Safe DC SDC-PoE24

24 ports Switch - PoE/PoE+/SFP
integrated Micro-UPS

BACnet IP / HTTPS / SNMP

EN Operating Instructions

MAN180001 | Aa | 2019.02

1. Safety

These operating instructions contain all the instructions to follow in order to install, commission and operate the switch with integrated emergency power supply **SDC-PoE24**. It is recommended to follow them very carefully to ensure an optimum functioning of the product.
It is vital to read the Safety Precautions before installing or starting to operate this product.

Safety Precautions:

SDC-PoE24 is an equipment designed to be connected to the public 230 VAC mains network. It must not be installed outdoors. It ensures power supply and continuity of service for applications in the event of power failure. The lithium backup function is integrated into the product.

- An easily accessible two-pole circuit-breaker must be provided upstream.
- To avoid any risk of electric shock, all **INTERVENTIONS** must be carried out with the equipment **SWITCHED OFF** (upstream two-pole circuit-breaker open).
- Interventions with the equipment switched on are authorized only when it is impossible to switch the equipment off. The operation must only be performed by qualified personnel.
- The equipment is only designed to be placed on a horizontal surface or to be mounted in a rack cabinet (19 bay).
- The product must be installed horizontally.
- Sufficient convection must be guaranteed.
- The wires must be dimensioned and protected according to the maximum input/output current.
- Observe the thermal and mechanical limits.
- The backup is maintenance-free. Do not open it.
- For prolonged storage or disconnection, cut the mains as well as disconnect the network cables from the product and wait 1 minute until the product shuts down.
- Be careful, there is a blast hazard if the battery is replaced with a wrong battery type!
- Scrap the used batteries according to the directives
- Indoor use only
- This equipment is not suitable for use in locations where children are likely to be present.
- Clean the cabinet with a soft rag.

2. Directives and environment and public health protection

The SLAT company is, through their products, committed to protecting the environment and the public health and complies with the corresponding directives.

SLAT develops and manufactures all its products in accordance with the environmental directives RoHS (Restriction of Hazardous Substances) and WEEE (Waste of Electrical and Electronic Equipment).

RoHS 2011/65/UE

Restriction of Hazardous Substances

At its end of life, the product has to be recycled. For end-of-life recycling, a plug-in connector enables qualified professionals independent from SLAT to easily remove the backup.

The SLAT products are compliant with the CE directives. The CE mark dates to 2018.

CE

3. Definition of the symbols

CE

Conformity of the product with the requirements of the European directives.

WEEE (Waste of Electrical and Electronic Equipment)
Disposal of the product in an appropriate collection and recycling structure.
This product should not be disposed of with household waste.

RoHS 2011/65/UE

RoHS (Restriction of Hazardous Substances)
Compliance with the European Directive restricting the use of certain hazardous substances in electrical and electronic equipment.

4. General Information

4.1 The company

To meet its customers' requirements more effectively:

- SLAT has been designing and manufacturing all its products in accordance with the ISO 14001 standard since 2007.
- SLAT recycles its products at the end of their life cycle, by means of its recycling program.

4.2 Purpose of the document

The operating instructions provide the information necessary for the positioning, the connection, the configuration and the operation of the **SDC-PoE24** equipment.

Theses instructions are also available in PDF format in the Library Account at www.slat.com .

4.3 Related documentation

The following documents are associated with these operating instructions:

- Installation manual
- Commercial brochure
- Datasheet
- Advanced user manual (library account at www.slat.com)

This documentation is available at www.slat.com.

4.4 Intended audience

The operations described in this document should be performed only by authorized trained staff.

4.5 Indicator labels

This document comprises three types of important notices.
The type of notice informs you of the potential consequences in the case of non-compliance with the instructions.
These consequences are not exhaustive and are sorted in order of ascending risk:

IMPORTANT REMARK!

Contains additional information. Non-compliance will not cause damage to equipment or personal injuries.

CAUTION!

Equipment and goods can be seriously damaged or people seriously injured if the precautions for use are not followed.

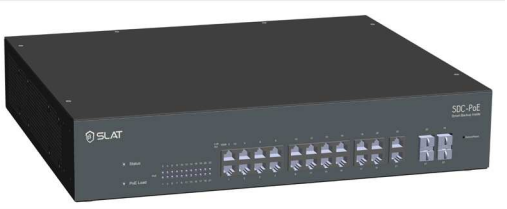
DANGER!

Non-compliance may result in serious injury or death.

5. The product

5.1 Description

24 port switch (PoE/PoE+) with lead and cadmium-free "Smart Backup Inside" with very long service life



The **SDC-PoE24** is a managed 24-port PoE switch with an integrated emergency power supply (UPS DC). With a combination of PoE ports and fiber ports, the switch handles the data flow from the connected applications. The product is designed to meet the specific needs of technical IP networks (video surveillance, WiFi, technical building management, etc.).

It provides continuous power and backup power to the connected PoE applications and protects the data transmission from the connected applications to the supervisor even in the event of power failure or brownout by means of the built-in backup power supply. The batteries integrated in the switch are Li-ion technology "$LiFePO_4$".

5.2 Operating principle

Switch function

After setting up the switch's functioning via the embedded web interface, the switch SDC-PoE24 handles the data flow from the connected devices.

It improves the availability of the critical applications, protects the sensitive information and optimizes the network bandwidth to deliver information from the applications more efficiently.

With the layer 2 features, the switch provides a better manageability, security, QoS and performance. The switch's features include amongst others VLAN, Spanning Tree, Mirroring, Port isolation, IGMP Snooping, DHCP Snooping, LLDP, POE+ management, IP Source Guard, ARP inspection and ACLs.

Emergency power supply function

When connected to the mains, the emergency power supply of the switch SDC-PoE24 stores energy and continuously powers the connected devices over PoE/PoE+.
When the mains fail, the built-in emergency supply continues to provide power to the connected devices without interruption.
In the event of a complete discharge, the recharging time to 100% of the backup will in all cases be less than 20 hours of mains presence.

5.3 Schematic diagram

The visual below shows the product diagram:

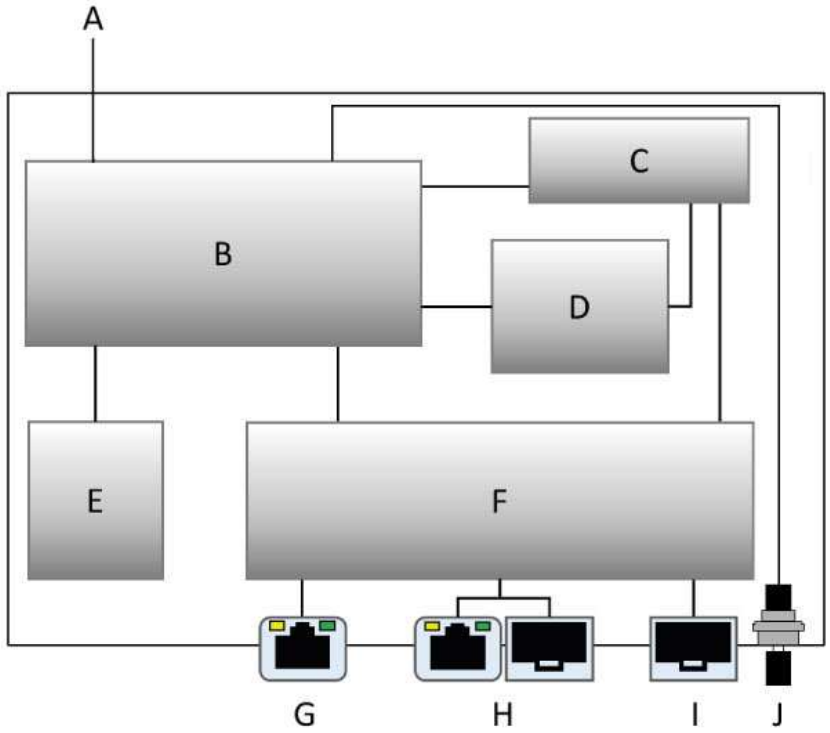


Figure 5.1: Schematic diagram

	Element
A	Mains 230 VAC
B	AC/DC Charger and Controller (Power Supply)
C	System Controller (Functioning and Communication)
D	$LiFePO_4$ Battery
E	LED (Status and PoE-Load)
F	Switch (PoE+/SFP)
G	Ethernet Ports (PoE/PoE+)
H	Combo Ports
I	SFP Ports
J	Reboot/Reset button

Table 5.1: Elements of the schematic diagram

5.4 Product view

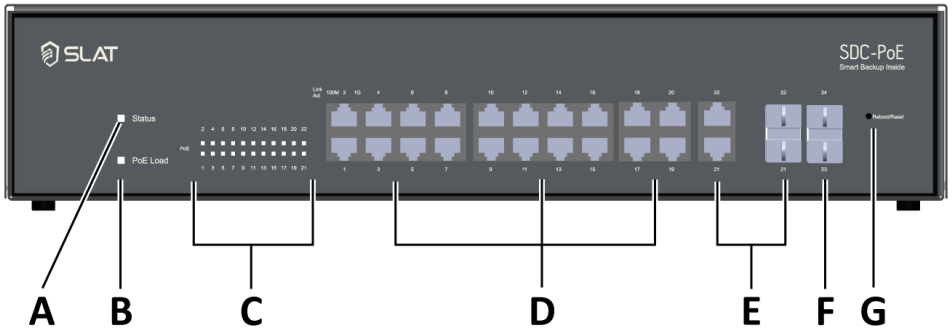


Figure 5.2: Front view

Figure 5.3: Rear view

	Name	Use
A	LED ‘Status’	The light indicates the product status (see chapter 9.1).
B	LED ‘PoE Load’	The light indicates the PoE load level (see chapter 9.1).
C	LED ‘PoE’ of each port	The lights indicate the PoE status of and the delivered power to each port (see chapter 9.1).
D	Ethernet port (PoE / PoE+)	Communication speed: 10/100/1000 Mbps The communication uses an Ethernet connection and the SNMP, HTTPS or BACnet IP protocol to retrieve detailed product information (see chapter 9.2). Using this port, the Ethernet connection supplies over PoE/PoE+ the connected device.
E	Combo port (Ethernet / SFP)	Either use the corresponding Ethernet port or SFP port with the respective characteristics
F	SFP port	Communication speed: 100/1000 Mbps The communication uses a SFP module connection and the SNMP, HTTPS or BACnet IP protocol to retrieve detailed product information (see chapter 9.2).
G	Reboot/Reset button	The Reboot/Reset button can be used to: - reboot (Reboot device). - reset parameters (factory reset).
H	Mains input	Mains input via an IEC cable.

Table 5.2: Elements on the product faces

5.5 Scope of delivery

The product is delivered with:

- 1x installation manual
- 1 x power cord (IEC320 lockable plug)
- 1 x fuse kit
- 4 x self-adhesive feet
- 1 x bracket kit (including 2 rack-mounting brackets and 8 screws for the mounting of the brackets)

6. Energy storage

6.1 Available storage option

SLAT products are combined with batteries or backup systems. They are used as emergency supplies in the event the mains voltage disappears. The available autonomy then depends on the capacity of the built-in backup.

In the **SDC-PoE24** the backup system is already built-in (Smart Backup Inside). According to the need, the product is fitted with different backups. For the SDC-PoE24, two backup packs are available. The Table 6.1 presents their minimum guaranteed capacity.

Backup F	Backup I
72 Wh	144 Wh

Table 6.1: Backup versions

6.2 Technology

The technology behind the SDC-PoE24 backup is Lithium-Iron-Phosphate ($LiFePO_4$). $LiFePO_4$ offers the best safety characteristics of any Lithium storage system (see Figure 6.1). This includes better resistance to impacts and to extreme temperatures.

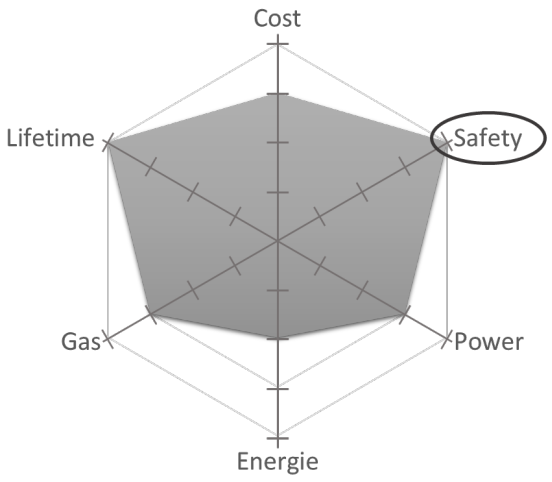


Figure 6.1: $LiFePO_4$ characteristics

All SDC-PoE24 backups have the following characteristics:

- Lithium-Iron-Phosphate technology ($LiFePO_4$)
- No risk of thermal runaway
- Storage: 9 months without recharging
- 10 year service life @ 25°C
- Lead-free, cadmium-free, 100% recyclable

6.3 Autonomy curves

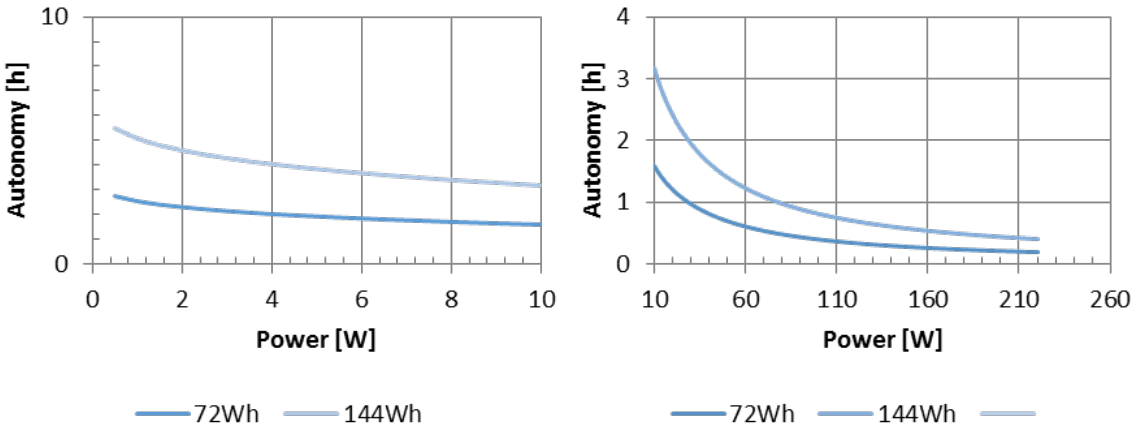


Figure 6.2: Autonomy curves

6.4 Autonomy duration

	Backup F	Backup I
Operating power	**Autonomy expressed in hours and minutes**	
10 W	1h35	3h10
20 W	1h12	2h24
30 W	0h58	1h56
40 W	0h48	1h37
50 W	0h41	1h23
60 W	0h36	1h13
70 W	0h32	1h04
80 W	0h29	0h58
90 W	0h26	0h52
100 W	0h24	0h48
110 W	0h22	0h44
120 W	0h20	0h41
130 W	0h19	0h38
140 W	0h17	0h35
150 W	0h16	0h33
160 W	0h15	0h31
170 W	0h14	0h29
180 W	0h14	0h28
190 W	0h13	0h27
200 W	0h12	0h25
210 W	0h12	0h24

Table 6.2: Autonomy vs Power vs used Backup

6.5 Self-discharge

In idle running, for the SDC-PoE24 the power consumed by self-discharge is 18 W.

7. Installation

The product must be installed according to the EN 69950-1 and EN 62368-1 standards.

The installation of the SDC-PoE24 is done without opening the product.

7.1 Positioning / Installation on support

The SDC-PoE24 is designed to be **placed on a horizontal surface or to be mounted in a rack cabinet.**

Instructions for placing on a horizontal surface

The SDC-PoE24 can be placed on a horizontal surface or support using the self-adhesive bumpers included in the delivery. On the underside of the product a cavity can be found in each corner, indicating the placement of the bumpers. Being self-adhesive, the bumpers only need to be peeled of the sheet and placed in the cavities. Figure 7.1 shows the placing on the lower surface.

Note: The bracket kit is not needed for this type of installation.

Figure 7.1: Self-adhesive bumpers for horizontal placing

Instructions for rack-mounting

The SDC-PoE24 can be installed in a 19 rack cabinet using the bracket kit included in the delivery. The bracket kit consists of 2 rack-mounting brackets and 8 screws for the fixation of the brackets.

To mount the brackets onto the product, follow the instructions shown in Figure 7.2: place one bracket on the front part of each side of the product (indicated by four screw holes) with the ears turned outwards and secure them in place with four screws each (included).

Once the rack version of the product is assembled, it can be mounted to the rack, as shown in Figure 7.3. It has to be installed on slide rails.

Note: The self-adhesive bumpers are not needed for this type of installation.

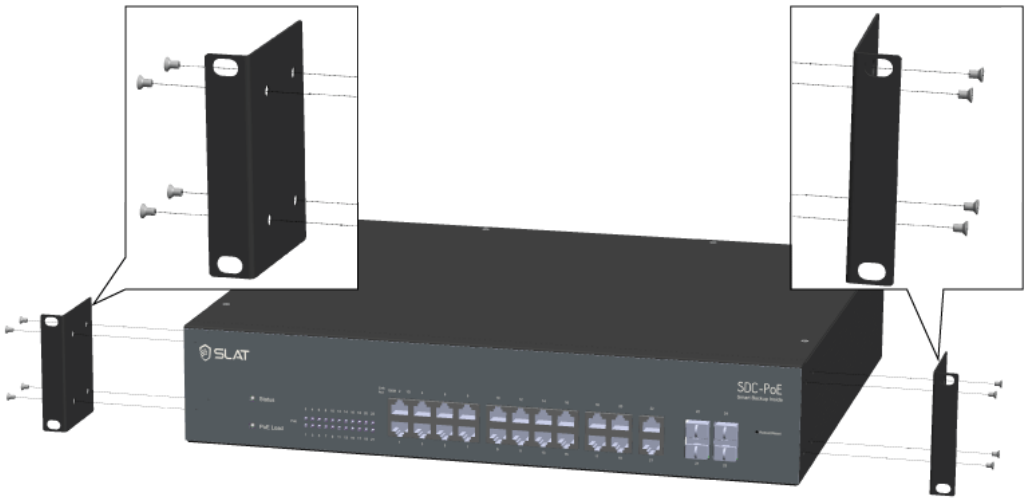


Figure 7.2: Brackets for rack mounting

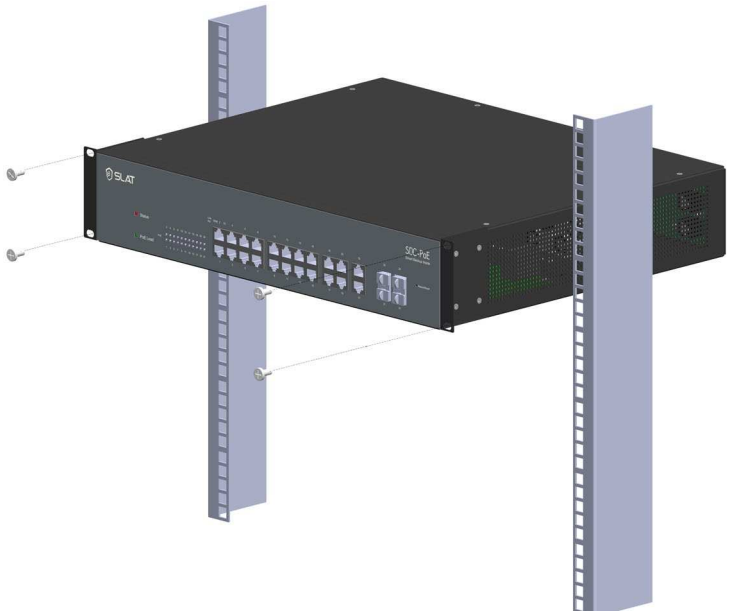


Figure 7.3: Rack mounting

7.2 Connection

7.2.1 Connection specifications

Mains		IEC cable
Ethernet Ports (PoE)	Connection 10/100/1000 Mbps	Ethernet cable Cat 5 or more / shielded / straight or twisted cables
SFP Ports	Connection 100/1000 Mbps	SFP module 1000 Mbps

Table 7.1: Connection specifications

7.2.2 Wiring

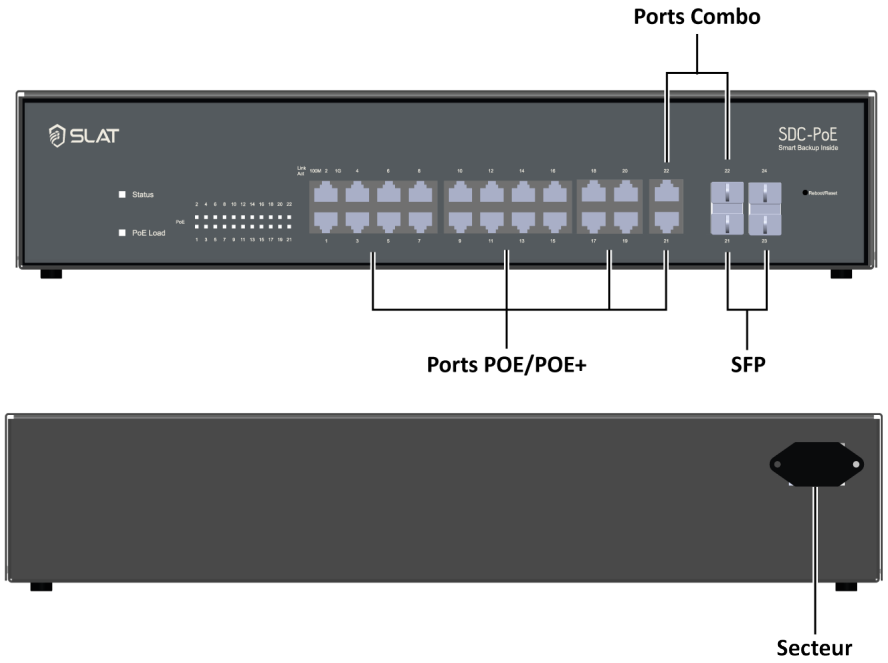


Figure 7.4: Wiring

Power supply

The product is connected to the PoE/PoE+ applications by the Ethernet ports 1 to 22. This connection allows to supply the application, when it is PoE compatible (the output voltage is set in accordance to the PoE standards).

Communication

The Ethernet and SFP ports allow the communication with an application like a camera or an external controller and the communication with the supervisor. The communication speed for the ports are:

- Ethernet ports 10 / 100 / 1000 Mbps
- SFP ports 100 / 1000 Mbps

The Combo ports have communication speeds corresponding to their type (Ethernet or SFP).

IMPORTANT REMARK!

After installing the product on its support, the wiring must be carried out. In this way, the product is connected to the applications, the supervisor and the mains.

To connect the wires, the cover doesn't need to be opened because the Ethernet and SFP ports as well as the mains connector plug are accessible from the outside.

1. Connect the product to the mains

   To connect the product to the mains, use the connector on the rear side (see Figure 7.4). Plug in the IEC 320 coupler plug delivered with the product or a similar one. Once the connection of the mains has been made, to complete the installation, the LED "Status" in the front must be verified to be green.

2. Connect the applications and the supervisor to the product

   For a better identification, each port is numbered (see numbers on the product). Figure 5.2 shows the ports that are accessible from the front:

   - 20 Ethernet ports (PoE/PoE+)
   - 2 SFP ports

     On the SFP ports two types of SFP modules can be used:

     - SFP-fiber module (100/1000 Mbps)
     - SFP-RJ45 module (100/1000 Mbps)
   - 2 Combo ports

     The two Combo ports (ports 22 and 23) can either be used as Ethernet port (PoE/PoE+) or as SFP port.

   Figure 7.4 shows that, thanks to the two Combo ports, there is a combination of 22 Ethernet ports and 4 SFP ports available. In total 24 ports can be used at the same time.
   All ports are auto MDI-X, such that either straight-through or twisted cables can be used.

8. Commissioning

Before starting to commission the switch, check that the LED "Status" on the front is green. This means the product is powered properly and ready to function.

The switch parameters can be configured via the HTTPS website. It also makes it possible to configure the energy saving mode (ECO) and the stealth mode.

Using the onboard website, the system parameters can be defined, the switch and all its ports managed and controlled as well as the network conditions monitored. The administrator can set up the managed switch by selecting the functions listed in the main menu. To be able to communicate with the product, the port, to which the supervisor is connected to, has to be part of the **VLAN 1**.

In order to manage and to communicate with the product, it must be configured according to the following chapters. The computer's network configuration, to which the product will be connected to, has to be compatible with the product's network parameters.

8.1 Communication protocols

The product supports the following communication protocols.

Application layer protocols

- HTTPS
- BACnet IP
- SNMP v1, v2c + v3
- DHCP

Network layer protocols

- IPv4
- ICMP

8.2 Assigning an IP address

The DHCP (dynamic IP address allocation) automatically assigns an IP address to a product in order to communicate with it. This feature is enabled by default in the factory configuration. Two different operating modes exist according to the availability or lack of a DHCP server on the network:

A. DHCP server available
If a DHCP server is available, it automatically allocates an IP address to the product. If several products are connected to the network, it assigns a different IP address to each one.
To determine the new address, browse the network.

B. DHCP server not available
If no DHCP server is available on the network, the product uses the IP settings below. When the switch is first connected to the network, it remains in DHCP for 1 minute before switching to the predefined IP address.

- **IP address** **192.168.1.1**
- **Network mask** **255.255.255.0**
- **No gateway**

In this case, if several products need to be connected to a single network, they must be isolated and the IP address of each product must be modified using their HTTPS, to avoid any address conflicts web interface. Indeed, they possess the same IP parameters before being connected to the network. The same procedure applies if the same IP address exists several times on a given network. See the Advanced user's manual for instructions on changing the IP address.

8.3 Login page – Logging onto the product

Using the allocated or predefined IP address, it is possible to log onto the product using a web browser over HTTPS.

When connecting to the product for the first time with an IP address, the user will have a warning about the website's security certificate. Ignore this warning and proceed to access the website. Each time the product's IP address changes, the user will redo the same operation.

IMPORTANT REMARK!

The default login and password are:

Login: admin

There is no password. Click directly on "OK".

Figure 8.1: Login page

8.4 Web-based user interface – Description

After entering the login and the password in the login page and once connection with the product has been established, the "System Information" page of the section "System State" is displayed.

The user interface, as shown in Figure 8.2, is divided in three areas: headline, main menu and main screen.

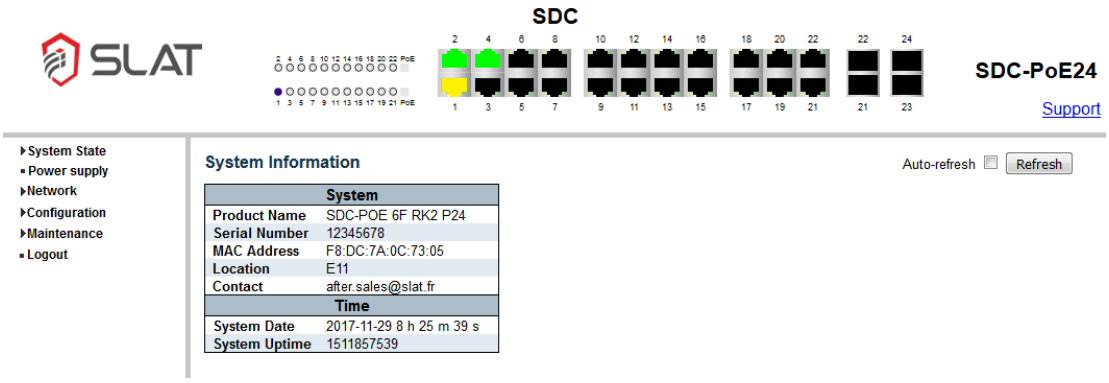


Figure 8.2: User interface

8.4.1 Headline

The headline is the area on top of each page. It is the same for each page of the menu. In the center, it contains the product's name defined in the "Settings Configuration" page as well as the port indicators and the PoE LEDs. The featured port numbers in the headline correspond to the numbers on the switch. The colors of the port indicators inform about the link working status.

- link 10/100 Mbps (yellow)
- link 1000 Mbps (green)
- no link (black)

The PoE LEDs, situated on the left of the ports, show when a connected application is powered over PoE. The LED corresponding to the connected port lights up:

- Green – powered over PoE
- Red – fault on the PoE

The user can send an email to SLAT's after-sales service thanks to the "Support" link, located on the right side of the headline.

8.4.2 Main menu

The main menu is situated on the left side of the interface. It gives an overview of the different sections and allows access to all the pages of this site. The pages are organized in the following sections:

- System State
- Power Supply
- Network
- Configuration
- Maintenance
- Logout

8.4.3 Main screen

The main screen, occupying most of the screen space, contains all the relevant information of one page. Depending on the page, information can here be visualized or parameters configured.

8.5 Configuration and operation of the switch

The switch's functions can be set up and the operating of the switch can be supervised via the embedded website.

Information regarding the configuration of the switch functionalities and the operation of the switch can be found in the "advanced user's manual". It can be downloaded in the Library Account at www.slat.com .

8.6 Reboot device

The reboot can be performed on the onboard website or on the product

Via the onboard website

To reboot the product (Reboot device) select "Reboot device" in the maintenance section of the maintenance page. Click on "yes" in "Reboot device" and wait for the end of the countdown (120 seconds). Once rebooted, the return to the page "system information" is automatic.

Figure 8.3: Reboot on the onboard website

On the product

The reboot (Reboot device) is done by pressing the Reboot/Reset button in the front > 10 seconds. The leds PoE Load and Status turn off until the reboot. The total duration is 2 minutes.

8.7 Factory configuration reset

The reset can be performed on the onboard website or on the product.

Via the onboard website

To reset the product (Factory reset) select "Factory reset" in the maintenance section of the maintenance page. Click on "yes" in "Factory reset" and wait for the end of the countdown (120 seconds). Once the reset is complete, return to the "system information" page.

Figure 8.4: Reset on the onboard website

On the product

The reset consists of configuring the product with factory parameters. This reset is done by pressing the reboot/Reset in the front. When the led « status » are blinking green/red release the button, the reset is complete.

8.8 Product switch-off

To stop and switch-off the product, It's necessary to:

- Disconnect the network cables.
- Disconnect the mains.
- Wait one (1) minute until the product has shut down.

9. Operation

During use, it is possible to interact with the product. There are two types of communication: local report and/or remote report.

9.1 Local report on product

Status LED

The Figure 5.2 in chapter 5.4 indicates the position of the ⍰Status⍰, ⍰PoE Load⍰, ⍰PoE⍰ and ⍰Link/Act⍰ LED on the product.

Status LED

The product communicates its status via a Status LED on the front. The LED indicates the different statuses of the product by its color and state. The table explains the meanings of each state.

Color and state		Mode
Green	steady	Normal mode without fault
	slow flashing	Eco Mode or Stealth Mode
Orange	slow flashing	Backup mode
	fast flashing	Installation fault Overcurrent, short circuit Low output voltage Output voltage too high No mains (outside specified power supply range) End of backup imminent
Red	steady	Product to be changed If no output voltage (fuse 7 out of order) If product out of order (charger fault) Backup fault Emergency supply undervoltage Emergency supply overvoltage
Red	slow flashing	Problem between the system controller and the power supply System controller board out of order

Table 9.1: Status LED state

PoE Load LED

The product communicates the PoE load level via the PoE Load LED on the front. The LED indicates the different power levels of the PoE load by its color. The table explains the meanings of each color.

Color		Mode
Green	steady	Power <= 80%
Orange	steady	80% < Power <= 100%
Red	steady	100% < Power

Table 9.2: PoE Load LED state

PoE LED

The product indicates the state of the PoE/PoE+ supply of the Ports 1 to 22 via the corresponding PoE LEDs in the front. There is one LED for each Ethernet Port. The LED indicates the state of a port's PoE supply by its state. The table explains the meanings of each LED state.

State		Mode
Off		No transmission of power over PoE
Green	steady	PoE power is transmitted to the connected device
Green	flashing	Short circuit on the output

Table 9.3: PoE LED state

Link/Act LED

The product indicates the Ethernet connection status of the ports and the communication speed via the LEDs on the left and right of the ports. When a connection on a port is established, depending on the communication speed, one of the two LEDs shines.

Color and state		Mode
Both LEDs off		No Ethernet link established
Yellow (left LED)	steady	Connection 10/100 Mbps established
	flashing	Connection established and activity on the line (data transmission with a communication speed of 10/100 Mbps)
Green (right LED)	steady	Connection 1000 Mbps established
	flashing	Connection established and activity on the line (data transmission with a communication speed of 1000 Mbps)

Table 9.4: Link/Act LED state

9.2 Remote report Communication

When using the product, it is possible to communicate with it from a distance using the incorporated communication system.

The product communicates its information on the Ethernet connection via the HTTPS, SNMP and BACnet IP application protocols. The protocols can be configured via the page SNMP BACnet" of the embedded website. The configuration procedure is described in the Advanced user manual.

The information and explanations on how to configure the product are described in chapter 8 and the Advanced user manual.

The following chapters describe the information available via the different protocols.

9.2.1 Accessible data

The following data is available via SNMP and BACnet IP.

Bit	Name	Description
27 - 31	*Reserve*	-
26	Ethernet Failure	In read mode, if the bit is set to 1, then one or more Ethernet connections have been lost. The fault remains active even if the links are re-connected. To acknowledge the fault, set bit to 1, which then switches to 0 in read mode.
25	Halt Stealth	Set bit to 1 to stop Stealth Mode. The bit remains set to 0 in read mode.
24	Start Stealth / Stealth State	In read mode, if the bit is set to 1, then Stealth Mode is enabled. Set bit to 1 to start Stealth Mode.
23	Reset factory	The factory reset is in progress or has been requested.
22	Battery n° 1	If the bit is at 1, battery # 1 is present
21	Battery n° 1	If the bit is at 1, battery # 1 is present
20	Battery Communication Failure	If the bit is 1, No communication between the battery and the product
19	Communication Failure	Internal communication failure if the bit is 1. The values of the read data are not significant.
18	Initialization Failure	Initialization of the internal communication in progress if the bit is 1. The values of the read data are not significant.
14 - 17	*Reserve*	-
13	End of Autonomy	End of autonomy pre-alarm when the bit is set to 1 (imminent power failure).
12	Battery Failure	If the bit is set to 1, the product must be replaced: the battery is defective or has been removed.
11	Rectifier Failure	If the bit is set to 1, the product must be replaced: the charging system is faulty and the battery may not be charged.
10	Mains Failure	If the bit is set to 1, mains power is absent.
9	Output Overload	If the bit is set to 1, the total Poe budget is exceeded.
8	*Reserve*	-
7	High Temperature	If the bit is set to 1, the temperature in the product is too high.
6	Battery Disconnection	If the bit is set to 1, the battery is disconnected.
5	Stealth Mode or Eco mode	If the bit is set to 1, then Stealth Mode or Eco mode is enabled.
0 - 4	*Reserve*	-

Table 9.5: Detail of the "System state" variable

<table>
<tr><th>Bit</th><th>Name</th><th>Description</th></tr>
<tr><td>26 - 31</td><td>Reserve</td><td>-</td></tr>
<tr><td>24 - 25</td><td>Ethernet State</td><td>Ethernet port status:<table><tr><th>Value</th><th>Status</th></tr><tr><td>00</td><td>No link</td></tr><tr><td>01</td><td>10 Mbps link</td></tr><tr><td>10</td><td>100 Mbps link</td></tr><tr><td>11</td><td>1000 Mbps link</td></tr></table></td></tr>
<tr><td>23</td><td>Reserve</td><td>-</td></tr>
<tr><td>20 - 22</td><td>PoE Class</td><td>PoE-class:<table><tr><th>Value</th><th>Class</th></tr><tr><td>000</td><td>Unknown</td></tr><tr><td>001</td><td>1</td></tr><tr><td>010</td><td>2</td></tr><tr><td>011</td><td>3</td></tr><tr><td>100</td><td>4</td></tr><tr><td>101</td><td>- Reserve -</td></tr><tr><td>110</td><td>0</td></tr><tr><td>111</td><td>No class</td></tr></table></td></tr>
<tr><td>18 - 19</td><td>PoE Management</td><td>PoE control (read/write):<table><tr><th>Value</th><th>Status</th></tr><tr><td>00 (write : no effect)</td><td>- Reserve -</td></tr><tr><td>01</td><td>Stop PoE</td></tr><tr><td>10</td><td>Start PoE</td></tr><tr><td>11</td><td>Restart PoE</td></tr></table></td></tr>
<tr><td>16 - 17</td><td>PoE State</td><td>PoE status:<table><tr><th>Value</th><th>Status</th></tr><tr><td>00</td><td>PoE stopped</td></tr><tr><td>01</td><td>PoE on hold</td></tr><tr><td>10</td><td>PoE defective</td></tr><tr><td>11</td><td>PoE active</td></tr></table></td></tr>
<tr><td>0 - 15</td><td>PoE Power</td><td>PoE output power expressed in tenths of a Watt</td></tr>
</table>

Table 9.6: Detail of the "Ethernet port X state" variable

9.2.2 HTTPS Protocol

The HTTPS website provides product management and data processing-related information.

Chapter 8 and the Advanced user's manual describe the use of the HTTPS website and the various data available.

To log onto the embedded website, use the selected login and password. The Advanced user's manual explains how to change the password.

9.2.3 SNMP Protocol

2 MIBs are available over SNMP (v1, v2c, v3):

- The **MIB-2**, defined by the RFC1213 standard.
- The **MIB SLAT-SDC** is proprietary and specific to SLAT. It is common to the entire Safe DC range.
  The MIB SLAT-SDC is downloadable only from the embedded website (HTTPS) on the "SNMP BACnet" page.

IMPORTANT REMARK!

For the SNMP v1 and v2c the Write Community is "private".
For the SNMP v3 the user and the password have to be configured.

The following variables are available via SNMP:

MIB-2		
Variable	**SNMP Name**	**Description**
Model	sysDesc	SDC reference and version.
System name	sysName	SDC system name (available in write mode, up to 16 characters)
Location	sysLocation	SDC location (available in write mode, up to 32 characters)

Table 9.7: MIB-2 variables

MIB SLAT-SDC		
Variable	**SNMP Name**	**Description**
Model	model	SDC reference and version.
Capacity	capacity	Battery capacity: energy expressed in Watt-hours.
Serial number	serialNumber	SDC serial number.
System state	systemState	32-bit variable presenting the state of the SDC system. Each time a change is made, this variable is sent in the form of an SNMP trap (for details of the variable, see Table 9.5) *.
Gauge	energyGauge	Gauge in percent, corresponding to the amount of energy available in the battery. A value of 100 corresponds to a fully charged battery.
Output voltage	outputVoltage	Output voltage: the value is expressed in tenths of a Volt.
Output current:	outputCurrent	Output current: the value is expressed in tenths of an Ampere.
Output power	outputPower	Instantaneous power supplied by the SDC: the value is expressed in Watts.
Mains power	mainsPower	Instantaneous mains power input: the value is expressed in Watts.
Temperature	temperature	SDC internal temperature: the value is expressed in °C.
Total discharged energy	totalDischargedEnergy	Amount of energy provided by the SDC battery since initial commissioning: the value is expressed in tenths of a Watt-hour.
Mains cut total number	mainsCutTotalNumber	Total number of power cuts since initial commissioning.
Output voltage adjustment	voutAdjust	Not applicable for SDC-PoE products.
Stealth Mode threshold	stealthModeThreshold	Minimum battery charge level in percent for Stealth Mode. Accepted values: 25, 50, 75 or 100. The value 100 disables the Stealth Mode.
Eco Mode threshold	ecoModeThreshold	Minimum battery charge level in percent for Eco Mode. Accepted values: 50, 60, 70, 80 or 100. The value 100 disables Eco Mode.
Ethernet port *X* state	ethernetPort*X*-State	32-bit variable presenting the status of each Ethernet port *X* representing the port number (for details of this variable, see Table 9.6).

Table 9.8: MIB SLAT-SDC variables

* To use SNMP traps, the IP addresses of the SNMP servers to which the traps should be sent must be entered into the HTTPS website (see the Advanced user manual).

9.2.4 BACnet IP Protocol

The following objects are accessible via BACnet IP:

Property	Remark / Value	RW
Object_Identifier	Product instance, by default: 421000	RW-E
Object_Name	SDC system name (max. 16 characters). By default: ??	RW-E
Object_Type	DEVICE (8)	R
System_Status	OPERATIONAL (0) or STATUS_NON_OPERATIONAL (4) if not ready	R
Vendor_Name	?SLAT?	R
Vendor_Identifier	954	R
Model_Name	Product type	R
Location	Product location (max. 32 characters). By default: ??	RW-E
Firmware_Revision	Communication firmware version	R
Application_Software_Version	??	R
Protocol_Version	1	R
Protocol_Revision	12	R
Protocol_Services_Supported	read-property, write-property, who-has, who-is, device-communication control	R
Protocol_Object_Types_Supported	DEVICE, ANALOG_VALUE, POSITIVE_INTEGER_VALUE	R
Object_List [17]	device, analog-value 0 ? 10, positive_integer_value 0...4	R
Max_APDU_Length_Accepted	1476	R
Segmentation_Supported	NO_SEGMENTATION (3)	R
APDU_Timeout	3000	R
Number_Of_APDU_Retries	3	R
Device_Address_Binding	-	R
Database_Revision	0	R
R: Read Property, W: Write Property, -E: Storage in EEPROM / Flash		

Table 9.9: BACnet IP variables

Analog Value Object 0		
Property	**Remark / Value**	**RW**
Object_Identifier	analog-value 0	R
Object_Name	Vout	R
Object_Type	ANALOG_VALUE (2)	R
Description	"Output Voltage"	R
Present_Value	Output Voltage	R
Status_Flags	IN_ALARM: 0	R
	FAULT: 0	
	OVERRIDDEN: 0	
	OUT_OF_SERVICE: 0	
Event_State	NORMAL (0)	R
Out_Of_Service	FALSE (0)	R
Units	Volts (5)	R
R: Read Property, W: Write Property, -E: Storage in EEPROM / Flash		

Table 9.10: Analog Value Object 0

Analog Value Object 1		
Property	**Remark / Value**	**RW**
Object_Identifier	analog-value 1	R
Object_Name	Iout	R
Object_Type	ANALOG_VALUE (2)	R
Description	"Output current"	R
Present_Value	Output current	R
Status_Flags	IN_ALARM: 0	R
	FAULT: 0	
	OVERRIDDEN: 0	
	OUT_OF_SERVICE: 0	
Event_State	NORMAL (0)	R
Out_Of_Service	FALSE (0)	R
Units	Amperes (3)	R
R: Read Property, W: Write Property, -E: Storage in EEPROM / Flash		

Table 9.11: Analog Value Object 1

Analog Value Object 2		
Property	**Remark / Value**	**RW**
Object_Identifier	analog-value 2	R
Object_Name	Pout	R
Object_Type	ANALOG_VALUE (2)	R
Description	"Output power"	R
Present_Value	Output power	R
Status_Flags	IN_ALARM: 0	R
	FAULT: 0	
	OVERRIDDEN: 0	
	OUT_OF_SERVICE: 0	
Event_State	NORMAL (0)	R
Out_Of_Service	FALSE (0)	R
Units	Watts (47)	R
R: Read Property, W: Write Property, -E: Storage in EEPROM / Flash		

Table 9.12: Analog Value Object 2

Analog Value Object 3		
Property	**Remark / Value**	**RW**
Object_Identifier	analog-value 3	R
Object_Name	Pin	R
Object_Type	ANALOG_VALUE (2)	R
Description	"Input power"	R
Present_Value	Mains power	R
Status_Flags	IN_ALARM: 0	R
	FAULT: 0	
	OVERRIDDEN: 0	
	OUT_OF_SERVICE: 0	
Event_State	NORMAL (0)	R
Out_Of_Service	FALSE (0)	R
Units	Watts (47)	R
R: Read Property, W: Write Property, -E: Storage in EEPROM / Flash		

Table 9.13: Analog Value Object 3

Analog Value Object 4		
Property	**Remark / Value**	**RW**
Object_Identifier	analog-value 4	R
Object_Name	Temperature	R
Object_Type	ANALOG_VALUE (2)	R
Description	"Internal temperature"	R
Present_Value	Internal temperature	R
Status_Flags	IN_ALARM: 0	R
	FAULT: 0	
	OVERRIDDEN: 0	
	OUT_OF_SERVICE: 0	
Event_State	NORMAL (0)	R
Out_Of_Service	FALSE (0)	R
Units	Degree Celsius (62)	R
R: Read Property, W: Write Property, -E: Storage in EEPROM / Flash		

Table 9.14: Analog Value Object 4

Analog Value Object 5		
Property	**Remark / Value**	**RW**
Object_Identifier	analog-value 5	R
Object_Name	BatteryGauge	R
Object_Type	ANALOG_VALUE (2)	R
Description	"Remaining autonomy"	R
Present_Value	Battery gauge	R
Status_Flags	IN_ALARM: 0	R
	FAULT: 0	
	OVERRIDDEN: 0	
	OUT_OF_SERVICE: 0	
Event_State	NORMAL (0)	R
Out_Of_Service	FALSE (0)	R
Units	Percent (98)	R
R: Read Property, W: Write Property, -E: Storage in EEPROM / Flash		

Table 9.15: Analog Value Object 5

Analog Value Object 6		
Property	**Remark / Value**	**RW**
Object_Identifier	analog-value 6	R
Object_Name	Battery capacity	R
Object_Type	ANALOG_VALUE (2)	R
Description	"Installed battery capacity"	R
Present_Value	Battery capacity	R
Status_Flags	IN_ALARM: 0	R
	FAULT: 0	
	OVERRIDDEN: 0	
	OUT_OF_SERVICE: 0	
Event_State	NORMAL (0)	R
Out_Of_Service	FALSE (0)	R
Units	Watt hours (18)	R
R: Read Property, W: Write Property, -E: Storage in EEPROM / Flash		

Table 9.16: Analog Value Object 6

Analog Value Object 7		
Property	**Remark / Value**	**RW**
Object_Identifier	analog-value 7	R
Object_Name	StealthModeThreshold	R
Object_Type	ANALOG_VALUE (2)	R
Description	"Minimum battery gauge level for Stealth Mode (25%, 50% or 75% - 100 disables Stealth Mode)"	R
Present_Value	Stealth Mode threshold	R
Status_Flags	IN_ALARM: 0	R
	FAULT: 0	
	OVERRIDDEN: 0	
	OUT_OF_SERVICE: 0	
Event_State	NORMAL (0)	R
Out_Of_Service	FALSE (0)	R
Units	Percent (98)	R
R: Read Property, W: Write Property, -E: Storage in EEPROM / Flash		

Table 9.17: Analog Value Object 7

Analog Value Object 8		
Property	**Remark / Value**	**RW**
Object_Identifier	analog-value 8	R
Object_Name	EcoModeThreshold	R
Object_Type	ANALOG_VALUE (2)	R
Description	"Minimum battery gauge level for Eco Mode (50%, 60%, 70% or 80% - 100% disables Eco Mode)"	R
Present_Value	Eco Mode threshold	R
Status_Flags	IN_ALARM: 0	R
	FAULT: 0	
	OVERRIDDEN: 0	
	OUT_OF_SERVICE: 0	
Event_State	NORMAL (0)	R
Out_Of_Service	FALSE (0)	R
Units	Percent (98)	R
R: Read Property, W: Write Property, -E: Storage in EEPROM / Flash		

Table 9.18: Analog Value Object 8

Analog Value Object 9		
Property	**Remark / Value**	**RW**
Object_Identifier	analog-value 9	R
Object_Name	TotalDischargedEnergy	R
Object_Type	ANALOG_VALUE (2)	R
Description	"Total discharged energy"	R
Present_Value	Total discharged energy	R
Status_Flags	IN_ALARM: 0	R
	FAULT: 0	
	OVERRIDDEN: 0	
	OUT_OF_SERVICE: 0	
Event_State	NORMAL (0)	R
Out_Of_Service	FALSE (0)	R
Units	Watt hours (18)	R
R: Read Property, W: Write Property, -E: Storage in EEPROM / Flash		

Table 9.19: Analog Value Object 9

Analog Value Object 10		
Property	**Remark / Value**	**RW**
Object_Identifier	analog-value 10	R
Object_Name	MainsCut	R
Object_Type	ANALOG_VALUE (2)	R
Description	"Mains cut total number"	R
Present_Value	Total number of power cuts	RW
Status_Flags	IN_ALARM: 0	R
	FAULT: 0	
	OVERRIDDEN: 0	
	OUT_OF_SERVICE: 0	
Event_State	NORMAL (0)	R
Out_Of_Service	FALSE (0)	R
Units	No units (95)	R
R: Read Property, W: Write Property, -E: Storage in EEPROM / Flash		

Table 9.20: Analog Value Object 10

Positive Integer Value Object 0		
Property	**Remark / Value**	**RW**
Object_Identifier	positive-integer-value 0	R
Object_Name	System state	R
Object_Type	POSITIVE_INTEGER_VALUE (48)	R
Description	"System state register"	R
Present_Value	System state [32 bit]*	R
Status_Flags	IN_ALARM: 0	R
	FAULT: 0	
	OVERRIDDEN: 0	
	OUT_OF_SERVICE: 0	
Units	No units (95)	R
R: Read Property, W: Write Property, -E: Storage in EEPROM / Flash		

Table 9.21: Positive Integer Value Object 0

*To consult the detail of the Present Value System state see Table 9.5.

Positive Integer Value Object 1		
Property	**Remark / Value**	**RW**
Object_Identifier	positive-integer-value 1	R
Object_Name	StealthMode	R
Object_Type	POSITIVE_INTEGER_VALUE (48)	R
Description	"Stealth mode operating"	R
Present_Value	Stealth Mode disabled if null, else enabled	RW
Status_Flags	IN_ALARM: 0	R
	FAULT: 0	
	OVERRIDDEN: 0	
	OUT_OF_SERVICE: 0	
Units	No units (95)	R
R: Read Property, W: Write Property, -E: Storage in EEPROM / Flash		

Table 9.22: Positive Integer Value Object 1

Positive Integer Value Object 2		
Property	**Remark / Value**	**RW**
Object_Identifier	positive-integer-value 2	R
Object_Name	SerialNumber	R
Object_Type	POSITIVE_INTEGER_VALUE (48)	R
Description	"Serial number"	R
Present_Value	Serial number	R
Status_Flags	IN_ALARM: 0	R
	FAULT: 0	
	OVERRIDDEN: 0	
	OUT_OF_SERVICE: 0	
Units	No units (95)	R
R: Read Property, W: Write Property, -E: Storage in EEPROM / Flash		

Table 9.23: Positive Integer Value Object 2

Positive Integer Value Object 3		
Property	**Remark / Value**	**RW**
Object_Identifier	positive-integer-value 3	R
Object_Name	"Ethernet1"	R
Object_Type	POSITIVE_INTEGER_VALUE (48)	R
Description	"1st Ethernet port state"	R
Present_Value	Port 1 status *	R
Status_Flags	IN_ALARM: 0	R
	FAULT: 0	
	OVERRIDDEN: 0	
	OUT_OF_SERVICE: 0	
Units	No units (95)	R
R: Read Property, W: Write Property, -E: Storage in EEPROM / Flash		

Table 9.24: Positive Integer Value Object 3

*To consult the detail of the "Present Value - Port 1 status" see Table 9.6.

Table 9.24 is the object for the Ethernet port 1. For the ports 2 to 24 use the same table with the following formulas (X = port number):

- Object indentifier "Positive integer Value" Object 2 + X
- Object Name: "EthernetX"
- Description: "Xth Ethernet port state"
- Present value: Port X status

10. Maintenance and troubleshooting

The product has been designed to function for a long period of time without requiring maintenance. To ensure the best level of service, it is essential to install it in a dry dust-free location.

For a proper functioning of the product, it is necessary to ensure that the ventilation grilles are dust-free.

Troubleshooting

During installation, commissioning or use, unexpected situations may arise. In the event of a problem, the table below can be consulted. It contains a list of possible problems with their corresponding causes and solutions.

Problem	Fault via communication	Cause	Solution
The product does not start. The *Status LED* remains off.	No communication	The mains voltage is not connected or is not present.	Check if the mains voltage is connected properly.
		The mains voltage fuse is faulty or absent.	Replace the product.
The *Status LED* is orange + fast flashing and there is no voltage at the output.	Output short-circuit	Output overload or short-circuit.	Remove the short-circuit.
The *Status LED* is red. The output voltage is OK.	Backup fault	Backup malfunction; the backup is disconnected or has failed.	Replace the product.
	Charger fault	Charger malfunction.	The charger has failed. Replace the product.
The *Status LED* is red + fast flashing	Internal communication fault	Wiring problem controller/power supply	Replace the product.
The *Status LED* is orange + fast flashing and the output voltage is less than the normal value.	Output overload	There is a slight overload on the output.	Lower the output load until the current is less than the maximum output value (see Table 11.3).
The *Status LED* is orange + fast flashing and the output voltage is OK.	Temperature too high	Temperature is too high because the ambient temperature does not fulfil the conditions specified in Table 11.5.	Cool the installation.
		The air intake is blocked.	Clean the blocked air intake.
No connection: The *Link LED* of the Port 1 to 22 are not illuminated.	No communication	Bad Ethernet connection.	Verify the connection and use an appropriate Ethernet cable (see Table 7.1).
The *Status LED* and one *Link/Act LED* are illuminated but there is no communication.	No communication	Configuration problem.	Check that the configuration of the SDC and the computer are compatible (see chapter 8).
One LED PoE is green+ fats flashing	Short-circuit	Short-circuit to the corresponding PoE port	Delete the short-circuit
The product's IP address is lost.	No communication	-	Perform a factory configuration reset (see chapter 8.7).
The administrator's password has been lost.	No communication	-	Perform a factory configuration reset (see chapter 8.7).

Table 10.1: Problems, causes and solutions

For additional technical assistance, contact the SLAT hotline +33 4 78 66 63 70.

For an RMA request (authorization to return goods), refer to chapter 12.2 .

No equipment may be returned without prior issuance of an RMA number.

11. Technical data

11.1 Electrical characteristics

[redacted] Electrical characteristics of the power supply

Mains input	
AC network voltage	230 VAC (195,5-264,5 VAC)
Frequency	50-60 Hz (45-65 Hz)
Class	1
Inrush current	Limited by NTC
Neutral system	TT, TN, IT
Primary short-circuit protection	Slow-blow fuse on the phase
Characteristics of built-in fuse	6.3 A (slow-blow, internal)
Shock wave protection	Differential mode by varistor, filter and fuse
Primary current @ 230 V	1.152 A
Primary current @ 265 V	1 A
Primary current @ 195 V	1.4 A
Residual consumption in Eco and Stealth Mode	< 1 W
Circuit breaker to be provided upstream	Curve D

Table 11.1: Mains input electrical characteristics

Current behavior - Inrush current at start-up

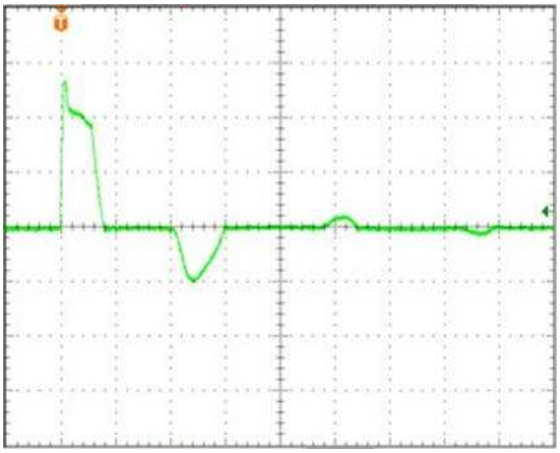


Figure 11.1: Oscillogram - inrush current

Test conditions	
Input voltage	265 VAC
Output current and voltage	56 VDC; no load
Ambient temperature	+20°C
Description of the diagram	
Input current	10 A / DIV
Time scale	4 ms / DIV

Table 11.2: Description of the oscillogram - inrush current

[redacted] Electrical output characteristics

Output	
Standards	IEEE 802.3af, IEEE 802.3at
Rated voltage U_n	56 V
Voltage precision	< 5 %
PoE budget	30 W/port, total PoE budget 210 W
Courant limitation	from I_n to I_n+15% for output voltage > 50% of U_n
HF ripple peak-peak (20 MHz-50 Ω)	< 4% of U_n
Switching frequency	65 kHz+/-10%
Effective LF ripple	< 0.2% of U_n
Static and dynamic regulation characteristics	< 5% of U_n for cumulative variations of the mains and the load (from 10 to 90%)
Protection	fuse
η (Smart backup) @ 25% of use load	90.6%
η (Smart backup) @ 75% of use load	94.5%
η (Smart backup) @ 100% of use load	94.6%
Protection against output short-circuit	by power supply cut with cyclical restart
Protection against surges in user output	deregulation or connection error, by cut-off with cyclical restart if output voltage > U_n + 10%
Short circuit if	U_{output} < 30 V or I > 1.2 A

Table 11.3: Electrical output characteristics

[redacted] Functional characteristics

The switch SDC-PoE24 handles the data flow from the connected devices. It improves the availability of the critical applications while protecting the sensitive information.

Up to 22 PoE Ethernet ports permanently supply (after negotiation) a constant voltage (56 VDC) to the equipment which has to be powered. In the event of a current break, the built-in backup maintains the electrical power supply of the equipment connected to the product for the duration defined when the SDC-PoE24 was chosen.

An Ethernet connection allows to retrieve the information including the analogue values remotely (voltages and load current, backup, autonomy, internal electronic temperature).

By default, the DHCP is active. The HTTPS webserver makes it possible amongst others to configure the switch functionalities and communication parameters as well as to choose the functioning mode.

There are also several LEDs in the front informing about the functioning of the switch.

11.2 Mechanical characteristics

Mechanical specifications	
Envelope	Painted metal
Protection rating	IP30
Size with the connections on the back	W 446 x H 85 x D 405 mm
Depth without connections	380 mm
Height with bumpers	90.5 mm
Weight	7 kg (backup F) / 7.7 kg (backup I)
Installation	Box to be rack-mounted or placed on a horizontal surface

Table 11.4: Mechanical specifications

11.3 Environmental specifications

Environmental specifications		
Storage temperature		-25 +60°C
Operating temperature	at 100% load at 75% load	-10 +45°C -10 +50°C
Relative humidity (non-condensing)	in storage operating	10 90% 20 85%
Cooling	The cooling in carried out transversally.	
Altitude	Above 2,000 m, the temperature decreases by 5% every 1,000 m.	

Table 11.5: Environmental specifications

11.4 Standards

The product is designed to meet with IEEE standards as well as LV and EMC directives (immunity and emission). It complies with the following standards.

11.4.1 Safety standards

The standards for the safety low voltage directives (LVD) are:

Section	Standard number	Title/Content
LVD Safety	EN 60950-1 (2006) + A11 (2009) + A1 (2010) + A12 (2011) + A2 (2013) (class TBTS)	Safety of information technology equipment, including office hardware, TBTS class.
LVD Safety	EN 62368-1 (2014)	Audio/video, information and communication technology equipment Part 1: Safety requirements

Table 11.6: Safety standards

11.4.2 EMC standards

The standards for the electromagnetic compatibility (EMC) are:

Section	Standard number	Title/Content
Immunity	EN 61000-6-1 (2007)	Immunity for residential, commercial and light-industrial environments (generic standard)
Immunity	EN 61000-6-2 (2005)	Immunity standard for industrial environments (generic standard)
Emissions	EN 61000-6-3 (2007)	Emission standard for residential, commercial and light-industrial environments (generic standard)
Emissions	EN 61000-6-4 (2007) + A1 (2011)	Emission standard for industrial environments (generic standard)
Emissions	EN 61000-3-2 (2014) (class A)	Limits for harmonic current emissions (equipment input current <= 16 A per phase)
Emissions	EN 55032 (2015) (class B)	Electromagnetic Compatibility of Multimedia Equipment

Table 11.7: EMC standards

11.4.1 IEEE standards

The standards for local and metropolitan area networks are:

Standard number	Content
IEEE 802.1D	Standard Spanning Tree / Multicast
IEEE 802.1w	Rapid Spanning Tree (RSTP)
IEEE 802.1Q	VLAN
IEEE 802.1X	Radius
IEEE 802.3ad	Link Aggregation Control Protocol (LACP)
IEEE 802.3i	10BaseT
IEEE 802.3u	100BaseT(X) and 100BaseFX
IEEE 802.3ab	1000BaseT(X)
IEEE 802.3z	1000BaseX
IEEE 802.3x	Flow Control
IEEE 802.3af	PoE
IEEE 802.3at	PoE+
IEEE 802.3az	Energy Efficient Ethernet

Table 11.8: IEEE standards

11.4.2 Transportation standards

To ensure the safety of the lithium batteries during the transportation, the batteries are certified UN 38.3.

12. Warranty and Product Returns

12.1 Warranty

The equipment is guaranteed for three years from the date of delivery (ex-works). It is strictly limited to reimbursement or replacement (at our discretion and without compensation of any sort) of parts recognized as faulty by our services, following the return of the product to our premises at the buyer's expense. The replacement or repair of equipment is possible only on our premises. In order to allow our customers to benefit from the latest technical improvements, SLAT reserves the right to make all necessary modifications to its products.

12.2 Product Returns

12.2.1 Product under warranty

For the maintenance of your products under warranty, SLAT offer the best solution to facilitate your repairs and minimize lead times:

- Contact the Customer Service department using the form available on our web site www.slat.com , taking care to fill in all the required fields.
- The RMA form will be processed and sent back by the SLAT account manager.
- After receiving your RMA form, return two copies with your product(s), one INSIDE the package and the other on the OUTSIDE of the package for warehouse identification purposes, thereby guaranteeing traceability of your product.
- The repaired or replaced product(s) will be returned within a maximum of 15 business days.

12.2.2 Product not under warranty

Product repair by SLAT

Contact Customer Service at service.client@slat.fr, making sure to provide all of the following information:

- Last name/First Name
- Company / Complete Address / Phone / Email
- Exact model of the product (indicated on the product label) / SLAT reference (indicated on the product label, code number) / Serial No. / Quantity / Problems(s) encountered (describe the faults encountered with the product)

The form to request the RMA number is also available at www.slat.com.

The account manager will send the RMA form by email together with a quote according to the relevant product range.

After receiving your RMA form, return two copies with your product(s), one INSIDE the package and the other on the OUTSIDE of the package for warehouse identification purposes, thereby guaranteeing traceability of your product. The repairs will be made only after the receipt of the accepted quote together with the repair order form. If the quote is rejected, please return it to service.client@slat.fr marked "refused" and specify whether the equipment should be destroyed or returned in its existing condition (in this case a charge of €150 will be invoiced for handling costs).

The repaired or replaced product(s) will be returned within a maximum of 15 business days. A new 3 month warranty is attributed to the relevant product.

Conditions: Authorization to return products is issued by SLAT.

An RMA number is assigned to each product to be returned. Each RMA number is valid for 30 days.

No equipment may be returned without prior issuance of an RMA number.

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