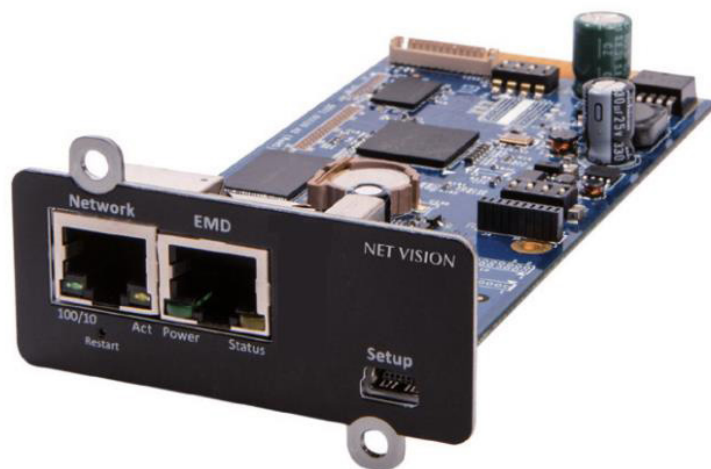


OPERATING  
AND  
INSTALLATION  
MANUAL

# NET-VISION

Version 8.x

EN



|  |           |
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# 1. ELECTRONIC EMISSION NOTICE

## 1.1. FEDERAL COMMUNICATIONS COMMISSION (FCC)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

### 1.1.1. CE NOTICE

This device complies with the EMC directive of the European Community and meets or exceeds the following technical standard:

- EN 55032:2015/A1:2020, Class B – “Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment.” This device complies with the CISPR Class B standard
- EN IEC 61000-3-2:2019/A1:2021 – “Electromagnetic compatibility”

# 2. SAFETY INFORMATION

## 2.1. FOR NET VISION CARD

- All servicing of this equipment must be performed by qualified service personnel. Remove rings, watches, and other jewellery before servicing the unit.
- Before plugging in/pulling out the NET VISION card to/from the UPS, please make sure that the power supplying the UPS has been switched off or on maintenance bypass for MASTERYS, MODULYS and DELPHYS UPS. Hot swap of the NET VISION in UPS is inhibited.

## 2.2. FOR NET VISION BOX

- To reduce the risk of fire or electric shock, install the unit in a temperature-controlled indoor area free of conductive objects. Do not place the unit near liquids or in an excessively humid environment.
- Do not allow liquids or foreign objects to enter the unit
- The unit does not contain any user-serviceable parts. Do not open the unit.
- All servicing of this equipment must be performed by qualified service personnel. Remove rings, watches, and other jewellery before servicing the unit.
- Before maintenance, repair or shipment, the unit must be switched off completely and unplugged and all connections removed.
- Before plugging in the NET VISION power adaptor, please make sure the power source rating matches the NET VISION power adaptor rating.

## 3. GENERAL DESCRIPTION

### 3.1. NET VISION PRESENTATION

NET VISION is a network adapter for the professional monitoring and remote control of a single and modular UPS or parallel UPS system.

The NET VISION network adaptor allows a UPS to connect directly the Ethernet network allowing secure management of the UPS over the network using a web browser or NMS application via SNMP. The protocols used for connection are independent of the platform and operating system, therefore NET VISION is extremely flexible and suitable for all systems.

In addition to monitoring and control, the NET VISION interface provides a high level of protection for standalone servers or hosts managing virtual machines powered by the UPS.

In critical conditions, up to 250 devices powered by the UPS can be switched off in an orderly sequence whilst ensuring data integrity.

The remote shutdown is provided by a client shutdown to be installed on all standalone servers (JNC) or on a virtual machine (VIRTUAL-JNC) that require this automatic function.

JNC and VIRTUAL-JNC are shutdown agent software available for free on SOCOMEC's web site.

### 3.2. SOCOMEC UPS COMPATIBILITY

NET VISION is compatible with the following SOCOMEC UPS products:

- NETYS PR
- NETYS RT
- ITYS All ranges
- ITYS-PRO
- MODULYS All ranges
- MASTERYS All ranges
- DELPHYS MP - MX
- DELPHYS BC - GP - Xtend - XL

## 3.3. NET VISION FEATURES

### 3.3.1. UPS FUNCTIONS

- Real-time UPS health monitoring
- Comprehensive UPS management and flexible configuration via Web Browser
- Automatic detection of UPS architecture: single, modular, or parallel system
- Battery test management (if supported by UPS)
- UPS controls (If enabled by UPS)
- UPS date and time synchronisation (if enabled by UPS)
- Automatic UPS events notification via E-mail and SNMP Trap
- Complete shutdown procedure to protect up to 250 servers/workstations or HOSTS/VM from data loss due to power outage
- Scheduling shutdown/start-up/reboot of UPS via remote control (only for single phase UPS)
- Regularly records UPS parameters for statistical analysis and event diagnostics

### 3.3.2. NETWORK SERVICES

- Assigned IP automatically via DHCP or BOOTP
- Standard RFC1628 UPS MIB and NET VISION proprietary MIB supported
- 10/100Mbps and 1Gbps fast Ethernet auto-sense network environment
- Configuration utility simplifies the firmware upgrade process
- Radius users account support
- IPv4 and IPv6 dual-stack
- Supports MODBUS TCP protocol to connect monitoring equipment
- Digital output to support relay control device (EMD)
- Firewall network access control avoiding non-authorized IP access

### 3.3.3. NETWORK PROTOCOLS

- IPv4 / v6
- TLS 1.3
- HTTP / HTTPS with certificate
- DHCP / BOOTP
- SNMP v1 / v2c / v3 (MD5-SHA / DES-AES)
- SMTP over TLS
- SSH v2
- UPnP
- NTP / NTS
- WOL
- RADIUS
- TFTP
- SYSLOG over TLS

## 3.4. CYBERSECURITY

NET VISION, as any devices connected to an Ethernet network, must be protected against any risk of cyber-attack or data loss/destruction. This protection is the responsibility of the user of the NET VISION device.

Therefore, the recommendations below must be in line with the IT system security policy implemented on site, where the NET VISION device is connected.

### AWARENESS OF THE SECURITY POLICY:

NET VISION users and administrators are aware of and trained in good IT security practice (information and compliance with corporate security policy, authentication procedure management and password safety, online session management, risks of fishing...)

### NETWORK SECURITY:

The IT system architecture must be able to safeguard resources, by segmenting the network according to their degree of sensitivity and using a variety of protective devices (firewall, demilitarized zone, VLAN, network anti-virus etc.).

### DEVICE SECURITY:

Device security depends on its network environment, but also user behavior. In terms of the environment, elementary protective measures (filtering authorized stations by MAC address, opening service ports, selecting authorized applications etc.) are highly recommended.

### DATA SECURITY:

Data security covers several aspects, in particular the confidentiality, integrity, authenticity and availability of data. Special care is required with data security and archiving procedures on backup devices both inside and outside the company.

### ACCESS AND AUTHENTICATION MANAGEMENT:

Managing access to resources and data is a crucial element of the IT system's security policy. Each user requires an account and access rights corresponding to their profile. Access to the IT system's resources is controlled by a user authentication process, based on a minimum of a high-security username and password. The password management procedure, specifying the systematic modification of default passwords and their validity period, is included in the IT system's security policy.

### CERTIFICATION

An independent Company expert in Cybersecurity, recognized by the ANSSI, has been certified that NET VISION technical security level is compliant with the state of art of the OWASP security recommendation / ISO27002:2022 standard.

The official attestation document is available on demand.



### Recommendations to enhance NV security:

- Enabled HTTPS protocol and disable HTTP
- In case of using HTTP port to change port 80 to local port 8080 for example
- Disable all protocols and ports not used (SSH, PING, SMTP, UPnP, WOL, MODBUS TCP...)
- Change regularly the admin password. This password is valid for 90 days by default.
- Add user credentials for read only access



## 3.5. CERTIFICATE FOR HTTPs CONNECTION

### 3.5.1. USING HTTPs WITH CERTIFICATE.

Net Vision allows uploading an external certificate.

File format:

- .pem extension
- 8Kb max size
- Including Private key and Certificate sections:

```
-----BEGIN PRIVATE KEY-----
QlmljhdLIUHVG...
-----END PRIVATE KEY-----
-----BEGIN CERTIFICATE-----
mzoeeirOUBgytv...
-----END CERTIFICATE-----
```

Upload CA file:

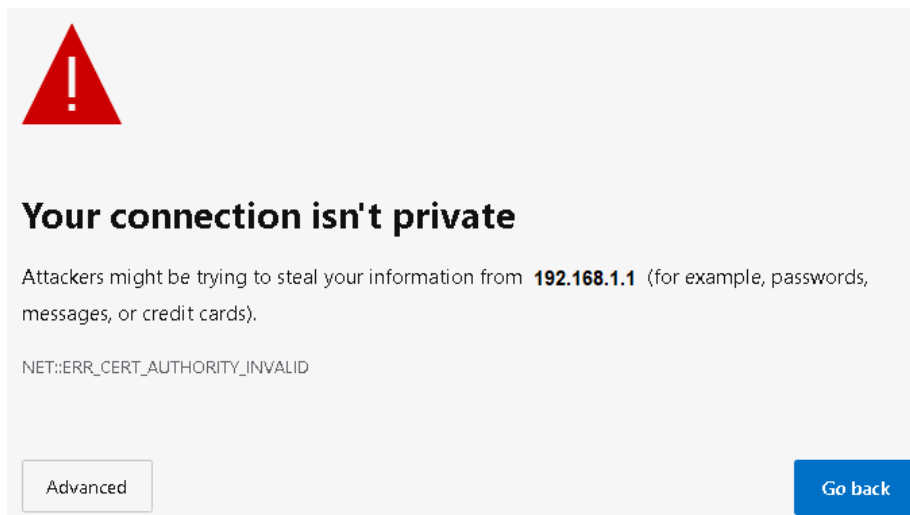
- Select the .pem file
- Upload

The Net Vision configuration page shows the name of current certificate in used. It is possible to remove the certificate clicking on remove button.

|                |  |
|----------------|--|
| Upload CA file | <input type="button" value="Choose File"/> No file chosen                                      |
|                | <input type="button" value="Upload"/> nvtest.pem <input type="button" value="Remove CA file"/> |

After enabling HTTPs protocol the secure connection can be performed.

Forcing the connection in case of self-generated certificate without Certification Authorities (trusted or not).



Select Advanced, and continue to site

Even in case of not secure warning, the HTTPs connection initiates with Net Vision using the uploaded certificate



The response time can be long during page downloading due to html page encryption algorithm.

### 3.5.2. USING HTTPs WITHOUT CERTIFICATE.

In that case the auto-generate certificate by Net Vision is used for the HTTPs connection. (Root CA – cacert.crt)

## 4. REQUIREMENTS

### 4.1. WEB BROWSER

NET VISION interacts with the end user through a web browser. All web browsers compliant with HTML, js and XML technologies can access to NET VISION pages.

### 4.2. NET VISION EXPLORER

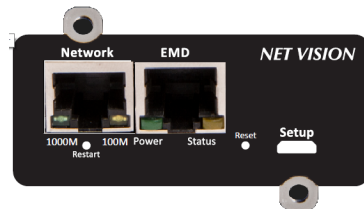
This tool must be installed in a Windows™ computer to configure IP settings, to upload the NET VISION configuration, or to upgrade the FW. Please refer to the Appendix.

NET VISION Explorer detects all UPS connected on the same local network through NET VISION. This tool helps to check the IP addresses of each NET VISION.

NET VISION Explorer is compliant with all NET VISION FW versions from V5 to V8.

## 5. NET VISION INSTALLATION

NET VISION Card



NET VISION Card is installed and screwed into one of the available COM-Slots. The metallic front part can be adapted, to fix the NET VISION to com-Slot depending on the UPS model. NET VISION is powered by the UPS and communicates through serial link to the internal  $\mu$ C board of the UPS.

The serial link COM port must be set on the UPS control panel to establish the communication with UPS.



**WARNING:** Before installing the card, please note its MAC address: the 6 last char used as admin password the first time



For box version and EMD installation, please refer to apendix

## 6. UPS SERIAL LINK SETTINGS

- NETYS / MODULYS range: 9600bds, no parity, slave 1
- ITYS: 2400bds, no parity, slave 1
- MODULYS XS - GP 2.0 - XL: 57600bds, no parity, slave 1: COM-Slot 1 or COM-Slot 2
- MASTERYS BC - GP - GP 2.0 - IP+ - EM: 9600bds, no parity, slave 1: COM-Slot 1 or COM-Slot 2
- MASTERYS BC+ - GP4: 57600bds, no parity, slave 1: COM-Slot 1 or COM-Slot 2
- DELPHYS MP - MP elite + - EM - MX: 9600bds, no parity, slave 1: COM-Slot 5 only
- DELPHYS BC - GP - GP 2.0 - Xtend: 9600bds, no parity, slave 1: COM-Slot 2 only
- DELPHYS BC - GP 2.0 - Xtend - XL with Touch-Screen Display: 57600bds, no parity, slave 1: COM-Slot 1 or COM-Slot 2



### 7.3. UPS DATA BASE

NET VISION manages 2 types of UPS mapping:

- ‘JBUSP’ mapping for:
  - NETYS PR - RT
  - ITYS
  - MODULYS
  - MASTERYS MC - BC - GP - IP - EM
  - DELPHYS BC - GP - Xtend
  
- ‘VU-MAP’ mapping for:
  - ITYS-PRO
  - MODULYS XS - GP 2.0 - XM
  - MASTERYS BC+ - GP4
  - DELPHYS with touchscreen panel.

#### JBUSP TABLES

|              |           |        |      |
|--------------|-----------|--------|------|
| STATUS       | S00 – S63 | 0x1020 | 4 w  |
| ALARMS       | A00 – A63 | 0x1040 | 4 w  |
| MEASUREMENTS | M00 – M47 | 0x1060 | 48 w |

#### VU-MAP TABLES

|              |             |        |      |
|--------------|-------------|--------|------|
| STATUS       | S000 – S127 | 0x0030 | 8 w  |
| ALARMS       | A000 – A127 | 0x0038 | 8 w  |
| MEASUREMENTS | M000 – M079 | 0x0040 | 80 w |

MODBUS TCP access must follow the addresses according to the UPS mapping  
Please refer to the Appendix: MODBUS TCP JBUSP and VU-MAP TABLE.

### 7.4. UPS ARCHITECTURE:

- Single Unit 1 phase and 3 phases
- Converter - without battery
- Module – without bypass
- Modular Unit up to 8 modules
- Parallel system, distributed bypass or centralized bypass, up to 6 Units (JBUSP) and 10 Units (VU-MAP)
- Modular system up to 4 Units – 24 modules.

## 8. NET VISION EXPLORER PRESENTATION

**D:** DHCP  
**S:** IP Static

Action buttons

Refresh/Preferences  
Add or Remove device from the list

Batch operation

Connected  
Locked/unlocked

Pages navigation

|                                     | Name       | Location    | IP          | Action         | F/W Ver. | Model     | MAC               |
|-------------------------------------|------------|-------------|-------------|----------------|----------|-----------|-------------------|
| <input checked="" type="checkbox"/> |            |             |             | [Action icons] |          | NV7card-  | 00-e0-d8-ff-c1-a0 |
| <input type="checkbox"/>            |            |             |             | [Action icons] |          |           | 00-e0-d8-14-3f-06 |
| <input type="checkbox"/>            | MODULYS... | Showroom U3 | 192.168.1.1 | [Action icons] | 8.00     | NV8card   | 00-e0-d8-ff-c1-90 |
| <input type="checkbox"/>            |            |             |             | [Action icons] |          | NV6card-S | 00-e0-d8-14-f6-9a |
| <input type="checkbox"/>            |            |             |             | [Action icons] |          | NV6card-S | 00-e0-d8-19-8c-cc |
| <input type="checkbox"/>            |            |             |             | [Action icons] |          |           | 00-e0-d8-11-74-4a |

1 device is selected. <http://www.socomec.com>Email info.scp.isd@socomec.com>

### 8.1. IP SETTINGS (ONLY FOR NV 7 AND 8)

Click on to open the IP settings window:

Net Vision Information

Name: MODULYS GP

Location: Showroom U3

DHCP

Static IP

192 . 168 . 1 . 1

SubMas: 255 . 255 . 0 . 0

Gatew: . . .

OK Cancel

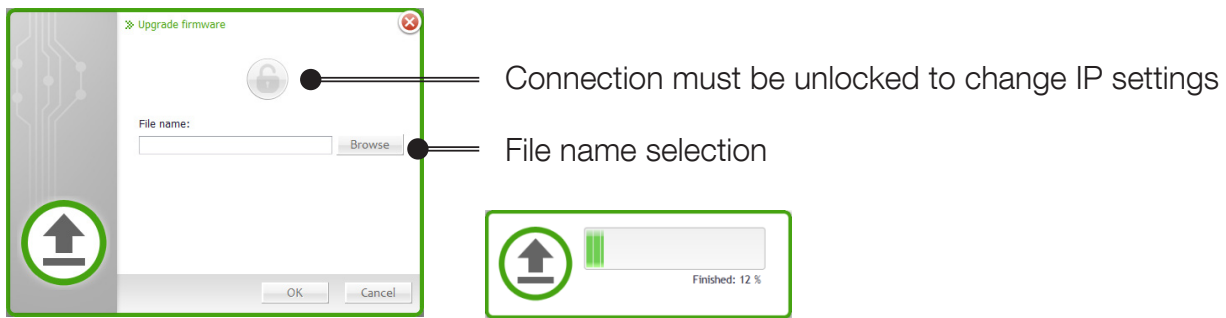
Connection must be unlocked to change IP settings

### 8.2. BROWSE

Click on to start the web browser and open the NET VISION home page.

### 8.3. FW UPGRADE

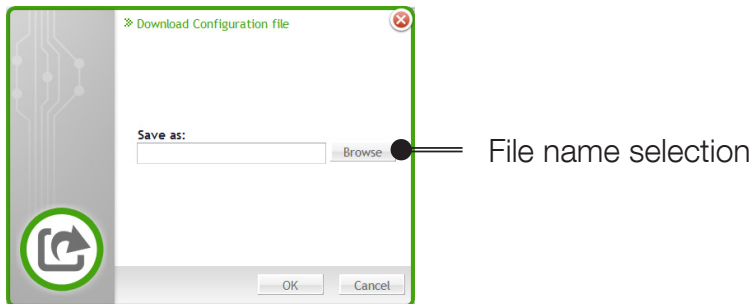
Click on  to open the FW upgrade window




If several NET VISION units have been selected, the FW bin file can be updated to all selected NET VISION through batch function.

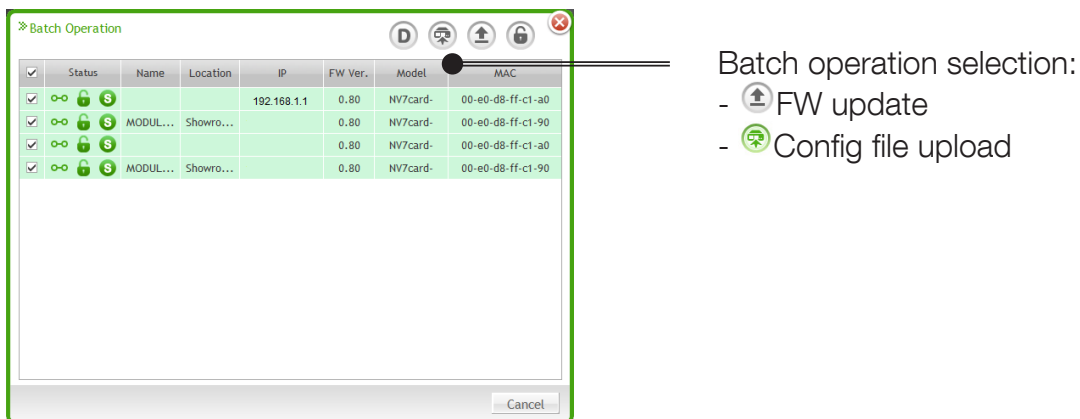
### 8.4. NET VISION SETTINGS FILE DOWNLOAD

Click on  to open the configuration file download window



### 8.5. BATCH OPERATION

Click on  to open the batch operation window



### 8.6. SUPGRADE.EXE TOOL



The Supgrade.exe tool used for NET VISION 6 does not recognize the NET VISION 7 / 8 Card.

# 9. IP ADDRESS CONFIGURATION

## 9.1. PREPARING NET VISION

Once the UPS power is on and NET VISION has been installed in the COM-Slot and connected to the Network, the NET VISION's IP address must be programmed.

## 9.2. DEFAULT IP ADDRESS

If a DHCP server is available on the same Network as NET VISION, the NET VISION will request a valid IP address from the server. If the DHCP server is not available, NET VISION switches to the following default IP address: 192.168.7.18.

IPv6 is not activated by default. The default IP address is set to IPv4 format.

## 9.3. NET VISION ACCESS

When the NET VISION has a valid IP address, open the web browser and enter the IP address set manually or given by the DHCP server. The IP address can be checked with the NET VISION Explorer software utility (see NET VISION explorer §).

NET VISION requests always a login and password account before accessing to web pages. Default admin credentials at first connection:

Login: admin

Password: 6 last Char of MAC address for the first access

After first login, a new password is requested and then a new session login popup appears.

## 9.4. IP SETTINGS USING NETWORK IF DHCP NOT PRESENT

Even if DHCP is not available, the IP address can be set through the NET VISION Explorer tool.

## 9.5. IP SETTINGS USING A TERMINAL AND USB FOR NET VISION

The USB Gadget Serial driver must be installed (Windows 10 recognizes the driver automatically - driver installation not necessary). Please refer to the APPENDIX.

Once the device is recognized, open an SSH terminal connection to modify IP settings.

## 10. RESET NET VISION WITH FACTORY SETTINGS

S1 - Restart Button (H/W) = HW reset, Power off/ on

S2 - Reset Button (S/W) = SW reset,

Press 1 ~ 3 second: Restart System

Press 3 ~ 6 seconds: Reset Account and Password to Default Value

Press Over 6 seconds: Reset to Factory Default Value

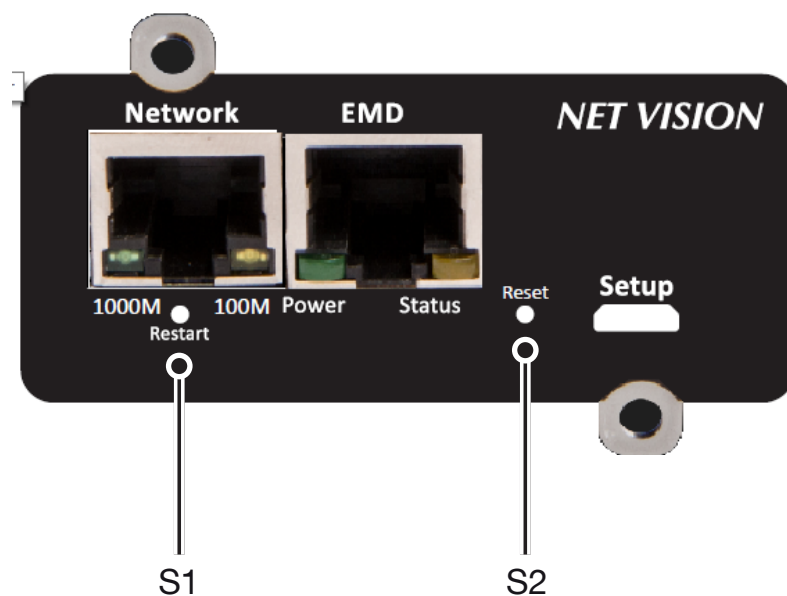


If functions have been set before this procedure (email, SNMP, Shutdown ...) those functions will need to be reconfigured.

The RESET button does not affect the NET VISION settings, it only restarts NET VISION.



Make sure that the IP given by the DHCP server remains the same as before the NET VISION RESET.





# 11. NET VISION USER INTERFACE

## 11.1. NET VISION HOME PAGE

NET VISION system name  
NET VISION system location

NET VISION reference    UPS Reference    Shortcut access    Login

The screenshot displays the NET VISION user interface for a Socomec UPS system. The interface includes a navigation menu on the left, a main monitoring area with a synoptic diagram, and a table of UPS parameters.

**NET VISION menu**

- UPS Monitoring
  - Comprehensive View
  - UPS Dashboard
  - UPS Real-time Graph
  - Client Table
- UPS Management
- Net Vision Management
- History Log
- External Links

**UPS tree-view**

Comprehensive View

UPS SOCOMECS UPS

**UPS synoptic**

100%




75%

**Parameters table**

| UPS Parameters             |                            |
|----------------------------|----------------------------|
| UPS status                 | Load protected by Inverter |
| Output load rate (%)       | 75/75/75                   |
| Output power (kVA)         | 47.0/46.0/43.0             |
| Output voltage (V)         | 230/230/230                |
| Rectifier voltage (V)      | 241/240/242                |
| Battery capacity (%)       | 100                        |
| Remaining Backup time (mn) | 23                         |
| Battery voltage (V)        | 584.2                      |
| Temperature (°C)           | 22.0                       |
| Date / time                | 24/11/2017 10:44:04        |

## 11.2. NET VISION MENU

### 11.2.1. UPS MONITORING

| UPS monitoring items  | Access to   | Shortcut access   |
|-----------------------|---|---|
| "Comprehensive view"  | UPS synoptic  |  |
| "UPS Dashboard"       | Synthesis page of UPS parameters displayed by widgets                                 |  |
| "UPS real-time Graph" | Scan function of UPS parameters   |  |
| "Client table"        | List of Servers connected to NET VISION associated with shutdown client               |   |
| "EMD Device"          | EMD Environment Device data. It appears if the EMD device is connected to NET VISION. |   |



### 11.2.2. UPS MANAGEMENT

| UPS management items   | Access condition  |  |
|------------------------|---|--|
| "Shutdown management"  | Always  |  |
| "Battery Test"         | If Battery is present<br>The battery test can be applied only if remote controls are enabled by UPS | Controls are available for Read/Write user rights and admin accounts |
| "Battery Schedule"     | If Battery is present and remote controls are enabled by UPS. Available only for 'VU-MAP' UPS       |  |
| "UPS control"          | If remote controls enabled by UPS   |  |
| "eco mode schedule"    | If eco mode and remote controls are enabled by UPS  |  |
| "Weekly schedule"      | If "weekly schedule" is selected in shutdown event  |  |
| "Special day schedule" | If "special day" is selected in shutdown event  |  |
| "Power Share"          | If "Power share" function is present and remote controls are enabled by UPS                         |  |
| "EMD Device"           | If the EMD device is connected to NET VISION  |  |

### 11.2.3. NET VISION MANAGEMENT

| NET VISION management items     | Access condition   | Remarks  |
|---------------------------------|--|--|
| "Date and Time"                 | Update and synchronize NET VISION and UPS date and time            |  |
| "NET VISION Configuration"      | General settings   |  |
| "NET VISION Control"            | Enable or disable network services / protocols                     |  |
| "Multi-User Table"              | Set the users access rights  |  |
| "Remote View Pro Configuration" | To activate the connection to Remote View Pro supervision software | RV Pro v3 or above   |
| "SOCOMECE IoT connection"       | To activate the connection to SOCOMECE Cloud for digital services  | Need to contact SOCOMECE Service before for creating your account and receiving the activation key for your site.      |
| "SNMP v3 Configuration"         | SNMP v3 USM table settings   |  |
| "SNMP TRAP Receivers"           | NMS configuration  |  |
| "Email Notification"            | SMTP server / emails addresses settings                            | Items disabled by default.<br>Pages are present if services or protocols have been enabled in NET VISION Control page. |
| "Authentication Configuration"  | RADIUS settings  |  |
| "WOL Targets"                   | Protocol pages settings  |  |
| "Modbus TCP Config"             |  |  |
| "Syslog Setup"                  |  |  |
| "DDNS Setup"                    |  |  |
| "Firewall Setup"                |  |  |
| "External Links Setup"          | To add hyperlink for network devices access                        |  |
| "Multi-Language Setup"          |  | Check on socomec web side for availability   |
| "Firmware Update"               |  |  |

## 11.2.4. HISTORY LOG MENU

| History Log items        |  | Remarks  |
|--------------------------|--|--|
| "UPS History Log"        | NET VISION stores the measurements every 60s by default. 2048 is the maximum of records stored by NET VISION.                  |  Shortcut access in graphic mode |
| "UPS Extend History log" | NET VISION stores in this log the minimum, average and maximum of UPS measurements every 1 hour by default; up to 2048 records |  Shortcut access in graphic mode |
| "UPS event Log"          | Store UPS alarms (add and remove)  |  |
| "NET VISION Event Log"   | Store all actions done on NET VISION   |  |
| "Clear and save Logs"    | Remove logs from NET VISION memory<br>Download logs to local computer (csv)  |  |

List of measurements stored by NET VISION in "History Log" and "Extend History Log"

|                    |               |   |
|--------------------|---------------|---|
| "Input voltage"    | (V) Per phase | A measurement stored with a value of -1 means that this measurement is not managed by the UPS |
| "Input frequency"  | (Hz * 10)     |   |
| "Output load rate" | (%) per phase |   |
| "Output voltage"   | (V) per phase |   |
| "Battery capacity" | (%)           |   |
| "UPS temperature"  | (°C) or (°F)  |   |

## 11.2.5. EXTERNAL LINK

An extra menu is present if devices have been activated. These links give direct access to other devices. It automatically opens a new page in the web browser with the selected link.

### 11.3. UPS ARCHITECTURE TREE-VIEW

NET VISION automatically recognizes the UPS topology and adapts the UPS tree-view and synoptic view.

| UPS topologies  |   |   |  |
|-----------------|---|---|--|
| Single unit UPS | Modular unit UPS  | Modular system<br>Up to 4 units in parallel   | Parallel system UPS<br>Up to 10 units in parallel                            |
| UPS reference   | UPS reference<br>Module number<br>Module number<br><br>1  2  3                      | SYSTEM reference<br>Unit number<br><ul style="list-style-type: none"> <li> Module number</li> </ul> Unit number<br><ul style="list-style-type: none"> <li> Module number</li> </ul> | SYSTEM reference<br>Unit number<br>Unit number<br>Unit number<br>Unit number |
|                 | Modules numbered from 1 to 8, according the physical position in the unit's cabinet | Horizontal Modules numbered from 1 to 24, according the physical position in the unit's cabinet   | In case of centralized bypass, the Bypass Unit is not represented            |

Energy Saver icon is displayed if the mode is activated

Device status management:

| Status                        | Single / modular            | System                          | Unit                           | Module          | Battery        |
|-------------------------------|-----------------------------|---------------------------------|--------------------------------|-----------------|----------------|
| On standby                    |                             |                                 |                                |                 | : disconnected |
| Operating                     |                             |                                 |                                |                 | : Ok           |
| Operating with alarm          |                             |                                 |                                |                 | : discharging  |
| Operating with critical alarm |                             |                                 |                                |                 | : alarm        |
| Imminent stop (flashing)      |                             |                                 |                                |                 |                |
| Click for access to:          | UNIT SYNOPTIC<br>UNIT TABLE | SYSTEM<br>SYNOPTIC<br>UPS TABLE | UNIT<br>SYNOPTIC<br>UNIT TABLE | MODULE<br>TABLE |                |

### 11.4. UPS SYNOPTIC

NET VISION manages 2 types of synoptic: SYSTEM VIEW and UNIT VIEW

| System view for parallel systems  |  |
|---|--|
| <p>Overviews of units' input and bypass input supply and the global output of the UPS.<br/>The UPS output parameters table gives the global measurements of all units that are operating.</p> |  |
| Unit view for single, modular or units as part of a parallel system   |  |
| <p>This view gives details of rectifier and bypass inputs supply, battery status and unit output parameters.</p>  |  |

## 11.5. USER LOGIN

The login status is given by following icons:



Not logged



Logged

Click on the button to open a session or to close the current session.

Login popup:

Admin account management:

- at first connection after installation or after factory reset command, the password is set with the 6 last char of its MAC address
- after first login, the password needs to be changed and a new session needs to be open.

To access to all the configurations and UPS controls, it is necessary to open a session as admin or with a “Read/Write” user access account.

It is possible to set a “Login Timeout (Sec)” in the NET VISION Configuration page. At the end of the timeout, the current session is closed automatically.

**NET VISION does not allow more than one session.**



If a session is still open, a new session that is opened forces the logout of the previous session.



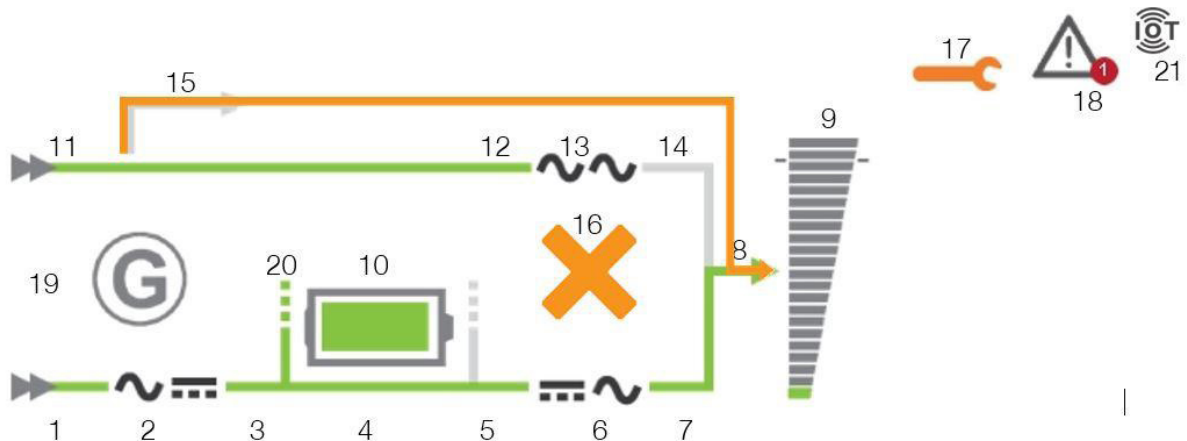
**Password policy : minimum of 12 characters including :**

- Upper case letters: A to Z
- Lower case letters: a to z
- Numbers: 0 to 9
- Special char : ! % # @ ^ \* (other characters are not allowed)

# 12. UPS MONITORING

## 12.1. UNIT SYNOPTIC

### 12.1.1. SYNOPTIC ANIMATION



|    | Element                | Grey   | Green                         | Yellow  | Red            |
|----|------------------------|--|-------------------------------|---|----------------|
| 1  | Rectifier input supply | Not present  | Present                       |   |                |
| 2  | Rectifier              |  |                               | On + prev. alarm                              | Critical alarm |
| 3  | Rectifier output       | Rectifier off  | Rectifier on                  |   |                |
| 4  | DC Bus                 | Rectifier off  | Rectifier on                  |   |                |
| 5  | Inverter input         | Rectifier off  | Rectifier on                  | On battery                                    |                |
| 6  | Inverter               |  |                               | On + prev. alarm                              | Critical alarm |
| 7  | Inverter output        | Inverter off   | Inverter on                   | On battery                                    |                |
| 8  | Output                 | off  | On inverter or<br>On eco mode | On bypass or<br>On battery                    |                |
| 9  | Load                   | 0%   | Up to 90%                     | Above 90%                                     | Above 100%     |
| 10 | Battery                | default  |                               | Battery room or temp,<br>alarm or test failed | Battery alarm  |
| 11 | Bypass input supply    | Not present  | Present                       |   |                |
| 12 | Bypass input           | Not present  | Present                       | Bypass on                                     |                |
| 13 | Bypass                 |  |                               | On + prev. alarm                              | Critical alarm |
| 14 | Bypass output          | Bypass off   | Bypass on<br>and eco mode     | Bypass on                                     |                |
| 15 | Maintenance Bypass     | present  |                               | On maintenance bypass                         |                |
| 16 | Bypass impossible      |  |                               | Impossible                                    | Locked         |
| 17 | Maintenance alarm      |  |                               | Active  |                |
| 18 | Alarm present          | If one alarm present   |                               |   |                |
| 19 | Genset                 | Genset on  |                               |   |                |
| 20 | Battery sharing        | Present if the battery<br>is shared with all other<br>Units in parallel system |                               |   |                |
| 21 | IoT Status             | Present if the IoT connection has been enabled                                 |                               |   |                |

The output load rate value is reported to synoptic. The load value is not displayed if the maintenance bypass is closed.

During battery charging and battery charged status, the battery capacity value in % is displayed. The capacity value is replaced by the remaining backup time when the battery is discharging.

### 12.1.2. BATTERY ANIMATION

| Battery status       | Battery symbol |
|----------------------|----------------|
| Battery circuit open |                |
| Battery charged      |                |
| Battery discharging  |                |
| Battery discharged   |                |
| Battery charging     |                |

### 12.1.3. LOAD ANIMATION

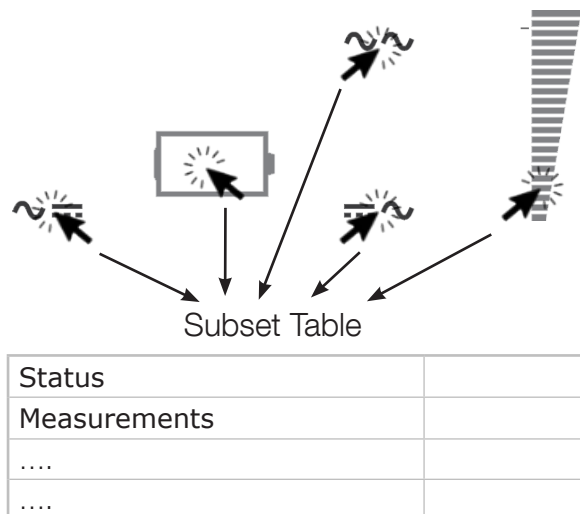
| LOAD RATE         | 0% | 10% | 50% | 90% | 100% | 120% |
|-------------------|----|-----|-----|-----|------|------|
| Example of values |    |     |     |     |      |      |

### 12.1.4. UNIT SYNOPTIC NAVIGATION

Clicking on the rectifier , battery , inverter , bypass and output load symbols shows the related parameters table below the synoptic.

To switch back to **Unit/UPS Parameters Table** click on or button, or select “comprehensive view” in the UPS Monitoring menu

#### Navigation overview



If one or more alarm is present, clicking on opens the alarm table. The icon flashes when a new alarm is incoming. In this situation, it opens the alarm page, resets all alarms and stops the audible alarm on UPS.



### 12.1.5. UNIT / UPS PARAMETERS TABLE

The table is updated with data read from the UPS or from the Unit selected

| "UPS or Unit Parameters" |        |   |
|--------------------------|--------|---|
| "UPS Status"             |        | "Unknown" – no communication with UPS<br>"In Service mode"<br>"On maintenance bypass"<br>"Imminent STOP"<br>"Auto-test procedure"<br>"Operating on Battery"<br>"Battery test in progress"<br>"Load protected by Inverter"<br>"Normal mode" – for OFF LINE UPS<br>"UPS in eco mode"<br>"Line-Interactive mode"<br>"Load on Bypass"<br>"Unit Available"<br>"On standby"<br>"Load OFF" |
| "Output load rate        | (%)"   | Per phase   |
| "Output Power            | (kVA)" | Global if measurements available from UPS   |
| "Output                  | (kW)"  | Global if measurements available from UPS   |
| "Output Voltage          | (V)"   | Per phase   |
| "Input voltage           | (V)"   | Per phase   |
| "Battery capacity        | (%)"   | Only if battery present   |
| "Remaining backup time   | (mn)"  |   |
| "Battery voltage         | (V)"   |   |
| "Temperature             | (°C)"  | UPS ambience temperature  |
| "Date / time"            |        |   |

### 12.1.6. BATTERY PARAMETERS TABLE

| "Battery Parameters"               |  |  |
|------------------------------------|--|--|
| "Battery Status"                   |  | "Unknown"<br>"Battery disconnected"<br>"Battery discharged"<br>"Battery low"<br>"Battery discharging"<br>"Battery to input" – specific function (optional)<br>"Battery alarm"<br>"Battery room alarm" – if sensor present<br>"Battery temperature alarm" – if sensor present<br>"Battery test running"<br>"Battery charging"<br>"Battery OK" |
| "Battery voltage (V)"              |  | Battery string + and string - values are displayed if present.   |
| "Battery capacity (%)"             |  |  |
| "Battery capacity (Ah)"            |  |  |
| "Remaining Backup time (mn)"       |  | Value present in the table during the battery discharging when computed or indicates the nominal backup time in normal operation   |
| "Battery temperature (°C)"         |  | If the temperature sensor is present (option)  |
| "Time since on battery power (mn)" |  | Present only during battery discharging  |

### 12.1.7. OUTPUT PARAMETERS TABLE

| "Output Parameters"     |  |  |
|-------------------------|--|--|
| "Output Status"         |  | "Unknown" – if no com with UPS<br>"On maintenance bypass"<br>"Load protected by inverter"<br>"Normal mode" – for OFF LINE UPS<br>"eco mode"<br>"Load on Bypass"<br>"Line-Interactive mode"<br>"On standby"<br>"Load OFF" |
| "Output load rate (%)"  |  | Per phase  |
| "Output Power (kVA)"    |  | Present if computed by UPS   |
| "Output Power (kW)"     |  | Present if computed by UPS   |
| "Output power factor"   |  | Per phase if computed by UPS   |
| "Output crest factor"   |  | Global if computed by UPS  |
| "Output Current (A)"    |  | Per phase  |
| "Output Voltage (V)"    |  | Per phase  |
| "Output Voltage (U)"    |  | Per phase if computed by UPS   |
| "Output Frequency (Hz)" |  |  |

### 12.1.8. RECTIFIER PARAMETERS TABLE

| "Input Parameters" |       |                            |
|--------------------|-------|----------------------------|
| "Input Voltage     | (V)"  | Per phase                  |
| "Input Current     | (A)"  | Present if computed by UPS |
| "Input Power       | (kW)" | Present if computed by UPS |
| "Input Frequency   | (Hz)" |                            |
| "Gen Set Status"   |       | Present if managed by UPS  |

### 12.1.9. BYPASS PARAMETERS TABLE

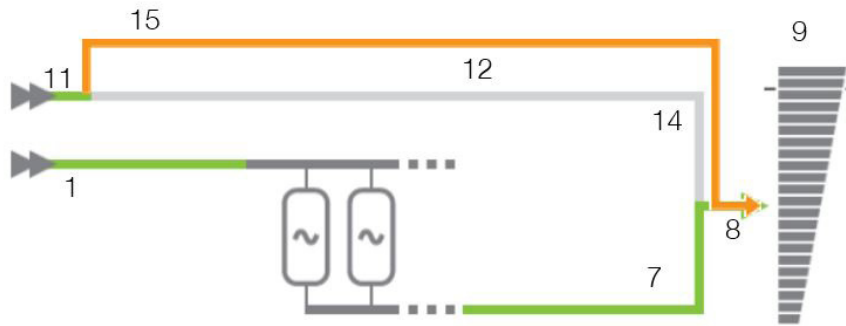
| "Bypass Parameters" |       |                            |
|---------------------|-------|----------------------------|
| "Bypass Voltage     | (V)"  | Per phase                  |
| "Bypass Voltage     | (U)"  | Present if computed by UPS |
| "Bypass Power       | (kW)" | Present if computed by UPS |
| "Bypass Frequency   | (Hz)" |                            |

### 12.1.10. INVERTER PARAMETERS TABLE

| "Inverter Parameters" |      |  |
|-----------------------|------|--|
| "Inverter Voltage     | (V)" | Per phase. Set to 0 if inverter is off |
| "Inverter Voltage     | (U)" | Present if computed by UPS             |
| "Inverter Frequency   | (Hz) | Set to 0 if inverter is off            |



## 12.2. SYSTEM SYNOPTIC

### 12.2.1. ANIMATION



|    | Element                | Grey         | Green                      | Yellow                   | Red        |
|----|------------------------|--------------|----------------------------|--------------------------|------------|
| 1  | Rectifier input supply | Not present  | Present                    |                          |            |
| 7  | Inverter output        | Inverter off | Inverter on                | On battery               |            |
| 8  | Output                 | off          | On inverter<br>On eco mode | On bypass<br>On battery  |            |
| 9  | Load                   | 0%           | Up to 90%                  | Above 90%                | Above 100% |
| 11 | Bypass input supply    | Not present  | Present                    |                          |            |
| 12 | Bypass input           | Not present  | Present                    | Bypass on                |            |
| 14 | Bypass output          | Bypass off   | Bypass on and<br>eco mode  | Bypass on                |            |
| 15 | Maintenance Bypass     | Present      |                            | On maintenance<br>bypass |            |

### 12.2.2. NAVIGATION

Clicking on the System  and output load symbols  shows the related parameters table below the synoptic.

Clicking on the  button or “Comprehensive View” in the Monitor menu switches back to the “UPS Parameters Table”.

### 12.2.3. UPS PARAMETERS TABLE

The table is updated with data read from the UPS at System level, which is a combination from all Unit data.

See “Unit/UPS Parameters”

### 12.2.4. UPS OUTPUT PARAMETERS TABLE

The table is updated with data read from the UPS at System level, which is a combination from all Unit data.

See UPS “Output Parameters Table”

## 12.3. ALARM TABLE

The alarm table is accessible by clicking on the  icon. The number associated to the icon  indicates the number of active alarms.

The alarm icon is shown while the general alarm is present.

The alarms table reports the current active alarms and indicates the last incoming alarm. Each alarm is time-stamped when it occurs.

All alarms from the 'JBUSP' (A00 to A63) or 'VU-MAP' (A000 – A127) table are reported in this page.

---

### Alarm Table

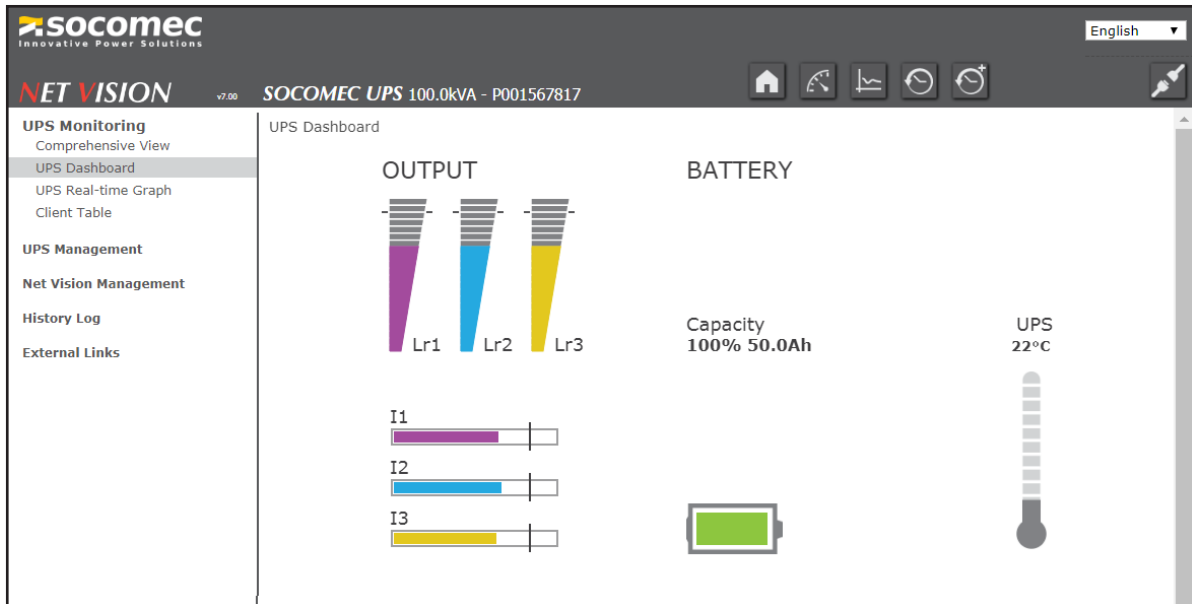
| Number of Active Alarms |                     | 1                     |                                    |
|-------------------------|---------------------|-----------------------|------------------------------------|
| Last Alarm              |                     | General Alarm         |                                    |
| Index                   | Alarm Time          | UPS Alarm Description | Level                              |
| Axxx<br>or<br>Axx       | dd/mm/yyyy hh:mm:ss |                       | Information<br>Warning<br>Critical |

---

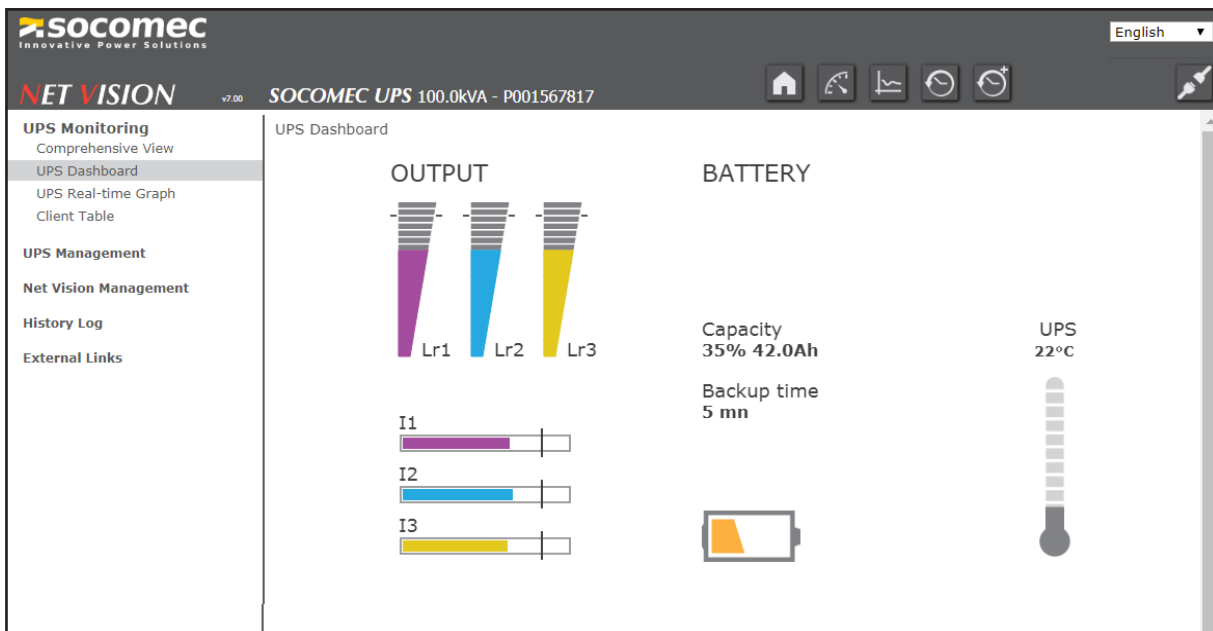
For a parallel UPS system, the table shows only active alarms at system level.


# 13. UPS DASHBOARD

This page gives an overview of UPS parameters through graphical widgets. Measurements not available or not computed are not represented in this page. Output currents are represented in bar-graph. The vertical line defines the nominal amps limit.



During battery discharging, remaining backup time is displayed



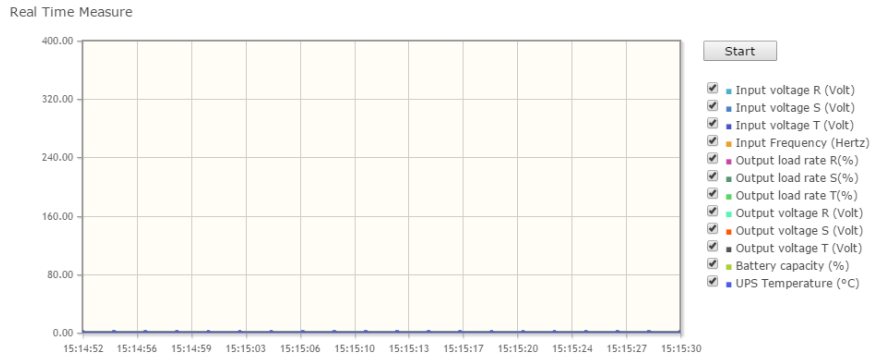
 Go back to synoptic;

For a parallel UPS system, the measurements shown are values read from system level.

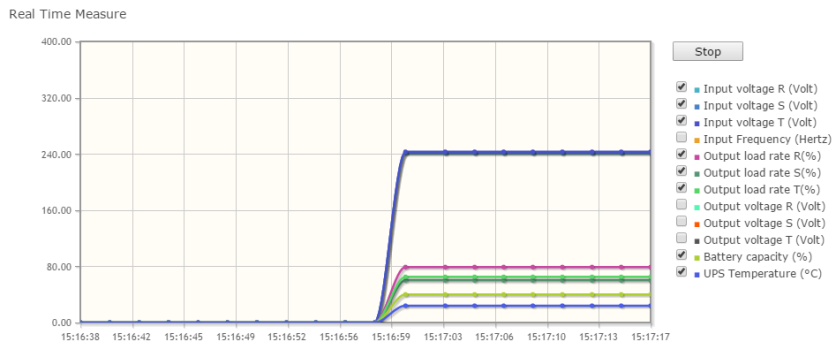
# 14. REAL TIME GRAPH

This widget allows you to scan UPS parameters in real time. Measurements can be selected / unselected for more visibility.

Click on  to launch the scanning



Click on  to interrupt the scanning



Data scanned not stored by NET VISION



Go back to synoptic;

# 15. CLIENT TABLE

This page lists all servers / Hosts connected to NET VISION. JNC and VIRTUAL-JNC software shutdown agents have to be installed on all servers to manage the events shutdown sent by NET VISION

Client Table

|                         |   |
|-------------------------|---|
| Connected Client Number | 1 |
|-------------------------|---|

| Index | IP Address  | Client Name     | Connected Time      |
|-------|-------------|-----------------|---------------------|
| 1     | 192.168.1.2 | IT Server (JNC) | 2017/04/08 11:17:18 |

# 16. UPS MANAGEMENT

## 16.1. UPS CONTROL

If the remote controls are enabled by the UPS, NET VISION allows the following actions depending on UPS capabilities.

The access to the controls page is possible only for admin and read/write account users.

### UPS Control

|                         |                       |
|-------------------------|-----------------------|
| Transfer Load to Bypass | <input type="radio"/> |
| Enable eco mode         | <input type="radio"/> |
| Enable standby mode     | <input type="radio"/> |
| Alarm Acknowledgement   | <input type="radio"/> |

Apply

### List of all controls managed by NET VISION

|                                   |  |
|-----------------------------------|--|
| "Transfer Load to Inverter"*      | Controls are available if all conditions and permissions are set by the UPS. (*) only for DELPHYS UPS ranges<br>If a control is not present, it means that this control is not allowed by the UPS. |
| "Transfer Load to Bypass"*        |  |
| "Enable Line-interactive mode"*   |  |
| "Disabled Line-interactive mode"* |  |
| "Enable eco mode"                 |  |
| "Disable eco mode"                |  |
| "Enable standby mode"             |  |
| "Disabled standby mode"           |  |
| "Alarm Acknowledgement"           | Always present   |

(\*) Only for VU-MAP UPS compliancy

For parallel UPS systems, the controls are sent to the system and dispatched to all the units present.

NET VISION does not allow sending controls unit by unit.



## 16.2. BATTERY TEST

This function gives the possibility to send an immediate battery test to the UPS.  
The result of the last battery test, if any, is reported in the page.

For single or modular units or parallel systems with shared battery:

### Battery Test

| Battery test status  | Last Battery test* | Result                                 | Next test (in day)  | Battery test control   |
|--|--------------------|--|---------------------|--|
| Disabled<br>In progress<br>On standby<br>Programmed<br>Enabled | day/month          | No test<br>OK<br>Interrupted<br>Failed | 0 if not programmed | <input type="button" value="Apply"/><br>Available if the remote controls are enabled by the UPS and the battery test is possible |

For parallel systems with distributed battery or for unit with blended batteries between modules (only VU-MAP compliancy UPS):

### Battery Test

| Unit number or battery number | Battery test status   | Last Battery test* | Result                                 | Next test (in day)  | Battery test control   |
|-------------------------------|---|--------------------|--|---------------------|--|
| 1                             | Disabled<br>In progress<br>On standby<br>Programmed<br>Enabled" | day/month          | No test<br>OK<br>Interrupted<br>Failed | 0 if not programmed | <input type="button" value="Apply"/><br>Available if the remote controls are enabled by the UPS and the battery test is possible |
| 2                             | Disabled  | 00/00              | No test                                | 0                   |  |

## 16.3. BATTERY TEST SCHEDULE

This function is available only for VU-MAP compliancy UPS.

The battery test can be programmed automatically to start on a specific day and hours with a frequency given in weeks:

### Battery Test Schedule

| Week interval   | Day   | Hours                           |  |
|---|---|---------------------------------|--|
| <input type="text" value="Disabled"/><br><input type="text" value="1"/><br>...<br><input type="text" value="52"/> | <input type="text" value="Monday"/><br>...<br><input type="text" value="Sunday"/> | <input type="text" value="00"/> | <input type="button" value="Apply"/><br>Only if remote controls are enabled by UPS |

For parallel systems with distributed battery, the battery test schedule can be programmed unit by unit. Each battery test will be started at different time.

## 16.4. ECO MODE SCHEDULE

This function is available if the eco mode function is enabled by the UPS.  
NET VISION can manage a running period in eco mode, than switches again in normal mode.



**Warning:** Make sure that the eco mode schedule is not activated on the UPS itself via local control panel before to set the eco mode schedule from NET VISION page. Both schedules cannot run on same time.

### Eco mode Schedule

| Index | Enabled eco mode  |                                    | Disabled eco mode  |                                    |
|-------|---|------------------------------------|--|------------------------------------|
| 1     | <div style="border: 1px solid black; padding: 2px;">                     Disabled ▼<br/>                     Monday<br/>                     ...<br/>                     Sunday                 </div> | <input type="text" value="00:00"/> | <div style="border: 1px solid black; padding: 2px;">                     Disabled ▼                 </div> | <input type="text" value="00:00"/> |

## 16.5. WEEKLY SHUTDOWN SCHEDULE

This function is activated if the “Weekly Schedule” event is enabled in the “event shutdown management” page.

### Weekly Schedule

| Index | SHUTDOWN period   |                                    | RESTART period   |                                    |
|-------|---|------------------------------------|--|------------------------------------|
| 1     | <div style="border: 1px solid black; padding: 2px;">                     Disabled ▼<br/>                     Monday<br/>                     ...<br/>                     Sunday                 </div> | <input type="text" value="00:00"/> | <div style="border: 1px solid black; padding: 2px;">                     Disabled ▼                 </div> | <input type="text" value="00:00"/> |

## 16.6. SPECIAL DAY SHUTDOWN SCHEDULE

This function is activated if the “Special Schedule” event is enabled in the “event shutdown management” page.

### Special Schedule

| Index | SHUTDOWN period                         |                                    | RESTART period                          |                                    |
|-------|---|------------------------------------|---|------------------------------------|
| 1     | <input type="text" value="01/01/2017"/> | <input type="text" value="00:00"/> | <input type="text" value="01/01/2017"/> | <input type="text" value="00:00"/> |

## 16.7. POWER SHARE

This function is available if the UPS manages power plugs and remote controls have been activated. The configurations and Plugs controls page is accessible for admin account login only.

### Power Share Management

| Available Plugs | Mode   | Value                |
|-----------------|--|----------------------|
| Plug 1          | <div style="border: 1px solid black; padding: 5px;">           None ▼<br/>           Battery Capacity<br/>           Remaining backup time<br/>           Emergency light ON<br/>           Time since on battery         </div> | <input type="text"/> |

|                   |                            |                            |                          |
|-------------------|----------------------------|----------------------------|--------------------------|
| Power share Plugs | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> |
|-------------------|----------------------------|----------------------------|--------------------------|

#### MODE SETTINGS

"Battery Capacity": switches the output plug to OFF when the value is reached.

"Remaining Backup time": switches the output plug to OFF when the value is reached.

"Time on Battery": switches the output plug to OFF when the value is reached.

"Emergency lighting": switches the output plug to ON when the UPS is on battery.

#### PLUGS CONTROL

Select to close or unselect to open the plugs then apply.

Plugs are immediately opened or closed according the control sent.



**Warning:** the UPS ignores the immediate control if the plug is set to a specific mode.

## 16.8. SHUTDOWN MANAGEMENT

NET VISION allows you to send notification and shutdown commands to servers. The shutdown agent must be installed on each server / Host. The NET VISION IP address should be set in the agent configuration. If the server is recognised by NET VISION, it will be present in the Client Table page of the UPS monitoring menu.

### UPS SHUT OFF

This function is available if the Standby Schedule function is managed by the UPS. Otherwise this function is not displayed.

The UPS shut-off command is sent to the UPS when the NET VISION sends the shutdown command to the server. This command is sent with the time period set for this function. The UPS will turn off the output at the end of the time period.

The restart delay defines the time period after which the UPS should restart automatically after mains power resumes. A restart time set to 0 means that the UPS will not restart.

#### Shutdown Management

|                               |   |  |
|-------------------------------|---|--|
| UPS Shut Off Delay (Sec)      |   | Request to shut off the UPS after delay  |
| UPS Shut Off                  | <input type="button" value="Disabled"/> ▼<br><input type="button" value="Enabled"/> |  |
| UPS On Delay (mn)             |   | Request to restart the UPS               |
| Level of battery capacity (%) | 0 - 100   | Set the battery level for event shutdown |

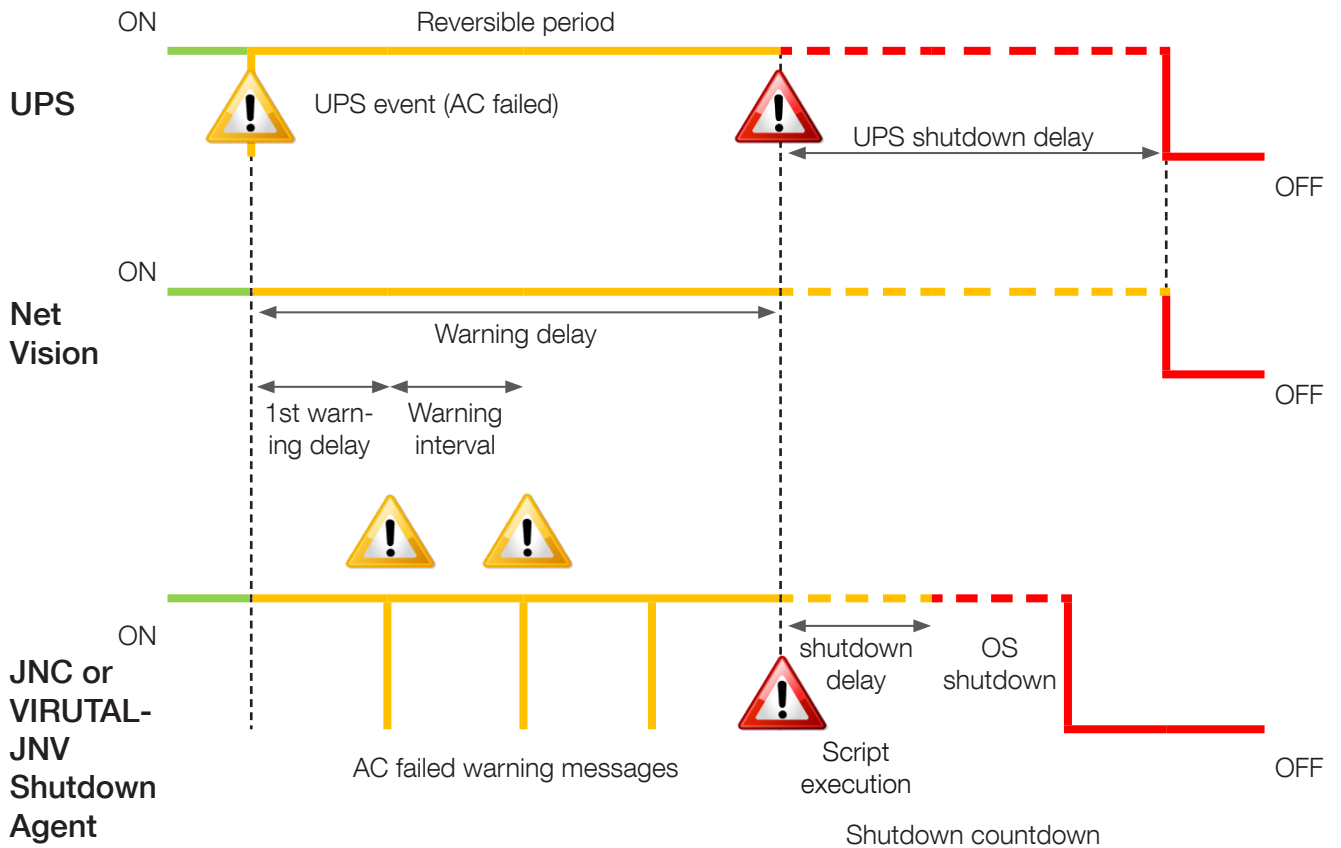
| Shutdown Event | Shutdown Actions  | Warning Period (Min)                                       | 1st Warning (Sec)  | Warning Interval (Sec)                          |
|----------------|---|--|--|---|
| List of Event  | <input type="button" value="Disabled"/> ▼<br><input type="button" value="Enabled"/> | Delay in minutes before sending shutdown command to server | Delay in seconds before sending the first warning message to sever | Delay between 2 warning messages sent to server |



### WARNING!

Make sure that the UPS shut-off time period is longer than the total time period for the shutdown procedure for the Server / Hosts supplied by the UPS. See shutdown process paragraph for more details.

## SHUTDOWN SEQUENCE



### Reversible period:

If the event is removed during this period, the shutdown process is cancelled.

At the end of this period, the NET VISION sends the shutdown command to servers and the UPS standby control if enabled.

### Shutdown delay:

The Shutdown agent can start running scripts or batch files before the OS shutdown.



**UPS shutdown delay must be greater than the server's shutdown time, evaluated as the shutdown delay set on the agent + OS shutdown itself.**

## SHUTDOWN EVENT SELECTION

- "UPS on battery (AC Failed)"
- "Battery Low or Battery Discharged"
- "Battery Level"
- "Imminent Stop"
- "UPS Overload"
- "Temperature Alarm"
- "On Bypass"
- "Weekly Schedule – activate the Weekly schedule page"
- "Special Day – activate the Special Day Schedule page"

Additional events if EMD device present:

- "EMD Temperature"
- "EMD Humidity"
- "EMD Alarm-1"
- "EMD Alarm-2"

## SHUTDOWN TEST PROCEDURE

NET VISION allows you to simulate an AC fail event. After test validation the Shutdown procedure starts, with the settings of 'AC failed' event.

The AC Failed simulation is disabled if the AC Failed Shutdown action is disabled.

NET VISION sends the notification and the shutdown command to the server.

At the end of the procedure, after sending the shutdown command. NET VISION waits around 2 minutes before sending a shutdown cancel command. This command permits the agent to recover normal UPS status. The agent is then ready for the shutdown procedure again.

During the test, the button is disabled and switches to 'enabled' when the 'shutdown cancel' command is sent to servers.

### **WARNING!**



If the Warning period = 0, the server shutdown command is sent immediately.

# 17. EMD DEVICE MANAGEMENT

If an EMD device (Environment Monitoring Device) is connected to NET VISION, you will need to activate it. The EMD should be connected to the NET VISION EMD port. EMD values are not transferred to the UPS.

## Customisation

Temperature and humidity measurements and two inputs can be assigned as required.

## Thresholds

The Low and High thresholds define the tolerances. If the value is out of tolerance, NET VISION will send an email, SNMP TRAP or server shutdown command, depending on the NET VISION settings. The offset can compensate the value with a reference value.

## Alarm mode

It defines if the EMD inputs are flagged as an alert in 'Normally Open' or 'Normally Closed' position.

### EMD Device

#### Information

|                        |            |
|------------------------|------------|
| EMD Address            | 1          |
| Application FW Version | 01.00.0005 |

#### EMD 1

|               |   |            |
|---------------|---|------------|
| Location Name | <input type="text"/>                      |            |
| Alarm-1       | <input type="text" value="Alarm-1 Name"/> | Disabled ▼ |
| Alarm-2       | <input type="text" value="Alarm-2 Name"/> | Disabled ▼ |

|                           |   |                                   |
|---------------------------|---|-----------------------------------|
| Sensor                    | Temperature (°C)                              |                                   |
| Sensor Name               | <input type="text" value="Temperature Name"/> |                                   |
| Calibration Offset        | 0.0 ▼   |                                   |
| Critical Set Point (High) | <input type="checkbox"/>                      | <input type="text" value="60.0"/> |
| Warning Set Point (High)  | <input type="checkbox"/>                      | <input type="text" value="50.0"/> |
| Warning Set Point (Low)   | <input type="checkbox"/>                      | <input type="text" value="10.0"/> |
| Critical Set Point (Low)  | <input type="checkbox"/>                      | <input type="text" value="5.0"/>  |

|                           |   |                                   |
|---------------------------|---|-----------------------------------|
| Sensor                    | Humidity (%)                                  |                                   |
| Sensor Name               | <input type="text" value="Temperature Name"/> |                                   |
| Calibration Offset        | 0.0 ▼   |                                   |
| Critical Set Point (High) | <input type="checkbox"/>                      | <input type="text" value="60.0"/> |
| Warning Set Point (High)  | <input type="checkbox"/>                      | <input type="text" value="50.0"/> |
| Warning Set Point (Low)   | <input type="checkbox"/>                      | <input type="text" value="10.0"/> |
| Critical Set Point (Low)  | <input type="checkbox"/>                      | <input type="text" value="5.0"/>  |

# 18. NET VISION MANAGEMENT

## 18.1. DATE AND TIME

### UPS date and time

NET VISION allows the synchronisation of the UPS date and time. When NET VISION detects a new date and time (set manually or via NTP server), it sends the new values to the UPS if this function is enabled. This function is enabled if the date and time are managed by the UPS. Otherwise this part is not displayed.

**Update Now** sends the current date and time to the UPS manually.

### Date and time

Synchronise with computer where the web browser is open

Synchronise with NTP server (every hours)

Set values manually.

NET VISION also manages the time zone; GMT + [x] hours.

### Date and Time

|                          |   |                   |
|--------------------------|---|-------------------|
| Date on UPS (dd/mm/yyyy) |   |                   |
| Time on UPS (hh:mm:ss)   |   | <b>Update Now</b> |
| Synchronize UPS          | <input type="button" value="Disabled"/> <input checked="" type="button" value="Enabled"/> | <b>Set Value</b>  |

### Date and Time

|                          |  |
|--------------------------|--|
| System Date (dd/mm/yyyy) |  |
| System Time (hh:mm:ss)   |  |

Time Zone

GMT+

Daylight Saving Time:

Disabled

Enabled

Synchronize with computer time

Computer Date:

Computer Time:

Synchronize with NTP server

NTP Server:

IP address

NTP Synchro:

hour / day / week / month

NTS Support:

Set manually

Date (dd/mm/yyyy):

01/01/2022

Time (hh:mm:ss):

00:00:00



In case of using NTP synchronisation GMT and daylight management are to set according NTP server configuration. GMT time zone and daylight are often managed by NTP server itself.



## 18.2. NET VISION CONFIGURATION

| Configuration               | Default value                                 | Description   |
|-----------------------------|---|---|
| "Upload Configuration"      |   | Select the NET VISION settings backup file to restore previous settings   |
| "Upload CA file "           |   | Select a local certificate for secure connection.   |
| "Download Configuration"    |   | Create a backup file of all NET VISION settings   |
| "Download Root Certificate" |   | Download the NV certificate to install on local computer for secure connection  |
| "Download MIB file"         |   |   |
| "BootP/DHCP"                | DHCP enabled                                  | Select "Static" to modify manually IP settings  |
| "IP Address"                | 192.168.7.18                                  |   |
| "Gateway Address"           |   |   |
| "Subnet Mask"               |   |   |
| "DNS Address"               |   | Allows you to set server IP by name, instead IP value address   |
| "System Name"               | Socomec                                       | Name reported in NET VISION top bar, SNMP OID and in email  |
| "System Contact"            |   | Additional info reported in SNMP OID and in email   |
| "System Location"           |   | Additional info reported in NET VISION top bar, SNMP OID and in email   |
| "History Log Interval (s)"  | 60  | NET VISION records measurements in history log file every minute (60s). Up to 2048 records                              |
| "Extend Log Interval (mn)"  | 60  | NET VISION records the minimum, average and maximum measurements history log file every hour (60mn). Up to 2048 records |
| "Net Vision admin Password" |   | To change admin account password  |
| "Polling Rate (s)"          | 2   | Defines the delay between 2 pollings  |
| "First Login Reset (Day)"   | 90  | Accounts password validity period up to 720 days  |
| "Serial Timeout (ms)"       | 20 ms (56k)<br>50 ms (19200)<br>100 ms (9600) | Additional serial time out  |
| "Temperature unit"          | °C  | Select °C or °F   |
| "SNMP read Community"       | public  | To be reported in the NMS if necessary  |
| "SNMP write Community"      | private                                       | To be reported in the NMS if necessary  |
| "Login Timeout (s)"         | 300   | Defines the time while the session is open.   |
| "Baud rate Setting"         | 9600  | Can be changed if automatic discovery is not working.<br>2400 / 9600 / 19200 / 57600                                    |

| "IPv6 Configuration"  | Automatic                   | Select the IPv6 mode                 |
|-----------------------|-----------------------------|--------------------------------------|
| "IPv6 Local Address"  | fe80::2e0:d8ff:feff:c1a0/64 | To be set according to IPv6 settings |
| "IPv6 Global Address" |                             | To be set according to IPv6 settings |
| "IPv6 Router"         |                             | To be set according to IPv6 settings |

## 18.3. NET VISION CONTROL

| Configuration              | Default value                | Description  |
|----------------------------|------------------------------|--|
| "BootP/DHCP"               |                              |  |
| "PING Echo"                |                              | The ping answer can be disabled  |
| "Network Upgrade"          |                              | The FW upgrade, through TFTP, from NET VISION Explorer can be disabled.  |
| "HTTPs Port"               | Port 443                     | To enable HTTPs secure connection  |
| "HTTP Port"                | Port 80                      | To enable web page and changing port   |
| "SSH Connection"           | Port 22                      | To enable remote console (such as putty tool ) for NET VISION configuration  |
| "SNMP Support"             | Port 161<br>Version          | To enable connection to NMS<br>v1 / v2c / v3   |
| "SMTP Support"             | Port 25                      | To enable email functions  |
| "UPnP Control"             |                              | To enable NET VISION as a Network device   |
| "RADIUS/Authentication"    |                              | To enable authentication protocol page settings  |
| "WOL Target"               |                              | To enable Wake On LAN settings page.<br>Protocol to restart servers when NET VISION restarts after a shutdown due to AC failure.   |
| "Modbus Configuration"     |                              | To enable MODBUS TCP protocol  |
| "Syslog Setup"             |                              | To enable Syslog settings page   |
| "DDNS Setup"               |                              | To enable DDNS settings page   |
| "Firewall Setup"           |                              | To enable Firewall settings page   |
| "SNMP Unit Select"         | 0 for System<br>Unit 1 to 12 | 0 to populate all SNMP OID with UPS data at system level.<br>Set to unit number to populate all SNMP OID with the local UNIT data where the NET VISION is connected.<br>NET VISION must be installed on each Unit.<br>TRAPS are still managed at SYSTEM level. |
| "SNMP TRAP / email Filter" | Disabled                     | This function enable or disable TRAP3 and TRAP4 notification when "severity" level is set as filter to send TRAP or e-mail.  |

## 18.4. MULTI-USER TABLE

This table sets user's credential to access the NET VISION interface, NET VISION allows up to 8 user accounts.

Admin account is not managed in this table, this account is always active.

Multi-User Table

| Index | User Name            | Password             | Access type                           |
|-------|----------------------|----------------------|---------------------------------------|
| 1     | <input type="text"/> | <input type="text"/> | Disabled<br>Read Only<br>Read/Write ▼ |

Remark:

This table combines with the RADIUS function. NET VISION checks before on RADIUS server (if enabled) the user account. If the user is existing on RADIUS server, NETVISION will take the RADIUS account credentials. Otherwise he will check the local user account set in the Multi-User table.

## 18.5. REMOTE VIEW PRO CONFIGURATION

If Remote View Pro supervision SW is running to monitor the UPS, the server IP must be reported in NET VISION.

Remote View Pro SW sees NET VISION as a communication node server.

NET VISION must be added on Remote View Pro accordingly.

Remote View Pro Configuration

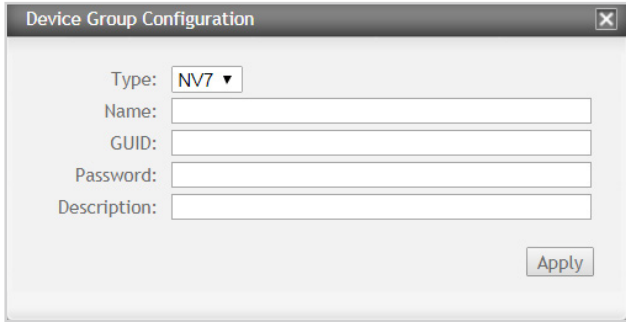
|                |                       |
|----------------|-----------------------|
| Server Control | Disabled<br>Enabled ▼ |
| Server IP      | <input type="text"/>  |
| Server Port    | 80                    |
| GUID           | NV MAC address        |
| Password       | To set                |

## 18.6. REMOTE VIEW PRO SERVER CONFIGURATION

This function is available from Remote View Pro v3.x version. Previous release has to be updated with last package available on SOCOMEC's WEB page. A new licence is not needed if already installed. The configurations are reported in the new release during installation setup.

A new group has to be created in "Device Group" as NV7 type.

- Select a Name for this group
- Copy the GUID given by NET VISION
- Set the same password as in NET VISION
- Apply to save settings.

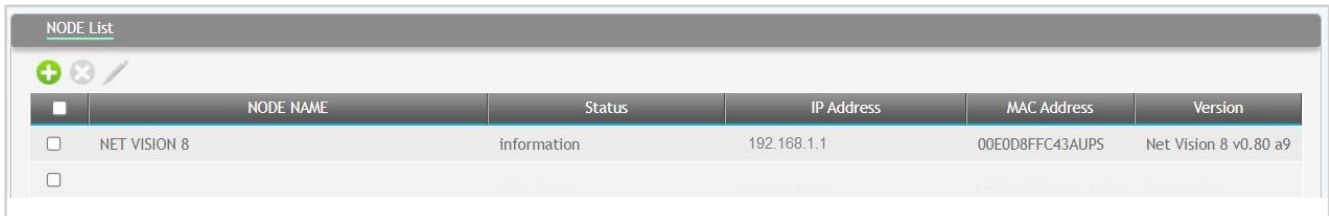


The screenshot shows a dialog box titled "Device Group Configuration". It has a close button (X) in the top right corner. The dialog contains the following fields and controls:

- Type: NV7 (dropdown menu)
- Name: (text input field)
- GUID: (text input field)
- Password: (text input field)
- Description: (text input field)
- Apply (button)

Once the new Device Group is connect, Add the NET VISION in Node List

If an EMD device is connected to this NET VISION, EMD device has to be added as a second node.



The screenshot shows a window titled "NODE List" with a toolbar containing a plus sign, a minus sign, and a refresh icon. Below the toolbar is a table with the following data:

|                          | NODE NAME    | Status      | IP Address  | MAC Address     | Version               |
|--------------------------|--------------|-------------|-------------|-----------------|-----------------------|
| <input type="checkbox"/> | NET VISION 8 | information | 192.168.1.1 | 00E0D8FFC43AUPS | Net Vision 8 v0.80 a9 |
| <input type="checkbox"/> |              |             |             |                 |                       |

## 18.7. SNMP v3 USM TABLE CONFIGURATION

This page contains the related setting for configuring the SNMPv3 protocol.

The security level defines the access for authentication and privacy password.

“noAuthNoPriv” with no authentication and no privacy passwords

“authNoPriv” with authentication password but no privacy password

“authPriv” with authentication password but with privacy password

User name and Password <sup>(1)</sup> set to NET VISION must be reported in the SNMP v3 configuration of the NMS.

If Authentication is requested, the protocol must be chosen between HMAC-MD5 or HMAC-SHA

If Privacy protocol is requested, the protocol must be chosen between DES or AES.

The protocols chosen in NET VISION must be reported in the SNMP v3 configuration of the NMS

### SNMP USM table Configuration

| Index | User Name            | Auth-Password            | Auth-Protocol | Priv-Password            | Priv-Protocol | Security level                           |
|-------|----------------------|--------------------------|---------------|--------------------------|---------------|--|
| 1     | <input type="text"/> | <input type="password"/> | MD5<br>SHA ▼  | <input type="password"/> | DES<br>AES ▼  | noAuthNoPriv ▼<br>authNoPriv<br>authPriv |

## 18.8. SNMP TRAP RECEIVERS CONFIGURATION

This page lists the parameters for SNMP trap receivers. NET VISION allows up to 8 NMS IP Address. As NET VISION manages its own MIB file and the standard RFC1628 MIB, you have to select the correct MIB file used to monitor the UPS.

In case of using the NET VISION MIB file, a specific filter for TRAP sending can be applied as following:

- Filtering by Severity: in this case a second filter can be applied such as:

“Information”: all TRAPs will be send

“Warning”: ‘warning’ and ‘critical’ TRAPs will be send

“Critical”: only ‘critical’ TRAPs will be sent.



**TRAP 3 and TRAP 4 will be not sent with this filter if “SNMP TRAP Filter” has been enabled in the “NET VISION Control” page.**



**In case of selecting TRAP v3, the USER name of USM table has to be reported in Community string.**

- Filtering by Event: it is necessary to select events that will send TRAP to the NMS.



**Once events have been selected or unselected, the selection must be saved: click on  to save the SNMP settings**

### SNMP Trap Receivers Table

| Index | NMS IP address       | Community String     | Trap Type                            | Trap Version      | Event Filter | Severity                                    |
|-------|----------------------|----------------------|--------------------------------------|-------------------|--------------|---|
| 1     | <input type="text"/> | <input type="text"/> | None<br>RFC1628<br>NET VISION TRAP ▼ | v1<br>v2c<br>v3 ▼ | By Severity  | Information ▼<br>Warning<br>Critical        |
| 2     |                      |                      |                                      |                   | By Event     | <input type="button" value="Event Select"/> |

(1) For all passwords ()[]{}\$%&\/ characters are NOT allowed

For SNMP v3 Trap Version, the USM table must be set according to the NMS configuration. Filter by specific event: TRAP list selection ordered by severity.

### **INFORMATION**

|  |   |
|--|---|
| This trap is sent upon completion of a UPS diagnostic test           | Not available for all UPS                             |
| The UPS status is normal. Load protected by UPS (*)                  | TRAP 22   |
| Alarm cancelled. All alarms are disabled (*)                         | TRAP 24: General alarm no longer present              |
| The UPS has cancelled the shutdown procedure to agent                | TRAP 26: Sent if the server shutdown has been enabled |
| This trap is sent each time an alarm is removed from the alarm table | TRAP 4: entry removed                                 |
| The Input supply has been restored                                   | TRAP 23   |
| The communication between UPS and the agent has been restored        | TRAP 25   |
| NET VISION is restarting   | TRAP 27   |
| EMD Sensor Not over high temperature                                 | TRAP 31   |
| EMD Sensor Not over high humidity                                    | TRAP 35   |
| EMD input2 is restored   | TRAP 39   |
| EMD Sensor Not under low temperature                                 | TRAP 29   |
| EMD Sensor Not under low humidity                                    | TRAP 33   |
| EMD input1 is restored   | TRAP 37   |

### **WARNING**

|  |   |
|--|---|
| The UPS is operating on battery power                                    | TRAP 1: Sent every minute with remaining backup time  |
| The UPS output is in overload (*)  | TRAP 6: Output load rate more than 100%.              |
| The battery is in alarm  | TRAP 11   |
| The battery test has detected a weak battery                             | TRAP16: Test failed                                   |
| Load supplied by automatic Bypass  | TRAP 18: On bypass and not eco mode activated         |
| A warning message has been sent to shutdown agent                        | TRAP 20: Sent if the server shutdown has been enabled |
| This TRAP is sent each time an alarm is inserted into to the alarm table | TRAP 3: New entry added                               |
| Redundancy is lost   | TRAP 7  |
| The UPS has switched to battery backup power (*)                         | TRAP 15: Battery discharging – sent once              |
| The UPS internal temperature has reached the threshold                   | TRAP 17   |
| A preventive alarm has been detected by the UPS (*)                      | TRAP 19 (including general alarm)                     |
| A shutdown command has been sent to agent                                | TRAP 21: Sent if the server shutdown has been enabled |

### **CRITICAL**

|   |   |
|---|---|
| The UPS is about to switch off the output power   | TRAP 5: Imminent stop                     |
| The battery has been detected as discharged       | TRAP 9                                    |
| A critical alarm has been detected on the UPS (*) | TRAP 12                                   |
| UPS is no longer communicating with the agent     | TRAP 14                                   |
| The battery has been disconnected from the UPS    | TRAP 8                                    |
| The battery is near of the end of backup time (*) | TRAP 10: Battery low / end of backup time |
| The load has been disconnected from the UPS       | TRAP 13: Load off or on standby mode      |
| EMD Sensor detected low temperature               | TRAP 28                                   |
| EMD Sensor detected low humidity                  | TRAP 32                                   |
| EMD input1 is active                              | TRAP 36                                   |
| EMD Sensor detected high temperature              | TRAP 30                                   |
| EMD Sensor detected high humidity                 | TRAP 34                                   |
| EMD input2 is active                              | TRAP 38                                   |

(\*) typical setting for basic usage example, with TRAP filter setting enabled in NET VISION Control page.

## 18.9. EMAIL NOTIFICATION

This page gives the description of UPS email notification settings. Email sending follows the same rule as for TRAP management.

The first part is dedicated to Mail Server and user account if necessary.

|                                       |   |
|---------------------------------------|---|
| "Mail Server"                         | IP address or server full name                    |
| "User Account"                        | Needed if authentication is enabled               |
| "User Password" <sup>(1)</sup>        | Needed if authentication is enabled               |
| "Sender email Address"                | name@domain                                       |
| "Mail Subject Prefix"                 | Free text as mail subject                         |
| "DNS Address"                         |   |
| "Mail Daily Status Report at (hh:mm)" | 00:00   |
| "Mail support TLS"                    | To enabled if required by e-mail server           |
| "Mail support authentication"         | To by enabled if user account is required         |
| "Delay before sending (minute)"       | delay before sending email if event still present |

(1) For all passwords ()[]{}\$%&\/ characters are NOT allowed

Send Test function

Once the Mail Server and account have been set and saved on NET VISION, click on  to test the configuration with  function.

### Mail Type

"Events": the email is sent when the event occurs

"Daily Status": NET VISION sends a daily e-mail at defined time. This e-mail includes history log files in attachment.

"Events / Status": an e-mail is sent when the event occurs with the history log file in attachment.

### Event filter by severity:

"Information": all alarms are sent via email

"Warning": alarms tagged as "warning" and "critical" are sent

"Critical": only critical alarms are sent

### Event filter by specific event:

Refer to SNMP TRAP event selection.

Selecting this filter means the emails are sent at the same time as SNMP TRAP.

Refer to event list for TRAP

## Email Notification

| Index | Mail account         | Description          | Mail Type  | Event Filter                               | Event Level   |
|-------|----------------------|----------------------|--|--|---|
| 1     | <input type="text"/> | <input type="text"/> | <input type="button" value="None"/> <input type="button" value="Events"/> <input type="button" value="Daily status"/> <input type="button" value="Events/status"/> | <input type="button" value="By Severity"/> | <input type="button" value="Information"/> <input type="button" value="Warning"/> <input type="button" value="Critical"/> |
| ...8  | <input type="text"/> | <input type="text"/> | <input type="button" value="None"/>  | <input type="button" value="By Event"/>    | <input type="button" value="Event Select"/>   |

Note: the e-mail address length is limited to 64 characters.

## 18.10. AUTHENTICATION CONFIGURATION

This page gives the description of Authentication Configuration settings.

|                                    |   |
|------------------------------------|---|
| "UDP Port"                         | This parameter displays the RADIUS protocol port.   |
| "Primary Server"                   | Primary RADIUS server IP or domain name.  |
| "Secondary Server"                 | Backup RADIUS server IP or domain name. If the RADIUS server is not backed-up the parameter can remain blank.   |
| "Share Secret of Primary Server"   | This parameter is used to transmit an encryption password between NET VISION and primary RADIUS server. This value must be the same as the primary RADIUS server setting.   |
| "Share Secret of Secondary Server" | This parameter is used to transmit an encryption password between NET VISION and the secondary RADIUS server. This value must be the same as the secondary RADIUS server setting. If the RADIUS server is not backed-up the parameter can remain blank. |
| "Packet Timeout Interval"          | When the RADIUS server does not respond within time interval, the authentication packet will be re-sent.  |
| "Packet Retry Times"               | When the RADIUS server does not respond the authentication request will be re-sent according to packet retry times.   |

If you do not have a secondary radius server, you can only set "Primary Server" and "Share Secret of Primary Server".

### Authentication Configuration

|                                  |                                |
|----------------------------------|--------------------------------|
| UDP Port                         | 1812                           |
| Primary Server                   | <input type="text"/>           |
| Secondary Server                 | <input type="text"/>           |
| Share Secret of primary Server   |                                |
| Share Secret of secondary Server |                                |
| Packet Timeout                   | <input type="text" value="1"/> |
| Packet Retry                     | <input type="text" value="3"/> |

| Index | User Name            | Access type  |
|-------|----------------------|--|
| 1     | <input type="text"/> | <input type="checkbox"/> Disabled<br><input type="checkbox"/> Read Only<br><input type="checkbox"/> Read/Write |

Note:

This service allows all users set in the RADIUS server to login to NET VISION with Read/Write permission.

Users managed by RADIUS server have to be reported in the User table to select user's rights access to NET VISION (Read or R/W).



## 18.11. WOL TARGETS

The "Wake On LAN" function restarts through network interface all registered client servers. Up to 32 MAC client addresses can be managed by NET VISION. WOL frame is sent to servers in case of servers have been shut down after an AC failed procedure.

### Wake On LAN Targets

|                    |                                |
|--------------------|--------------------------------|
| Repeating Times    | <input type="text" value="1"/> |
| Interval Timer (s) | <input type="text" value="1"/> |

| Test                     | Index | Mac Address                                    | Control   | Description          |
|--------------------------|-------|--|---|----------------------|
| <input type="checkbox"/> | 1     | <input type="text" value="00:00:00:00:00:00"/> | <input style="border: none; background-color: #f0f0f0; text-align: center; padding: 2px 5px;" type="text" value="Enabled"/> ▼ | <input type="text"/> |

## 18.12. MODBUS TCP CONFIGURATION

This page enables or disables the MODBUS TCP protocol; the MODBUS Port can be changed.

### MODBUS Configuration

|                          |   |
|--------------------------|---|
| Modbus TCP Configuration | <input style="border: none; background-color: #f0f0f0; text-align: center; padding: 2px 5px;" type="text" value="Enabled"/> ▼<br>Disabled |
| Modbus Port              | <input type="text" value="502"/>  |

Refer to Annex for UPS data access through MODBUS TCP protocol.

#### Note:



Only 1 unique connection allows

No multi connection

If the MODBUS TCP port has been opened by the remote station and there is a "blank" of 1 minute (no data exchanged), NET VISION will close the port for security reason.

## 18.13. SYSLOG SETUP

This page contains the related setting for configuring the Syslog protocol

### Syslog Setup

|                |  |
|----------------|--|
| Server Control | <input type="button" value="Enabled"/><br>▼<br><input type="button" value="Disabled"/> |
| Server IP      | <input type="text"/>   |
| Syslog filter  | <input type="text" value="UPS + NET VISION + SERVICE"/>                                |
| Server Port    | <input type="text" value="514"/>   |
| TLS Control    | <input type="button" value="Enabled"/><br>▼<br><input type="button" value="Disabled"/> |

Syslog filter: UPS + NET VISION + SERVICE to select the group of events send to Syslog server.

Syslog protocol includes all UPS events, NET VISION configurations changes and shutdown command sent to servers.

All records of UPS Events Log and NET VISION Events Log are pushed to target server through syslog protocol.

Using SYSLOG over TLS, the related certificate can be uploaded if needed.

## 18.14. DDNS SETUP

This page lets the Administrator to set DDNS configuration in NET VISION.

NET VISION can register any of the DDNS providers.

The user name and password must be created with the selected DDNS provider.

### DDNS Setup

|  |   |
|--|---|
| <input type="text" value="DDNS State"/> Disabled / Failed / Pass |   |
| DDNS Control   | <input type="button" value="Enabled"/><br>▼<br><input type="button" value="Disabled"/>  |
| DDNS ISP setup   | <input type="button" value="ezip"/><br>▼<br><input type="button" value="pgpow"/><br><input type="button" value="dhs"/><br><input type="button" value="dyndns"/><br><input type="button" value="dyndns-stat"/><br><input type="button" value="tzo"/><br><input type="button" value="easydns"/> |
| User Name  | <input type="text"/>  |
| Password   | <input type="text"/>  |
| DDNS Domain name   | <input type="text"/>  |

## 18.15. FIREWALL SETUP

This page allows setting the accessible IP list.

Prefix Length: number of bits in the mask to define the IP segment

Example: /8 = 11111111 00000000 00000000 00000000

Firewall action:

Accept: this IP or IP segment can be accessed by NET VISION.

Reject: this IP or IP segment cannot be accessed by NET VISION.

### Firewall Configuration

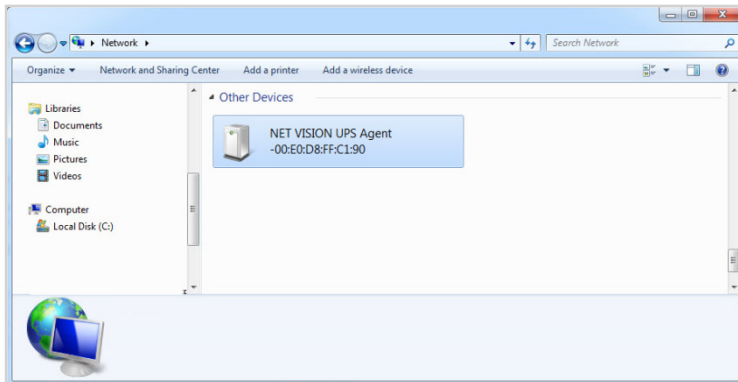
| Index | IP Address           | Prefix Length                       | Action             |
|-------|----------------------|-------------------------------------|--------------------|
| 1     | <input type="text"/> | 0 to 31 (IPv4) ▼<br>0 to 128 (IPv6) | Accept ▼<br>Reject |

## 18.16. UPnP PROTOCOL

UPnP (Universal Plug and Play) protocol allows NET VISION to be managed as device network from a remote computer.

The user interface can be opened clicking on the NET VISION device icon.

The NET VISION is present in the device network list as bellow.



NET VISION network device properties :



## 18.17. MULTI-LANGUAGE

create your own language version or download additional language package if available.

## 18.18. FIRMWARE UPGARDE

Upgrade the firmware

select the bin file

click on upload

# 19. NET VISION IOT GATEWAY

NET VISION includes IoT Gateway functions for:



- SoLive UPS  
SOCOMECC free mobile app for UPS remote monitoring
  
- SoLink Remote Maintenance  
SOCOMECC 24/7 Remote Monitoring Service contract



## 19.1. REQUIREMENTS

An internet access from the local network is necessary to connect NET VISION to SOCOMECC Cloud Application.

NET VISION needs following outgoing ports open:

- HTTPs: 443
- NTP: 123

## 19.2. IoT GATEWAY ACCOUNT CREATION

Your NET VISION device and the UPS associated have to be created with your own account on SOCOMECC Cloud Application.

After contacting your Socomec support you will get an activation key back.

This key has to be reported in NET VISION IoT Configuration page to enable the communication with cloud application.

## 19.3. NTP SETTINGS

To guarantee the correct data transferring and storage to SOCOMECC Cloud Applications, the NTP server has to be set on NET VISION. A public NTP server url, such as [ntp.pool.org](http://ntp.pool.org), is allowed.

## 19.4. PROXY SETTING

A PROXY server is recommended to ensure a secure internet connection. NET VISION manages different kind of PROXY server.

### SOCOMEK IoT connection

|              |             |                      |
|--------------|-------------|----------------------|
| Proxy Server | Auto        |                      |
| Host         | Disabled    | <input type="text"/> |
| Port         | Auto        | <input type="text"/> |
| Login        | NTLM        | <input type="text"/> |
|              | Kerberos    | <input type="text"/> |
|              | Proxy basic | <input type="text"/> |
| Password     |             | <input type="text"/> |

PROXY Settings:

- Select the type of Server
- Enter Host name and port.
- Login and password if needed.

Finalize the setting clicking on

button checks if the NET VISION is able to reach the Socomec server.

In case of test failed:

Check the PROXY setting and network connection.

## 19.5. SYNCHRONIZATION

A synchronization action has to be performed to initiate the provisioning process to SOCOMEK's Cloud Application.

The  button is enabled if all following conditions are respected:

- PROXY server enabled if needed
- IoT connection enabled and Activation Key entered
- NTP server set, date and time update from server done once
- UPS is communicating with NET VISION (Serial number and UPS ID and configuration transferred to NET VISION)

|        |              |
|--------|--------------|
| Status | Disconnected |
|--------|--------------|

The IoT connection status is above the Synchronization button. (Refer to §19.6.3)

## 19.6. IoT SERVICE ACTIVATION

|                                     |                                      |   |
|-------------------------------------|--------------------------------------|---|
| IoT Socomec                         | <input type="text" value="Enabled"/> | Access Type   |
| Device name                         | <input type="text"/>                 |   |
| Remote Maintenance Activation Key   | <input type="text"/>                 | <input type="text" value="Enabled"/>  |
| Remote Portal Access Activation Key | <input type="text"/>                 | <input type="text" value="Disabled"/>   |
| Mobile App                          | Activation key                       | <input type="text"/> <input type="text" value="Disabled"/> <input type="button" value="Request"/> |
|                                     | Site name                            | <input type="text" value="Activation key will return via SMS QR code to scan from SOCOMEC APP"/>  |
|                                     | Installation name                    |   |
|                                     | User reference                       |   |
|                                     | Admin account email                  |   |
|                                     | User 1 account email                 |   |
|                                     | User 2 account email                 |   |
|                                     | User 3 account email                 |   |
| User 4 account email                | <input type="text"/>                 |   |

### 19.6.1. IoT CONNECTION SETTING

Before to enable a cloud service:

- Enable the IoT Connection
- Enter a Device Name in upper case and without space.

### 19.6.2. SoLINK : REMOTE MAINTENANCE ACTIVATION

- Enter the activation key (uuid – 32 characters format) given by our Expert Service
- Enable the Remote maintenance service.

and

### 19.6.3. PORTAL ACCESS ACTIVATION

- Enter the activation key (uuid – 32 characters format) given by our Expert Service
- Enable the Portal Access service.

and

### 19.6.4. SoLIVE : MOBILE APP ACTIVATION

please refer to Solive quick start guide to monitor your UPS in SoLive mobile app procedure; in brief:

1. create your Socomec cloud account via UPS App
2. Register your mobile to cloud platform via SoLive UPS App
3. Get the mobile App activation key via SMS
4. Activate your UPS via NET VISION IoT page
5. Add your UPS in Solive UPS App

### 19.6.5. LIST OF STATUS CONNECTION AND EVENT STORED IN NET VISION EVENTS LOG

| Connection Status          | description   | Action   |
|----------------------------|---|--|
| Device Unknown             | The IoT connection is disabled  | Default status   |
| Disconnected               | The IoT connection stopped  | Waiting the next synchronization if the function is enabled                                      |
| Connecting                 | The IoT connection is in progress   | Wait for connected status  |
| Connected                  | The IoT connection operates   | Normal operation   |
| Create Device Gateway Fail | The gateway provisioning has been refused by the server, or end of time out | Check the IoT settings and enter again the activation key. A new synchronisation has to be start |
| Create UPS Fail            | The UPS provisioning has been refused by the server, or and of time out     | A new synchronisation is required  |
| Check Profile Fail         | The profile is missing  | Click again on [Synchronization], restarting the process   |
| Download Profile Fail      | The profile is corrupted  | Click again on [Synchronization], restarting the process   |
| Push Data Fail             | Error answer from server  | Wait next data push  |
|                            |   |  |
| SSL CA Expired             | No internet access  | Check Ethernet connection and proxy settings   |
| DNS Resolved Failed        | DNS not reachable   | Check proxy setting  |
| Cloud Request Failed       | Error get from server   | Wait next synchronization  |
| Data check error           | Error get from server   | Wait next synchronization  |
| Get Gateway Failed         | Error get from server   | Wait next synchronization  |
| Get UPS Failed             | Error get from server   | Wait next synchronization  |

In case of connection failure NET VISION closes all IoT connections, and retries a new connection every 2 minutes. After 10 unsuccessful retries, the NET VISION tries again after 20 minutes. Alarms and Status occurring during disconnection period are memorized and transmitted once the IoT connection is established.

## 20. EXTERNAL LINK SETUP

This page allows setting the access to other network devices by hyperlink.

Screen Text description will appear in the External Links menu.

The hyperlink includes the IP address or url (without http://) set as Link Address

### External Links Setup

| Index | Screen Text          | Link Address         | Status               |
|-------|----------------------|----------------------|----------------------|
| 1     | <input type="text"/> | <input type="text"/> | Disabled<br>Enabled  |
| 2     | <input type="text"/> | <input type="text"/> | Disabled ▼           |
| 3     | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 4     | <input type="text"/> | <input type="text"/> | <input type="text"/> |

Example:

The screenshot shows the Socomec NET VISION interface for a MASTERYS 3/3 SYSTEM. The 'External Links Setup' page contains a table with the following data:

| Index | Screen Text            | Link Address | Status     |
|-------|------------------------|--------------|------------|
| 1     | External device access | 192.168.1.1  | Enabled ▼  |
| 2     |                        |              | Disabled ▼ |
| 3     |                        |              | Disabled ▼ |
| 4     |                        |              | Disabled ▼ |

An 'Apply' button is located at the bottom of the table.

Click on the link to open a new page in the web browser.



# 21. HISTORY LOG

## 21.1. HISTORY LOG

### HISTORY LOG ACCESS FROM SHORT CUT IN TOP BAR

From this access, the measurements recorded are shown in graphical mode.  
 By default, the NET VISION shows the last 30 minutes records.  
 The time window can be selected by Specific Period or by Day Selection using the calendar function.

- Measurements group selection: (all groups are selected by default)
- Input Information: includes Input voltage per phase and input frequency
- Output information: includes output voltage per phase, global output load
- UPS information: includes UPS temperature and battery capacity

### UPS History Graphic

|                       |      |   |         |
|-----------------------|------|---|---------|
| <input type="radio"/> | Show | Specific Period ▼   | Records |
|                       |      | 30 minutes<br>60 minutes<br>3 hours<br>6 hours<br>12 hours<br>1 day |         |

|                       |      |            |    |            |         |                                       |
|-----------------------|------|------------|----|------------|---------|---------------------------------------|
| <input type="radio"/> | Show | dd/mm/yyyy | to | dd/mm/yyyy | Records | <input type="button" value="Change"/> |
|-----------------------|------|------------|----|------------|---------|---------------------------------------|

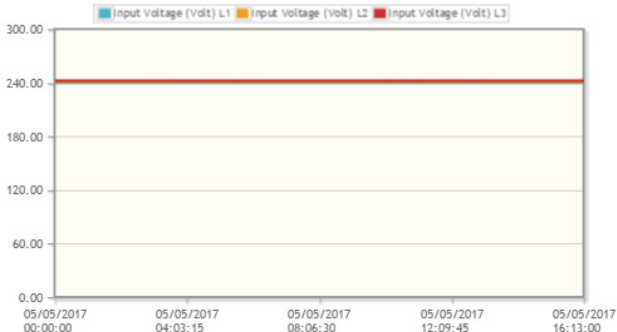
  

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| Su | Mo | Tu | We | Th | Fr | Sa |
|----|----|----|----|----|----|----|
|    | 1  | 2  | 3  | 4  | 5  | 6  |
| 7  | 8  | 9  | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | 31 |    |    |    |

|   |  |   |
|---|--|---|
| <input checked="" type="checkbox"/> Input information | <input checked="" type="checkbox"/> Output information | <input checked="" type="checkbox"/> UPS information |
|---|--|---|

**HISTORY LOG FROM NET VISION MENU ITEM**

This menu shows the history log page by page in a table presentation. The last 5 records are shown in the table by default.

The time window can also be changed via the calendar.

The number of pages available is displayed above and below the table. Page numbers are used as buttons to change the log page.



UPS History Log

from  to

Log count per page

<< < 1 2 3 > >>

| Log       | Input Voltage (V) |   |   | Output Voltage (V) |   |   | Input frequency (Hz) | Output Load (%) |   |   | Battery Capacity (%) | UPS temperature (°C) |
|-----------|-------------------|---|---|--------------------|---|---|----------------------|-----------------|---|---|----------------------|----------------------|
| Date time | R                 | S | T | R                  | S | T |                      | R               | S | T |                      |                      |
|           |                   |   |   |                    |   |   |                      |                 |   |   |                      |                      |

<< < 1 2 3 > >>

Maximum number of records: 2048

If the sample is set to 1 minute, the complete time window offers a view of 2048 minute (~1 day and 18 minutes)

## 21.2. UPS EXTENDED HISTORY LOG

### ACCESS FROM SHORT CUT IN TOP BAR

From this access, the measurements recorded are shown in graphical mode.

For each measurement, NET VISION stores the minimum, average and maximum values during the sample rate (60 minutes by default)

By default, the NET VISION shows the last 30 minutes records. It could be that the NET VISION shows “No Record!” due to the sample rate; in such a case, another period must be chosen to have data in the table.

The time window can be selected by Specific Period or by Day Selection using the calendar function.

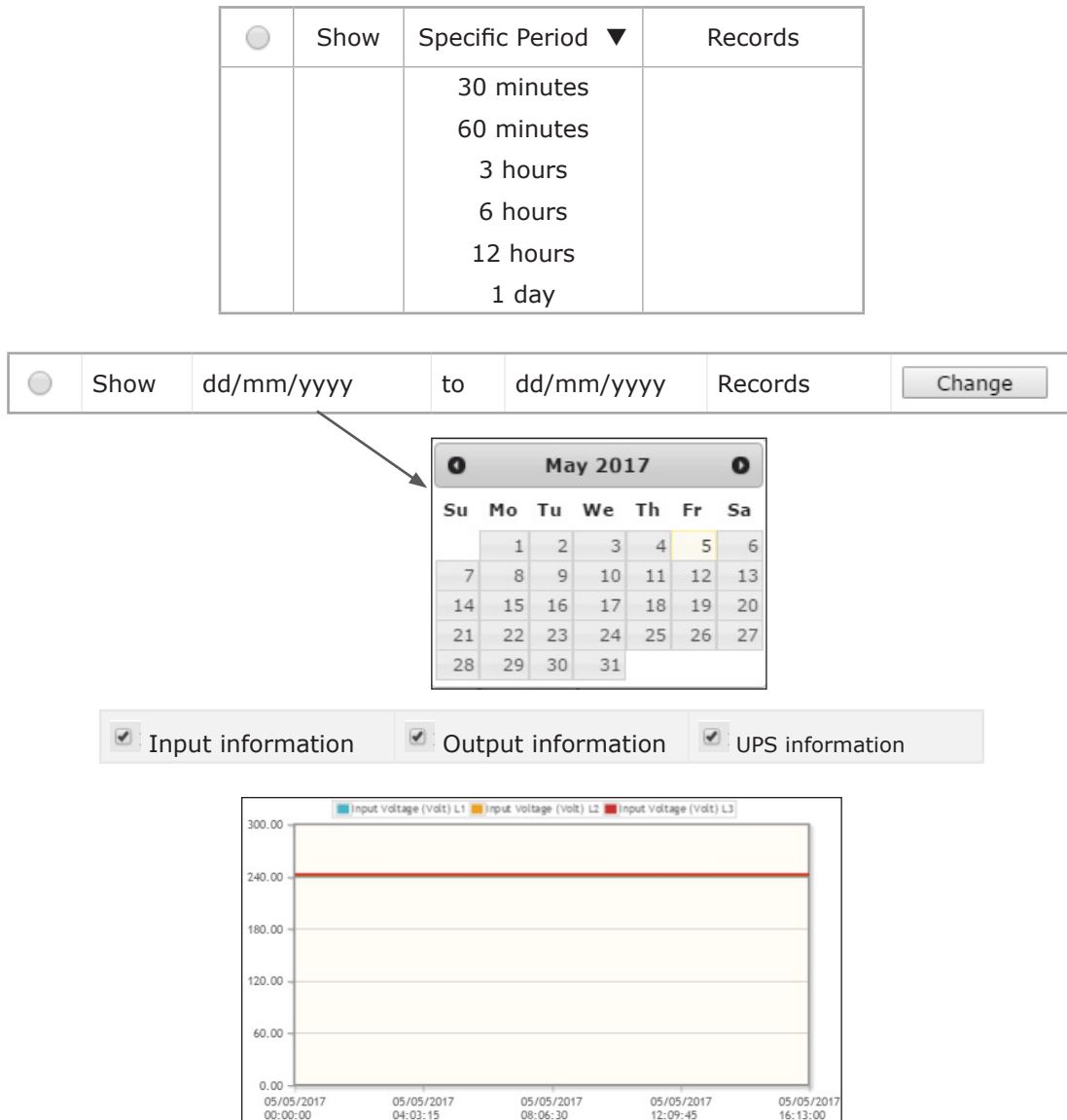
Measurements group selection: (all groups are selected by default)

Input Information: includes input voltage per phase and input frequency

Output information: includes output voltage per phase, global output load

UPS information: includes UPS temperature and battery capacity

### UPS Extended History Graphic



The graphs represent the minimum, average and maximum values of each measurement.

**UPS EXTENDED LOG FROM NET VISION MENU ITEM**

From this access, the measurements recorded are shown in table mode. By default, the last 5 records are shown in the table

The time window can also be changed via the calendar  
The number of pages available is displayed above and below the table.

---

UPS Extended Log

from  to

Log count per page

<< < 1 2 3 > >>

| Start time<br>dd/mm/yyyy<br>hh:mm:ss | End time<br>dd/mm/yyyy<br>hh:mm:ss | Input Voltage (V) R |     |     | Input Voltage (V) S |     |     | Input Voltage (V) T |     |     | * | * | * |
|--------------------------------------|------------------------------------|---------------------|-----|-----|---------------------|-----|-----|---------------------|-----|-----|---|---|---|
|                                      |                                    | Min                 | Max | Avg | Min                 | Max | Avg | Min                 | Max | Avg | * | * | * |
|                                      |                                    |                     |     |     |                     |     |     |                     |     |     |   |   |   |
|                                      |                                    |                     |     |     |                     |     |     |                     |     |     | * | * | * |

... << < 1 2 3 > >>

---

Maximum number of records: 2048

If the sample is set to 1 hour, the complete time window is a view of 2048 hours (~85 days and 8 hours)

- \* Same table for:
- Input Frequency
  - Output Voltage
  - Output Current
  - Output Load Rate
  - Battery Capacity
  - UPS Temperature

## 21.3. UPS EVENTS LOG

All incoming and out coming alarms detected by NET VISION are stored in the UPS events log.

### UPS Events Log

from  to

Log count per page

<< < 1 2 3 > >>

| Event Time (dd/mm/yyyy hh:mm:ss) ▼ | Event Level ▼                      | Event Description                               |
|------------------------------------|------------------------------------|---|
| 01/01/1970 00:00:00                | Information<br>Warning<br>Critical | 'has been removed'<br>when the alarm disappears |
|                                    |                                    |   |

Clicking on ▼ changes the display order: by date and time or by severity level.

### List of UPS event stored by NET VISION

|                                  |                       |                                  |                              |
|----------------------------------|-----------------------|----------------------------------|------------------------------|
| UPS Imminent Stop                |                       | UPS Power Off                    | If function present          |
| Overload Alarm                   |                       | Wrong Configuration              |                              |
| Ambient Temperature Alarm        |                       | Internal / Communication failure |                              |
| Transfer locked                  |                       | Option Board Alarm               |                              |
| Transfer impossible              |                       | External Input 1 to 4 Alarm      | If ADC programmed            |
| Insufficient resource            | Parallel system only  | Unit 1 to 12 General Alarm       | Parallel system only         |
| Redundancy lost                  | Parallel system only  | UPS connected                    |                              |
| Output Short circuit detection   |                       | UPS not connected                |                              |
| Maintenance Alarm                |                       | Power Plugs 1 to 4 ON            | If power share plugs present |
| Remote Service Alarm             | If function present   | Power Plugs 1 to 4 OFF           | If power share plugs present |
| General Alarm                    |                       | Transfer Load to Bypass          | UPS STATUS EVENTS            |
| Battery disconnected             | If function present   | Transfer Load to Inverter        |                              |
| Battery discharged               |                       | Enable eco mode                  |                              |
| End of Backup Time / Battery Low |                       | Disable eco mode                 |                              |
| Operating on Battery             |                       | Enable standby mode              |                              |
| Battery Temperature Alarm        | If function present   | Disable standby mode             |                              |
| Battery Room Alarm               | If function present   | Alarm Acknowledgement            |                              |
| Battery Test failed              |                       | On maintenance bypass            |                              |
| Battery Alarm                    |                       | Auto-test in progress            |                              |
| Rectifier Critical Alarm         | Rectifier General Al. | Battery test in progress         |                              |
| Rectifier Preventive Alarm       |                       | Load protected by Inverter       |                              |
| Rectifier Input Supply not OK    |                       | Normal mode                      |                              |
| Gen Set Alarm                    | If function present   | UPS in eco mode                  |                              |
| Charger Critical Alarm           |                       | Load on bypass                   |                              |
| Charger Preventive Alarm         | Charger General Al.   | Unit Available                   |                              |
| Inverter Critical Alarm          |                       | On standby                       |                              |
| Inverter Preventive Alarm        | Inverter General Al.  | Load off                         |                              |
| Bypass Critical Alarm            |                       | UPS shut off sent                |                              |
| Bypass Preventive Alarm          | Bypass General Al.    | Standby schedule sent            |                              |
| Bypass Input Supply not OK       |                       | Eco mode schedule sent           |                              |
| Phase Rotation fault             |                       |                                  |                              |
| Maintenance Bypass Alarm         |                       |                                  |                              |
| FAN Failure                      |                       |                                  |                              |

## 21.4. NET VISION EVENTS LOG

Any modifications of NET VISION configurations and settings are stored in the NET VISION Events log.

### NET VISION Events Log

from  to

Log count per page

<< < 1 2 3 > >>

| Event Time (dd/mm/yyyy hh:mm:ss) ▼ | Event Level ▼                      | Event Description |
|------------------------------------|------------------------------------|-------------------|
| 01/01/1970 00:00:00                | Information<br>Warning<br>Critical |                   |

Clicking on ▼ changes the display order: by date and time or by severity level.

List of NET VISION events stored in the log: “???” defines the local IP address

|  |
|--|
| Cold boot  |
| Warm boot  |
| Network link up                                  |
| Network link down                                |
| NET VISION UPS Agent Restart                     |
| NET VISION UPS Agent Parameters reset to default |
| Parameters checksum error                        |
| NET VISION UPS Agent Firmware upgrade            |
| History log cleared                              |
| Extended history log cleared                     |
| UPS event log cleared                            |
| NET VISION UPS Agent event log cleared           |
| History log interval changed                     |
| Extended history log interval changed            |
| Send shutdown warning to clients                 |
| Send shutdown request to clients                 |
| Send UPS shutdown command to UPS                 |
| Send shutdown cancel to clients                  |
| Send UPS output on command to UPS                |
| UPS communication lost                           |
| UPS communication restored                       |
| ??? Time changed by user                         |
| ??? Time changed by server                       |
| ??? Time changed by RTC                          |
| Cannot connect to mail server                    |
| Incorrect Mail receiver                          |

|   |
|---|
| Incorrect Mail server name/IP address                                   |
| Mail send error/unknown error   |
| Mail sent   |
| Wake On LAN packet sent to clients                                      |
| All RADIUS servers invalid or connection failed                         |
| ??? has been changed via ??? by ???                                     |
| NET VISION UPS Agent event log schema changed. Log has been re-created. |
| UPS event log schema changed. Log has been re-created.                  |
| History log schema changed. Log has been re-created.                    |
| Extended history log schema changed. Log has been re-created.           |
| Upload configuration successfully via NET VISION Explorer by ???        |
| Upload configuration with ??? error(s) via NET VISION Explorer by ???   |
| Ntp Time Server Connected Failed  |
| Mail send error:???   |
| Mail send test  |

If an EMD device is connected and enabled

|   |
|---|
| EMD Temperature not over high Set point |
| EMD Temperature over high Set point     |
| EMD Temperature not under low Set point |
| EMD Temperature under low Set point     |
| EMD Humidity not over high Set point    |
| EMD Humidity over high Set point        |
| EMD Humidity not under low Set point    |
| EMD Humidity under low Set point        |
| EMD Alarm-1 not active                  |
| EMD Alarm-1 activated                   |
| EMD Alarm-2 not active                  |
| EMD Alarm-2 activated                   |





## 21.5. CLEAR & SAVE LOG DATA

This page allows storing all log files to a local computer, to backup files on a local computer or to clear logs on NET VISION.

The log files are stored in CSV format and can be opened with a standard Office programme, such as MS Excel.

Save and Clear log functions are accessible for admin or Read/write account users.

### Clear & Save Log Data

|   |
|---|
|  UPS History Log       |
|  UPS Extended Log      |
|  UPS Events Log        |
|  NET VISION Events Log |

| Clear Log Data                              |                                       |                                      |
|---|---------------------------------------|--------------------------------------|
| <input type="radio"/> NET VISION Events Log | <input type="radio"/> UPS Events Log  |                                      |
| <input type="radio"/> UPS Extended Log      | <input type="radio"/> UPS History Log | <input type="button" value="Clear"/> |

### STORED FILES

Click on  to store the file on a local computer

### CLEAR LOGS

Select which Log to clear and click on

If the EMD device is connected, the EMD History Log is added as a menu item and added in the logs tables above.



## 22. APPENDIX

### APPENDIX: NET VISION 7 MIB FILE OID DESCRIPTION

| upsIdent(1)                 | No. | Variables                    |
|-----------------------------|-----|------------------------------|
| .1.3.6.1.4.1.4555.1.1.7.1.1 | 1   | upsIdentModel                |
|                             | 2   | upsIdentSerialNumber         |
|                             | 3   | upsIdentUserRef              |
|                             | 4   | upsIdentUserLocation         |
|                             | 5   | upsIdentAgentSoftwareVersion |
|                             | 6   | upsSystemName                |
|                             | 7   | upsSystemContact             |
|                             | 8   | upsSystemLocation            |

| upsBattery (2)              | No. | Variables                    | Values  |
|-----------------------------|-----|------------------------------|---|
| .1.3.6.1.4.1.4555.1.1.7.1.2 | 1   | upsBatteryStatus             | unknown(1).<br>batteryNormal(2).<br>batteryCharging(3).<br>batteryTest(4).<br>batteryDischarging(5).<br>batteryLow(6).<br>batteryDepleted(7).<br>batteryFailure(8).<br>batteryDisconnected(9) |
|                             | 2   | upsSecondsOnBattery          | Seconds   |
|                             | 3   | upsEstimatedMinutesRemaining | Minutes   |
|                             | 4   | upsEstimatedChargeRemaining  | %   |
|                             | 5   | upsBatteryVoltage            | Format ###.# V  |
|                             | 6   | upsBatteryTemperature        | Format ##.# °C (*)  |
|                             | 7   | upsAmbientTemperature        | Format ##.# °C  |
|                             | 8   | upsBatteryCurrent            | Format # ###.# A  |

| upsInput(3)                 | No.   | Variables                    | Values            |
|-----------------------------|-------|------------------------------|-------------------|
| .1.3.6.1.4.1.4555.1.1.7.1.3 | 1     | upsInputNumLines             | 3 for 3 phase UPS |
|                             | 2     | upsInputFrequency            | Format ##.# Hz    |
|                             | 3     | upsInputTable/upsInputEntry/ |                   |
|                             | 3.1.1 | upsInputLineIndex            |                   |
|                             | 3.1.2 | upsInputVoltage              | ###.# V           |
|                             | 3.1.3 | upsInputCurrent              | ###.# A (*)       |
|                             | 3.1.4 | upsInputVoltageMax           | ###.# V           |
|                             | 3.1.5 | upsInputVoltageMin           | ###.# V           |



General rule: In case measurements not managed by UPS the related IOD value is set at -1 or 65535.

| upsOutput(4)                | No.   | Variables                      | Values   |
|-----------------------------|-------|--------------------------------|--|
| .1.3.6.1.4.1.4555.1.1.7.1.4 | 1     | upsOutputSource                | Unknown (1).<br>onMaintenanceBypass(2).<br>onInverter(3).<br>normalMode(4).<br>ecoMode(5).<br>onBypass(6).<br>standby(7).<br>upsOff(8).<br>LineInteractive(9). |
|                             | 2     | upsOutputFrequency             | Format ##.# Hz   |
|                             | 3     | upsOutputNumLines              | 3 for 3 phase UPS  |
|                             | 4     | upsOutputTable/upsOutputEntry/ |  |
|                             | 4.1.1 | upsOutputLineIndex             |  |
|                             | 4.1.2 | upsOutputVoltage               | ###.# V  |
|                             | 4.1.3 | upsOutputCurrent               | ###.# A  |
|                             | 4.1.4 | upsOutputPercentLoad           | ### %  |
|                             | 4.1.5 | upsOutputKva                   | ###.# kVA (*)  |
|                             | 4.1.6 | upsOutputKw                    | ###.# kW (*)   |
|                             | 5     | upsOutputGlobalKva             | ###.# kVA (*)  |
|                             | 6     | upsOutputGlobalKw              | ###.# kW (*)   |
|                             | 7     | upsOutputLoadRate              | ### %  |

(\*) measurements are set to a value of -1 if the measurement is not managed

| upsBypass(5)                | No. | Variables                      | Values            |
|-----------------------------|-----|--------------------------------|-------------------|
| .1.3.6.1.4.1.4555.1.1.7.1.5 | 1   | upsBypassFrequency             | Format ##.# Hz    |
|                             | 2   | upsBypassNumLines              | 3 for 3 phase UPS |
|                             | 3   | upsBypassTable/upsBypassEntry/ |                   |
|                             | 3.1 | upsBypassLineIndex             |                   |
|                             | 3.2 | upsBypassVoltage               | ###.# V           |
|                             | 3.3 | upsBypassCurrent               | ###.# A (*)       |

| upsAlarm(6)                 | No.                    | Variables                      | JBUSP     | VU-MAP |
|-----------------------------|------------------------|--------------------------------|-----------|--------|
| .1.3.6.1.4.1.4555.1.1.7.1.6 | 1                      | upsAlarmsPresent               |           |        |
|                             | 2                      | upsAlarmTable/upsAlarmEntry/   |           |        |
|                             | 2.1.1                  | upsAlarmId                     |           |        |
|                             | 2.1.2                  | upsAlarmDescr                  |           |        |
|                             | 2.1.3                  | upsAlarmTime                   |           |        |
|                             | 2.1.4                  | upsAlarmExtDes                 |           |        |
|                             | 3                      | upsWellKnownAlarms/            |           |        |
|                             | 3.1                    | upsAlarmImminentStop           | A31       | A000   |
|                             | 3.2                    | upsAlarmOverload               | A02       | A001   |
|                             | 3.3                    | upsAlarmTemperature            | A07       | A002   |
|                             | 3.4                    | upsAlarmTransferLock           | A45       | A003   |
|                             | 3.5                    | upsAlarmAutoTransferImpossible | A46       | A004   |
|                             | 3.6                    | upsAlarmInsufficientResources  | A50       | A005   |
|                             | 3.7                    | upsAlarmRedundancyLost         | A43       | A006   |
|                             | 3.8                    | upsAlarmOutputShortCircuit     | A09       | A007   |
|                             | 3.9                    | upsAlarmMaintenance            | A44       | A012   |
|                             | 3.10                   | upsAlarmRemoteService          | A42       | A013   |
|                             | 3.11                   | upsAlarmGeneralFault           | A00       | A015   |
|                             | 3.12                   | upsAlarmBatteryCircuitOpen     | A59       | A016   |
|                             | 3.13                   | upsAlarmBatteryDischarged      | S16   A49 | A017   |
|                             | 3.14                   | upsAlarmLowBattery             | S15       | A018   |
|                             | 3.15                   | upsAlarmOnBattery              | S05       | A019   |
|                             | 3.16                   | upsAlarmBatteryTemperature     | 0         | A020   |
|                             | 3.17                   | upsAlarmBatteryRoom            | A47       | A021   |
|                             | 3.18                   | upsAlarmBatteryTest            | S14       | A022   |
|                             | 3.19                   | upsAlarmBatteryFault           | A01       | A027   |
|                             | 3.20                   | upsAlarmRectifierFault         | A52       | A032   |
|                             | 3.21                   | upsAlarmRectifierAlarm         | A23       | A033   |
|                             | 3.22                   | upsAlarmReInputBad             | A05       | A035   |
|                             | 3.23                   | upsAlarmGenSetGeneral          | A56       | A036   |
|                             | 3.24                   | upsAlarmBatteryChargerFault    | A10       | A037   |
|                             | 3.25                   | upsAlarmBatteryChargerAlarm    | A26       | A038   |
|                             | 3.26                   | upsAlarmInverterFault          | A54       | A040   |
|                             | 3.27                   | upsAlarmInverterAlarm          | A25       | A041   |
|                             | 3.28                   | upsAlarmBypassFault            | A62       | A048   |
|                             | 3.29                   | upsAlarmBypassAlarm            | A29       | A049   |
|                             | 3.30                   | upsAlarmByInputBad             | A06       | A050   |
|                             | 3.31                   | upsAlarmPhaseRotationFault     | A61       | A051   |
|                             | 3.32                   | upsAlarmFansFailure            | A60       | A054   |
|                             | 3.33                   | upsAlarmMaintenanceBypass      | A48       | A056   |
|                             | 3.34                   | upsAlarmUPSPowerOffActive      | A58       | A059   |
|                             | 3.35                   | upsAlarmWrongConfiguration     | A20       | A060   |
|                             | 3.36                   | upsAlarmInternalFailure        | A19       | A061   |
|                             | 3.37                   | upsAlarmOptionalBoards         | A51       | A062   |
|                             | 3.38                   | upsAlarmExternalAlarm1         | A38       | A064   |
| 3.39                        | upsAlarmExternalAlarm2 | A39                            | A065      |        |
| 3.40                        | upsAlarmExternalAlarm3 | A40                            | A066      |        |
| 3.41                        | upsAlarmExternalAlarm4 | A41                            | A067      |        |
| 3.42                        | upsAlarmModule1Alarm   | A32                            | A096      |        |
| 3.43                        | upsAlarmModule2Alarm   | A33                            | A097      |        |
| 3.44                        | upsAlarmModule3Alarm   | A34                            | A098      |        |
| 3.45                        | upsAlarmModule4Alarm   | A35                            | A099      |        |

|                             |                       |                           |               |            |
|-----------------------------|-----------------------|---------------------------|---------------|------------|
| .1.3.6.1.4.1.4555.1.1.7.1.6 | 3.46                  | upsAlarmModule5Alarm      | A36           | A100       |
|                             | 3.47                  | upsAlarmModule6Alarm      | A37           | A101       |
|                             | 3.48                  | upsAlarmModule7Alarm      | 0             | A102       |
|                             | 3.49                  | upsAlarmModule8Alarm      | 0             | A103       |
|                             | 3.50                  | upsAlarmModule9Alarm      | 0             | A104       |
|                             | 3.51                  | upsAlarmModule10Alarm     | 0             | A105       |
|                             | 3.52                  | upsAlarmModule11Alarm     | 0             | A106       |
|                             | 3.53                  | upsAlarmModule12Alarm     | 0             | A107       |
|                             | 3.54                  | upsAlarmAutoTestRunning   | 0             | S030       |
|                             | 3.55                  | upsAlarmOnBypass          | S04&!S07      | S002&!S007 |
|                             | 3.56                  | upsAlarmUpsOutputOff      | !S03&!S04     | S004       |
|                             | 3.57                  | upsAlarmUpsSystemOff      | !S02&!S01&S04 |            |
|                             | 3.58                  | upsAlarmCommunicationLost |               |            |
|                             | 3.59                  | upsAlarmShutdownPending   |               |            |
|                             | 3.60                  | upsAlarmShutdownRequested |               |            |
|                             | 3.61                  | upsAlarmShutdownImminent  |               |            |
| 3.62                        | upsAlarmAwaitingPower |                           |               |            |

| upsControl(7)               | No.                        | Variables                         | Values             |
|-----------------------------|----------------------------|-----------------------------------|--------------------|
| .1.3.6.1.4.1.4555.1.1.7.1.7 | 1                          | upsControlStatusControl*          | upsStandbyOn (1).  |
|                             |                            |                                   | upsStandbyOff (2). |
|                             |                            |                                   | upsEcoMode (3).    |
|                             |                            |                                   | upsNormalMode (4). |
|                             |                            |                                   | upsAlarmReset (5). |
|                             |                            |                                   | upsOnBypass (6).   |
|                             |                            |                                   | upsOnInverter (7)  |
|                             | 2                          | upsShutdownDelay                  |                    |
|                             | 3                          | upsTurnOffAfterShutdown           |                    |
|                             | 4                          | upsControlShutdownParametersTable |                    |
|                             | 4.1.1                      | upsControlEventDescr              |                    |
|                             | 4.1.2                      | upsControlEventStatus             |                    |
|                             | 4.1.3                      | upsControlDelay                   |                    |
|                             | 4.1.4                      | upsControlFirstWarning            |                    |
|                             | 4.1.5                      | upsControlWarningInterval         |                    |
|                             | 5                          | upsControlWeeklyScheduleTable     |                    |
|                             | 5.1.1                      | upsControlWeeklyIndex             |                    |
|                             | 5.1.2                      | upsControlWeeklyShutdownDay       |                    |
|                             | 5.1.3                      | upsControlWeeklyShutdownTime      |                    |
|                             | 5.1.4                      | upsControlWeeklyRestartDay        |                    |
|                             | 5.1.5                      | upsControlWeeklyRestartTime       |                    |
|                             | 6                          | upsControlSpecialScheduleEntry    |                    |
|                             | 6.1.1                      | upsControlSpecialIndex            |                    |
|                             | 6.1.2                      | upsControlSpecialShutdownDay      |                    |
|                             | 6.1.3                      | upsControlSpecialShutdownTime     |                    |
|                             | 6.1.4                      | upsControlSpecialRestartDay       |                    |
|                             | 6.1.5                      | upsControlSpecialRestartTime      |                    |
|                             | 7                          | upsControlEcoModeScheduleTable    |                    |
| 7.1.1                       | upsControlEcoModeIndex     |                                   |                    |
| 7.1.2                       | upsControlEcoModeStartDay  |                                   |                    |
| 7.1.3                       | upsControlEcoModeStartTime |                                   |                    |
| 7.1.4                       | upsControlEcoModeEndDay    |                                   |                    |
| 7.1.5                       | upsControlEcoModeEndTime   |                                   |                    |

\* Control executed only if remote control enabled

| upsConfig(8)                | No.   | Variables                       |
|-----------------------------|-------|---------------------------------|
| .1.3.6.1.4.1.4555.1.1.7.1.8 | 1     | upsConfigNomKva                 |
|                             | 2     | upsConfigNbrUnit                |
|                             | 3     | upsConfigUnitKva                |
|                             | 4     | upsConfigRemoteCtrl             |
|                             | 5     | upsDevicesTable/upsDevicesEntry |
|                             | 5.1.1 | indexOfDevice                   |
|                             | 5.1.2 | addrOfDevice                    |
|                             | 5.1.3 | nameOfDevice                    |
|                             | 5.1.4 | timeOfConnection                |
|                             | 5.1.5 | statusOfConnection              |
|                             | 5.1.6 | severityOfConnection            |

| upsAgent(9)                 | No.   | Variables   |
|-----------------------------|---|---|
| .1.3.6.1.4.1.4555.1.1.7.1.9 | 1   | upsAgentIpAddress                                       |
|                             | 2   | upsAgentGateway   |
|                             | 3   | upsAgentSubnetMask                                      |
|                             | 4   | upsAgentDate  |
|                             | 5   | upsAgentTime  |
|                             | 6   | upsAgentNtpTimeServer                                   |
|                             | 7   | upsAgentNtpTimeZone                                     |
|                             | 8   | upsAgentHistoryLogFrequency                             |
|                             | 9   | upsAgentExtHistoryLogFrequency                          |
|                             | 10  | upsAgentPollRate  |
|                             | 11  | upsAgentBaudRate  |
|                             | 12  | upsAgentDhcpStatus                                      |
|                             | 13  | upsAgentTelnetStatus                                    |
|                             | 14  | upsAgentTftpStatus                                      |
|                             | 15  | upsAgentResetToDefault                                  |
|                             | 16  | upsAgentRestart   |
|                             | 17  | upsAgentClearAgentLog                                   |
|                             | 18  | upsAgentClearEventLog                                   |
|                             | 19  | upsAgentClearExtHistoryLog                              |
|                             | 20  | upsAgentClearHistoryLog                                 |
|                             | 21  | upsAgentTrapsReceiversTable/upsAgentTrapsReceiversEntry |
|                             | 21.1.1  | trapsIndex  |
|                             | 21.1.2  | trapsReceiverAddr                                       |
| 21.1.3                      | receiverCommunityString                               |   |
| 21.1.4                      | receiverNmstype                                       |   |
| 22                          | upsAgentAccessControlTable/upsAgentAccessControlEntry |   |
| 23                          | upsAgentMibVersion                                    |   |
| 50                          | upsAgentTrapString                                    |   |

| emdStatus(10)                | No. | Variables            |
|------------------------------|-----|----------------------|
| .1.3.6.1.4.1.4555.1.1.7.1.10 | 1   | emdStatusTemperature |
|                              | 2   | emdStatusHumidity    |
|                              | 3   | emdStatusIn1Active   |
|                              | 4   | emdStatusIn2Active   |

## APPENDIX: NET VISION 7 TRAP DESCRIPTION

| upsTraps(2)                                | No.      | Variables                       | Level       | JBUSP                  | VU-MAP         |
|--|----------|---------------------------------|-------------|------------------------|----------------|
| Sent if TRAP Filter enabled                | <b>1</b> | <b>upsTrapOnBattery</b>         | Critical    | S05                    | A019 & S000    |
|  | <b>2</b> | <b>upsTrapTestCompleted</b>     | Not managed |                        |                |
|  | <b>3</b> | <b>upsTrapAlarmEntryAdded</b>   | Warning     | upsWellKnownAlarms OID |                |
|  | <b>4</b> | <b>upsTrapAlarmEntryRemoved</b> | Information | upsWellKnownAlarms OID |                |
| TRAP send to Remote View Pro monitoring SW | 5        | upsTrapImminentStop             | Critical    | A31                    | A000           |
|  | 6        | upsTrapOverload                 | Warning     | A02                    | A001           |
|  | 7        | upsTrapRedundancyLost           | Warning     | A43                    | A006           |
|  | 8        | upsTrapBatteryCircuitOpen       | Critical    | A59                    | A016           |
|  | 9        | upsTrapBatteryDischarged        | Critical    | S16                    | A017           |
|  | 10       | upsTrapBatteryLow               | Critical    | S15                    | A018           |
|  | 11       | upsTrapBatteryAlarm             | Warning     | A01                    | A027           |
|  | 12       | upsTrapUpsCriticalAlarm         | Critical    | A52 A54 A62            | A032 A040 A048 |
|  | 13       | upsTrapLoadOFF                  | Critical    | !S03&!S04              | S004           |
|  | 14       | upsTrapCommunicationLost        | Critical    | NET VISION event       |                |
|  | 15       | upsTrapOnBatteryPower           | Warning     | S05                    | A019 & S000    |
|  | 16       | upsTrapBatteryTestfailed        | Warning     | S14                    | A022           |
|  | 17       | upsTrapTemperatureAlarm         | Warning     | A07                    | A020           |
|  | 18       | upsTrapOnBypass                 | Warning     | S04&!S06               | S002           |
|  | 19       | upsTrapUpsPreventiveAlarm       | Warning     | A00                    | A015           |
|  | 20       | upsTrapShutdownWarning          | Warning     | Shutdown agent         |                |
|  | 21       | upsTrapShutdownrequest          | Warning     |                        |                |
|  | 22       | upsTrapUpsNormal                | Information | S03                    | S000 S001      |
|  | 23       | upsTrapPowerRestored            | Information | S00                    | S048           |
|  | 24       | upsTrapAlarmCancelled           | Information | !A15                   | !A015          |
|  | 25       | upsTrapComEstablished           | Information | Shutdown agent         |                |
|  | 26       | upsTrapShutdwonCancelled        | Information |                        |                |
|  | 27       | upsTrapAgentRestarting          | Information | NET VISION event       |                |
|  | 28       | upsTrapEmdTempLow               | Critical    | EMD events             |                |
|  | 29       | upsTrapEmdTempNotLow            | Information |                        |                |
|  | 30       | upsTrapEmdTempHigh              | Critical    |                        |                |
|  | 31       | upsTrapEmdTempNotHigh           | Information |                        |                |
|  | 32       | upsTrapEmdHumidityLow           | Critical    |                        |                |
|  | 33       | upsTrapEmdHumidityNotLow        | Information |                        |                |
|  | 34       | upsTrapEmdHumidityHigh          | Critical    |                        |                |
|  | 35       | upsTrapEmdHumidityNotHigh       | Information |                        |                |
|  | 36       | upsTrapEmdFirstInputActive      | Critical    |                        |                |
|  | 37       | upsTrapEmdFirstInputRestored    | Information |                        |                |
|  | 38       | upsTrapEmdSecondInputActive     | Critical    |                        |                |
|  | 39       | upsTrapEmdSecondInputRestored   | Information |                        |                |
|  | 40       | TRAP TEST                       | Information |                        | Manual test    |

TRAP1 to TRAP4 are managed as defined by RFC1628.

TRAP1: sent every minute with remaining backup time and running time on battery as parameters.

TRAP3: sent every time a new alarm is added to the list.

The alarm index sent as parameters follows the well-known alarm index OID.

TRAP4: sent every time when an alarm is removed from alarm list. The alarm index is the same as sent with TRAP3.

## APPENDIX: RFC1628 WELLKNOWALARMS OID DESCRIPTION

Those alarms OID and description are reported in TRAP 3 (added) and TRAP 4 (removed)

| OID | .1.3.6.1.2.1.33.1.6.3        | JBUSP              | VU-MAP              |                     |
|-----|------------------------------|--------------------|---------------------|---------------------|
| .1  | upsAlarmBatteryBad           | A01 or A47         | A027 or A20 or A21  |                     |
| .2  | upsAlarmOnBattery            | S05                | A019 & S000         |                     |
| .3  | upsAlarmLowBattery           | S15                | A018                |                     |
| .4  | upsAlarmDepletedBattery      | S16 A49            | A017                |                     |
| .5  | upsAlarmTempBad              | A07                | A002                |                     |
| .6  | upsAlarmInputBad             | A05                | A035                |                     |
| .7  | upsAlarmOutputBad            |                    |                     | Not available       |
| .8  | upsAlarmOutputOverload       | A02                | A001                |                     |
| .9  | upsAlarmOnBypass             | S04&!S07           | S002&!S006          |                     |
| .10 | upsAlarmBypassBad            | A29                | A049                | Critical alarm      |
| .11 | upsAlarmOutputOffAsRequested |                    |                     | Not available       |
| .12 | upsAlarmUpsOffAsRequested    |                    |                     | Not available       |
| .13 | upsAlarmChargerFailed        | A26                | A038                |                     |
| .14 | upsAlarmUpsOutputOff         | !S03&!S04          | S004                |                     |
| .15 | upsAlarmUpsSystemOff         | !S02 & !S03 & !S04 | !S049 & !S52 & !S57 |                     |
| .16 | upsAlarmFanFailure           | A60                | A054                |                     |
| .17 | upsAlarmFuseFailure          |                    |                     | Not available       |
| .18 | upsAlarmGeneralFault         | A00                | A015                |                     |
| .19 | upsAlarmDiagnosticTestFailed | S14                | A022                | Battery test failed |
| .20 | upsAlarmCommunicationsLost   |                    |                     | NV alarm            |
| .21 | upsAlarmAwaitingPower        |                    |                     | Shutdown agent      |
| .22 | upsAlarmShutdownPending      |                    |                     | Shutdown agent      |
| .23 | upsAlarmShutdownImminent     |                    |                     | Shutdown agent      |
| .24 | upsAlarmTestInProgress       | S10                | A034                | Battery test        |

## APPENDIX: MODBUS TCP ACCESS

### MODBUS TCP PROTOCOL

NET VISION follows IDA frame format.

MODBUS write functions 0x06 and 0x10 are not allowed.

#### FOR JBUSP UPS (NETYS / ITYS / MODULYS / MASTERYS MC – BC – GP – IP+ / DELPHYS MP – MX – BC – GP – XTEND)

| Data          | Address       | Words     | Access | Type           | Acronym |
|---------------|---------------|-----------|--------|----------------|---------|
| STATUS        | <b>0x1020</b> | <b>4</b>  | READ   | bit            | S00-S63 |
| ALARMS        | <b>0x1040</b> | <b>4</b>  | READ   | bit            | A00-A63 |
| MEASUREMENTS  | <b>0x1060</b> | <b>48</b> | READ   | word           | M00-M47 |
| IDENTIFIERS   | <b>0x1000</b> | <b>12</b> | READ   | Values / ASCII | I00_I11 |
| CONFIGURATION | <b>0x10E0</b> | <b>16</b> | READ   | Values         | T00-T15 |

Please refer to Appendix JBUSP UPS MODBUS TABLE

#### FOR VU-MAP UPS (MASTERYS BC+/GP4 / MODULYS XS - GP 2.0 - XL / DELPHYS BC - GP - XTEND with touchscreen panel)

| Data           | Address       | Words         | Access | Type  | Acronym     |
|----------------|---------------|---------------|--------|-------|-------------|
| STATUS         | <b>0x0030</b> | <b>6+2(*)</b> | READ   | bit   | S000-S127   |
| ALARMS         | <b>0x0038</b> | <b>6+2(*)</b> | READ   | bit   | A000-A127   |
| MEASUREMENTS   | <b>0x0040</b> | <b>80</b>     | READ   | word  | M000 – M079 |
| CONFIGURATIONS | <b>0x0001</b> | <b>15</b>     | READ   | word  | T001 – T015 |
| SERIAL NUMBER  | <b>0x0010</b> | <b>10</b>     | READ   | ASCII | R000        |
| UPS REFERENCE  | <b>0x001A</b> | <b>10</b>     | READ   | ASCII | R001        |

(\*) 2 additional words for units status and alarms synthesis for parallel systems UPS

Please refer to Appendix VU-MAP UPS MODBUS TABLE

NET VISION allows reading part of the table or single word.



## APPENDIX: VU-MAP MODBUS TABLE

List of status managed by the UPS. This table is accessible on MODBUS TCP by requesting 8 words to address 0x0030.

Reading the 4 first words of status table are enough to monitor single UPS, as the next words are linked to parallel system data.

| Address | level | Acronym                         | Description                          | Address | level             | Acronym | Description                         |
|---------|-------|---------------------------------|--------------------------------------|---------|-------------------|---------|-------------------------------------|
| 0x0030  | I     | S000                            | Load protected by Inverter           | 0x0034  |                   | S064    | Card in Slot 1 present              |
|         |       | S001                            |                                      |         |                   | S065    | Card in Slot 2 present              |
|         | W     | S002                            | Load supplied by automatic Bypass    |         |                   | S066    | Card in Slot 3 present              |
|         | W     | S003                            | Load supplied by Maintenance Bypass  |         |                   | S067    | Card in Slot 4 present              |
|         | C     | S004                            | Load OFF                             |         |                   | S068    | Card in Slot 5 present              |
|         |       | S005                            |                                      |         |                   | S069    | Card in Slot 6 present              |
|         | I     | S006                            | UPS in eco mode                      |         |                   | S070    |                                     |
|         | I     | S007                            | UPS in energy saver                  |         |                   | S071    |                                     |
|         |       | S008                            | Heat Run test                        |         |                   | S072    | Programmable S072                   |
|         | W     | S009                            | In Service mode                      |         |                   | S073    | Programmable S073                   |
|         |       | S010                            | Line-interactive mode                |         |                   | S074    | Programmable S074                   |
|         | I     | S011                            | Operating                            |         |                   | S075    | Programmable S075                   |
|         | I     | S012                            | Available                            |         |                   | S076    | Programmable S076                   |
|         | W     | S013                            | on Standby                           |         |                   | S077    | Programmable S077                   |
|         | I     | S014                            | Unit isolated                        |         |                   | S078    | Programmable S078                   |
| W       | S015  | Maintenance Alert               |                                      | S079    | Programmable S079 |         |                                     |
| 0x0031  |       | S016                            | Output Breaker closed                | 0x0035  |                   | S080    | Module Insertion Procedure          |
|         |       | S017                            | Maintenance Bypass closed            |         |                   | S081    | Module Extraction Procedure         |
|         |       | S018                            | External Maintenance Bypass closed   |         |                   | S082    | UPS in line interactive operation   |
|         |       | S019                            | External Output Breaker closed       |         |                   | S083    | Battery circuit open                |
|         |       | S020                            | Single phase Input supply            |         |                   | S084    | Backfeed protection open            |
|         |       | S021                            | Rectifier Input Breaker              |         |                   | S085    | Bypass Locked                       |
|         |       | S022                            | Bypass Input Breaker                 |         |                   | S086    | Adv GEN SET Static mode – Soft Load |
|         | I     | S023                            | Gen set ON                           |         |                   | S087    | Derating charge for LIB             |
|         |       | S024                            | Busbar 1 closed                      |         |                   | S088    | FREE                                |
|         |       | S025                            | Busbar 2 closed                      |         |                   | S089    |                                     |
|         | I     | S026                            | Automatic Start in progress          |         |                   | S090    |                                     |
|         | W     | S027                            | Maintenance Bypass proc. in progress |         |                   | S091    |                                     |
|         | W     | S028                            | UPS OFF procedure in progress        |         |                   | S092    |                                     |
|         |       | S029                            |                                      |         |                   | S093    |                                     |
|         | I     | S030                            | Auto-test Procedure in progress      |         |                   | S094    |                                     |
| I       | S031  | Alarm Acknowledgement requested |                                      | S095    |                   |         |                                     |

| Address | level | Acronym                  | Description                          | Address | level                  | Acronym | Description       |
|---------|-------|--------------------------|--------------------------------------|---------|------------------------|---------|-------------------|
| 0x0032  | I     | S032                     | Battery OK                           | 0x0036  |                        | S096    | [1] is operating  |
|         | I     | S033                     | Battery charged                      |         |                        | S097    | [2] is operating  |
|         | I     | S034                     | Battery Test in progress             |         |                        | S098    | [3] is operating  |
|         | I     | S035                     | Battery Test programmed              |         |                        | S099    | [4] is operating  |
|         | I     | S036                     | Battery charging                     |         |                        | S100    | [5] is operating  |
|         | W     | S037                     | Battery Test interrupted             |         |                        | S101    | [6] is operating  |
|         | I     | S038                     | Floating Voltage reduced             |         |                        | S102    | [7] is operating  |
|         | I     | S039                     | Battery discharge to Input           |         |                        | S103    | [8] is operating  |
|         | I     | S040                     | UPS backup system connected          |         |                        | S104    | [9] is operating  |
|         | I     | S041                     | UPS backup system charged / ready    |         |                        | S105    | [10] is operating |
|         | I     | S042                     | UPS backup system charging           |         |                        | S106    | [11] is operating |
|         |       | S043                     |                                      |         |                        | S107    | [12] is operating |
|         |       | S044                     |                                      |         |                        | S108    | [13] is operating |
|         |       | S045                     |                                      |         |                        | S109    | [14] is operating |
|         |       | S046                     |                                      |         |                        | S110    | [15] is operating |
|         | S047  |                          |                                      | S111    |                        |         |                   |
| 0x0033  | I     | S048                     | Rectifier Input Supply present       | 0x0037  |                        | S112    | [1] is available  |
|         | I     | S049                     | Rectifier ON                         |         |                        | S113    | [2] is available  |
|         | I     | S050                     | Charger ON                           |         |                        | S114    | [3] is available  |
|         |       | S051                     | Rectifier is starting                |         |                        | S115    | [4] is available  |
|         | I     | S052                     | Inverter ON                          |         |                        | S116    | [5] is available  |
|         | I     | S053                     | Inverter Switch ON                   |         |                        | S117    | [6] is available  |
|         |       | S054                     |                                      |         |                        | S118    | [7] is available  |
|         |       | S055                     | Bypass output breaker closed         |         |                        | S119    | [8] is available  |
|         | I     | S056                     | Bypass Input Supply present          |         |                        | S120    | [9] is available  |
|         | I     | S057                     | Bypass Static Switch closed          |         |                        | S121    | [10] is available |
|         | I     | S058                     | Bypass Input & Inverter synchronised |         |                        | S122    | [11] is available |
|         | I     | S059                     | ACS external synchronisation         |         |                        | S123    | [12] is available |
|         |       | S060                     | PowerShare Plug 1 closed             |         |                        | S124    | [13] is available |
|         |       | S061                     | PowerShare Plug 2 closed             |         |                        | S125    | [14] is available |
|         |       | S062                     | PowerShare Plug 3 closed             |         |                        | S126    | [15] is available |
|         | S063  | PowerShare Plug 4 closed |                                      | S127    | Data no longer updated |         |                   |

List of alarms managed by the UPS. This table is accessible on MODBUS TCP by requesting 8 words to address 0x0038.

Reading the 4 first words of alarms table are enough to monitor single UPS, as the next words are linked to parallel system data.

| Address | level | Acronym       | Description                      | Address | level | Acronym | Description                           |
|---------|-------|---------------|----------------------------------|---------|-------|---------|---------------------------------------|
| 0x0038  | C     | A000          | Imminent Stop                    | 0x003C  |       | A064    | Programmable A064                     |
|         | W     | A001          | Overload Alarm                   |         |       | A065    | Programmable A065                     |
|         | W     | A002          | Ambient Temperature Alarm        |         |       | A066    | Programmable A066                     |
|         | W     | A003          | Transfer locked                  |         |       | A067    | Programmable A067                     |
|         | W     | A004          | Transfer impossible              |         |       | A068    | Programmable A068                     |
|         | W     | A005          | Insufficient Resources           |         |       | A069    | Programmable A069                     |
|         | W     | A006          | Redundancy lost                  |         |       | A070    | Programmable A070                     |
|         | W     | A007          | Output short circuit detection   |         |       | A071    | Programmable A071                     |
|         |       | A008          | eco mode disabled by UPS         |         |       | A072    | Line-Interactive mode disabled by UPS |
|         |       | A009          | energy saver disabled by UPS     |         |       | A073    | Features using batteries unavailable  |
|         |       | A010          | On Bypass for 1 hour             |         |       | A074    | FREE                                  |
|         |       | A011          | Bypass output breaker closed     |         |       | A075    |                                       |
|         | W     | A012          | Maintenance Alarm                |         |       | A076    |                                       |
|         | W     | A013          | Remote Service Alarm             |         |       | A077    |                                       |
|         |       | A014          | Remote Service Preventive Alarm  |         |       | A078    |                                       |
| W       | A015  | General Alarm |                                  | A079    |       |         |                                       |
| 0x0039  | C     | A016          | Battery disconnected             | 0x003D  |       | A080    | Customer Installation Overload        |
|         | C     | A017          | Battery discharged               |         |       | A081    | FREE                                  |
|         | W     | A018          | End of Backup Time               |         |       | A082    |                                       |
|         | W     | A019          | Operating on Battery             |         |       | A083    |                                       |
|         | W     | A020          | Battery Temperature Alarm        |         |       | A084    |                                       |
|         | W     | A021          | Battery Room Alarm               |         |       | A085    |                                       |
|         | W     | A022          | Battery Test failed              |         |       | A086    |                                       |
|         |       | A023          | BMS has detected a weak String   |         |       | A087    |                                       |
|         |       | A024          | At least one Battery String open |         |       | A088    |                                       |
|         |       | A025          | On Battery with Mains OK         |         |       | A089    |                                       |
|         |       | A026          | Insulation fault                 |         |       | A090    |                                       |
|         | W     | A027          | Battery Alarm                    |         |       | A091    |                                       |
|         |       | A028          | Battery preventive alarm*        |         |       | A092    |                                       |
|         |       | A029          | UPS Backup Critical Alarm        |         |       | A093    |                                       |
|         |       | A030          | UPS Backup preventive alarm      |         |       | A094    |                                       |
|         |       | A031          | UPS Backup not OK                |         |       | A095    |                                       |

\* available only if the function is managed by the UPS

| Address | level | Acronym                         | Description                      | Address | level | Acronym | Description           |
|---------|-------|---------------------------------|----------------------------------|---------|-------|---------|-----------------------|
| 0x003A  | C     | A032                            | Rectifier Critical Alarm         | 0x003E  | W     | A096    | [1] in general Alarm  |
|         | W     | A033                            | Rectifier Preventive Alarm       |         | W     | A097    | [2] in General Alarm  |
|         |       | A034                            | Rectifier Redundancy Alarm       |         | W     | A098    | [3] in General Alarm  |
|         |       | A035                            | Rectifier Input Supply not OK    |         | W     | A099    | [4] in General Alarm  |
|         | W     | A036                            | Gen Set Alarm                    |         | W     | A100    | [5] in General Alarm  |
|         | C     | A037                            | Charger Critical Alarm           |         | W     | A101    | [6] in General Alarm  |
|         | W     | A038                            | Charger Preventive Alarm         |         | W     | A102    | [7] in General Alarm  |
|         |       | A039                            | Battery charge interrupted       |         | W     | A103    | [8] in General Alarm  |
|         | C     | A040                            | Inverter Critical Alarm          |         | W     | A104    | [9] in General Alarm  |
|         | W     | A041                            | Inverter Preventive Alarm        |         | W     | A105    | [10] in General Alarm |
|         |       | A042                            | Inverter Redundancy Alarm        |         | W     | A106    | [11] in General Alarm |
|         |       | A043                            | Redundancy Imminent Lost         |         | W     | A107    | [12] in General Alarm |
|         |       | A044                            | Consumable Alarm                 |         |       | A108    | [13] in General Alarm |
|         |       | A045                            | Unit Redondancy lost             |         |       | A109    | [14] in General Alarm |
|         |       | A046                            | Parallel board Critical Alarm    |         |       | A110    | [15] in General Alarm |
|         | A047  | Parallel board Preventive Alarm |                                  | A111    |       |         |                       |
| 0x003B  | C     | A048                            | Bypass Critical Alarm            | 0x003F  | C     | A112    | [1] in Imminent STOP  |
|         | W     | A049                            | Bypass Preventive Alarm          |         | C     | A113    | [2] in Imminent STOP  |
|         | W     | A050                            | Bypass Input Supply not OK       |         | C     | A114    | [3] in Imminent STOP  |
|         | W     | A051                            | Phase Rotation fault             |         | C     | A115    | [4] in Imminent STOP  |
|         |       | A052                            | Bypass Back-feed detection       |         | C     | A116    | [5] in Imminent STOP  |
|         |       | A053                            | Transformer Alarm                |         | C     | A117    | [6] in Imminent STOP  |
|         | W     | A054                            | FAN Failure                      |         | C     | A118    | [7] in Imminent STOP  |
|         |       | A055                            | ACS Alarm                        |         | C     | A119    | [8] in Imminent STOP  |
|         | W     | A056                            | Maintenance Bypass Alarm         |         | C     | A120    | [9] in Imminent STOP  |
|         |       | A057                            | Internal Back-feed detection     |         | C     | A121    | [10] in Imminent STOP |
|         |       | A058                            | Battery monitoring Alarm         |         | C     | A122    | [11] in Imminent STOP |
|         | C     | A059                            | UPS Power OFF                    |         | C     | A123    | [12] in Imminent STOP |
|         | W     | A060                            | Wrong Configuration              |         |       | A124    | [13] in Imminent STOP |
|         | W     | A061                            | Internal / Communication failure |         |       | A125    | [14] in Imminent STOP |
|         | W     | A062                            | Option Board Alarm               |         |       | A126    | [15] in Imminent STOP |
|         | A063  | Spare part not                  |                                  | A127    |       |         |                       |

Alarms without a level indication are not managed by NET VISION.

List of measurements managed by the UPS.

This table is accessible on MODBUS TCP by requesting up to 80 words to address 0x0040.

| Address | Acronym | Description                    | Unit | 0x000E=0 | 0x000E=1 |
|---------|---------|--------------------------------|------|----------|----------|
| 0x0040  | M000    | Output load rate               | %    | ###      | ###      |
| 0x0041  | M001    | Output load rate L1            | %    | ###      | ###      |
| 0x0042  | M002    | Output load rate L2            | %    | ###      | ###      |
| 0x0043  | M003    | Output load rate L3            | %    | ###      | ###      |
| 0x0044  | M004    | Output Apparent Power          | kVA  | ## ###   | # ###.#  |
| 0x0045  | M005    | Output Active Power            | kW   | ## ###   | # ###.#  |
| 0x0046  | M006    | Output current L1              | A    | ## ###   | # ###.#  |
| 0x0047  | M007    | Output current L2              | A    | ## ###   | # ###.#  |
| 0x0048  | M008    | Output current L3              | A    | ## ###   | # ###.#  |
| 0x0049  | M009    | Output neutral current         | A    | ## ###   | # ###.#  |
| 0x004A  | M010    | Output voltage L1              | V    | ###      | ###      |
| 0x004B  | M011    | Output voltage L2              | V    | ###      | ###      |
| 0x004C  | M012    | Output voltage L3              | V    | ###      | ###      |
| 0x004D  | M013    | Output frequency               | Hz   | ##.#     | ##.#     |
| 0x004E  | M014    | Output Crest Factor            |      | ##.#     | ##.#     |
| 0x004F  | M015    | Ambient Temperature            | °C   | ##.#     | ##.#     |
| 0x0050  | M016    | Battery voltage string +       | V    | # ###    | ###.#    |
| 0x0051  | M017    | Battery voltage string -       | V    | # ###    | ###.#    |
| 0x0052  | M018    | Battery current string +       | A    | ## ###   | # ###.#  |
| 0x0053  | M019    | Battery current string -       | A    | ## ###   | # ###.#  |
| 0x0054  | M020    |                                |      |          |          |
| 0x0055  | M021    |                                |      |          |          |
| 0x0056  | M022    | Battery capacity               | %    | ###      | ###      |
| 0x0057  | M023    | Battery capacity               | Ah   | ## ###   | # ###.#  |
| 0x0058  | M024    | Remaining Battery backup time  | Mn   | ###      | ###      |
| 0x0059  | M025    | Time on battery                | s    | ###      | ###      |
| 0x005A  | M026    | Battery temperature            | °C   | ##.#     | ##.#     |
| 0x005B  | M027    | Battery temperature average    | °C   | ##.#     | ##.#     |
| 0x005C  | M028    | DC Storage voltage             | V    | # ###    | ###.#    |
| 0x005D  | M029    | DC Storage temperature         | °C   | ##.#     | ##.#     |
| 0x005E  | M030    |                                |      |          |          |
| 0x005F  | M031    |                                |      |          |          |
| 0x0060  | M032    | Rect. input supply volt. L1    | V    | ###      | ###      |
| 0x0061  | M033    | Rect. input supply volt. L2    | V    | ###      | ###      |
| 0x0062  | M034    | Rect. input supply volt. L3    | V    | ###      | ###      |
| 0x0063  | M035    | Rect. input supply freq.       | Hz   | ##.#     | ##.#     |
| 0x0064  | M036    | Rect. input supply volt. U12   | V    | ###      | ###      |
| 0x0065  | M037    | Rect. input supply volt. U23   | V    | ###      | ###      |
| 0x0066  | M038    | Rect. input supply volt. U31   | V    | ###      | ###      |
| 0x0067  | M039    | Bypass input supply voltage L1 | V    | ###      | ###      |
| 0x0068  | M040    | Bypass input supply voltage L2 | V    | ###      | ###      |

| Address | Acronym | Description                    | Unit | 0x000E=0 | 0x000E=1 |
|---------|---------|--------------------------------|------|----------|----------|
| 0x0069  | M041    | Bypass input supply voltage L3 | V    | ###      | ###      |
| 0x006A  | M042    | Bypass input supply freq.      | Hz   | ##.#     | ##.#     |
| 0x006B  | M043    | Bypass input supply volt U12   | V    | ###      | ###      |
| 0x006C  | M044    | Bypass input supply volt. U23  | V    | ###      | ###      |
| 0x006D  | M045    | Bypass input supply volt. U31  | V    | ###      | ###      |
| 0x006E  | M046    |                                |      |          |          |
| 0x006F  | M047    |                                |      |          |          |
| 0x0070  | M048    | Output Apparent P. L1          | kVA  | ## ###   | # ###.#  |
| 0x0071  | M049    | Output Apparent P. L2          | kVA  | ## ###   | # ###.#  |
| 0x0072  | M050    | Output Apparent P. L3          | kVA  | ## ###   | # ###.#  |
| 0x0073  | M051    | Output Active Power L1         | kW   | ## ###   | # ###.#  |
| 0x0074  | M052    | Output Active Power L2         | kW   | ## ###   | # ###.#  |
| 0x0075  | M053    | Output Active Power L3         | kW   | ## ###   | # ###.#  |
| 0x0076  | M054    | Output voltage U12             | V    | ###      | ###      |
| 0x0077  | M055    | Output voltage U23             | V    | ###      | ###      |
| 0x0078  | M056    | Output voltage U31             | V    | ###      | ###      |
| 0x0079  | M057    | Output Power factor L1         |      | #.##     | #.##     |
| 0x007A  | M058    | Output Power factor L2         |      | #.##     | #.##     |
| 0x007B  | M059    | Output Power factor L3         |      | #.##     | #.##     |
| 0x007C  | M060    | Output Crest Factor L1         |      | #. #     | #. #     |
| 0x007D  | M061    | Output Crest Factor L2         |      | #. #     | #. #     |
| 0x007E  | M062    | Output Crest Factor L3         |      | #. #     | #. #     |
| 0x007F  | M063    | Output Crest Factor neutral    |      | #. #     | #. #     |
| 0x0080  | M064    | Rect. Input Current L1         | A    | ## ###   | # ###.#  |
| 0x0081  | M065    | Rect. Input Current L1         | A    | ## ###   | # ###.#  |
| 0x0082  | M066    | Rect. Input Current L1         | A    | ## ###   | # ###.#  |
| 0x0083  | M067    | Rect. Active Power L1          | kW   | ## ###   | # ###.#  |
| 0x0084  | M068    | Rect. Active Power L2          | kW   | ## ###   | # ###.#  |
| 0x0085  | M069    | Rect. Active Power L3          | kW   | ## ###   | # ###.#  |
| 0x0086  | M070    | Bypass Input Current L1        | A    | ## ###   | # ###.#  |
| 0x0087  | M071    | Bypass Input Current L2        | A    | ## ###   | # ###.#  |
| 0x0088  | M072    | Bypass Input Current L3        | A    | ## ###   | # ###.#  |
| 0x0089  | M073    | Bypass Active Power L1         | kW   | ## ###   | # ###.#  |
| 0x008A  | M074    | Bypass Active Power L2         | kW   | ## ###   | # ###.#  |
| 0x008B  | M075    | Bypass Active Power L3         | kW   | ## ###   | # ###.#  |
| 0x008C  | M076    |                                |      |          |          |
| 0x008D  | M077    |                                |      |          |          |
| 0x008E  | M078    |                                |      |          |          |
| 0x008F  | M079    |                                |      |          |          |

List of UPS configurations .

This table is accessible on MODBUS TCP by requesting up to 15 words to address 0x0001.

| Ad-<br>dress | Acro-<br>nym | Description                           | Value                 |                       | Remarks   |
|--------------|--------------|---------------------------------------|-----------------------|-----------------------|---|
|              |              |                                       | MSB                   | LSB                   |   |
| 0x0001       | T001         | UPS installation code and Device type | UPS installation Code | Device type           | 01:01 = single unit<br>08:01 or 09:01 = modular unit<br>06:01 = distributed bypass UPS parallel system<br>06:08 = modular parallel UPS system |
| 0x0002       | T002         | Number of devices in level -1         | 1 to 15               |                       | 1 to 8 modules/units  |
| 0x0003       | T003         | Position of devices present           | b00                   | module/unit 1 present |   |
|              |              |                                       | b01                   | module/unit 2 present |   |
|              |              |                                       | b02                   | module/unit 3 present |   |
|              |              |                                       | b03                   | module/unit 4 present |   |
|              |              |                                       | b04                   | module/unit 5 present |   |
|              |              |                                       | b05                   | module/unit 6 present |   |
|              |              |                                       | b06                   | module/unit 7 present |   |
|              |              |                                       | b07                   | module/unit 8 present |   |
|              |              |                                       | b08                   |                       |   |
|              |              |                                       | b09                   |                       |   |
|              |              |                                       | b10                   |                       |   |
|              |              |                                       | b11                   |                       |   |
|              |              |                                       | b12                   |                       |   |
|              |              |                                       | b13                   | bypass module         |   |
|              |              |                                       | b14                   |                       |   |
| b15          |              |                                       |                       |                       |   |
| 0x0004       | T004         | Device number                         | 1 to 15               |                       | 1 to 8  |
| 0x0005       | T005         | Nominal kVA                           | *10 if 0x000E = 1     |                       | depends number of modules   |
| 0x0006       | T006         | Nominal kW                            | *10 if 0x000E = 1     |                       | depends number of modules   |
| 0x0007       | T007         | Phases number                         | Input phases 1 – 3    | Output phases 1 - 3   |   |
| 0x0008       | T008         | Function                              | b00                   | eco mode enabled      |   |
|              |              |                                       | b01                   | energy saver enabled  |   |
|              |              |                                       | b02                   |                       |   |
|              |              |                                       | b03                   | genset present        |   |
|              |              |                                       | b04                   |                       |   |
|              |              |                                       | b05                   |                       |   |
|              |              |                                       | b06                   | Standby schedule      |   |
|              |              |                                       | b07                   |                       |   |
|              |              |                                       | b08                   |                       |   |
|              |              |                                       | b09                   | backfeed present      |   |
|              |              |                                       | b10                   |                       |   |
|              |              |                                       | b11                   |                       |   |
|              |              |                                       | b12                   |                       |   |
|              |              |                                       | b13                   |                       |   |
|              |              |                                       | b14                   |                       |   |
| b15          |              |                                       |                       |                       |   |

| Ad-<br>dress | Acro-<br>nym | Description              | Value                           |                            | Remarks  |
|--------------|--------------|--------------------------|---------------------------------|----------------------------|--|
|              |              |                          | MSB                             | LSB                        |  |
| 0x0009       | T009         | Environment              | b00                             | External transformer       |  |
|              |              |                          | b01                             | External input breaker     |  |
|              |              |                          | b02                             | External output breaker    |  |
|              |              |                          | b03                             | Double-bus bar             |  |
|              |              |                          | b04                             | External bypass            |  |
|              |              |                          | b05                             | Super bypass               |  |
|              |              |                          | b06                             | Without bypass             |  |
|              |              |                          | b07                             | Without maintenance bypass |  |
|              |              |                          | b08                             |                            |  |
|              |              |                          | b09                             |                            |  |
|              |              |                          | b10                             |                            |  |
|              |              |                          | b11                             |                            |  |
|              |              |                          | b12                             |                            |  |
|              |              |                          | b13                             |                            |  |
|              |              |                          | b14                             |                            |  |
| b15          |              |                          |                                 |                            |  |
| 0x000A       | T010         | DC storage               | b00                             | battery present            |  |
| 0x000B       | T011         |                          |                                 |                            |  |
| 0x000C       | T012         |                          |                                 |                            |  |
| 0x000D       | T013         |                          |                                 |                            |  |
| 0x000E       | T014         | measurements<br>factor   | 0 = no factor / 1 = factor * 10 |                            |  |
| 0x000F       | T015         | Device<br>reference code |                                 |                            | 0x8001 = ITYS PRO<br>0x8100 = MODULYS GP 2.0<br>0x8110 = MODULYS RM GP<br>0x8140 = MODULYS XM<br>0x8180 = MODULYS XS<br>0x81A0 = MODULYS XL<br>0x8200 = MASTERYS BC+<br>0x8300 = MASTERYS GP4<br>0x8400 = DELPHYS XL<br>0x0288 = DELPHYS BC - GP 2.0 |



## APPENDIX: JBUSP UPS MODBUS TABLE

List of status managed by UPS. This table is accessible on MODBUS TCP by requesting 4 words to address 0x1020.

|     | Level |                                     | NETYS PR/RT<br>ITYS | MASTERYS<br>BC/GP   | DELPHYS<br>MP/MX   | DELPHYS<br>BC/GP   |
|-----|-------|-------------------------------------|---------------------|---|--|--|
| S00 | I     | Rectifier Input supply present      | X                   | X   | X  | X  |
| S01 | I     | Inverter ON                         | X                   | X   | X  | X  |
| S02 | I     | Rectifier ON                        | X                   | X   | X  | X  |
| S03 | I     | Load protected by inverter          | X                   | X   | X  | X  |
| S04 | W     | Load on automatic bypass            | X                   | X   | X  | X  |
| S05 | W     | on battery / Battery discharging    | X                   | X   | X  | X  |
| S06 |       | Remote controls disabled            |                     | X   | X  | X  |
| S07 |       | Eco-mode ON                         | X                   | X   | X  | X  |
| S08 | W     | Stand-by mode                       | X                   | X   |  |  |
| S09 |       | Buzzer on                           | X                   | X   | X  | X  |
| S10 | I     | Battery test in progress            | X                   | X   | X  | X  |
| S11 | I     | Battery test programmed             |                     | X   | X  | X  |
| S12 | I     | Battery test in stand-by            |                     | X   | X  | X  |
| S13 | I     | Battery test supported              | X                   | X   | X  | X  |
| S14 | W     | Battery test failed                 | X                   | X   | X  | X  |
| S15 | C     | Battery near end of backup time     | X                   | X   | X  | X  |
| S16 | C     | Battery discharged                  | X                   | X   | X  | X  |
| S17 | I     | Battery OK                          | X                   | X   | X  | X  |
| S18 |       |                                     |                     |   |  |  |
| S19 |       |                                     |                     |   |  |  |
| S20 |       |                                     |                     |   |  |  |
| S21 |       |                                     |                     |   |  |  |
| S22 |       |                                     |                     |   |  |  |
| S23 |       | Inverter synchro with mains         | X                   | X   | X  | X  |
| S24 |       | Boost on                            | X                   | X   |  |  |
| S25 |       |                                     |                     |   |  |  |
| S26 | I     | Bypass input supply present         | X                   | X   | X  | X  |
| S27 | I     | Battery charging                    | X                   | X   | X  | X  |
| S28 |       | Bypass input fr. out of tolerance   | X                   | X   | X  | X  |
| S29 |       | Stand-by schedule                   |                     |   |  |  |
| S30 |       | UPS on parallel system              |                     | For parallel  | For parallel   | For parallel   |
| S31 |       | Battery extension                   |                     | X   |  |  |
| S32 |       | Unit 1 present                      |                     | If parallel<br>system ac-<br>cording to<br>number of<br>units | If parallel sys-<br>tem according<br>to number of<br>units | If parallel sys-<br>tem accord-<br>ing to number<br>of units |
| S33 |       | Unit 2 present                      |                     |   |  |  |
| S34 |       | Unit 3 present                      |                     |   |  |  |
| S35 |       | Unit 4 present                      |                     |   |  |  |
| S36 |       | Unit 5 present                      |                     |   |  |  |
| S37 |       | Unit 6 present                      |                     |   |  |  |
| S38 |       | External Input 1                    |                     | X   | X  | X  |
| S39 |       | External Input 2                    |                     | X   | X  | X  |
| S40 |       | External Input 3                    |                     | X   | X  | X  |
| S41 |       | External Input 4                    |                     | X   | X  | X  |
| S42 |       | Controls permission table managed   | X                   | X   | X  | X  |
| S43 |       | power share                         | If present          |   |  |  |
| S44 |       |                                     |                     |   |  |  |
| S45 |       |                                     |                     |   |  |  |
| S46 | I     | Operating on Gen Set                |                     | If present  | If present   | If present   |
| S47 |       |                                     |                     |   |  |  |
| S48 | W     | Maintenance mode active             |                     | X   | X  | X  |
| S49 | W     | End of the first maintenance period |                     | X   | X  | X  |
| ... |       |                                     |                     |   |  |  |
| S63 |       |                                     |                     |   |  |  |

For more information please refer to MODBUS User manual according to the UPS range.

List of alarms managed by the UPS. This table is accessible on MODBUS TCP by requesting 4 words to address 0x1040.

|     | Level |                                      | NETYS/ITYS | MASTERYS BC/GP                                  | DELPHYS MP/MX                                   | DELPHYS GP                                      |
|-----|-------|--------------------------------------|------------|---|---|---|
| A00 | W     | General Alarm                        | X          | X   | X   | X   |
| A01 | W     | Battery failure                      | X          | X   | X   | X   |
| A02 | W     | UPS overload                         | X          | X   | X   | X   |
| A03 |       | Output voltage out of tolerance      | X          |   |   |   |
| A04 |       | Control failure                      | X          | X   |   |   |
| A05 | W     | Rec. input supply out of tolerance   | X          |   | X   | X   |
| A06 | W     | Bypass input supply out of tolerance | X          | X   | X   | X   |
| A07 | W     | Over temperature alarm               | X          | X   | X   | X   |
| A08 | W     | Maintenance bypass closed            |            | X   | X   | X   |
| A09 |       |                                      |            |   |   |   |
| A10 | W     | Battery charger fault                |            | X   | X   |   |
| A11 |       |                                      |            |   |   |   |
| A12 |       |                                      |            |   |   |   |
| A13 |       | Pre-charge out of tolerance          |            | X   |   |   |
| A14 |       | BOOST too low                        |            | X   |   |   |
| A15 |       | BOOST too high                       |            | X   |   |   |
| A16 |       | VDC too high                         |            | X   |   | X   |
| A17 |       | Improper condition of use            |            |   | X   | X   |
| A18 |       | Inverter stopped for overload        | X          | X   | X   |   |
| A19 | W     | Microprocessor control system        |            |   | X   |   |
| A20 | W     | data map corrupted                   |            | X   |   |   |
| A21 |       | PLL fault (sources synchronization)  |            | X   | X   |   |
| A22 |       | Rectifier input supply fault         | X          | X   | X   | X   |
| A23 | W     | Rectifier preventive alarm           |            | X   | X   | X   |
| A24 |       |                                      |            |   |   |   |
| A25 | W     | Inverter preventive alarm            |            | X   | X   | X   |
| A26 | W     | Charger general alarm                |            | X   | X   | X   |
| A27 |       | Output Voltage over limit            |            | X   |   |   |
| A28 |       |                                      |            |   |   |   |
| A29 | W     | Bypass preventive alarm              |            |   | X   | X   |
| A30 |       | UPS stopped for overload             | X          | X   |   |   |
| A31 | C     | Imminent STOP                        | X          | X   | X   | X   |
| A32 | W     | Unit 1 general alarm                 |            | If parallel system according to number of units | If parallel system according to number of units | If parallel system according to number of units |
| A33 | W     | Unit 2 general alarm                 |            |   |   |   |
| A34 | W     | Unit 3 general alarm                 |            |   |   |   |
| A35 | W     | Unit 4 general alarm                 |            |   |   |   |
| A36 | W     | Unit 5 general alarm                 |            |   |   |   |
| A37 | W     | Unit 6 general alarm                 |            |   |   |   |
| A38 | W     | External alarm 1                     |            | X   | X   | X   |
| A39 |       | External alarm 2                     |            | X   |   |   |

|     | Level |                                   | NETYS/ITYS | MASTERYS<br>BC/GP | DELPHYS MP/<br>MX | DELPHYS GP |
|-----|-------|-----------------------------------|------------|-------------------|-------------------|------------|
| A40 |       | External alarm 3                  |            | X                 |                   |            |
| A41 |       | External alarm 4                  |            | X                 |                   |            |
| A42 | W     | Remote service alarm              |            | X                 | X                 | X          |
| A43 | W     | redundancy loss                   |            |                   | X                 | X          |
| A44 | W     | Servicing alarm                   |            | X                 | X                 | X          |
| A45 | W     | Auto. and manual transfer disable |            |                   | X                 | X          |
| A46 | W     | Automatic transfer disable        |            |                   | X                 | X          |
| A47 | W     | Battery room alarm                |            |                   | X                 | X          |
| A48 | W     | Maintenance bypass alarm          |            |                   | X                 | X          |
| A49 | C     | Battery discharged                |            | X                 | X                 | X          |
| A50 | W     | insufficient resources            |            | X                 | X                 | X          |
| A51 | W     | Synoptic alarm                    |            | X                 | X                 | X          |
| A52 | C     | Rectifier fault                   |            | X                 | X                 | X          |
| A53 |       |                                   |            |                   |                   |            |
| A54 | C     | Inverter fault                    |            | X                 | X                 | X          |
| A55 |       | Parallel fault                    |            | X                 |                   |            |
| A56 | W     | Gen set alarm                     |            | If option set     |                   |            |
| A57 |       | Gen set fault                     |            | If option set     |                   |            |
| A58 | C     | ESD activated                     |            | X                 | X                 | X          |
| A59 | C     | Battery circuit open              |            | X                 | X                 | X          |
| A60 | W     | Fan failure                       |            | X                 |                   |            |
| A61 | W     | Phase rotation fault              |            | X                 |                   |            |
| A62 | C     | Bypass critical alarm             |            |                   | X                 | X          |
| A63 |       |                                   |            |                   |                   |            |

Alarms without a level indication are not managed by NET VISION.

For more information please refer to the MODBUS User manual according to the UPS range.

List of measurements managed by UPS. This table is accessible on MODBUS TCP by requesting 48 words to address 0x1060.

| Address | Code | Description                     | Units   | Format | NETYS/<br>ITYS | MASTERYS | DELPHYS<br>MP/MX | DELPHYS<br>BC/GP |
|---------|------|---------------------------------|---------|--------|----------------|----------|------------------|------------------|
| 0x1060  | M00  | Load rate phase1                | %       | ###    | X              | X        | X                | X                |
| 0x1061  | M01  | Load rate phase 2               | %       |        |                | X        | X                | X                |
| 0x1062  | M02  | Load rate phase 3               | %       |        |                | X        | X                | X                |
| 0x1063  | M03  | UPS load rate                   | %       | ###    | X              | X        | X                | X                |
| 0x1064  | M04  | Battery Capacity                | %       | ###    | X              | X        | X                | X                |
| 0x1065  | M05  | Battery Capacity                | Ah*10   | ###.#  |                | X        | X                | X                |
| 0x1066  | M06  | Input bypass voltage phase 1    | V       | ###    | X              | X        | X                | X                |
| 0x1067  | M07  | Input bypass voltage phase 2    | V       |        |                | X        | X                | X                |
| 0x1068  | M08  | Input bypass voltage phase 3    | V       |        |                | X        | X                | X                |
| 0x1069  | M09  | Output voltage phase 1          | V       | ###    | X              | X        | X                | X                |
| 0x106A  | M10  | Output voltage phase 2          | V       |        |                | X        | X                | X                |
| 0x106B  | M11  | Output voltage phase 3          | V       |        |                | X        | X                | X                |
| 0x106C  | M12  | Input current L1                | A       |        |                | X        | -1               | -1               |
| 0x106D  | M13  | Input current L2                | A       |        |                | X        | -1               | -1               |
| 0x106E  | M14  | Input current L3                | A       |        |                | X        | -1               | -1               |
| 0x106F  | M15  | Output current phase 1          | A*10    | ###.#  | X              | X        | X                | X                |
| 0x1070  | M16  | Output current phase 2          | A*10    |        |                | X        | X                | X                |
| 0x1071  | M17  | Output current phase 3          | A*10    |        |                | X        | X                | X                |
| 0x1072  | M18  | Input bypass frequency          | Hz*10   | ##.#   | X              | X        | X                | X                |
| 0x1073  | M19  | Output frequency                | Hz*10   | ##.#   | X              | X        | X                | X                |
| 0x1074  | M20  | Battery voltage (+)             | V*10    | ###.#  | X              | X        | X                | X                |
| 0x1075  | M21  | Battery voltage (-)             | V*10    | ###.#  | -1             | X        | -1               | -1               |
| 0x1076  | M22  | Ambient Temperature             | °C      | ##     | X              | X        | X                | X                |
| 0x1077  | M23  | Remaining backup time           | Minutes | #####  | X              | X        | X                | X                |
| 0x1078  | M24  | Battery current                 | A*10    | ±###.# | -1             | X        | X                | X                |
| 0x1079  | M25  |                                 |         |        |                |          |                  |                  |
| 0x107A  | M26  |                                 |         |        |                |          |                  |                  |
| 0x107B  | M27  |                                 |         |        |                |          |                  |                  |
| 0x107C  | M28  |                                 |         |        |                |          |                  |                  |
| 0x107D  | M29  |                                 |         |        |                |          |                  |                  |
| 0x107E  | M30  |                                 |         |        |                |          |                  |                  |
| 0x107F  | M31  |                                 |         |        |                |          |                  |                  |
| 0x1080  | M32  |                                 |         |        |                |          |                  |                  |
| 0x1081  | M33  | Rectifier input voltage phase 1 | V       | ###    | X              | X        | X                | X                |
| 0x1082  | M34  | Rectifier input voltage phase 2 | V       |        |                | X        | X                | X                |
| 0x1083  | M35  | Rectifier input voltage phase 3 | V       |        |                | X        | X                | X                |
| 0x1084  | M36  | UPS output power                | kW*10   |        |                | X        | X                | -1               |
| 0x1085  | M37  | Output power phase 1            | kVA*10  | ###.#  |                | X        | X                | X                |
| 0x1086  | M38  | Output power phase 2            | kVA*10  |        |                | X        | X                | X                |
| 0x1087  | M39  | Output power phase 3            | kVA*10  |        |                | X        | X                | X                |

| Address | Code | Description    | Units | Format | NETYS/<br>ITYS | MASTERYS | DELPHYS<br>MP/MX | DELPHYS<br>BC/GP |
|---------|------|----------------|-------|--------|----------------|----------|------------------|------------------|
| 0x1088  | M40  | Input power L1 |       |        |                | X        | X                | X                |
| 0x1089  | M41  | Input power L2 |       |        |                | X        | X                | X                |
| 0x108A  | M42  | Input power L3 |       |        |                | X        | X                | X                |
| 0x108B  | M43  | Rec input Fr   | Hz*10 | ##.##  |                | X        | -1               | -1               |
| 0x108C  | M44  |                |       |        |                |          |                  |                  |
| 0x108D  | M45  |                |       |        |                |          |                  |                  |
| 0x108E  | M46  |                |       |        |                |          |                  |                  |
| 0x108F  | M47  |                |       |        |                |          |                  |                  |

Value -1 means that the measurement is not managed by the UPS, and not displayed by NET VISION.

List of UPS configurations .

This table is accessible on MODBUS TCP by requesting up to 15 words to address 0x10E0 and 12 words to address 0x1000.

| Address | Acronym | Description      | Value    |        | Remarks      |
|---------|---------|------------------|----------|--------|--------------|
|         |         |                  | MSB      | LSB    |              |
| 0x1000  | T00     | UPS TYPE         | see list |        |              |
| 0x1001  | T01     | Nomnival kVA *10 | * 10     |        |              |
| 0x1002  | T02     | Module number    | 1        |        |              |
| 0x1003  | T03     | Serail number    | char 2   | char 1 | ASCII format |
| 0x1004  | T04     |                  |          |        |              |
| 0x1005  | T05     |                  |          |        |              |
| 0x1006  | T06     |                  |          |        |              |
| 0x1007  | T07     |                  | char 10  | char 9 |              |
| 0x1008  | T08     | Not used         |          |        |              |
| 0x1009  | T09     |                  |          |        |              |
| 0x100A  | T10     |                  |          |        |              |
| 0x100B  | T11     |                  |          |        |              |

| Adress | Code    | Description   | Unit         | Format |
|--------|---------|---|--------------|--------|
| 0x10E0 | T00     | Nominal star input voltage  | V            | ###    |
| 0x10E1 | T01     | Nominal star output voltage   | V            | ###    |
| 0x10E2 | T02     | Nominal input frequency   | Hz           | ##     |
| 0x10E3 | T03     | Nominal output frequency  | Hz           | ##     |
| 0x10E4 | T04     | Firmware version of com. board (ex 1.00)                                | Integer *100 | ###.## |
| 0x10E5 | T05     | Not used  |              |        |
| 0x10E6 | T06     | Not used  |              |        |
| 0x10E7 | T07     | Not used  |              |        |
| 0x10E8 | T08     | Total nominal battery capacity<br>(battery expansion cabinets included) | Ah*10        | ####.# |
| 0x10E9 | T09     | Not used  |              |        |
| 0x10EA | T10     | Number of Power Share Plugs Available                                   | Integer      | #####  |
|        | T10÷T30 | Not used  |              |        |
| 0x10FF | T31     | Not used  |              |        |

| Ox1000 value | UPS RANGE              |
|--------------|------------------------|
| 20           | MODULYS 1/1 MODULE     |
| 21           | MODULYS 1/1 UPS        |
| 22           | MODULYS 1/1 SYSTEM     |
| 26           | MASTERYYS 1/1 SYSTEM   |
| 27           | MASTERYYS 1/1 UPS      |
| 28           | MASTERYYS 1/1 MODULE   |
| 29           | NETYS                  |
| 30           | ITYS                   |
| 31           | NETYS RT               |
| 35           | NETYS PR               |
| 36           | NETYS PR-RK            |
| 37           | NETYS PR-RT            |
| 82           | MODULYS 3/1 MODULE     |
| 83           | MODULYS 3/1 SYSTEM     |
| 84           | MODULYS 3/1 UPS        |
| 86           | MASTERYYS 3/1 SYSTEM   |
| 87           | MASTERYYS 3/1 UPS      |
| 88           | MASTERYYS 3/1 MODULE   |
| 89           | ITYS 3/1 UPS           |
| 256          | MASTERYYS 3/3 SYSTEM   |
| 257          | MASTERYYS 3/3 UPS      |
| 258          | MASTERYYS 3/3 MODULE   |
| 513 - 514    | DELPHYS MP SINGLE UNIT |
| 515 - 516    | DELPHYS MX SINGLE UNIT |
| 640          | DELPHYS Green Power    |
| 644          | DELPHYS BC             |
| 648          | DELPHYS GP 2.0         |
| 1014 - 1017  | DELPHYS MP SYSTEM      |
| 1018 - 1021  | DELPHYS MX SYSTEM      |

## APPENDIX: CONFIGURING NET VISION VIA SSH OR USB

SSH must be enabled in the NET VISION Control page.  
Using SSH tool to open a terminal session:

login as: admin  
admin@192.168.1.1's password:

Date 03/05/2017  
Time 16:41:53

```
+=====+
|                                     |
|               Configuration Utility |
|           [Socomec Net Vision 8.XX] |
+=====+
1. SNMP/WEB Card Settings
2. Reset Accounts/Passwords to Default
3. Reset Configuration to Default
4. Restart SNMP/WEB Card
0. Exit
```

Please Enter Your Choice =>



```

+=====+
|                                     |
|                               Configuration Utility                               |
|                               UPS Model:                                       |
|                                     |
+=====+
1. IP. Time and System Group
2. Network Control Group
3. Account Control Group
4. Email Group
5. SNMP Group
0. Back to Main Menu

Please Enter Your Choice => 1

```

```

+=====+
|                                     |
|                               Configuration Utility                               |
|                               [IP. Time and System Group]                       |
|                                     |
+=====+
SNMP/WEB Card Version :   Net Vision 8.XX
Ethernet Address   :      00:E0:D8:FF:C1:90
1. IPv4 Group
2. IPv6 Group
3. Date and Time Group
4. System Contact   :   Technical Support Team
5. System Name     :   Socomec
6. System Location  :
0. Return to previous menu

Please Enter Your Choice => 1

```

```

+=====+
|                                     |
|                               IP. Time and System Group                               |
|                               [IPv4 Group]                                       |
|                                     |
+=====+
1. IP Address   : 192.168.1.1
2. Gateway Address : 192.168.2.1
3. Network Subnet : 255.255.0.0
0. Return to previous menu

Please Enter Your Choice =>

```

Select the new IP address and go back to the main menu

All Network services can be configured via this interface.

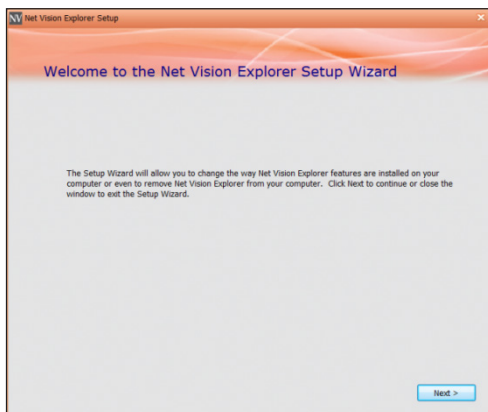
At the end of all settings, select 0 to go back to the main menu to exit the session.

## APPENDIX: NET VISION EXPLORER INSTALLATION

To get NET VISION Explorer, download it from the SOCOMEC website:  
<https://socomec.co.uk/en-gb/net-vision-8-ups-websnmp-ethernet-card-iot-gateway>

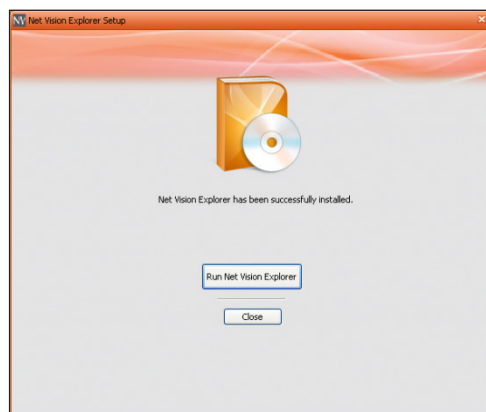
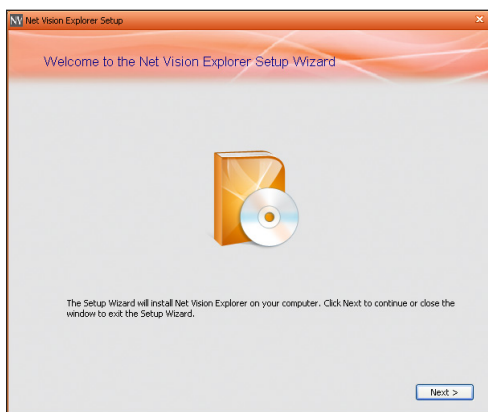
**Admin rights are necessary** to install the NET VISION Explorer programme.

Run the NET VISION Explorer.exe file

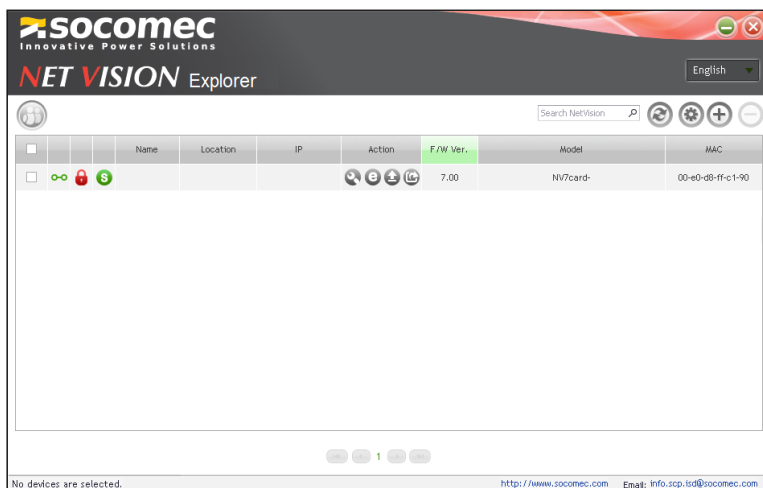


Follow the installation instructions.

The programme is installed by default to \Program Files\SOCOMECEC



Running NET VISION Explorer



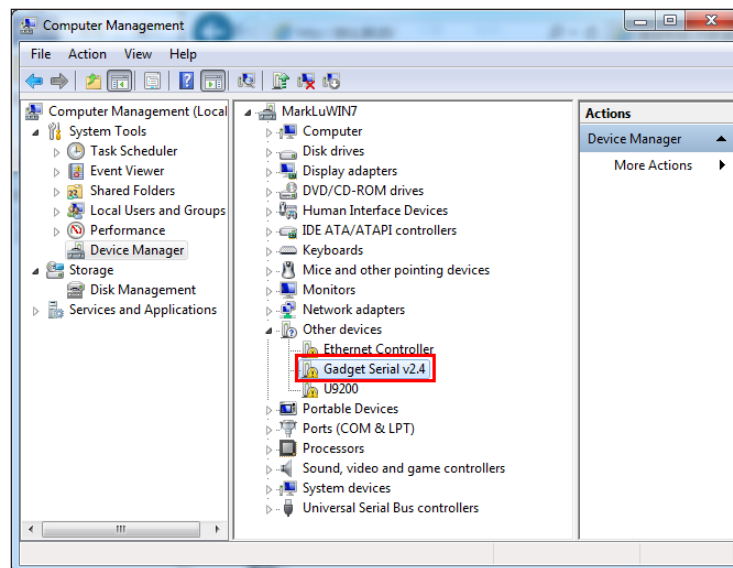
## APPENDIX: GADGET SERIAL USB DRIVER INSTALLATION

First, download the installation package from the Socomec WEB site

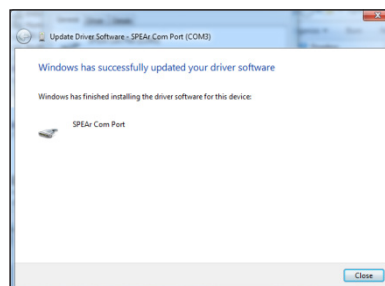
1. Connect NET VISION to PC with mini USB cable.
2. PC will detect NET VISION as a USB device



3. Open device manager



4. Double click on Gadget Device, select "Update Driver"
5. Select "Browse my computer for driver software" and select the driver stored on your computer.
6. Done



## LED Definition

EMD and Network LEDs indicate the operating status of NET VISION as following:

| Port           | Green LED               | Yellow LED              | Description                   |
|----------------|-------------------------|-------------------------|-------------------------------|
| Network        | ON                      | Flashing(1sec)          | Ethernet 100/1000 Traffic     |
|                | OFF                     | Flashing(1sec)          | Ethernet 10 Traffic           |
|                | ON                      | ON                      | 100 Base-TX Ready             |
|                | OFF                     | ON                      | 10 Base-T Ready               |
|                | OFF                     | OFF                     | Ethernet Disconnection        |
| Status/<br>EMD | OFF                     | Flashing ~1 second      | UPS detection                 |
|                | ON                      | OFF                     | UPS detected, no com with UPS |
|                | ON                      | Flashing                | Communication with UPS        |
|                | Two LEDs cross Flashing | Two LEDs cross Flashing | Auto Diagnostic Mode          |
|                | ON                      | ON                      | Auto Diagnostic Failed        |
|                | OFF                     | OFF                     | Hardware Error                |

## Technical specification

| Function                  | Description                                      |
|---------------------------|--|
| Power Input               | NV with USB (Host) function voltage: +7.5V ~ 40V |
| Power Consumption         | 3.0 Watts Maximum                                |
| SMT Switch                | SMT switch on the board for configuration        |
| Dimensions (L x W x H mm) | 129.9(L) x 60.0(W) mm                            |
| Operating Temperature     | -20 ~ 70° C                                      |
| Operating Humidity        | 10 ~ 80 % (Non-condensing)                       |

## APPENDIX: NET VISION BOX INSTALLATION

### BACK VIEW

The BOX need to be powered via external power supply included in the package, or already installed in your UPS.

The 12V connector is located to the back of the box.



The serial link to UPS is located on the back of the box. The serial cable included in the package has to be connected to 'COM' RJ45 connector and to the UPS RS232 DB9 serial port.

The UPS serial COM port used for NET VISION BOX has to be set as following:

- Baud rate: 9600
- No parity
- MODBUS Slave 1

USB: Not Used

### FRONT CONNECTION



The Network RJ45 connector is used for Ethernet network connection.

The EMD RJ45 is used to connect the optional EMD device. Refer to EMD Appendix;

USB: the NET VISION log can be stored on a USB memory stick.

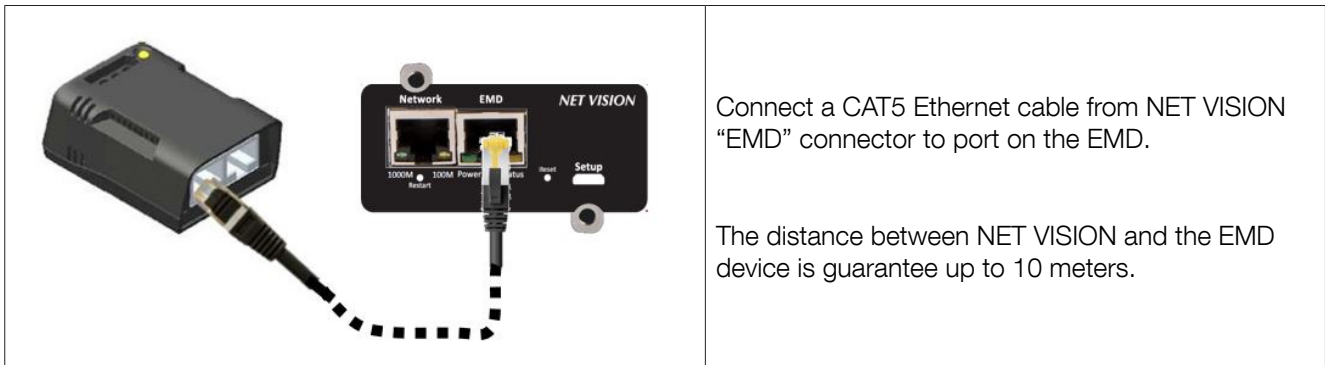
SETUP: only for factory test or NET VISION programming (refer to Appendix).

## APPENDIX: EMD OPTION DESCRIPTION

The EMD (Environmental Monitoring Device) is a connectivity device that allows you to remotely monitor the temperature, humidity, and status of two contact devices. Its connection to the NET VISION enables the monitoring and alarms notification.

### 1/ EMD INSTALLATION

Before connecting the EMD module: Set DIP switch 1 to the ON position on the back of the EMD device. It will be displayed as 'EMD 1'.



The EMD can be plugged while NET VISION is running.

### 2/ EMD CONFIGURATION

Once the EMD is connected to NET VISION, a new item appears in UPS Management menu.

Refer to EMD Device page for settings.

### 3/ EMD MONITORING

The EMD table is reported in the "EMD device" menu item

#### EMD History Log

The temperature and humidity coming from EMD device are report in the UPS History Log

|                      |                  |
|----------------------|------------------|
| EMD Temperature (°C) | EMD Humidity (%) |
| 22.0                 | 35.2             |

#### NET VISION Events Log

The 2 input alarms are reported in the NET VISION Events Log:

| Event Time (dd/mm/yyyy hh:mm:ss) ▼ | Event Level ▼ | Event Description      |
|------------------------------------|---------------|------------------------|
| Date time                          | Critical      | EMD Alarm-1 activated  |
| Date time                          | Information   | EMD Alarm-1 not active |
| Date time                          | Critical      | EMD Alarm-2 activated  |
| Date time                          | Information   | EMD Alarm-2 not active |

#### 4/ EMD Notifications

Temperature and Humidity thresholds low, high can be set for email and SNMP TRAP triggering.

Those events have to be selected in the event list

As Information:

- "EMD Sensor Not under low temperature"
- "EMD Sensor Not under low humidity"
- "EMD Input1 is restored"
- "EMD Sensor Not over high temperature"
- "EMD Sensor Not over high humidity"
- "EMD Input2 is restored"

As Critical

- "EMD Sensor detected low temperature"
- "EMD Sensor detected low humidity"
- "EMD Input1 is active"
- "EMD Sensor detected high temperature"
- "EMD Sensor detected high humidity"
- "EMD Input2 is active"

#### 5/ Shutdown events

Additional EMD events are adding in the Shutdown event table for Server shutdown or warning function:

| Shutdown Event  | Shutdown Actions  | Warning Period (Min) | 1st Warning (Sec)    | Warning Interval(Sec) |
|-----------------|-------------------|----------------------|----------------------|-----------------------|
| EMD Temperature | Disabled ▼        | <input type="text"/> | <input type="text"/> | <input type="text"/>  |
| EMD Humidity    | Disabled ▼        | <input type="text"/> | <input type="text"/> | <input type="text"/>  |
| EMD Alarm-1     | Warning ▼         | <input type="text"/> | <input type="text"/> | <input type="text"/>  |
| EMD Alarm-2     | Client Shutdown ▼ | <input type="text"/> | <input type="text"/> | <input type="text"/>  |



## APPENDIX: TROUBLESHOOTING

### 1. Serial Communication debug page

This page can be called in case of trouble with UPS communication.

[IP]/upsdebug.html

To start the communication debug it is necessary to be logged as admin.

The complete trace can be saved as CSV file on local computer.

Don't forget to disable the communication log before closing the page.

Sequence:

- enable the log, checking the Enable box;
- click on apply;
- wait for the log fill-up (at least 10 minutes or more);
- disable the logging unchecking the Enable box;
- click on apply;
- click on Export Table button;
- save the file.

### 2. Email sending debug page

This page can be called in case of trouble sending email.

[IP]/mailDebug.html

#### Email error code list

| Code | Meaning   | How to solve it / what to do   |
|------|---|--|
| 001  | Cannot connect to mail server                           | Confirm SNMP card has ability to connect to internet.<br>Check the mail server or DNS type correctly   |
| 002  | Unknown error   |  |
| 101  | The server is unable to connect.                        | Try to change the server's name (maybe it was spell incorrectly) or the connection port.   |
| 111  | Connection refused or inability to open an SMTP stream. | This error normally refers to a connection issue with the remote SMTP server, depending on firewalls or misspelled domains. Double-check all the configurations and in case ask your provider. |

For more info refer to smtp server error list: <http://www.serversmtp.com/en/smtp-error>

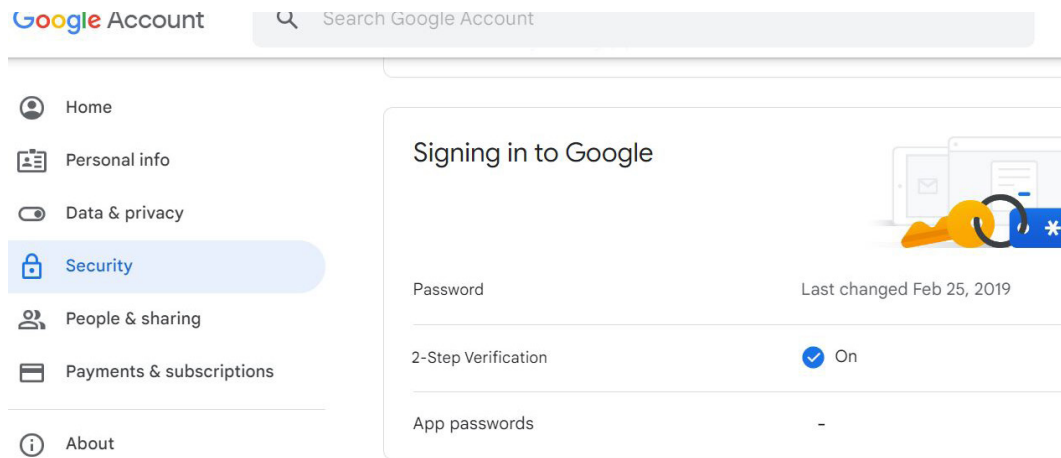
### 3. Gmail account configuration

Gmail accounts needs to enable TLS and authentication by NET VISION and make sure that the network is able to access to Internet.

Google new account policy (June, 2022):

Step 1: log on your Gmail account.

Step 2: In 'Security' item: switch '2-Step verification' to ON



Step 3: In App password: Select 'Other' in Device list, enter 'NetVision' as device name and click on 'GENERATE'

Step 4: copy the password generated

Step 5: paste this password in 'User Password' of Net Vision SMTP account settings page.

Step 6: Fill other SMTP settings for Gmail account and apply.

Net Vision is now able sending email to your Gmail account.

|                                     |   |
|-------------------------------------|---|
| Mail Server                         | smtp.gmail.com                                    |
| User Account                        | -----   |
| User Password                       | ●●● report here the psw generate in Gmail account |
| Sender Email Address                | -----@gmail.com                                   |
| Mail Subject Prefix                 | UPS Notification                                  |
| DNS Address                         | 8.8.8.8   |
| Mail Daily Status Report At (hh:mm) | 00:00   |
| Mail support TLS                    | Enabled ▾   |
| Mail support Authentication         | Enabled ▾   |
| Delay before sending (minute)       | 0   |



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