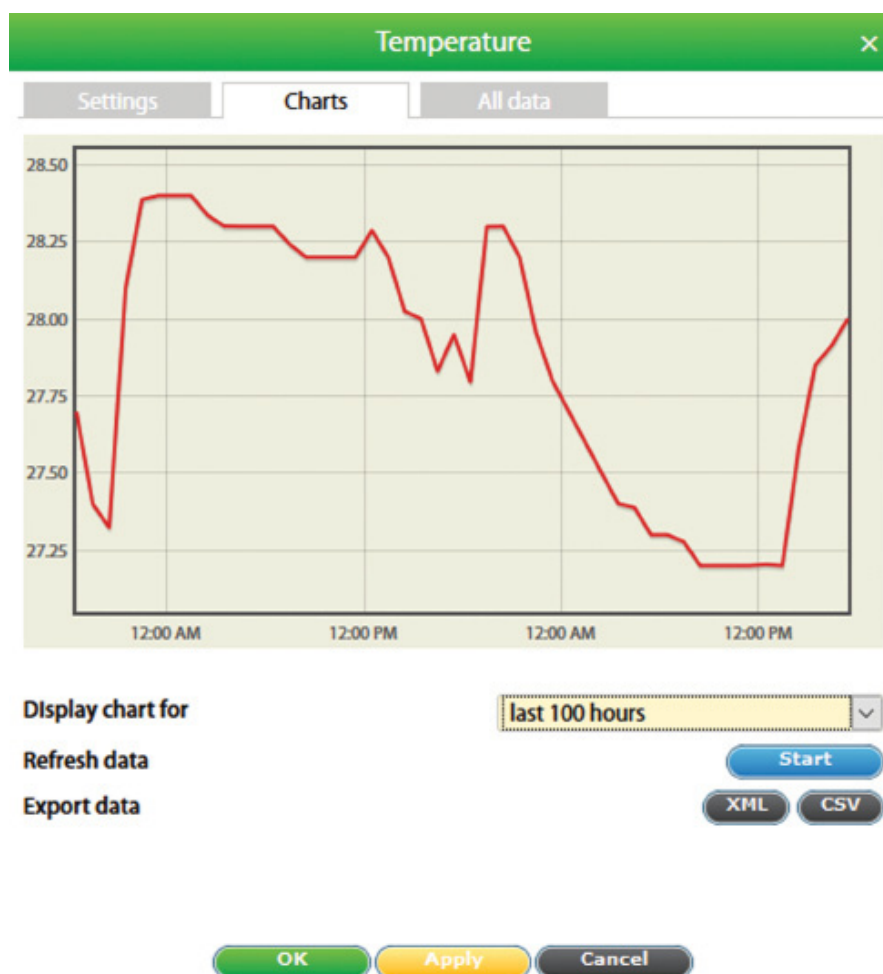
OK
Cancel

## Virtual elements

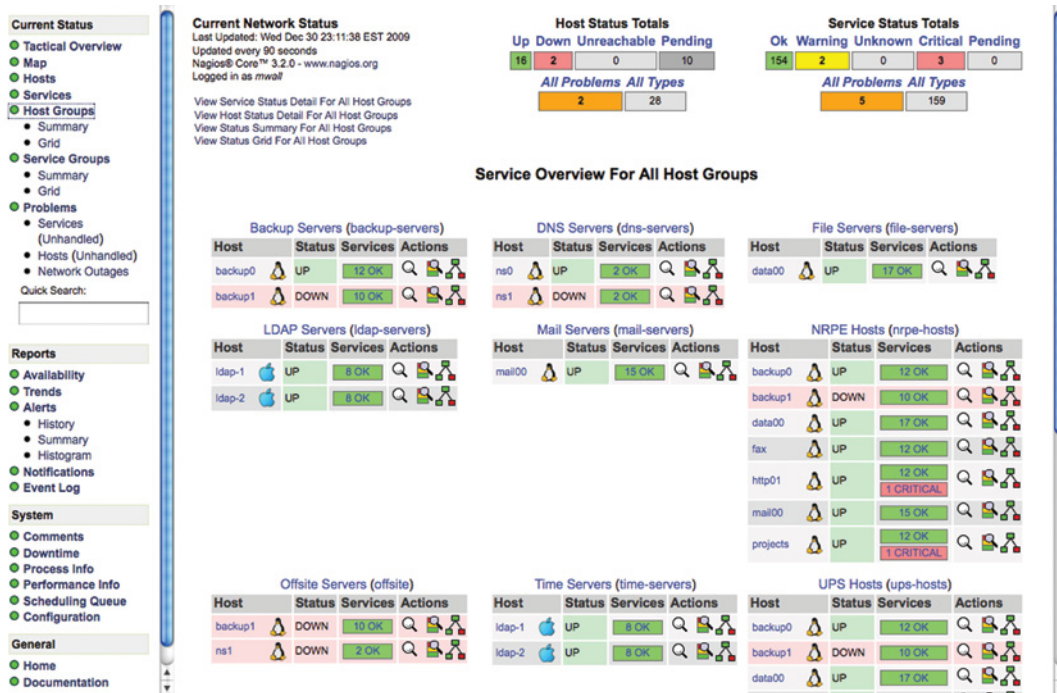
- E-mail, SNMP trap, SMS notifications
- Timers
- Triggers
- Pings
- IP Cams
- Groups
- Get SNMP

## 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 or USB flash. 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 "VT825 / Monitoring unit":

<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>VT700 / GSM modem</b>	Adds ability to receive and send SMS for control and notifications.
<b>VT10 / 1-Wire module</b> or <b>VT18 / Extension board</b>	VT10 adds 1-Wire port to the system. Refer to <a href="http://www.vutlan.com">www.vutlan.com</a> for available 1-Wire Vutlan sensors. VT18 adds 8 dry contacts inputs, 2 loads & 12V DC power backup terminal.

<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>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.
<b>VT520 / AC voltage monitor</b>	Sensor is needed for measurement of AC 110-240V

<b>Accessories (ordered separately)</b>	<i>Description</i>
<b>VT101 / Battery holder</b>	Used as a shelf for backup battery.
<b>VT112 / Rotatable mounting brackets</b>	Package includes 2 rotary brackets which allow to mount monitoring systems at an angle.

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

"VT825 / 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

- 12 V adapter
- EU Schuko C13 0.75 mm<sup>2</sup> 230V 10A cable
- RJ-45 1m patch cable
- 19" rack brackets - 2 pcs
- Self-adhesive rubber foot - 4 pcs
- M3 x 8 Phillips flat-head screws - 6 pcs
- Terminal plug 6 pins, 3.5 mm - 1 pcs
- Warranty card
- Terminal plug 3 pins, 3.81 mm - 1 pcs;
- Short description and connection guide



# VT825 Features List

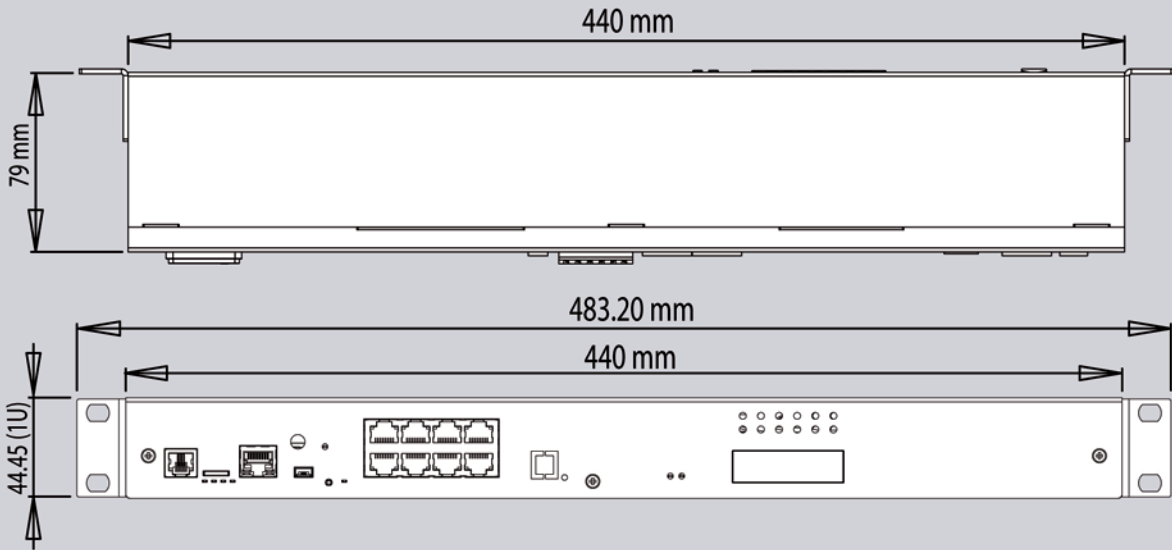
- Receive notifications of anomalous events via email, SMS / MMS, SNMP traps.
- Integrates with network management systems via SNMP v.1 and Encrypted SNMP v.3.
- Uses Linux operating system for maximum stability and flexibility.
- Web GUI for PC, smartphones and tablets; free firmware upgrades and utilities.
- Monitor up to 30 different sensors using expansion CAN units.
- Compatible with full range of different third-party sensors.
- Embedded web server displays sensor information and live video from connected cameras.

## Specifications

<b>Dimensions</b> W 440mm, H 44.45mm (1U), D 79.4 mm 19" Rack mount (1U) Weight 1.2 Kg	<b>Inputs</b> CAN open port 4 dry contact inputs 8 RJ-12 sensor ports Ethernet 10/100 Mbit/s	<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	<b>Network Interface</b> Ethernet 10/100 Mbit/s	<b>Expansion Devices</b> VT700 / GSM modem VT10 / 1-Wire board (adds 1-Wire bus for 1-Wire sensors) or VT18 / Extension board (adds 2 relays, 8 dry contact inputs & power backup terminal)
<b>Mounting</b> 19" rack mount (1U) Desktop (self-adhesive rubber foot included) Accessory VT112 (rotatable brackets for wall mount)	<b>Status Indicators</b> LED indication for Power / Network connectivity LED indication for CAN bus connection Error LED Relay LEDs	<b>Other</b> USB (for USB Camera or or USB Flash for saving logs) External earthing
<b>Power Consumption</b> 12 Watt	<b>Outputs</b> 2 * 12V 0.25A relay outputs GSM SMA	<b>Sensors</b> Temperature sensor (1%) Power supply voltage sensor (1%)
<b>Status indicators</b> LEDs: CAN, Power, Relays and Error	<b>Accessories</b> VT101 / Battery holder VT112 / Rotatable mounting brackets	<b>Components</b> Manufactured in EU.

# Mounting, Dimensions & Order options

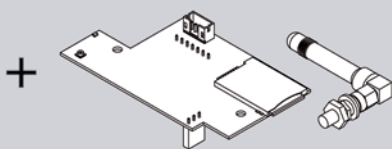
## Dimensions (VT825)



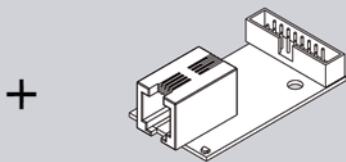
## Extensions order options (ordered separately)



**VT825 / Monitoring Unit**



**VT700 / GSM modem**

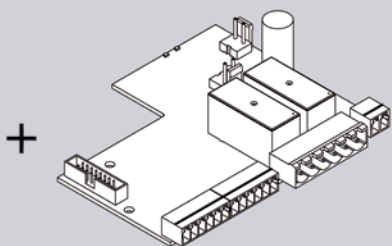


**VT10 / 1-Wire board**



or

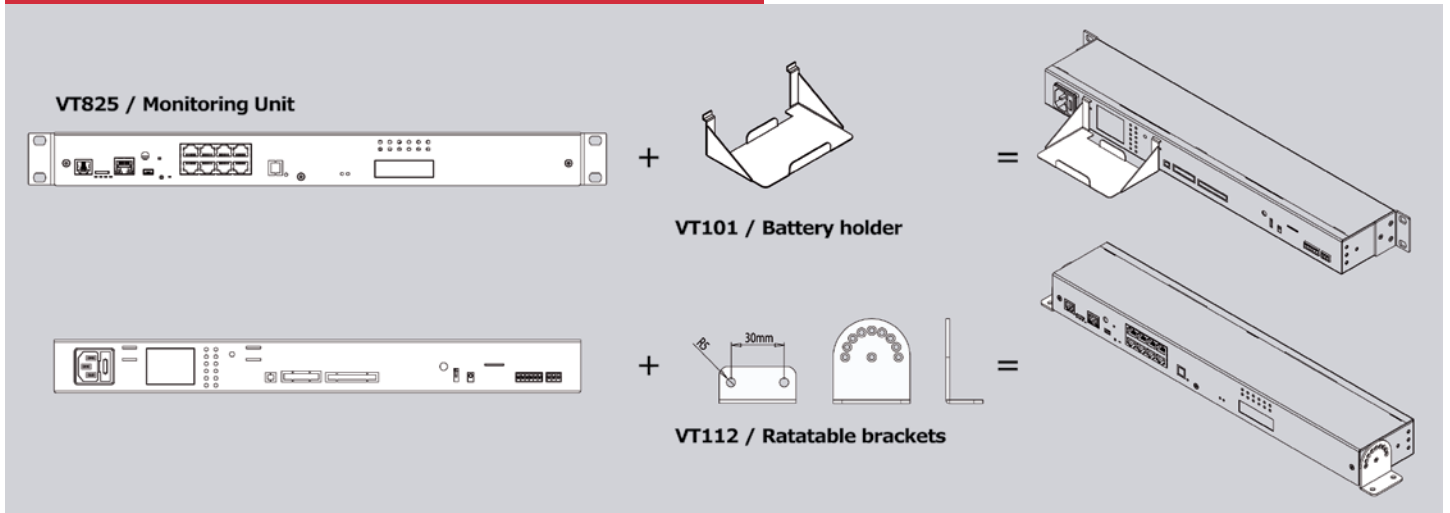
**VT10 & VT18 can not be installed at the same time**



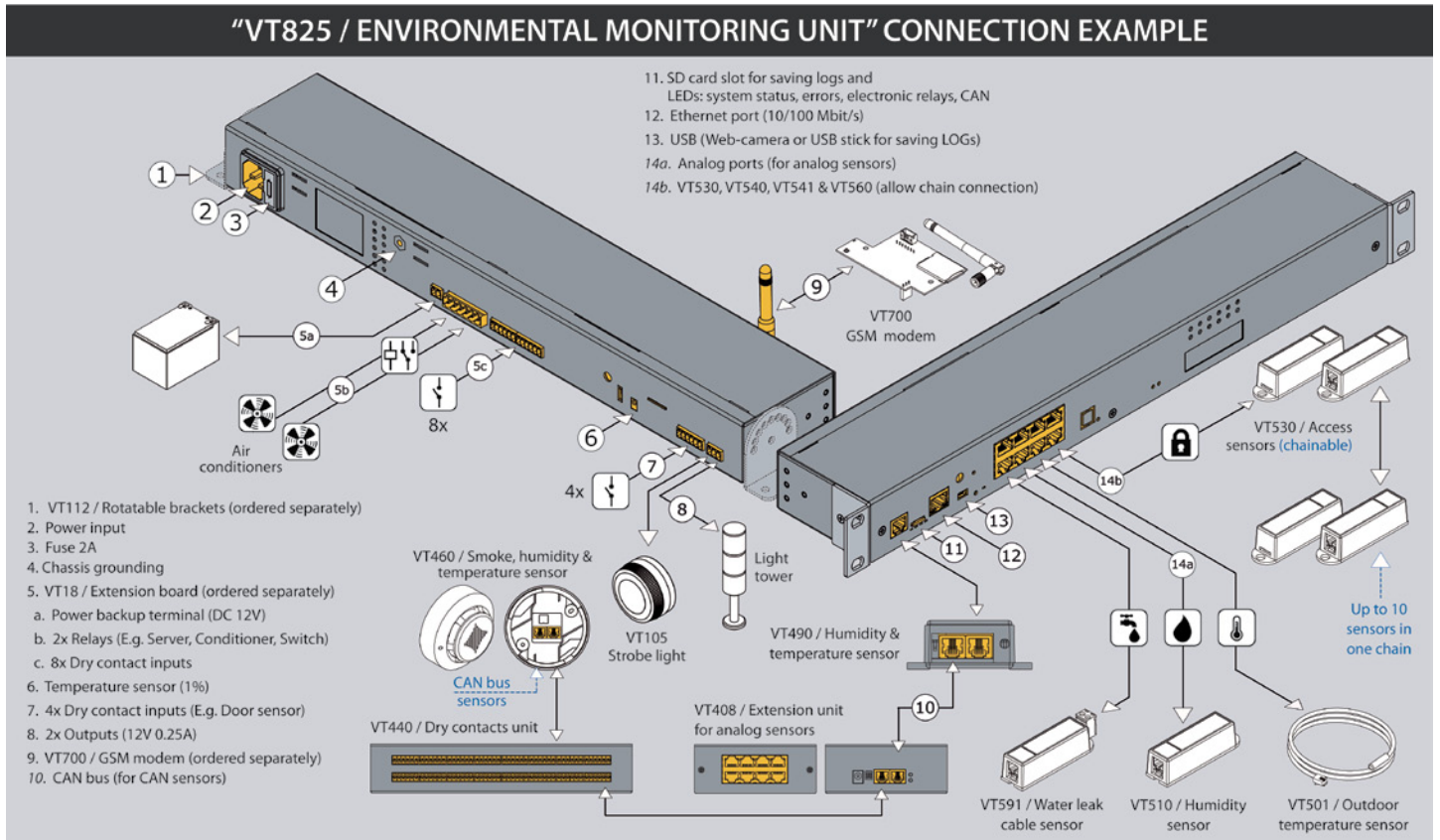
**VT18 / Extension board**



**Accessories order options (ordered separately)**



**Connection example**





▪ 33 countries

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

**VUTLAN**  
Monitoring & Control Systems

## Data center & Telecom environment monitoring and control

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