VT825 / Monitoring unit

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

**Compatible with all VT sensors.
Provides a complete environmental, accesscontrol and security monitoring solution.**

Overview

CE RoHS 2002/95/EC

"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.
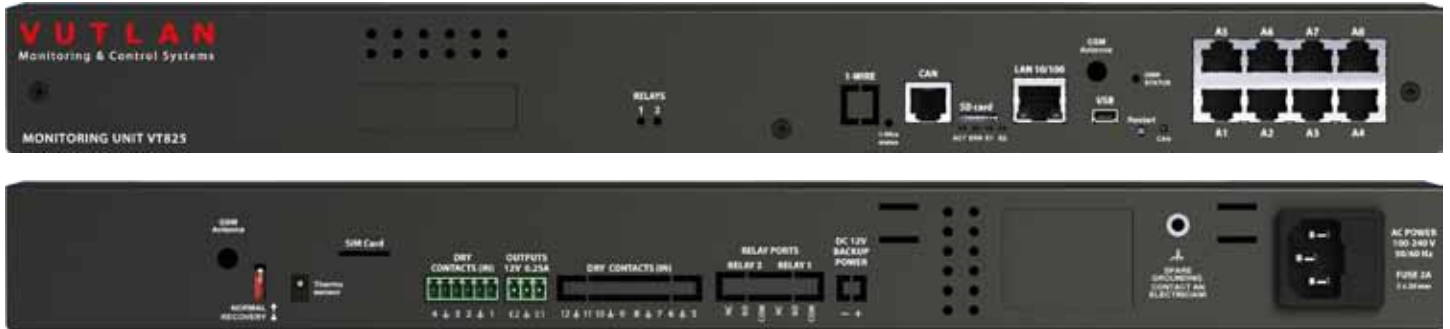
HARDWARE:

- 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.

Technical Data

$$\text{CE} \quad \text{RoHS}_{\text{2002/95/EC}}$$

"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.

Processor: ARM926EJ 300 MHz	**Ethernet 10/100 Mbit port**
OS: Linux 3.10.101	**Built-in clock with time synchronization**
ROM: 512 Mbit NAND Flash	**RADIUS access with Login**
RAM: 64 Mb	**Device Management: Web, SNMP, manually via SMS**
Operating temperature: 0 to 60 °C	**Built-in watchdog timer**
Storage temperature: −25 to 85 °C	**Alert types: FTP, Syslog, SMTP or SNMP, SMS (GSM modem is ordered separately)**
Operating humidity: 0 to 90 %, non-condensing	
Storage humidity: 0 to 95 %, non-condensing	**Network protocols: DHCP, HTTP, HTTPS, SNMP, SMTP, SSL, FTP, Syslog, CAN, Get SNMP, TLS**

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.

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.

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

SNMP based NMS software
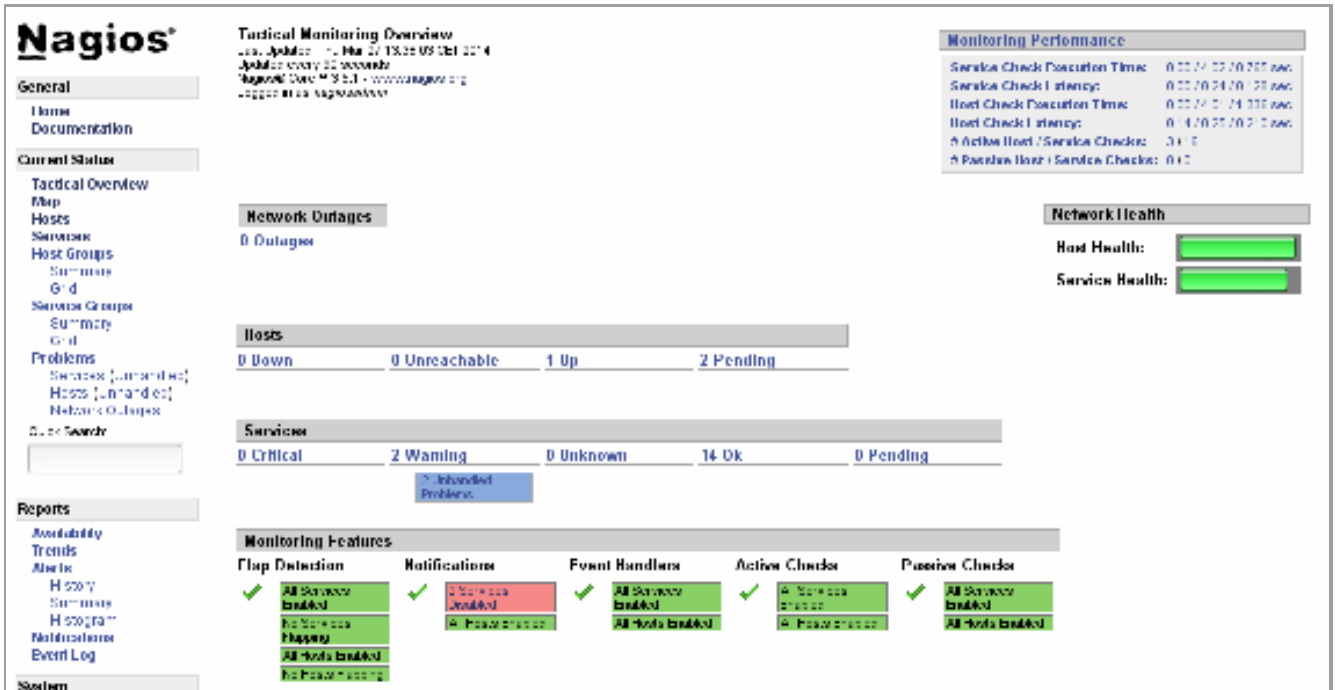
NMS monitors your network 24/7 to timely alert you to issues before they become emergencies. Allow you to achieve instant awareness of IT infrastructure problems, so downtime doesn't adversely affect your business. Usual NMS software offers complete monitoring and alerting for servers, switches, applications, 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":

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

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

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

Please refer to 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.

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
- RJ-45 1m patch cable
- Self-adhesive rubber foot - 4 pcs
- Terminal plug 6 pins, 3.5 mm - 1 pcs
- Terminal plug 3 pins, 3.81 mm - 1 pcs;

- EU Schuko C13 0.75 мм2 230V 10A cable
- 19" rack brackets - 2 pcs
- M3 x 8 Phillips flat-head screws - 6 pcs
- Warranty card
- 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

Dimensions
W 440mm, H 44.45mm (1U), D 79.4 mm
19" Rack mount (1U)
Weight 1.2 Kg

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

Mounting
19" rack mount (1U) Desktop (self-adhesive rubber foot included) Accessory VT112 (rotatable brackets for wall mount)

Power Consumption
12 Watt

Status indicators
LEDs: CAN, Power, Relays and Error

Inputs
CAN open port
4 dry contact inputs
8 RJ-12 sensor ports
Ethernet 10/100 Mbit/s

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

Outputs
2 * 12V 0.25A relay outputs
GSM SMA

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
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)

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

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

Components
Manufactured in EU.

Mounting, Dimensions & Order options

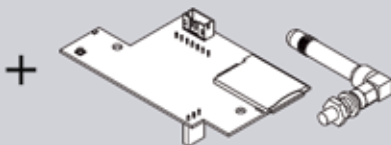## Dimensions (VT825)

440 mm

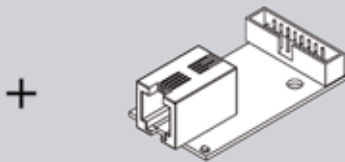79 mm

483.20 mm

440 mm

44.45 (1U)
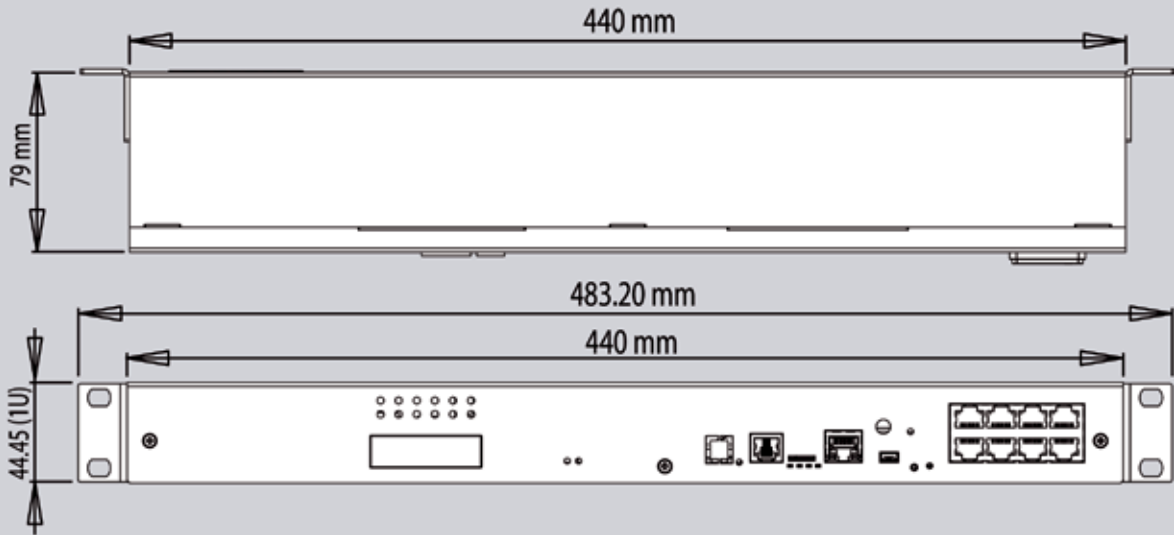
Extensions order options (ordered separately)
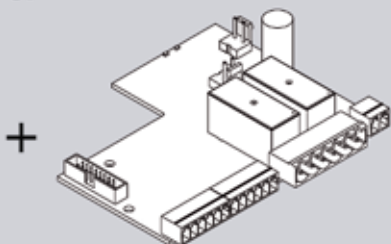

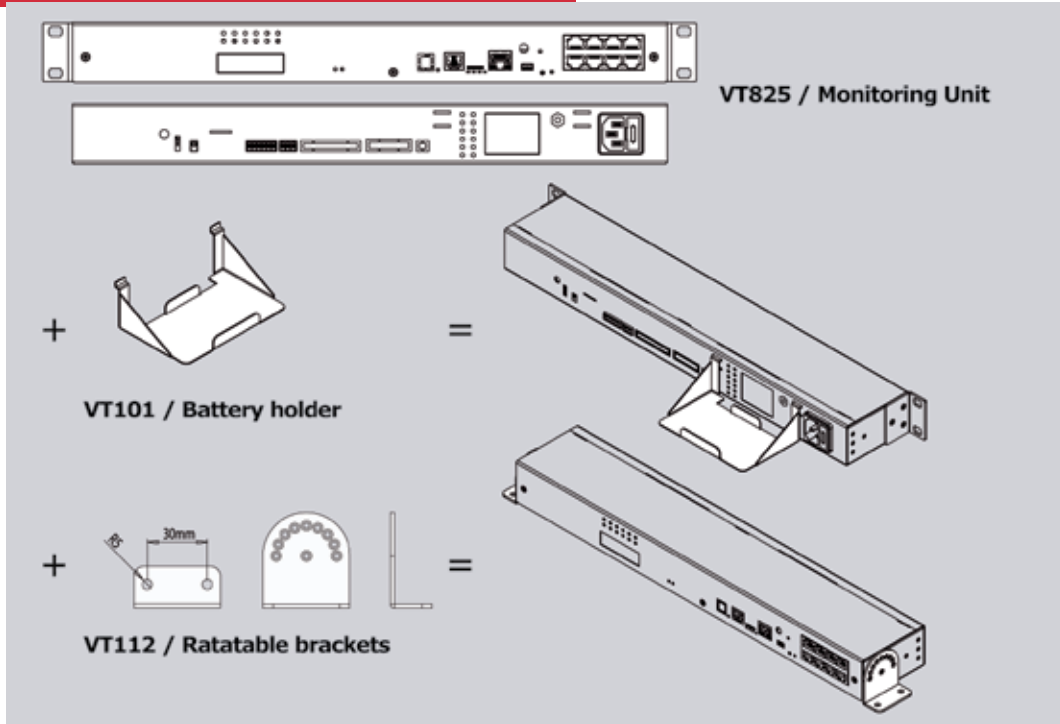VT825 / Monitoring Unit

+ VT700 /GSM modem =
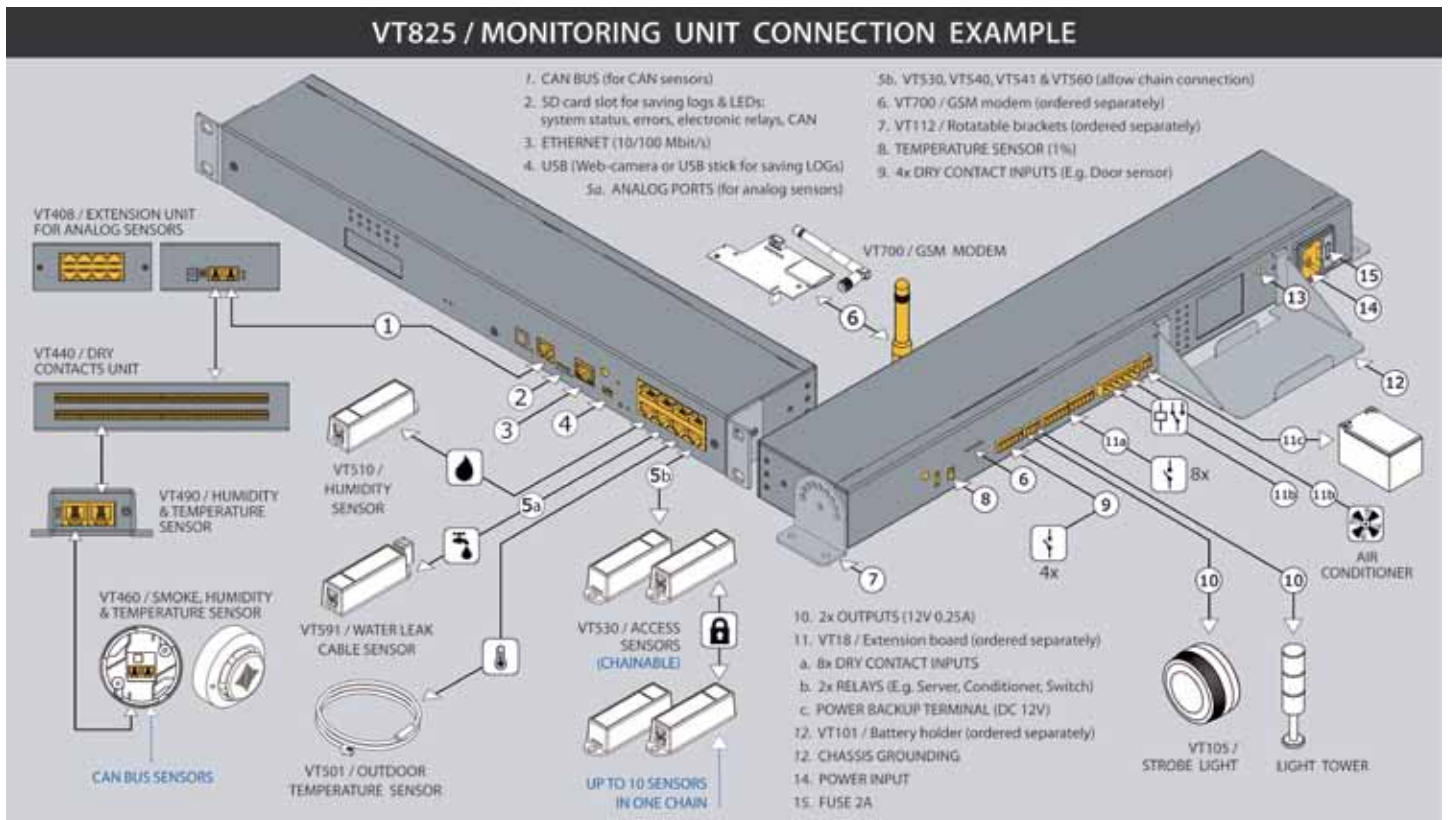
+ VT10 / 1-Wire board =

or

+ VT18 / Extension board =

VT10 & VT18 can not be installed at the same time

Accessories order options (ordered separately)

VT825 / Monitoring Unit

+ VT101 / Battery holder =

+ VT112 / Ratatable brackets =

Connection example

VT825 / MONITORING UNIT CONNECTION EXAMPLE

1. CAN BUS (for CAN sensors)
2. SD card slot for saving logs & LEDs: system status, errors, electronic relays, CAN
3. ETHERNET (10/100 Mbit/s)
4. USB (Web-camera or USB stick for saving LOGs)
5a. ANALOG PORTS (for analog sensors)
5b. VT530, VT540, VT541 & VT560 (allow chain connection)
6. VT700 / GSM modem (ordered separately)
7. VT112 / Rotatable brackets (ordered separately)
8. TEMPERATURE SENSOR (1%)
9. 4x DRY CONTACT INPUTS (E.g. Door sensor)

VT408 / EXTENSION UNIT FOR ANALOG SENSORS

VT440 / DRY CONTACTS UNIT

VT490 / HUMIDITY & TEMPERATURE SENSOR

VT460 / SMOKE, HUMIDITY & TEMPERATURE SENSOR

CAN BUS SENSORS

VT510 / HUMIDITY SENSOR

VT591 / WATER LEAK CABLE SENSOR

VT501 / OUTDOOR TEMPERATURE SENSOR

VT530 / ACCESS SENSORS (CHAINABLE)

UP TO 10 SENSORS IN ONE CHAIN

VT700 / GSM MODEM

4x

8x

AIR CONDITIONER

VT105 / STROBE LIGHT

LIGHT TOWER

10. 2x OUTPUTS (12V 0.25A)
11. VT18 / Extension board (ordered separately)
 a. 8x DRY CONTACT INPUTS
 b. 2x RELAYS (E.g. Server, Conditioner, Switch)
 c. POWER BACKUP TERMINAL (DC 12V)
12. VT101 / Battery holder (ordered separately)
12. CHASSIS GROUNDING
14. POWER INPUT
15. FUSE 2A

■ **33 countries**

www.vutlan.com

VUTLAN
Monitoring & Control Systems

Data center & Telecom environment monitoring and control

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