OPERATING MANUAL

EN

DELPHYS XM

UPS from 300 to 800 kW

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Innovative Power Solutions

CONTENTS

1. WARRANTY CERTIFICATE

The warranty terms are stipulated in the offer, however, the following clauses apply as standard.

The Socomec warranty is strictly limited to Socomec product(s) and does not extend to third-party equipment which may be integrated with this/these product(s), nor the performance of such third-party equipment.

The manufacturer guarantees its products to be free from manufacturing faults and defects in design, materials or workmanship, subject to the limits set forth below.

The manufacturer reserves the right to modify the delivery with a view to fulfilling these guarantees or to replace defective parts. The manufacturer's warranty does not apply in the following cases:

- faults or defects in the design of parts added or supplied by the customer,
- faults due to unforeseen circumstances or force majeure,
- replacement or repair resulting from normal wear and tear of the modules or machinery,
- damage caused by negligence, lack of proper maintenance or misuse of the products,
- repair, modification, adjustment or replacement of parts undertaken by unqualified third parties or personnel without the express consent of Socomec.

The warranty period is twelve months commencing from the date of delivery of the product.
The repair, replacement or modification of the parts during the warranty period does not extend the warranty period.

In order to establish a valid warranty claim, the purchaser must notify the manufacturer in writing immediately after the discovery of any apparent material defects and provide any and all supporting evidence of the defects at the latest within eight days before the date of expiry of the warranty.

Defective parts which have been returned and replaced free of charge shall become the property of Socomec.

The warranty is void if the purchaser has undertaken modifications or repairs on the devices on their own initiative and without the express consent of the manufacturer.

The manufacturer's responsibility is strictly limited to the obligations defined in this warranty (repair and replacement) excluding any other right to claim compensation or indemnity.

Any import tax, duty, fee or charge of any nature whatsoever imposed by European regulations or those of an importing country or of a transit country shall be paid by the purchaser.

2. FOREWORD

GENERAL

Thank you for the trust you have placed in us by choosing Socomec Uninterruptible Power Systems.

This equipment is fitted with the latest power semiconductors (IGBT) technology, including digital micro-controllers.

Our equipment complies with standards IEC 62040-2 and IEC 62040-1.

⚠ **“This is a product for restricted sales distribution to informed partners. Installation restrictions or additional measures may be needed to prevent disturbances”.**

REGULATIONS: ENVIRONMENTAL PROTECTION

Recycling of electrical products and equipment

Provision is made in European countries to dismantle and recycle materials making up the system. The various components must be disposed of in accordance with the legal provisions in force in the country where the system is installed.

Battery disposal

Used batteries are considered as toxic waste. It is therefore essential to always dispose of materials with firms specialized in their recycling. They cannot be treated with other industrial or household waste, as set out in the local regulations in force.

3. SAFETY REQUIREMENTS

IMPORTANT NOTE

- This document provides important instructions for the safe use, handling and connection of the Uninterruptible Power System (UPS).
- Socomec retains full and exclusive ownership of this document. Socomec grants the recipient of this document the individual right to use the document for its indicated purpose. All reproduction, modification, dissemination of this document whether in part or whole and by any manner is prohibited except upon Socomec's express prior written consent.
- This document is not a specification. Socomec reserves the right to make any changes to data without prior notice.
- Keep this manual handy for future reference.
- Safety information is provided in English.
- The manufacturer will not be held liable for failure to follow the instructions in this manual, which is also available at www.socomec.com.
- The UPS must be installed and activated only by qualified technical personnel authorised by Socomec (wearing appropriate safety headgear, gloves, footwear and eye protection).
- The UPS must be repaired only by authorised technicians specially trained for this purpose (wearing appropriate safety headgear, gloves, footwear and eye protection).

- Do not expose the UPS Unit to dust, rain or liquids in general. Do not insert foreign objects into the UPS Unit.
- It is recommended that the DELPHYS XM UPS Unit be used and stored below the ambient temperatures and humidity values specified by the manufacturer.

- This equipment meets the requirements of the European directives applied to this product. As a consequence it is labelled as follows: CE

The regulations and standards applicable to the place of installation of the product must also be observed to ensure the prevention of accidents. The product you have chosen is designed for commercial and industrial use only. In order to be used for particular 'critical applications', such as life support systems, medical applications, commercial transportation, nuclear facilities or any other application or systems where product failure is likely to cause substantial harms to person or property, the products may have to be adapted. For such uses we would advise you to contact Socomec beforehand to confirm the ability of these products to meet the requested level of safety, performance, reliability and compliance with applicable laws, regulations and specifications.

⚠ **This product is designed for secondary industrial and commercial applications. Installation restrictions or additional measures may be needed to prevent disturbances.**

⚠ **Socomec's liability in terms of the product these instructions relate to is as stated in the applicable purchase terms agreed between Socomec and the customer.**

DESCRIPTION OF THE SYMBOLS USED ON THE LABELS AFFIXED TO THE UNIT

All recommendations and warnings on labels and plates attached to the interior or exterior of the equipment must be observed.


DANGER! HIGH VOLTAGE (BLACK/YELLOW)


EARTH TERMINAL


READ THE MANUAL BEFORE USING THE UPS UNIT

3.1. GENERAL SCOPE

This document provides required information for operating DELPHYS XM. It describes the facilities offered on the control panels:

- Scrolling through the menus displayed
- UPS status, alarms, input and output measurements, history event log and other information.
- To stop and start inverter, battery test control and maintenance actions.

It also includes User parameters and UPS settings.

3.1.1. Purpose and ups composition

DELPHYS XM is a full range of high performing UPS (Uninterruptible Power Supply) designed to secure highly critical applications and therefore to ensure business continuity by means of a fully resilient architecture. It has been specifically designed to meet the stringent demands of loads in particular application contexts, in order to optimize the features of the product and to facilitate its integration within the system.

The DELPHYS XM can deliver many more benefits than standard systems, packing into an overall space-saving design, providing:

- Fault-tolerant architecture and possibility to set N+1 internal redundancy.
- Compact footprint thanks to high power density.
- Easy and fast maintenance.
- Lower total cost of ownership for electrical infrastructure.
- Fast deployment time /Flexible installation.

DELPHYS XM is designed by 100 kW power conversion modules combined with a common static bypass rated for permanent operation at the rated power of the UPS. The UPS is designed with mechanical and electrical segregation solution, so that any abnormal event will be contained to the related brick and not propagated to the rest of the unit.

3.2. Modes of operation

3.2.1. On line operations

ON LINE operation consists of double conversion operation in conjunction with mains absorption with very low distortion and a power factor at 1.

This enables UPS to supply a voltage that is fully stabilised in frequency and amplitude, regardless of any interference in the mains power supply.

ON LINE operation provides three operating modes according to mains and load conditions:

“NORMAL” MODE.

This is the most frequent operating condition: the energy is drawn from the primary mains power supply and is converted and used by the inverter to generate the output voltage to power the loads connected.

The inverter is constantly synchronised with the auxiliary mains to enable load transfer (due to an overcurrent or inverter shutdown) without any break in the power supply to the load.

The battery charger supplies the energy required to maintain or recharge the battery.

“BYPASS” MODE.

In case of inverter failure, the load is automatically transferred onto the auxiliary mains without any interruption in the power supply. This procedure may occur in the following situations:

- in the event of a temporary overload, the inverter continues to power the load. If the condition persists, UPS output is switched onto the auxiliary mains via the automatic bypass. Normal operation, which is from inverter, returns automatically a few seconds after the overload disappears.
- when the voltage generated by the inverter goes is out of tolerances due to a major overload or a fault on the inverter.
- when the internal temperature exceeds the maximum value allowed.

“BATTERY” MODE.

In the event of a mains failure (micro interruptions or extended black-outs), UPS continues to power the load using the energy stored in the battery. The Expert Battery System keeps the user constantly informed on the battery status and on the remaining back-up time adapted permanently according to the battery capacity and the load rate.

3.2.2. Eco mode operation

The UPS can be set at ECO mode in order to increase the system efficiency, when the grid quality is within the tolerances accepted by the protected load. The load is supplied by the BYPASS line until the input power supply is in accordance with such parameters . in case the power supply is out of tolerance, the UPS will transfer from bypass to Inverter and supplies power from the battery or the rectifier(double conversion) depending on system configuration (common or separated) , then the HMI shows all related information on the screen.

3.2.3. Line-interactive mode

This operating mode offers a perfect trade-off between high power quality and best efficiencies up to 99% for the complete range - reducing your TCO without exposing the critical load to the grid disturbances. In this mode, a specific algorithm monitors in real time the network quality and selects the optimum working mode between Double Conversion (VFI) and Line Interactive (LI). Line interactive working mode combines the high efficiency of the static bypass as a main source, in parallel with the inverter working as an active filter able to compensate the load reactive power and harmonics. In case of any abnormal event on the electrical network, the UPS instantaneously transfers to VFI mode to ensure the critical load protection, without any interruption due to the transfer.

Conditions for activating LINE-INTERACTIVE mode:

- the load >15%

- the load PF > 0.5

- the bypass voltage or frequency is normal

All conditions above must be met for the activation.

Conditions for deactivating LINE-INTERACTIVE mode (one of them is enough to exit):

- the load ≤ 10%

- the load PF ≤ 0.5

- the bypass voltage or frequency is abnormal

LINE-INTERACTIVE harmonic compensation condition: load PF< 0.95 or THDI > 5%

LINE-INTERACTIVE non compensation condition: load PF > 0.95 and THDI < 5%

3.2.4. Energy saver mode

Energy saver mode is an intelligent working mode that in case of low load conditions(< 30%), the UPS will turn in hot-stand by mode some power modules or UPS in case of parallel system. This function aim is to increase the efficiency of the system, moving the working point closer to the best efficiency area. This function is even supported by an intelligent ageing function that allow to have a balanced ageing of power modules or UPS in case of parallel system.

3.2.5. Operation with manual maintenance bypass

If the manual maintenance bypass is activated (with the appropriate procedure), the load is powered directly from the auxiliary mains, while UPS is in fact excluded from the power supply and can be switched off.

This operating mode is useful when maintenance needs to be carried out on UPS since service personnel can work on the installation without having to cut off the power supply to the load.

4. MIMIC PANEL

Control panel with LED status bar indicator	
Colour	Description
Flashing red-yellow-green-red	No communication. The data is no longer updated or not present. Load status cannot be given.
Flashing red	Load supplied, but the output will stop in few minutes.
Red	EPO mode
Flashing yellow-red	Load supplied, but no longer protected. A critical alarm occurs.
Flashing yellow	Maintenance requested / or service mode in progress.
Yellow	Load supplied with warning.
Flashing green-yellow-green	Load supplied and preventive alarm present.
Flashing green	Load going to be supplied, battery test in progress or UPS auto-test running.
Green	Load protected by inverter or UPS in eco mode.
Grey (OFF)	Load not supplied: output on standby / isolated / OFF.

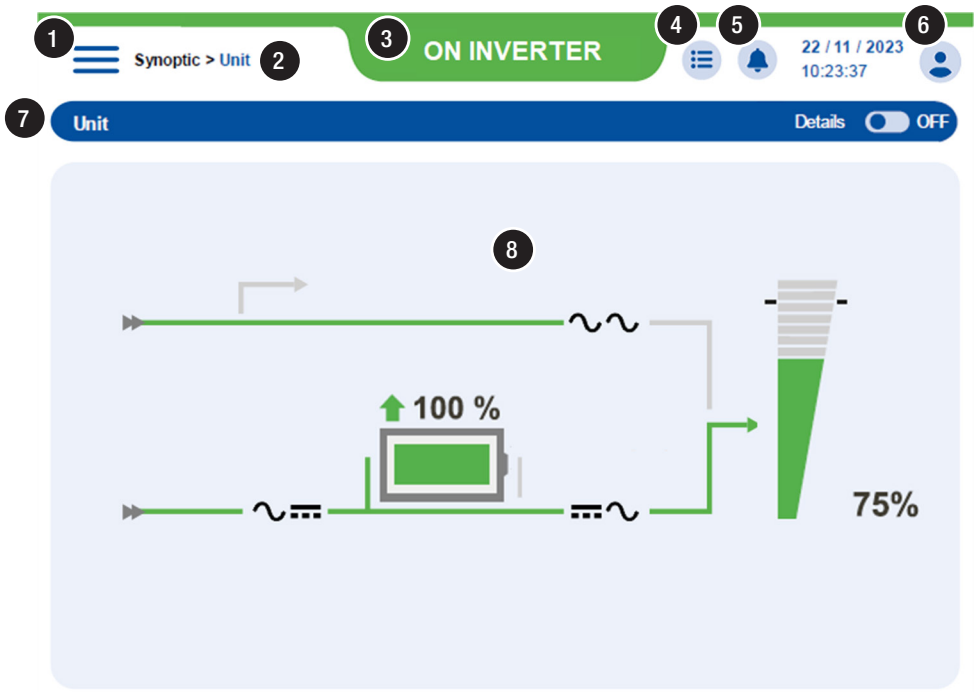
Display: is the main active matrix of the display sensitive to touch pressure. The display is designed for rugged industrial applications. The display is single touch only (no double touch effects). Depending on pressure, the navigation tree and various functions will be executed.

Handle the control panel with care. It is made of metal, glass and plastic and contains delicate electronic components. The control panel may be damaged if dropped, pierced or broken or comes into contact with liquids.

Do not use the control panel with a cracked screen, as it may cause injury.

5. DISPLAY OPERATION

5.1. Display description



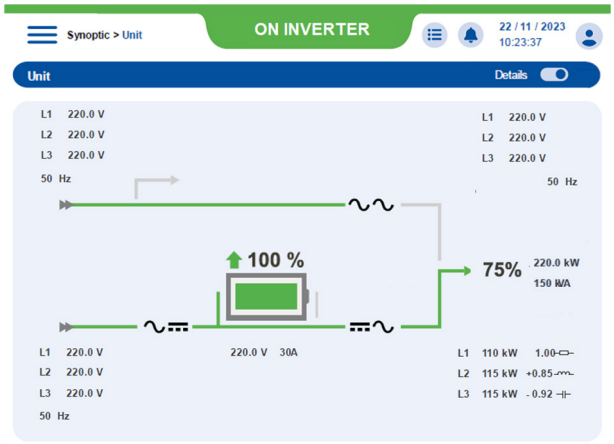
1	Menu access	5	UPS alarm
2	Current page path	6	User login
3	Status displaying / Status page access	7	Page title
4	UPS event: opens the history event log	8	Synoptic or data area

5.1.1. Synoptic navigation

- Click on rectifier symbol open the input measurements page
- Click on battery symbol open the battery measurements page
- Click on inverter or load symbol open the output measurements page
- Click on bypass symbol open the bypass measurements page

5.1.2. Detail view

- Click on button radio Details to switch to detail view: adding most relevant measurements



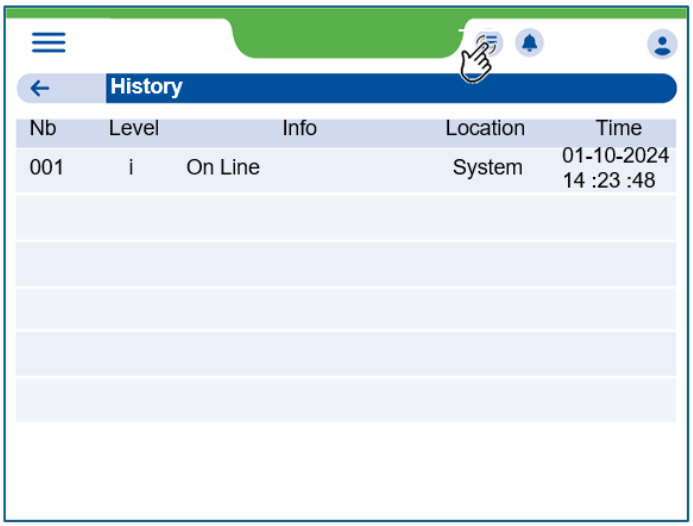
- Select the radio button to OFF going back to previous view

5.2. TOP BAR DETAILS

UPS status

UPS status	
Status	Background colour
ON MAINT. BYPASS	Yellow
ON BATTERY	Yellow
BATTERY TEST	Green blinking
ON INVERTER	Green
LINE-INTERACTIVE	Green
ECO MODE	Green
ON BYPASS	Yellow
EPO MODE ON STANDBY STANDBY MODE	Red

Event history log



Level: Info – Alarm

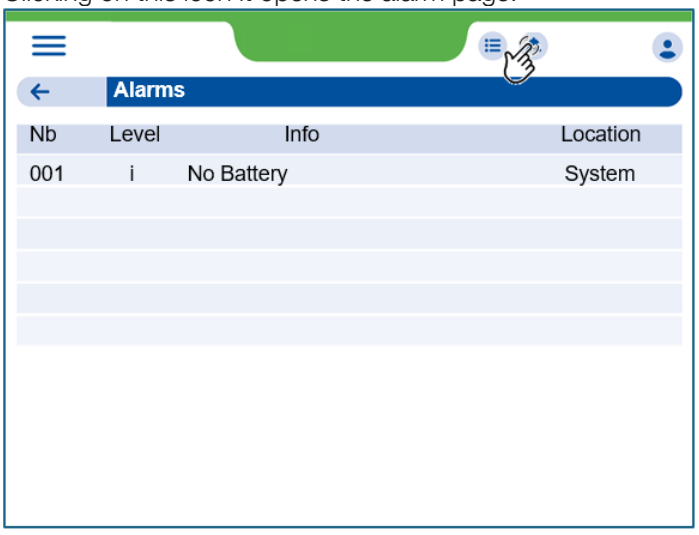
Info: Event description

Location: System – Parallel board (ECU) - Bypass

Alarms management

The alarm icon on top shows a red tag when alarms occur.

Clicking on this icon it opens the alarm page.

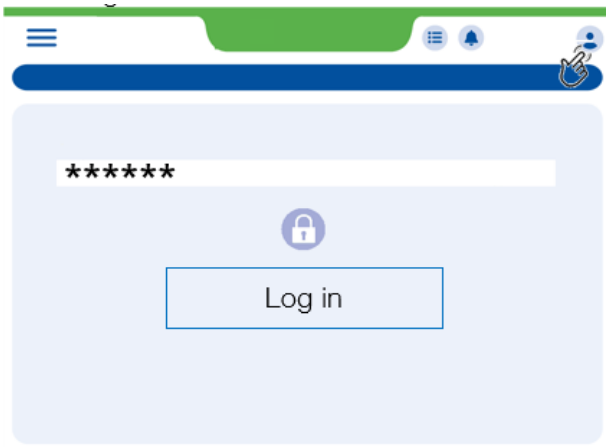


Access to User parameters and controls:

Enter the admin password to have access to User Parameters and UPS controls.

Click on User icon to open the User Login page:

User Login

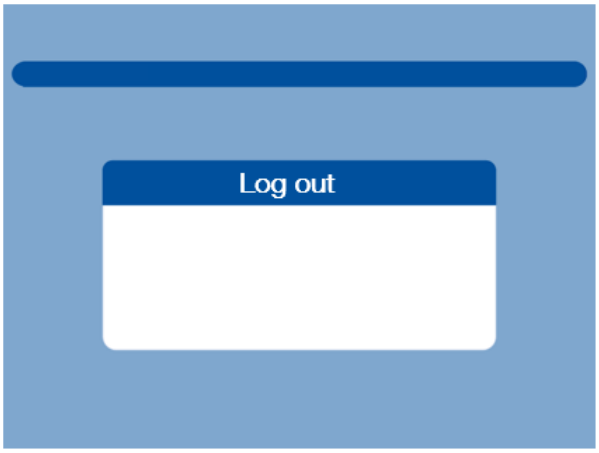


Default password is 111111

If the display switches on standby – backlight off, the password needed again.

Service default password: contact us.

Click again to user icon to log out.

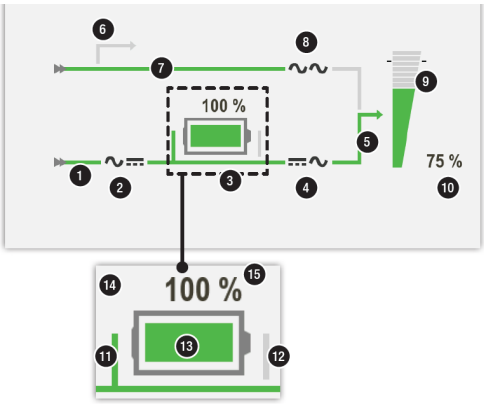


5.3. Menu architecture

Access on clicking 

Menu item	icon		Description	Access
Synoptic				
Status		Input	Input measurements	
		Output	Output measurements	
		Battery	Battery status and measurements	
		Bypass	By-pass measurements	
		Status Info	Switches positions - UPS temperature	
		Modules Data	module measurements	
		Waveform	Real time measurements graphs	
Alarms		Alarms	List of active alarms	
		History	UPS event log	
		Buzzer	Enable/disable the buzzer in case of alarm	
Settings				
		Language	Select the language	With admin right
		Password	To change the password	
		Date&Time	Set date & time	
		Brightness	To adjust the brightness	
		Com Port	Set the serial link	
		UPS Config	Change the working mode eco mode / line-interactive / energy saver mode	Service access
Maintenance		Battery test	Setup and start the battery test	Service access
		Calibration	Setup the filter control	User Access
		Filter	Touch-screen calibration	Admin Access
		Dusting	Setup dusting control	Admin Access
		Export	Export UPS event log on USB key	Service Access
Control		Inverter	Start and stop inverter(s)	With admin right
		Battery	Battery control and mode selection	
		Charging	Charging mode selection Boost/floating	Service access
		Clear Fault	Clear all fault	
		Dusting	Start and Stop	
About		Version	HMI FW version	
		Info	Modules FW versions	

5.4. Synoptic animation



Item	Description	Rules of animation				Touch actions
		Grey	Green	Yellow	Red	
1	Rectifier input supply	Not present	Present		-	-
2	Rectifier status	Normal status	-	Preventive alarm	Critical alarm	Access to input measurements page
		∿ ⎓		∿ ⎓	∿ ⎓	
3	DC voltage bus	DC voltage absent	DC voltage presence	-	-	-
4	Inverter status	Normal status	-	Preventive alarm	Critical alarm	Access to inverter measurements page
		⎓ ∿		⎓ ∿	⎓ ∿	
5	Inverter output	Inverter OFF	Inverter ON	Inverter on battery	-	-
6	Maintenance bypass *	MBP present	-	Load on maintenance bypass	-	-
7	Bypass input	Not present	Present	Out of tolerance	-	-
8	Bypass status	Normal status	-	Preventive alarm	Critical alarm	Access to bypass page
		∿∿		∿∿	∿∿	
9	Load rate symbol	No load	Fill-up to 95%	Fill-up to 110%	Fill-up over 110%	Access to output measurements pages
						
10	Load rate value	Instantaneous value. displayed if value > 0				-
11	DC battery input	DC voltage absent	DC voltage presence		-	-
12	DC battery output	DC voltage absent	DC voltage presence	Inverter on battery		-
13	Battery indicator*	-	Fill-up to 100%	Fill-up to 45%	Fill-up to 15%	Access to bat. measurements page
						
14	Battery charging / discharging	-	Battery charging	Battery discharging	-	-
						
15	Battery level or remaining backup time during battery discharge	Instantaneous value				-

*In case of DRY contact communication, the SoC (State of Charge) data is not accurate, please refer to the SOC data available via the Battery Display or the Battery Communication Bus.

BATTERY ANIMATION

Battery status	
Battery circuit open	
Battery discharging	
Battery charging	
Battery Alarm	

ADDITIONAL ICONS

By bypass impossible

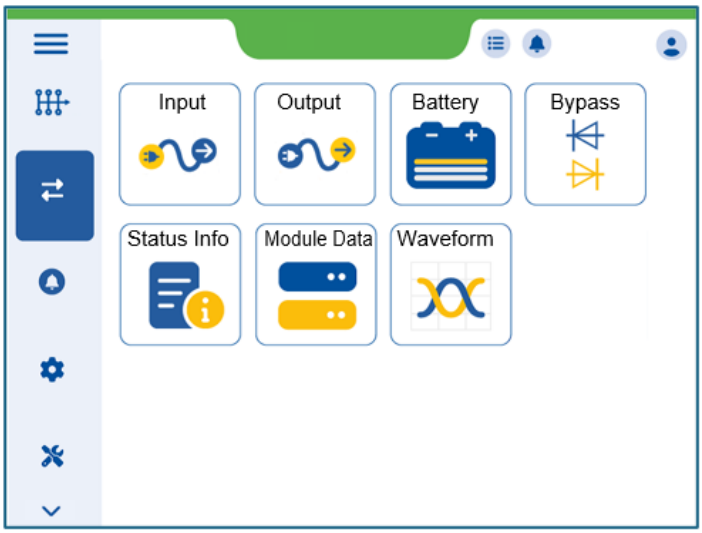
By bypass locked

“Genset Mode” when the gen set contact is active.

Maintenance alarm.

Preventive maintenance is requested.

5.5. STATUS MENU



Input

- Voltage
- Frequency
- Current
- Power kW and kVA
- Power factor

Output

Page 1:

- Voltage
- Frequency
- Current
- Power kW and kVA
- Load rate

Page 2:

- Load Peak
- Power Factor
- Global Power and load rate in Parallel

Battery

Page 1:

- Battery status
- Voltage
- Current
- Power

Page 2:

- SOC - Capacity (%)
- SOH - Capacity (%) (Lib)
- Backup time (min)
- Discharge time

Page 3:

- Min / Max voltage (Lib)

Page 4:

- Min / max temperature (Lib)

Page 5:

- Charge and discharge status

Bypass

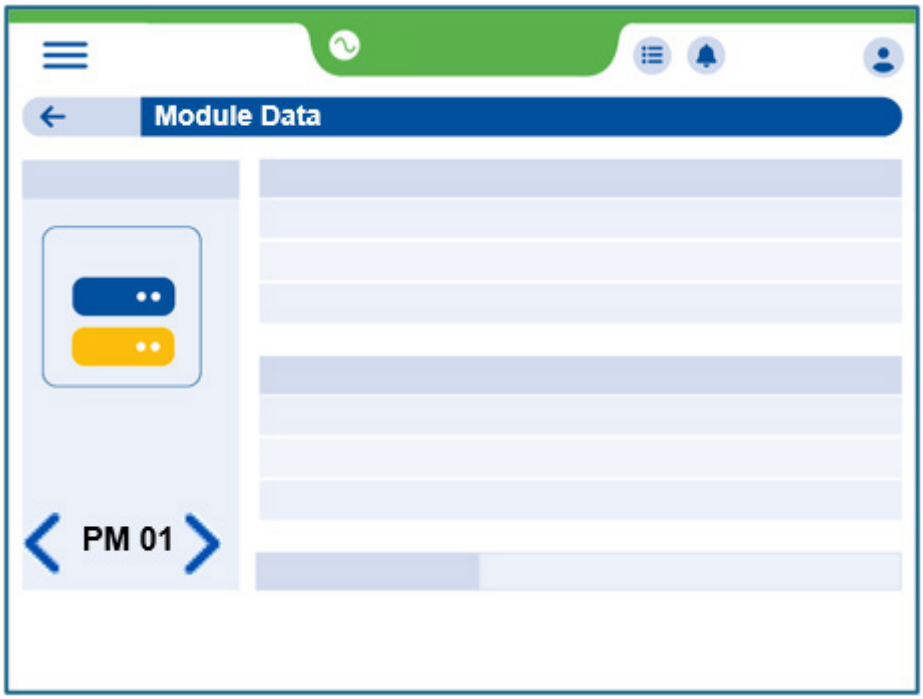
- Voltage
- Frequency
- Current

Status info

First page:

- Switches and Genset status
- Switches dry contacts status
- Ambient temperature (°C)

Modules data



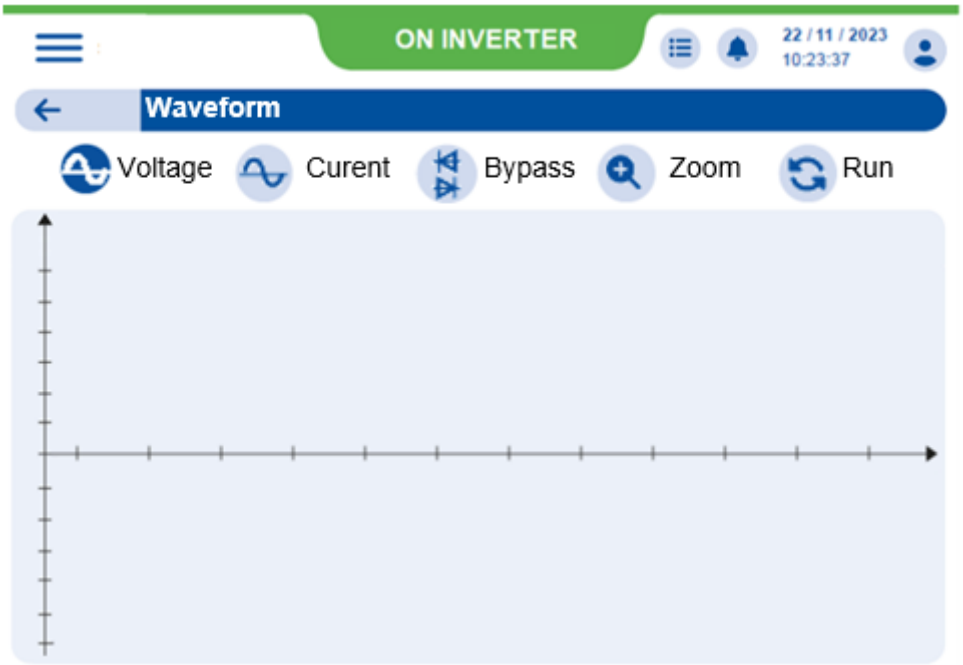
Left and right arrow button allow selecting next or previous module.

For each module:

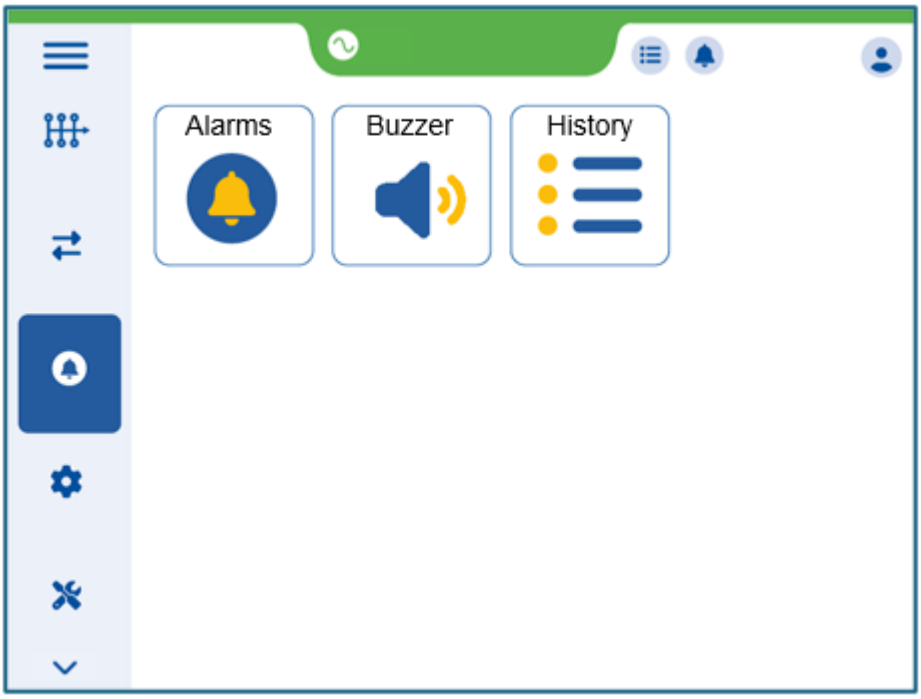
- Output voltage
- Output current
- Inverter voltage
- Inverter current
- Output frequency

Waveform

- View of output 3 phases voltages and currents waves.
- View of bypass 3 phases voltages waves
- Zoom to change the view: waves (inst. values) to curves (eff. values)
- Running: starting new acquisition



5.6. ALARM MENU



ALARMS

Alarm list

BUZZER

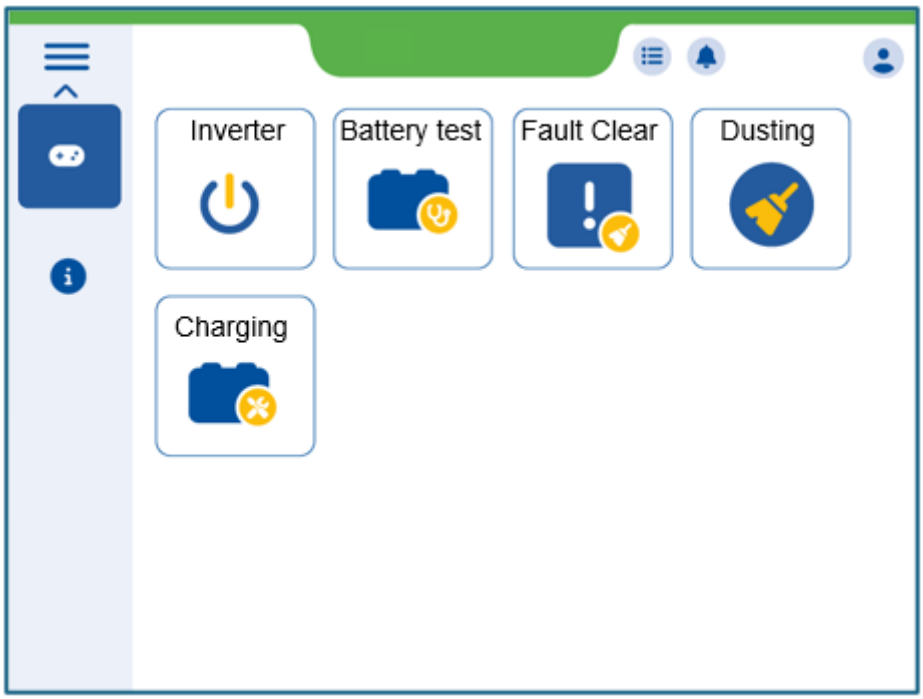
Switch on / off the buzzer.

HISTORY

History event log

5.7. UPS CONTROLS

Access with admin right.



INV ON/OFF

Inverter controls

- Single OFF: Inverter OFF location UPS
- Single ON: Inverter ON location UPS
- Parallel OFF: Inverter OFF all parallel UPSs
- Parallel ON: Inverter ON all parallel UPSs

Battery Test

- 10S: battery test for 10s
- 10min: battery test for 10min
- EOD: battery test to End Of Discharge
- -10%: battery test down 10% capability.

Fault clear

Clear the current fault (not for all faults).

Dusting

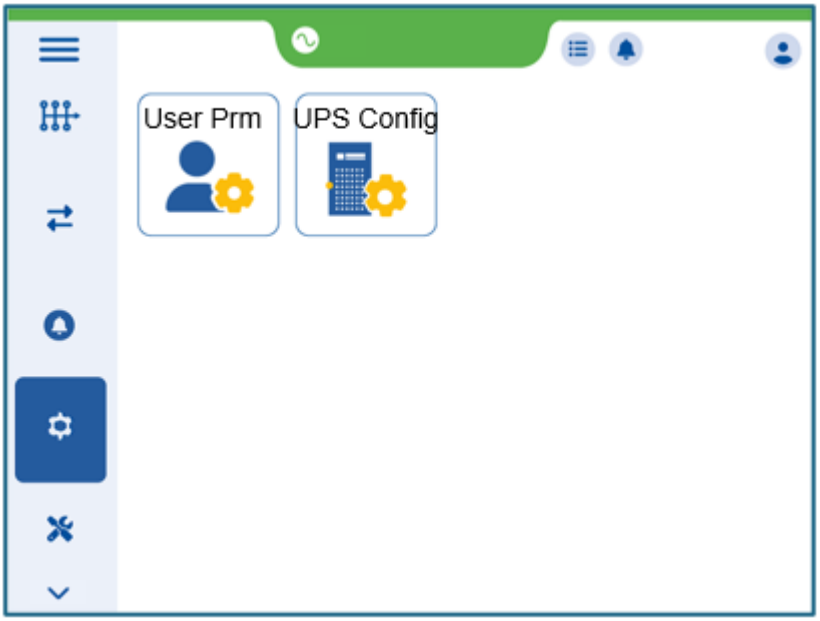
the fans high speed remove dust on the surface of components to reduce the risk of component temperature. This setting is manual dedusting. The function is invalid when the load >70%. The dedusting duration shall be set in the regular dedusting, and the default duration is 2 minutes.

Click to dedusting and enter the manual dedusting state and click to stop and exit the dedusting state.

Charging

Only for Service

5.8. SETTINGS MENU DESCRIPTIONS



User Param

access with admin right

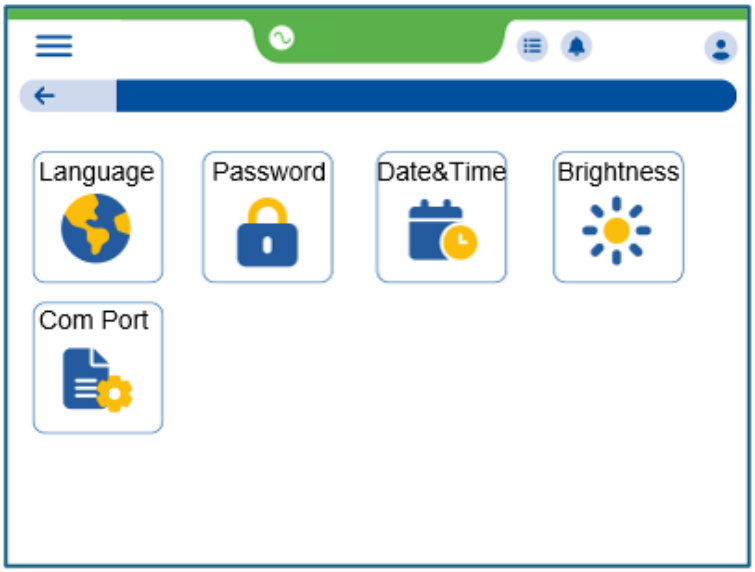
UPS Config

only for Service

Navigation general rules in settings page:

	go back to home
	go back to previous menu
	next or previous page
	next or previous value
Save Config	send the current settings to UPS.

5.8.1. USER PARAMETERS



Language:

Click on left or right button to select the language.

Password:

Click on Password block to change the password.
Input the current password and set the new password with a second confirmation.
The Password lock time defines the admin session duration. At the end of the timer the password is requested again.

Keyboard:

Date &Time:

Click on Date or Time to change values.
Date format: dd – mm – yyyy
Time format: hh : mm : ss

Brightness:

Move cursor to change value. Value range is 1~63, default value is 63. Click on save.

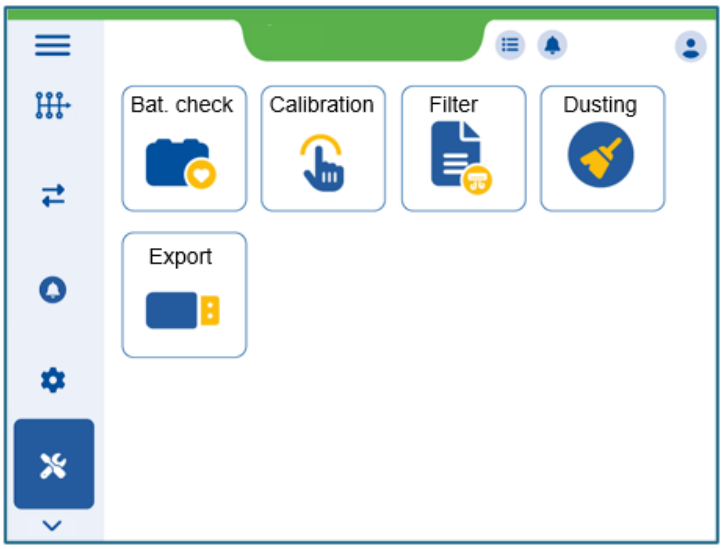
Backlight time:

Move cursor to change value. Value range is 1~255 s, default value is 60 s.

Com Port:

Only for service.

5.9. MAINTENANCE MENU



Bat. Check:
Ony for Service

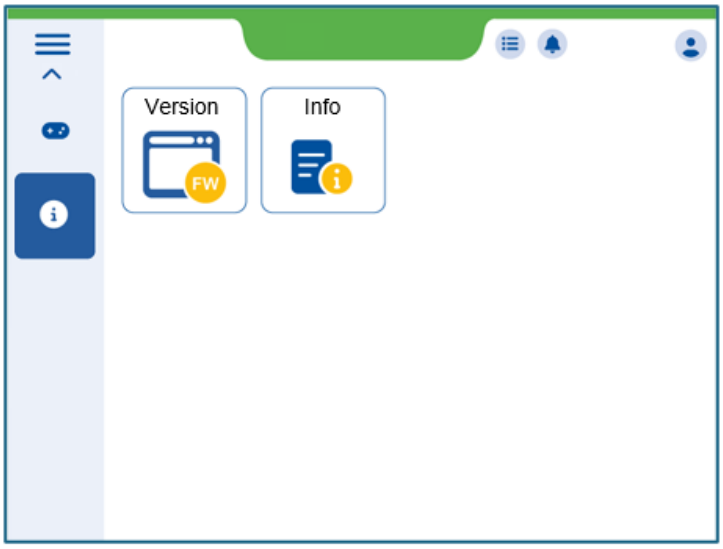
Calibration:
Starting the touch-screen calibration procedure. Need User admin right

Filter:
Access with admin account
- Air Filter check in month
- Air Filter counter in day

Dedusting:
Access with admin account
- Dust removal Cycle in month
- Duration in minute

Export:
Only for Service

5.10. ABOUT MENU



Version
- Monitor version
- LCD version

Info
- Detail of Modules subset FW version

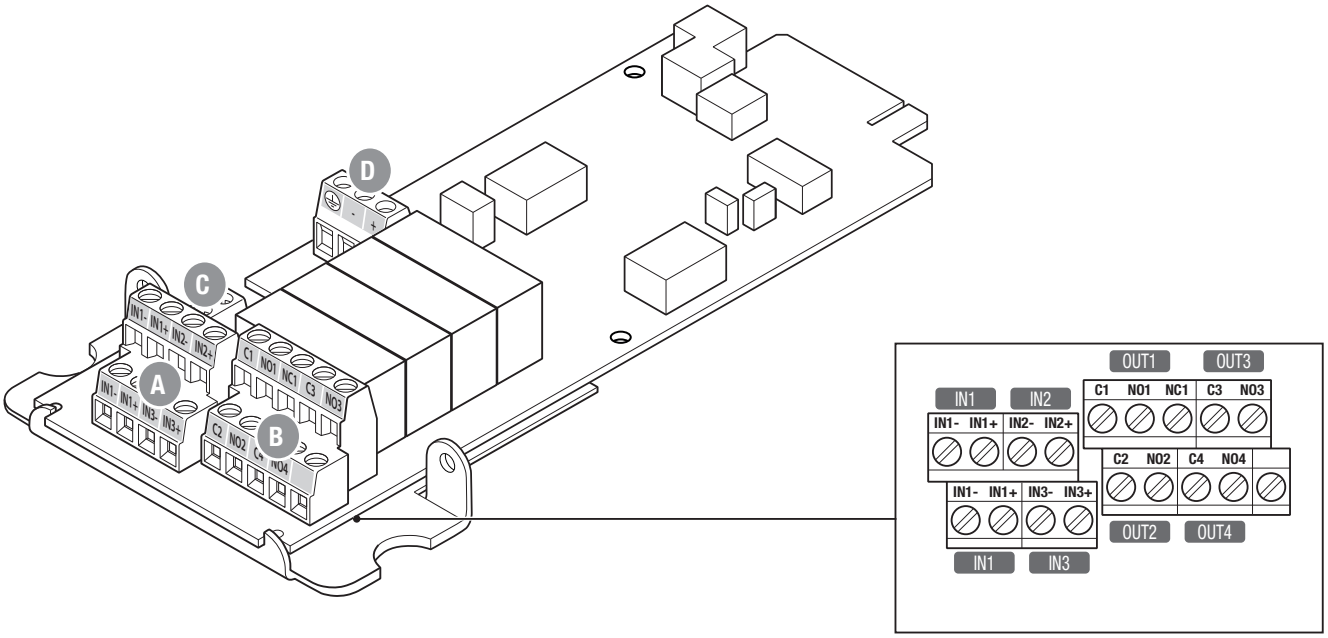
6. STANDARD FEATURES AND OPTIONS

6.1. ADC+SL card

The ADC+SL (Advanced Dry Contact + Serial Link) is a slot optional board that provides:

- 4 relays for external device activation (can be set as normally closed or normally open).
- 3 free inputs to report external contacts to UPS.
- 1 connector for external battery temperature sensor (optional).
- RS485 insulated serial link providing MODBUS RTU protocol.
- 2 LEDs indicating board status.

The board is plug&play: the UPS is able to recognise its presence and configuration (up to 4 standard operating modes can be selected by the display) and manages the ADC+SL outputs and the inputs accordingly. It is possible to create a custom operation mode through after sales service.



KEY

A 3 free inputs to link external contacts to UPS.

B 4 relays for external device activation.

C 1 connector for external temperature sensor.

D RS485 insulated serial link.

NOTE: If the board is removed while operating, an alarm is flagged on the control panel. Perform an "Alarm reset" control to cancel it.

Input

- Free voltage loop.
- INx+ has to be connected to INx- to close the loop on XB4 connector.
- Inputs must be isolated with basic insulation from a primary circuit up to 277 V.
- IN1 is duplicated, giving the possibility to link the UPS POWER OFF signal to other equipment, for example.

Relay outputs

- Contact voltage guaranteed at 277 V (AC) / 25 V (DC) – 4 A (for higher voltage, please contact the manufacturer).
- Relay 1 gives the possibility of choosing between normally closed (NC1) or normally open (NO1) position. Relays 2, 3 and 4 only have normally open position (NOx).
- On connector XB3, Cx means common, NOx means normally open position.

RELAY OUTPUTS

Contact voltage guaranteed at 277 V (AC) / 25 V (DC) – 4 A (for higher voltage, please contact the manufacturer).

Relay 1 gives the possibility of choosing between normally closed (NC1) or normally open (NO1) position. Relays 2, 3 and 4 only have normally open position (NOx).

On connector XB3, Cx means common, NOx means normally open position.

INPUT / OUTPUT SETTING

Input and relays must be programmed by Expert Service

Inputs can be reported in status and alarms tables,

Relays can be set with specific status and alarms combination.

Rs485 serial link

- Insulated RS485, protected against over voltage. Only for local bus purposes; maximum ~500 m.
- Pull up and pull down line resistor XJ1 (failsafe biasing): jumper open by default.
- Possibility of fixing the RS485 cable to the board.
- Cable type required: twister pair cable + shield to connect to ground. (AWG 24, 0.2 mm2 for example).

The INPUT and RELAYS are managed with information coming from the UPS.

⚠ **NOTE: Inputs and relays can be re-programmed depending on requirements.**
Contact your Socomec after-sales service to change Input/Output programming.

Information coming from inputs can be reported in the UPS database to be accessible on the MODBUS table.

Modbus serial link

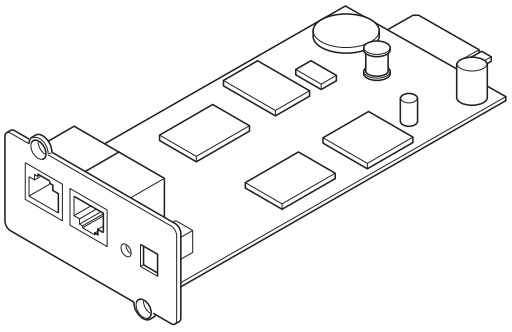
The RS485 provides MODBUS RTU protocol.

The description of MODBUS addresses and UPS database are described in the MODBUS user manual. All manuals are available on Socomec's web site (www.socomec.com).

6.2. Net Vision card

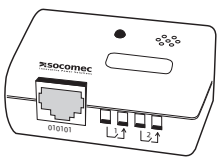
NET VISION is a communication and management interface designed for business networks. The UPS behaves exactly like a networked peripheral, it can be managed remotely, and allows the shutdown of network workstations.

NET VISION allows a direct interface between the UPS and LAN network avoiding dependence on the server and support SMTP, SNMP, DHCP and many other protocols. It interacts via the web browser.



6.2.1. EMD

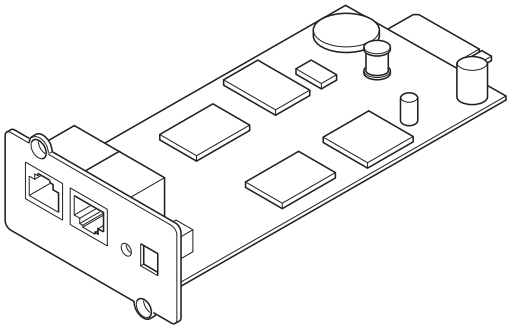
EMD (Environmental Monitoring Device) is a device to be used in conjunction with the NET VISION interface and provides the following features:



- temperature and humidity measurements + dry contact inputs,
- alarm thresholds configurable via Web browser,
- notification of environmental alarm via email and SNMP traps.

6.3. Modbus TCP card

With the MODBUS TCP card fitted in the options slot, the UPS can be monitored from remote stations using the appropriate protocol (MODBUS TCP - IDA).



6.4. Multiple communication

The DELPHYS XM UPS Unit can manage various serial, contact and Ethernet communication channels at the same time.

The 3 communication slots (+3 extension slots optional) available allow the use of signalling accessories and cards.

Each communication channel is independent; you can set up simultaneous connections for various levels of remote signalling and monitoring.

The table below shows the possible connections between the UPS communication channels and the external devices.

Possible options				Optional		
	slot 1	slot 2	slot 3	slot 1-Ext	slot 2-Ext	slot 3-Ext
ADC + Serial Link interface	•	•	•	a(*)	b(*)	c(*)
NetVision	•	•	•	a	b	c
Modbus TCP	•	•	•	a	b	c
IoT Gateway	•	•	•	a	b	c

a: possible only if slot 1 is equipped with an ADC + Serial Link interface.

b: possible only if slot 2 is equipped with an ADC + Serial Link interface.

c: possible only if slot 3 is equipped with an ADC + Serial Link interface.

(*) an ADC + Serial Link interface type “bootloader” is required in slot 1, 2 or 3 depending on the slot x - EXT chosen.

(*) the ADC + Serial Link interface type “bootloader” is not compatible with slots 1-Ext. or 2-Ext. or 3-Ext.

SOFTWARE OPTION

Visit www.socomec.com to find the communication software suitable for your requirements.

NOTE!

Before performing any operations, check that the software is compatible with your UPS model.

7. TROUBLESHOOTING

Problems and Solution

In case the UPS cannot work normally, it might be wrong in installation, wiring or operation. Please check these aspects first. If all these aspects are checked without any problem, please consult with local agent right away and provide below information.

Product model name and serial number, which can be found on LCD display rear co6ver and power 5module side.

Try to describe the fault with more details, such as LCD display info, history, LED lights status, etc.

Read the user manual carefully, it can help a lot for using this UPS in the right way

No.	Problem	Possible reason	Solution
1	LCD not display	The network cable is not fixed properly or the telephone line of the front door is not fixed properly.	Connect the network cable and telephone cable properly.
2	LCD Blue screen	LCD is Interference	Take out the cable and insert back properly
3	Utility is connected but the UPS cannot be powered ON.	Input power supply is not connected; Input voltage low; The input switch of the module is not switched on.	Measure if the UPS input voltage/frequency is within the window. Check if all modules input are switched on
4	Utility normal but Utility LED does not light on, and the UPS operates at battery mode	The input switch of the Modules are not switched on; Input cable is not well connected	Switch on the input switch; Make sure the input cable is well connected.
5	The UPS does not indicate any failure, but output do not have voltage	Output cable does not well connected	Make sure the output cable is well connected.
6	The UPS module cannot transfer to bypass or inverter	Module does not well inserted; The left coronal screw is not tight. Output switch do not switch on	Pull out the module and insert again; Tighten the screw;Switch on the output switch.
7	The UPS module fault LED remains ON	The module is already damaged	Take out this module, replace with a new module.
8	Utility LED is flashing	Utility voltage exceeds UPS input range.	If the UPS operates at battery mode, please pay attention to the remaining backup time needed for your system.
9	Battery LED is flashing but no charge voltage and current	Battery switch does not switch on, or batteries are damaged, or battery is reversely connected. Battery number and capacity are not set correctly.	Switch on the battery switch. If batteries are damaged, need to replace whole group batteries, connect the battery cables correctly; Go to LCD setting of the battery number and capacity, set the correct data.
10	Buzzer beeps every 0.5 seconds and LCD display “output overload”	Overload	remove some load
11	Buzzer long beeps, LCD display “output short circuit”	The UPS output is in short circuit	Make sure the load is not in short circuit, and then restart the UPS.
12	The LED of the Module with RED light	The module is not inserted properly.	Pull out the module and insert properly.
13	The UPS only works on bypass mode	The UPS is set to ECO mode, or the transfer times to bypass mode are limited.	Set the UPS working mode to Single Module type (non-parallel) or to reset the times of transferring to bypass or re-start the UPS
14	Cannot Black start	Battery switch is not properly closed; Battery fuse is not open; Or Battery low	Close the battery switch; Change the fuse; Recharge the battery
15	Buzzer beeps continuously and LCD indicates Rectifier fault or output fault	UPS is out of order	Consult with your local agent for repair

8. PREVENTIVE MAINTENANCE

All operations on the equipment must be carried out solely by Socomec personnel or by authorised service personnel.

Maintenance requires accurate functionality checks of the various electronic and mechanical parts and, if necessary, the replacement of parts subject to wear and tear (batteries, fans and capacitors). It is recommended to carry out periodic specialised maintenance (annually), in order to keep the equipment at the maximum level of efficiency and to avoid the installation being out of service with possible damage/risks. Moreover, attention should be paid to any requests for preventive maintenance that the equipment may automatically display with alarm/warning message.

8.1. Batteries

The state of the battery is fundamental to UPS operation.

Since the expected life of the batteries is very much dependent on operating conditions (number of charging and discharging cycles, load rate, temperature), a periodic check by authorised personnel is recommended.

When replacing the batteries, put them in the appropriate containers to avoid the risk of acid leakage.

Dispose the replaced batteries at an authorized recycling center.

Do not open the plastic cover of the batteries as they contain harmful substances.

8.2. Fans

The life of the fans used to cool the power parts is dependent on the using and environmental conditions (temperature, dust).

Preventive replacement by an authorised technician is recommended within 5 years (in normal operating conditions).

Replace fans according to Socomec specifications when necessary.

8.3. Capacitors

In the Power Brick, the lifespan of the AC and DC capacitors depends on usage (percent load, power quality) and environmental conditions (temperature, humidity).

In some cases, these components may need to be replaced during the lifetime of the UPS.

During the preventive maintenance visit, our expert technicians will inform the end user if replacement is recommended.

In all cases, regular preventive maintenance is essential to prolong component efficiency and ensure system performance.

Socomec: our innovations supporting your energy performance

1 independent manufacturer

3,600 employees worldwide

10 % of sales revenue dedicated to R&D

400 experts dedicated to service provision

Your power management expert

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POWER MONITORING

POWER CONVERSION

ENERGY STORAGE

EXPERT SERVICES

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- Measurement of electrical parameters
- Energy management
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