

# CPDM3

INSTALLATION GUIDE



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**About this document**

This document is used for installation and configuration of the CPDM3, as well as for administration and troubleshooting.

**Target groups**

- The field engineer that installs, maintains and troubleshoots the system
- The system administrator responsible for the IT management at the customer site, that needs to get error messages, to survey and have control of the system.
- The administrator responsible for the daily administration at the customer site, that needs to change and edit settings.

## Contents

<b>Introduction.....</b>	<b>2</b>
1.1 Abbreviations and Glossary.....	3
<b>2. General Information.....</b>	<b>4</b>
2.1 Licenses .....	4
2.2 MAC Address .....	4
2.3 Authentication and Administration .....	4
<b>3. Description .....</b>	<b>6</b>
3.1 Overview of Connectors, Buttons and LEDs .....	6
3.2 Label for IP Address/Host Name .....	7
3.3 LED Indications .....	8
3.4 Operating Mode.....	9
<b>4. Installation and Configuration.....</b>	<b>11</b>
4.1 Mounting.....	11
4.2 Supply Voltage.....	16
4.3 Connections.....	17
4.4 Accessing Product.....	19
4.5 Basic Configuration .....	23
<b>5. Working in Boot Mode.....</b>	<b>25</b>
5.1 Set Product in Boot Mode.....	25
<b>6. Demonstration Mode .....</b>	<b>28</b>
<b>7. Maintenance .....</b>	<b>29</b>
7.1 Software Management .....	29
7.2 Restarting the Product.....	30
7.3 Factory Reset .....	30
<b>8. Troubleshooting.....</b>	<b>31</b>
8.1 Troubleshooting from Boot Mode .....	32
<b>9. Related Documents .....</b>	<b>33</b>
<b>10. Document History .....</b>	<b>34</b>

# 1. INTRODUCTION



The CPDM3 is used for messaging, alarm handling, administration and device management. It can be used independently but also works in combination with other CPDM3s or systems.

The software of CPDM3 is pre-installed on a hardware equipped with:

- 2 LAN connections
- 2 USB 2.0 ports for communication with external devices
- 1 Mini-USB port for easy management
- 2 galvanically isolated physical inputs and outputs. The inputs can be used for trigger conditions which in turn can use the outputs for actions.
- 1 error relay output used for fault actions and error indications
- A-bus connections to Ascom paging system and RS-232 communication with external systems.

Supply voltage: 100 – 240 Vac  $\pm 20\%$   
12 – 24 Vdc  $-25\%$  /  $+20\%$

Current consumption Max 275 mA at 100 Vac input  
Max 1 A at 12 Vdc input  
Max 500 mA at 24 Vdc input

Delivery includes:

Hardware with pre-installed CPDM3 software  
Getting started document:  
ELISE3- EMBEDDED LINUX SERVER INCLUDING  
SAFETY INFORMATION  
Two assembly brackets  
Four screws size 3.5x40 mm (0.14x1.6 in) together with  
four wall plugs  
Four MFT screws size M3x6 mm (0.12x0.24 in) for  
fastening the assembly brackets  
Power cable

Tools etc. required:	Philips screwdriver (Ph No. 2) for the wall screws size 3.5×40 mm (0.14×1.6 in) Torx (T10) for the MFT screws size M3×6 mm (0.12 × 0.24 in) Screwdriver 0.40×2.5 mm (0.16×0.098 in) for screw connectors on the rear side Ethernet cable System Bus Cabling Power supply Computer with Microsoft Internet Explorer™ 8 through 9, or Mozilla Firefox™ 3.6 through 12.
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## 1.1 ABBREVIATIONS AND GLOSSARY

GUI	Graphical User Interface
SD card	a non-volatile Secure Digital memory card
CPDM3	Centralized Portable Device Manager. The CPDM3 is called “product” in this document.

## 2. GENERAL INFORMATION

### 2.1 LICENSES

The product's software installed on the hardware must have a valid software license. The license number can be found:

- on the license certificate provided with the product
- in the product's Setup Wizard
- in the product's Configuration page
- in the product's Advanced Configuration page

### 2.2 MAC ADDRESS

The MAC address can be found:

- on a label on the hardware's rear side
- in the product's Setup Wizard
- in the product's Configuration page
- in the product's Advanced Configuration page (Troubleshoot > System Information)
- in the product's Boot Mode GUI (System > Information)

### 2.3 AUTHENTICATION AND ADMINISTRATION

Administration is made via a web browser. The administration pages require a user name and password.

**IMPORTANT:** The default passwords need to be changed to prevent unauthorized access to the administration pages.

#### 2.3.1 AUTHENTICATION

The product's software has different default accounts, that determine which GUIs that can be accessed.'

User ID	Password	Comments
sysadmin	setmeup	Used for advanced troubleshooting. The sysadmin has access to all administration pages and has permission to change passwords for all users
admin	changeme	Used for administration and simple troubleshooting. The admin has permission to change all passwords except the sysadmin password.
user	password	Used for administration of some features included in the application
ftpuser	changemetoo	Used to access the FTP area on the product.

### 2.3.2 ADMINISTRATION

The Advanced Configuration page requires the sysadmin/admin account. The page can be reached directly by entering “xxx.xxx.xxx.xxx/admin” in a web browser, where xxx.xxx.xxx.xxx is the product's IP address. The Advanced Configuration page can also be accessed by clicking the “Configuration” button on the Start page and then selecting Other Settings > Advanced Configuration.

All configurations can be set and changed on the Advanced Configuration page, such as system setup, changing passwords, etc. This page also contains troubleshooting and detailed configuration of interfaces etc.



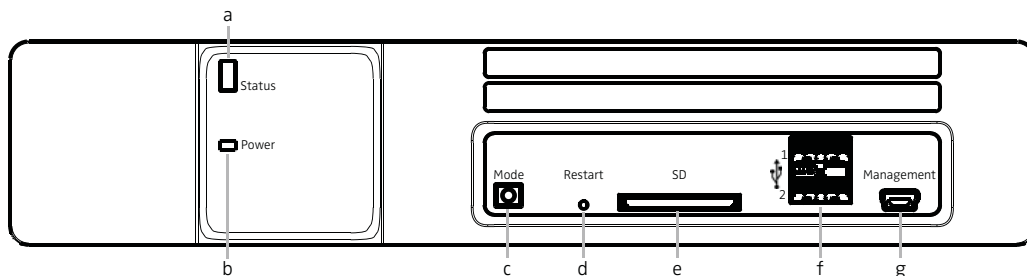
### 3. DESCRIPTION

The front side of the product's hardware has different status indications and is used for maintenance. The LEDs indicate the status of the product and the management port makes it possible to have direct connection to the product. It also has an SD card slot and two USB ports for use with external temporary devices.

The rear side is used for connecting supply voltage, communication to supplementary Ascom systems, external systems, inputs/outputs etc.

#### 3.1 OVERVIEW OF CONNECTORS, BUTTONS AND LEDS

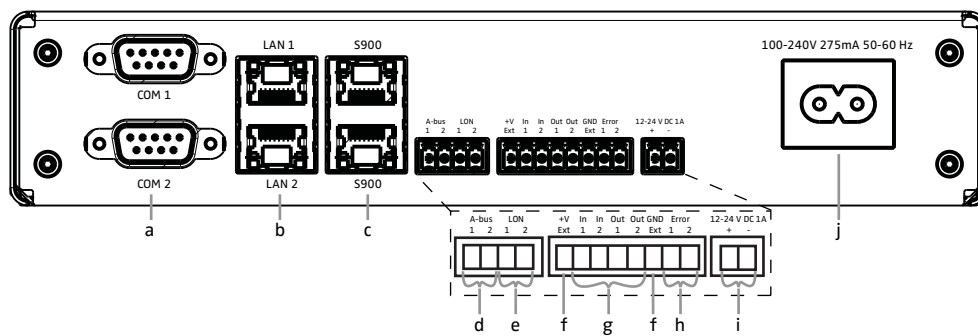
Figure 1. Front side



##### Front side

- (a) Status LED  
Indicates the product status
- (b) Power LED  
Indicates the power status
- (c) Mode button  
Used as a momentary push button with a blue LED. Used for placing the product into specific modes by different push patterns.
- (d) Restart button  
A hole button that requires a paper clip (or similar) to be able to push. Used for performing controlled restart and forced restart.
- (e) SD card slot  
Used for Module Redundancy
- (f) USB ports  
Used for upgrading of the Boot software on the field.
- (g) Management  
Mini-USB port for device management

Figure 2. Rear side



### Rear side

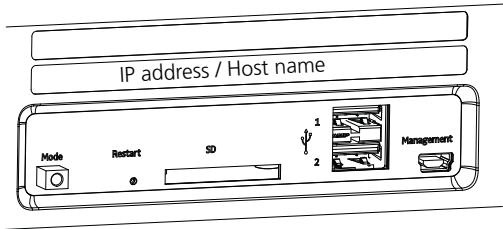
- (a) Serial (COM) connections:  
2 × RS232 (D-sub-9 male connectors), used for external interfaces (ESPA, Ascom Line protocol, and TAP)
- (b) LAN:  
2 (One is not used) × 10baseT or 100baseT Ethernet (Modular jack, RJ45)
- (c) S900 connections:  
Modular jacks (RJ45) used for connection of A-bus from System 900 with modular system bus cabling.
- (d) A-bus:  
Screw connector for connection of A-bus from System 900 when modular system bus cable is not used.
- (e) LON connections:  
Not used
- (f) V+ Ext/GND Ext connections  
External 12 V power supply to provide galvanic isolation of the inputs and outputs, see below.
- (g) AUX In and AUX Out:  
2 × galvanically isolated open collector AUX outputs, 100 mA, 30 V DC  
2 × digital AUX inputs
- (h) Error relay connection:  
Used for connection of a lamp/siren used to indicate if the product is malfunctioning.
- (i) 12-24 V DC connection:  
Used for connection of external backup battery/power supply
- (j) 100-240 V AC:  
Used for connection of supply voltage.

## 3.2 LABEL FOR IP ADDRESS/HOST NAME

To facilitate future support and access to the module, the product's IP address or Host name can be printed on a blank label and attached as shown in [Figure 3](#).

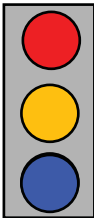
The blank label is found on the back side of the Getting started document: “Elise3 – EMBEDDED LINUX SERVER INCLUDING SAFETY INFORMATION”, included in the delivery.

Figure 3. Label for IP address or host name












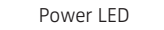








3.3 LED INDICATIONS




The LEDs show different colors to determine type of information and have different flashing frequency for showing the priority.




Colors		
	Red	Fault indication
	Yellow	Mode indication
	Blue	Normal operation (OK)

Flashing patterns

Figure 4. LED indications

Status LED			
Status OK	Blue		
Starting up/shutting down	Blue		
Feedback (1 sec.)	Blue		
Error/fault	Red		
Warning	Red		
Boot mode	Yellow		Mode LED
Demonstration mode	Yellow		Blue 
Active module during synchronization	Red		Blue 
Active module synchronized	Blue		Blue 
Standby module during synchronization	Yellow		Blue 
Standby module synchronized			Blue 
Waiting for automatic startup (1 min.)	Yellow		
Troubleshoot mode and during firmware upgrade	Yellow		
Mass storage mode			Blue 

Secured settings		Status LED	Mode LED
Indicates that manual confirmation is required		Blue	
Confirmation is done and settings can be activated	Yellow		Blue 

Power		Power LED
Power OK	Blue	
Closing down caused by low voltage	Red	
Low voltage*	Red	

\* also used if the Power parameter conflicts with the actual setup.

## 3.4 OPERATING MODE

Besides normal operation the product can be operated in three other modes, that is, Boot Mode, Demonstration Mode and Troubleshoot Mode.

### 3.4.1 NORMAL OPERATION

All configuration and settings for the product's software, such as maintenance, software upgrade and troubleshooting, are performed in the web user interface described in the product's user documentation.

### 3.4.2 BOOT MODE

If the software cannot be accessed, the product can be set in Boot Mode from the web user interface. From this interface, it is possible to install new software, start Troubleshoot Mode, see settings and to reset the module back to factory default settings<sup>1</sup>.

Placing the product in Boot Mode is performed manually by the user but if the product detects several major errors the module can place itself in Boot Mode.

1. Network settings such (IP address, Host name, etc.) will not be changed when resetting back to factory default.

See [5. Working in Boot Mode](#) on page 25.

### 3.4.3 DEMONSTRATION MODE

Demonstration Mode makes it possible to run the product's software for two hours with full or almost full functionality, with or without a valid license. Exact functionality is software dependent. For more information about the functionality during demonstration mode, see the product's documentation. See [6. Demonstration Mode](#) on page 28.

### 3.4.4 TROUBLESHOOT MODE

Troubleshoot Mode makes it possible to troubleshoot the system and access log files when it is impossible to access and troubleshoot in the software running on the hardware, i.e. in Troubleshoot Mode no application is started.

Troubleshoot Mode is started from the Boot Mode GUI, see [8.1 Troubleshooting from Boot Mode](#) on page 32.

## 4. INSTALLATION AND CONFIGURATION

The hardware can be mounted vertically on a wall or be placed horizontally in a 19" rack. It must be fixed by screws or other fixtures to the wall or rack, and must not be easily movable.

Figure 5. Recommended installation and configuration procedure



### 4.1 MOUNTING

#### 4.1.1 ENVIRONMENTAL

The hardware shall be placed in an environment with an ambient temperature between 0°C to +40°C (32°F to 104°F). Relative humidity: 30 - 85% RH (non condensing).

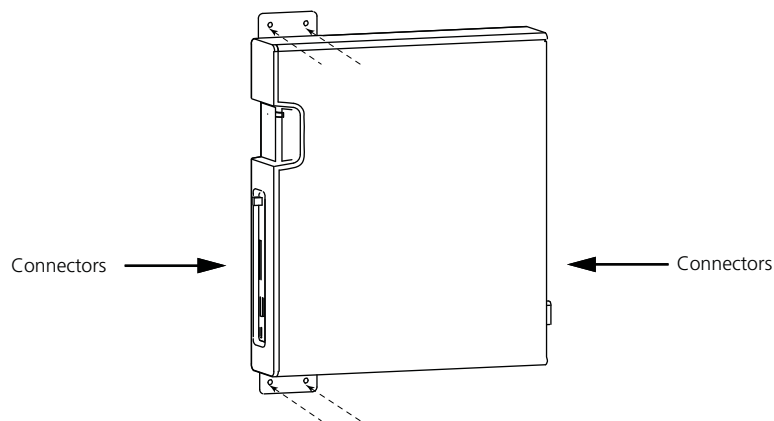
#### 4.1.2 WALL MOUNTING

Four screws size 3.5×40 mm (0.14×1.6 in) together with four wall plugs and four screws size M3×6 mm (0.12×0.24 in), are delivered with the product. The M3×6 screws are used for attaching the assembly brackets to the module. Use the 3.5×40 mm (0.14×1.6 in) screws for walls made of wood. For walls made of concrete and bricks use them together with the wall plugs. For other types of walls use suitable screws and plugs according to wall material.

**IMPORTANT:** When mounted on a wall, it is of great importance that the connections are located in a vertical plane.

- 1 Fasten the supplied assembly brackets on the bottom side of the hardware.
- 2 Use the supplied screws and wall plugs (or other suitable screws and plugs dependent on wall material) and mount the hardware as shown in [Figure 6](#).

Figure 6. Mounting on a wall



#### 4.1.3 RACK MOUNTING

The hardware can be either front mounted or reverse mounted in a 19" rack. Accessories for mounting in a rack (ordered separately).

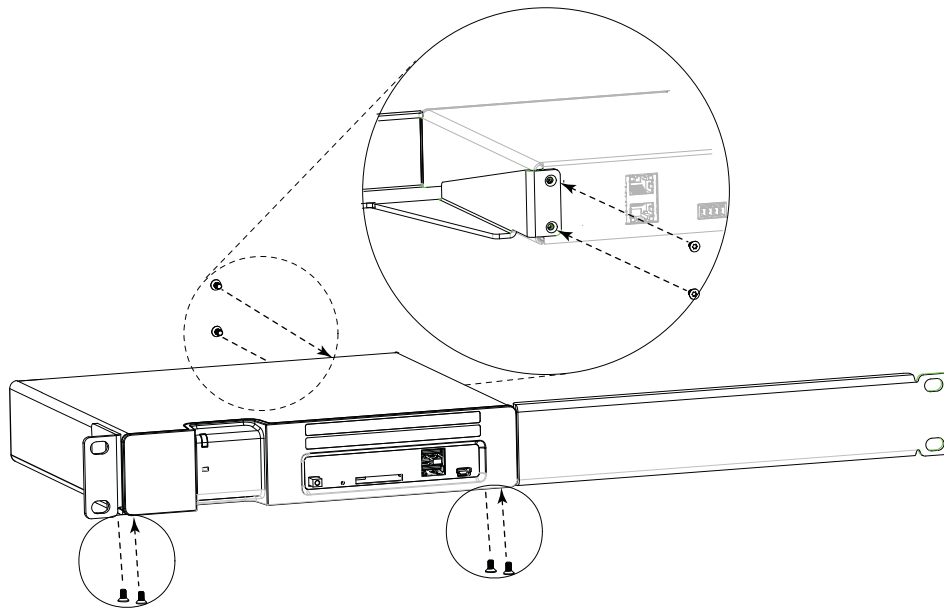
Item No.	Rack
660324	Standard 19" rack kit: Small left/right brackets for two front mounted hardware and one big bracket for one front mounted hardware.
660325	Reverse 19" rack kit: Small left/right brackets for two reverse mounted hardware and one big bracket for one reverse mounted hardware.

NOTE: Screws for fastening the assembly brackets in the rack are not included in the delivery.

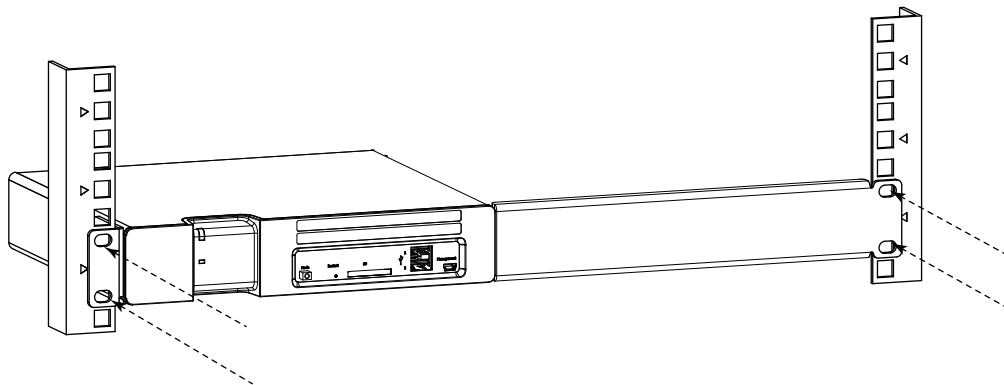
##### Front mounted single

Front mounting a single hardware requires the standard 19" rack kit.

- 1 Fasten the big assembly bracket on the right side of the hardware and the small assembly brackets on the left side, as shown in the figure below.



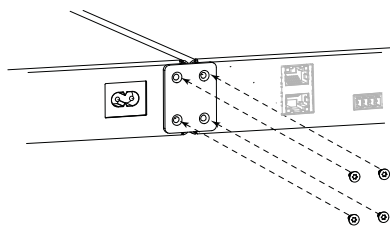
- 2 Fasten the assembly brackets in the rack as shown in the figure below (screws not included).



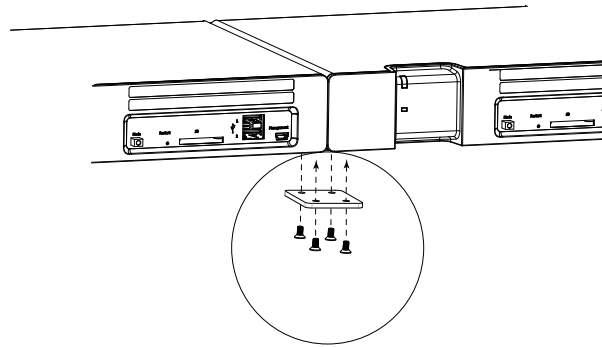
### Front mounted double

Front mounting of double hardware requires the standard 19" rack kit.

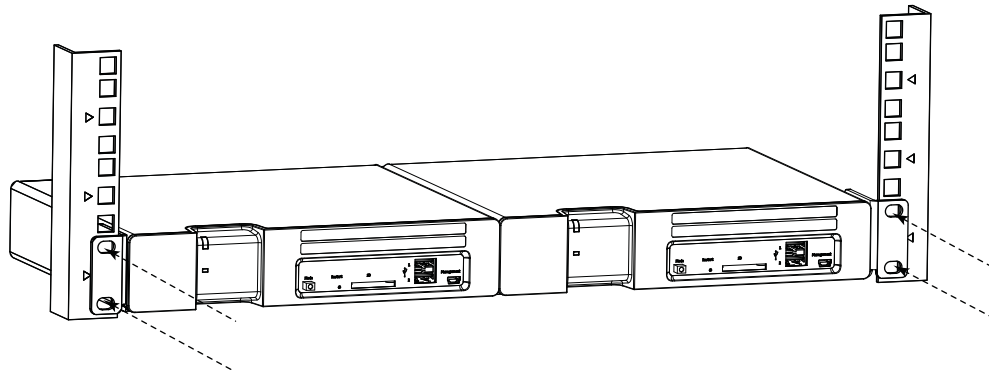
- 1 Use the supplied assembly brackets and fasten the two hardware together, both on the rear side and on the bottom side, as shown in the figures below.







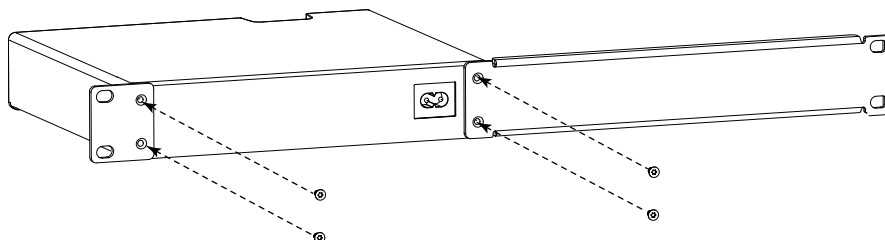
- 2 Use the two small standard assembly brackets and fasten one on the right front side and the other on the left front side.
- 3 Fasten the assembly brackets in the rack as shown in figure below (screws not included).



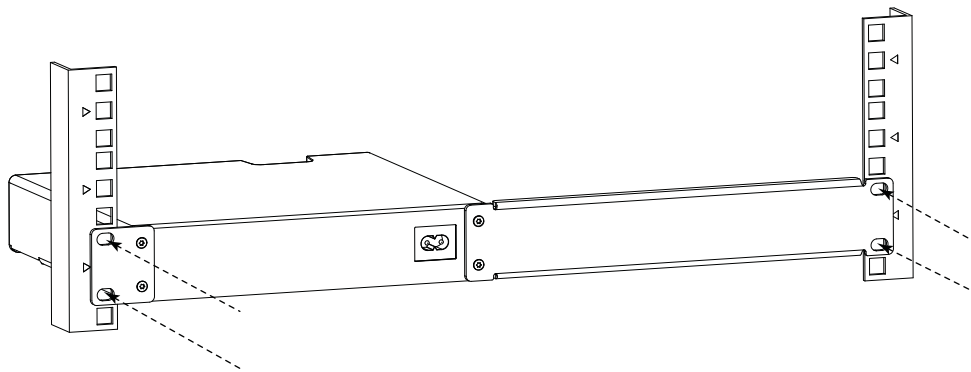
### Rear mounted single

Rear mounting of single a hardware requires the reverse 19" rack kit.

- 1 Fasten the big assembly bracket on the right side of the hardware and the small assembly brackets on the left side, as shown in the figure below.



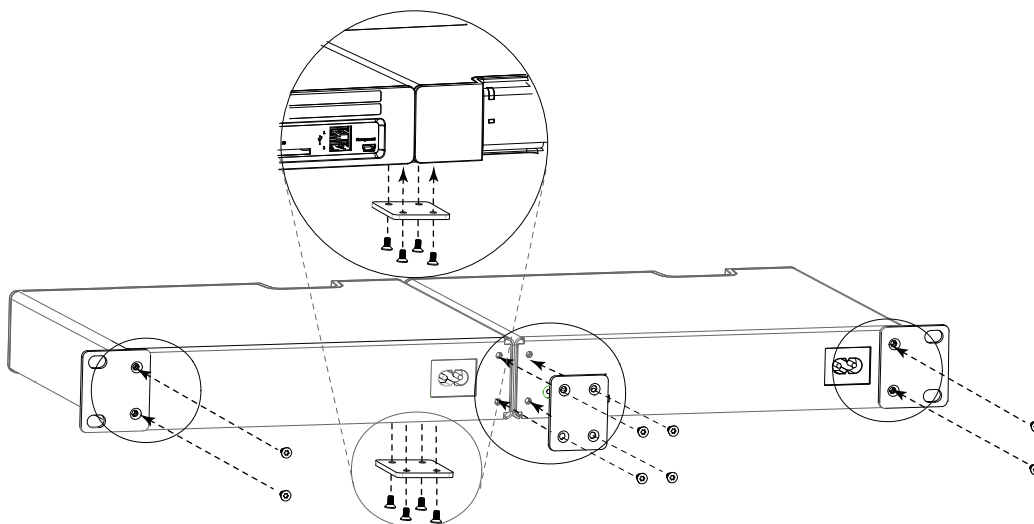
- 2 Fasten the assembly brackets in the rack as shown in the figure below (screws not included).



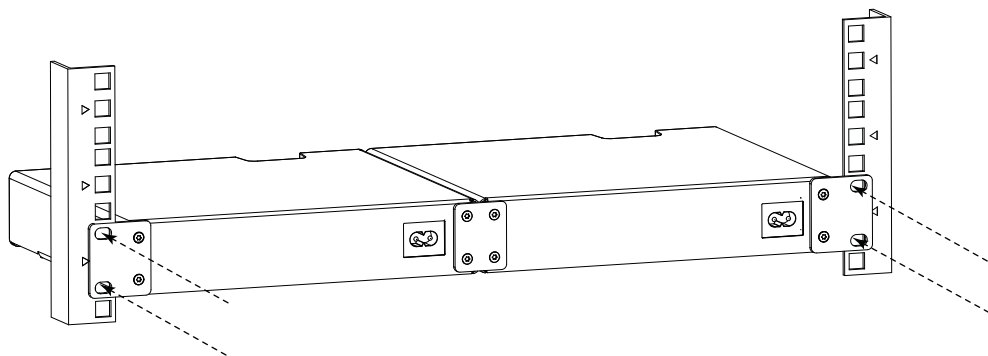
### Rear mounted double

Rear mounting of double hardware require the reverse 19" rack kit.

- 1 Use the supplied assembly brackets and mount the two hardware together, both on the rear side and on the bottom side as shown in figure below.



- 2 Use the two small reverse assembly brackets and fasten one on the right rear side and the other on the left rear side.



## 4.2 SUPPLY VOLTAGE

The hardware can be connected to an external power supply (12-24 Vdc battery or power source) as a complement to the primary power supply (100-240 Vac). If the primary power supply fails it switches over to the external power supply automatically, without any negative influence on the running application. If an external battery is used, a current is fed to the battery to recharge it continuously.

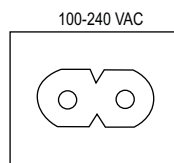
NOTE: 24 hours backup requires a 12V battery with at least 4.8 Ah.

### IMPORTANT

- For installation on ships the 12 - 24 Vdc input should be used to meet the regulatory requirements for safety and EMC.
- To meet the regulatory requirements for EMC alone, the 12 - 24 Vdc input should be used on deck, bridge and in special power distribution zones while 100 - 240 Vac input can be used in general power distribution zones.

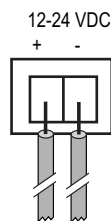
### Primary power supply 100-240 Vac

Connect supply voltage to the 100-240 Vac jack, see figure below.



### External power supply 12-24 Vdc

Connect the external power supply to the 12-24 Vdc screw connector, see figure below.



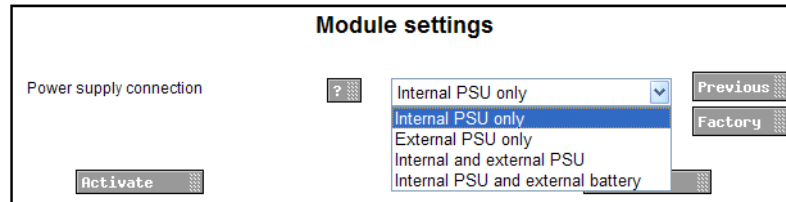
#### 4.2.1 CHANGE POWER SUPPLY PARAMETER

The hardware is default configured to use the primary power supply (100-240 Vac). When connected to an external DC power supply, this must be configured in the application installed on the hardware. If the parameter setting conflicts with the actual setup, the Power LED will indicate with slow flashing red light.

IMPORTANT: Select the Internal PSU and external battery setting only if an external battery is used. If an external PSU is configured as a battery, it might result in damages to the PSU.

- 1 Click "Configuration" on the Start page.

- 2 Select Other Settings > Advanced Configuration in the menu on the Configuration page.
- 3 Select Power supply in the menu on the Advanced Configuration page.



- 4 Select setting in the drop-down list (Internal PSU only, External PSU only, Internal and external PSU or Internal PSU and external battery).
- 5 Click "Activate".

## 4.3 CONNECTIONS

### 4.3.1 COM PORTS (RS232 COMMUNICATION WITH EXTERNAL EQUIPMENT)

The hardware has two identical RS232 connectors; COM1 and COM2. How to connect external equipment to the hardware is described in the product's documentation.

### 4.3.2 ETHERNET (LAN) PORTS

The hardware has two 10baseT/100baseT Ethernet modular jacks (RJ45) but only the jack marked 1 is currently in use.

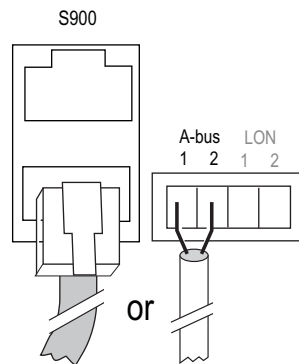
**IMPORTANT:** Shielded Ethernet cables should be used for installation on trains to meet the regulatory requirements for railway equipment.

### 4.3.3 S900/A-BUS CONNECTION

The hardware can be connected to Ascom Paging System, Alarm modules, and Output modules; either via modular system bus cabling or via twisted-pair lines to 1 and 2 on screw connector A-bus.

The hardware has two modular jacks (RJ45) marked S900 for connection of Ascom Paging System/modules via modular bus cabling. If modular bus cabling is not used, connections are made with twisted pairs to 1 and 2 on screw connector A-bus.

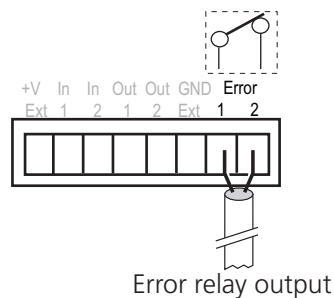
Figure 7. Modular jacks for system bus and screw connectors for twisted pairs



#### 4.3.4 ERROR RELAY OUTPUT

A relay output is used to indicate product malfunction and to indicate errors. Connections are made with twisted pairs to 1 and 2 on screw connector.

Figure 8. Error relay



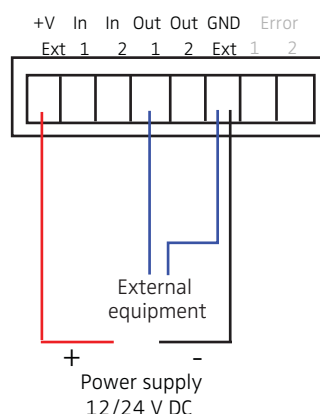
When the product is working properly the relay is closed. If the product is malfunctioning, the relay releases to activate the error relay output. Any equipment (e.g. a lamp) connected to the error relay output is triggered (e.g. the lamp is turned on) if the product is malfunctioning. At power up or restart the relay is released until the applications on the product are working properly.

#### 4.3.5 AUX CONNECTIONS

Two digital inputs and two digital outputs can be connected. The outputs are of open-collector type and the output signals are dimensioned for 100 mA at 12 Vdc/24 Vdc.

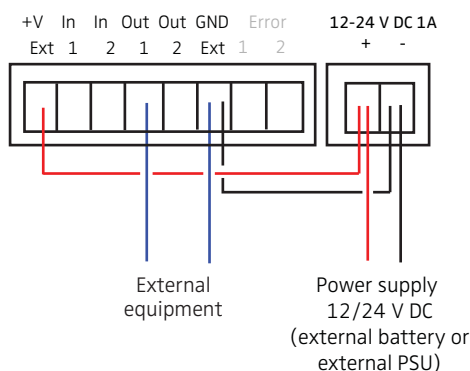
Galvanic isolation of the inputs and outputs is provided by using a separate power supply, see [Figure 9](#).

Figure 9. Example of AUX output with galvanic isolation



If galvanic isolation is not needed and the hardware is supplied by an external 12 Vdc/24 Vdc power source, the supply voltage can be taken from the 12-24 Vdc screw connector by connecting +V Ext to “+” and GND Ext to “-”, see [Figure 10](#).

Figure 10. Example of AUX output without galvanic isolation and external 12/24 Vdc power supply/battery.



The inputs In 1 and In 2 are active when they are connected to 12 Vdc/24 Vdc.

## 4.4 ACCESSING PRODUCT

The product can be accessed either via an IP network or directly via the management port (mini-USB). A web browser is used for accessing the product's web interface.

### 4.4.1 ACCESS VIA NETWORK

It is recommended that the product always gets the same IP address if it communicates with other equipment, to prevent it from losing contact with the equipment after a restart. Inform the network administrator about the MAC address and ask to reserve a fixed IP address via DHCP for this product. Write the IP address on the blank label, found on the back side of the Getting Started document and attach the label on the front side to facilitate future access. See [3.2 Label for IP Address/Host Name](#) on page 7.

NOTE: If NetBIOS is enabled in the network, the address elise-XXXXXXX can be used when accessing the product via the network, where XXXXXXX is the module key number. The module key number can be found on the license certificate or on the label on the back of the hardware.

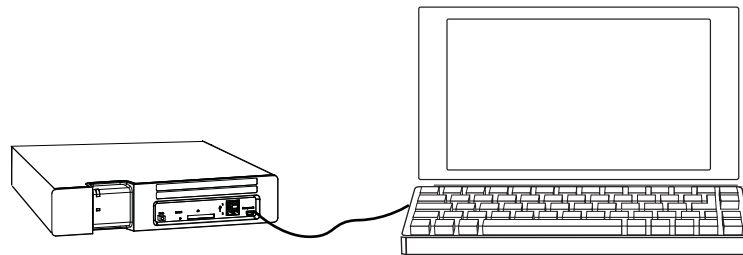
Pre-condition: You have access to the network that product is attached to. If not, see [4.4.2 Access via Management Port](#) on page 20.

- 1 Connect the module to the LAN.
- 2 Enter the product's IP address or elise-XXXXXXX, where XXXXXXX is the module key number (leading zeros can be excluded).
- 3 Continue in [4.5 Basic Configuration](#) on page 23.

#### 4.4.2 ACCESS VIA MANAGEMENT PORT

The management port can be used when product has not got a valid and unique IP address or when the IP address has been changed, i.e. if product has been moved from one network to another. It gives access to the product without having access to the customer's network.

Figure 11. Connection via Management port



NOTE: The reserved IP address for accessing product via the management port is "192.5.36.229". Additionally, a port driver needs to be installed on your computer to get access via the management port. The driver is located on the product.

The default mode for the management port is Network access but Mass storage is used to get the required driver for the product. When set to Mass storage, the product will automatically change to Network access within 10 minutes. By pressing the Mode button twice, the Management port toggles from Network access to Mass storage and the other way around.

The Mass storage mode is only used when the driver, required for accessing the product via the management port, shall be installed. This is only needed the first time the computer is used for this purpose.

- 1 Connect a mini-USB type B cable between the USB port on your PC and the management port on the module.

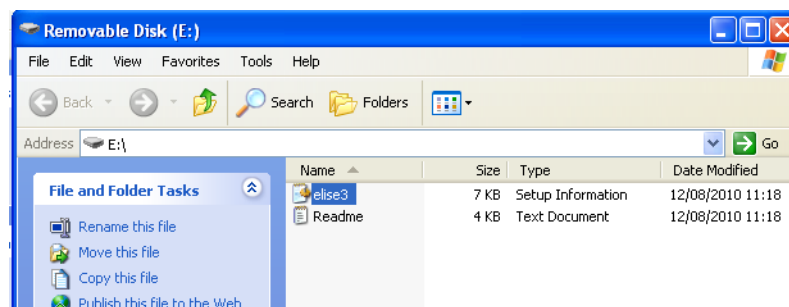
NOTE: If the required port driver is not installed on the computer, install it now. The installation differs dependent on the operating system, see either [Install the Port Driver on Windows Vista](#) or [Install the Port Driver on Windows 7](#).

- 2 Enter the IP address "192.5.36.229" in a web browser on your computer to access the product's web interface.
- 3 Continue in [4.5 Basic Configuration](#) on page 23.

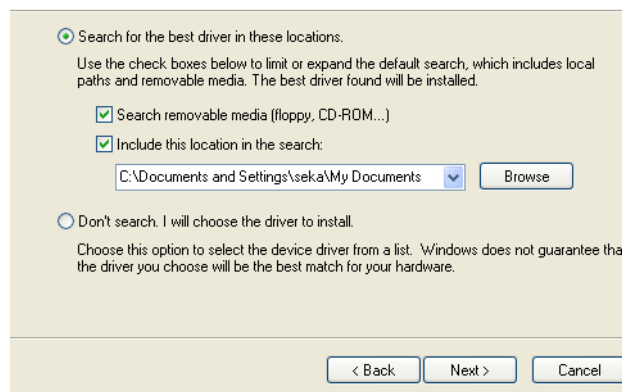
## Install the Port Driver on Windows Vista

NOTE: When switching between mass storage mode and network mode, it takes about 30 seconds before the product can be accessed with the 192.5.36.229 address.

- 1 Connect a mini-USB type B cable between the USB port on your computer and the management port on the product.  
The Found new hardware wizard opens but at this stage there is no valid port driver so close the wizard and continue to install the driver.
- 2 Press the Mode button twice to change the mode to mass storage.  
The module will now turn up as a mass storage device on your computer. This is indicated by slow flashing blue light ■ ■ ■ ■ on the Mode button LED.
- 3 Locate the required “elise3.inf” driver and save it on your computer.



- 4 Press the Mode button twice again to change the mode to network access.  
The Found new hardware.... dialog window opens.
- 5 Select “No, not this time” and click “Next”.
- 6 Select “Install from a list or specific location (Advanced)” and click “Next”.
- 7 Select “Search for the best driver in these locations”.
- 8 Select the “Include this location in the search:” check box.
- 9 Browse to the folder where the port driver is saved.



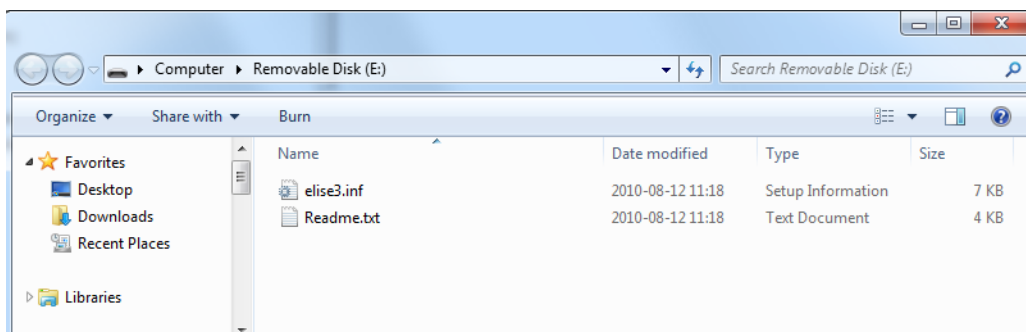
- 10 Click “Next”. The installation of the port driver begins. If a message opens, saying the software has not passed Windows Logo testing, click “Continue Anyway”.
- 11 Click “Finish”.



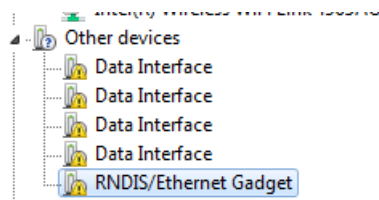
## Install the Port Driver on Windows 7

NOTE: When switching between mass storage mode and network mode, it takes about 30 seconds before the product can be accessed with the 192.5.36.229 address.

- 1 Connect a mini-USB type B cable between the USB port on your computer and the management port on the product.  
The Found new hardware wizard opens but at this stage there is no valid port driver so close the wizard and continue to install the driver.
- 2 Press the Mode button twice to change the mode to mass storage.  
The module will now turn up as a mass storage device on your computer. This is indicated by slow flashing blue light ■ ■ ■ ■ on the Mode button LED.
- 3 Locate the required “elise3.inf” driver and save it on your computer.

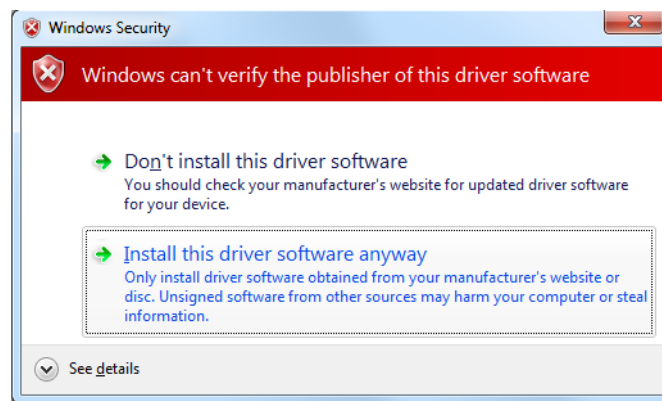


- 4 Press the Mode button twice again to change the mode to network access<sup>1</sup>.
- 5 Select Control Panel > Hardware and Sound.
- 6 Select “Device Manager” under Devices and Printers.

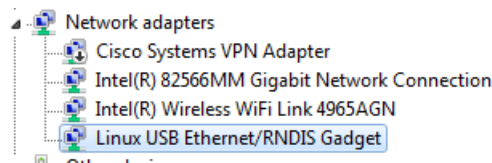


- 7 Right click “RNDIS/Ethernet gadget” and select “Update driver software”. A new window opens.
- 8 Click “Browse my computer for driver software”.
- 9 Browse to the folder where the port driver is saved and click “Next”. A Windows security window opens.

1. If not pressed within 10 minutes the product will automatically change to Network access (default mode).



- 10 Click "Install this driver software anyway". The installation of the port driver begins.
- 11 Click "Close" when the installation has finished.
- 12 The port driver "Linux USB Ethernet/RNDIS Gadget" is now installed in Control Panel > Hardware and Sound > Devices and Printers > Device manager > Network adapters



## 4.5 BASIC CONFIGURATION

The product needs to be configured with basic settings. Some settings can be set in the Setup Wizard accessible from the web interface. The Setup Wizard starts automatically the first time the product is accessed from the web browser and every time until the configuration has been saved. Follow the wizard and fill in the required data (IP address, NTP server, license etc.). After it has been saved the wizard can always be opened from the Start page. Other settings are set from the product's configuration page and are described in the product's manual.

### 4.5.1 SETUP VIA SETUP WIZARD

- 1 Access the product either via the network or via the management port, see [4.4 Accessing Product](#) on page 19.
- 2 Enter user name "admin" and the password "changeme".
- 3 Complete the Setup Wizard.

NOTE: If the product's network IP address has not been assigned by an DHCP server, it must be set manually in the wizard. If manually set, the IP address 192.5.36.229 cannot be assigned to the product when it is connected to the LAN. That IP address is reserved for accessing the product via the management port only.

- 4 Select "Restart immediately" when the setup wizard has finished.  
The product will restart with the new configuration.

#### 4.5.2 CHANGE SECURED SETTINGS

To be able to activate some security settings it is required that someone physically confirms the changes on the product. This is a security feature due to the remote access (LAN or VPN) ability on the product. The product is often locked in some kind of secured area that only approved users have access to (such as the server room).

When clicking the "Activate" button for a secured setting the web user interface will prompt the user to confirm the secured change by pressing the Mode button on the module. The product's Mode button LED indicates that a confirmation is needed with a quick flashing blue light ■■■■■.

- 1 Push the Mode button. The Mode button LED stops flashing and indicates that confirmation has been done with fixed yellow light on the status LED and fixed blue light on the mode button.



- 2 Click the "Activate" button to save the secured setting.  
The possibility to save secured settings is open for 10 minutes after the Mode button has been pressed or until the user manually exits the mode by clicking the Mode button once more.

#### 4.5.3 CLOCK SYNCHRONIZATION AND TIME SETTINGS

When several products are used in a system, the clocks in the products can be synchronized by using a time server. One product can be used as time server, or an external time server supporting the Network Time Protocol (NTP) can also be used.

To select time source do as follows:

- 1 Enter "xxx.xxx.xxx.xxx/admin" (xxx.xxx.xxx.xxx is the IP address of the product) in a web browser to access the Advanced Administration page.
- 2 Click "Settings" in the left menu.
- 3 Select time source to be used.
- 4 Click "Activate".

## 5. WORKING IN BOOT MODE

If the software installed on the product cannot be started, the Boot Mode can be used for installing new software, see settings, performing factory reset, troubleshooting and also starting up in normal operation again. If the product detects several major errors (for example restart loop), the product can set itself in Boot Mode.

### 5.1 SET PRODUCT IN BOOT MODE

The description below starts with a controlled restart. The operation takes approximately 5 minutes.

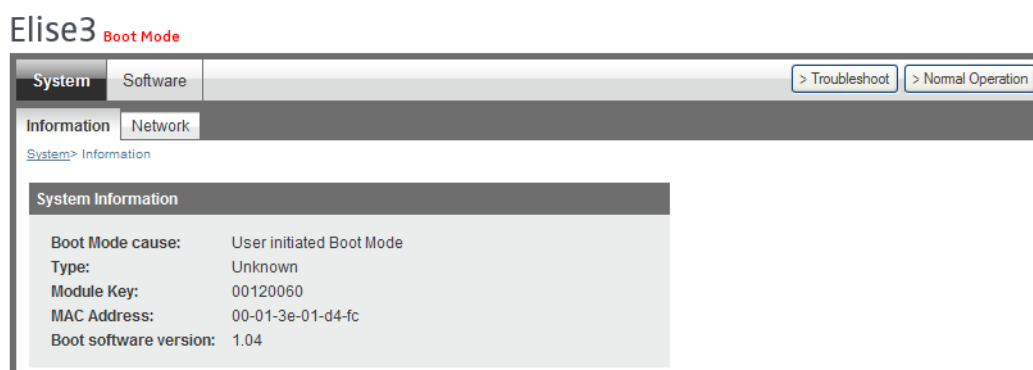
- 1 Press the Restart button and release it within 4 seconds (use a paper clip or similar).  
The status LED will first indicate shutting down with quick flashing blue light ■■■■■ and then “waiting” with flashing yellow light ■■■■■.
- 2 Wait for one minute until the status LED indicates starting up with quick flashing blue light ■■■■■, then press the Mode button.  
The Mode button LED will lit and show fixed blue light ■■■■■.
- 3 Then wait until the status LED changes to quick flashing yellow light ■■■■■, which indicates that the module has started in Boot Mode (after approximately one minute).
- 4 Enter the product’s IP address in a web browser.

If this operation does not work, pressing the mode button after an initiated forced restart can be used as a last resource, see [7.2.2 Forced Restart](#) on page 30.

#### 5.1.1 SYSTEM INFORMATION

Under System > Information the reason for why the product is in Boot Mode, the module key number, MAC address, Boot software version, etc. are shown.

Figure 12. System information in Boot Mode.



### 5.1.2 NETWORK SETTINGS

Under System > Network the network settings are shown. All network settings can be edited in this view if DHCP is disabled, but only the Host name if DHCP is enabled.

NOTE: The IP address 192.5.36.229 cannot be assigned to the product when it is connected to the LAN. That IP address is reserved for accessing the product via the management port only.

Figure 13. System network settings in Boot Mode.

The screenshot shows the 'Elise3 Boot Mode' web interface. At the top, there are tabs for 'System' and 'Software', with 'System' selected. Below these are sub-tabs for 'Information' and 'Network', with 'Network' selected. The main content area is titled 'Network Settings'. It features a 'DHCP' section with 'Enabled' selected (radio button) and 'Disabled' as an option. Below this are several input fields, each with a help icon (question mark): 'Host Name' (containing 'Elise'), 'IP Address' (containing '172.20.13.84'), 'Subnet Mask' (containing '255.255.248.0'), 'Default Gateway' (containing '172.20.8.1'), 'Domain Name' (containing 'ascom-ws.com'), 'DNS Server' (containing '172.20.8.101'), and 'WINS Server' (containing '172.20.8.145'). At the bottom of the settings area, there is a note: 'Ask the network administrator for the appropriate settings. Note: An erroneous setting may cause disturbance on the network.' and two buttons: 'Save' and 'Cancel'.

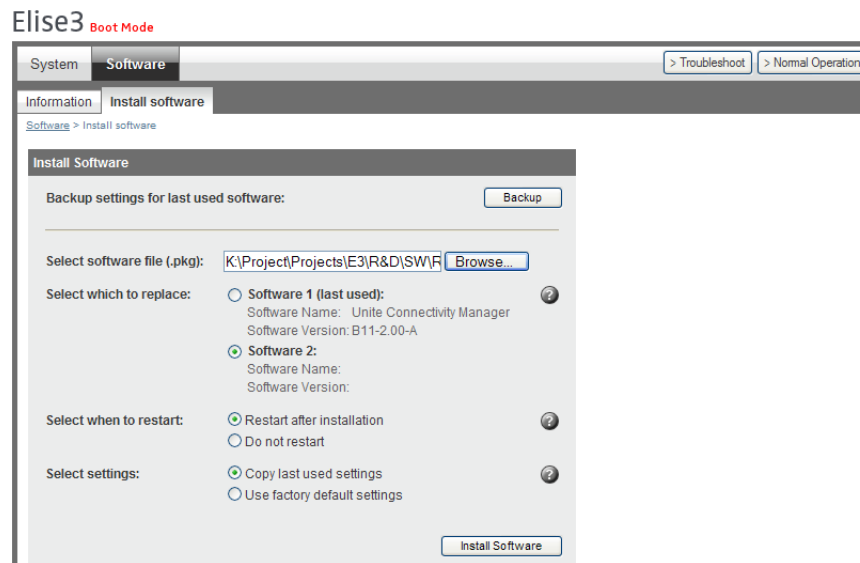
### 5.1.3 INSTALL SOFTWARE IN BOOT MODE

Installing new software is normally done from the product's web interface, refer to the product documentation. But if the web interface cannot be reached it is possible to put the product in Boot Mode, access the product web interface and install new software from there.

NOTE: It is not recommended to use the product's Management port when installing software.

Two software versions can be installed on the module. One software version is active and the other inactive in normal operation.

Figure 14. Software installation in Boot Mode



- 1 Set the product in Boot Mode, see [5.1 Set Product in Boot Mode](#) on page 25.
- 2 Select Software > Install software.
- 3 Click the “Browse...” and locate the software (.pkg) file to install.
- 4 Select where to save the software. If two versions of the software already have been installed on the module choose which software to replace.
- 5 Select if the product shall be restarted after the installation or not.
- 6 If “Restart after installation” is selected, choose if the last used settings or the factory default settings shall be applied on the new software.  
If you choose “Do not restart”, you can later, when returning to normal operation, choose and apply settings to software that is installed but not yet started.

NOTE: If current parameters cannot be used, i.e. if software of another type has been installed, factory default parameters will always be used.

- 7 Click the “Install Software” button.
- 8 If “Do not restart” is selected a dialog window is shown. Click “OK”.



#### 5.1.4 RETURN TO NORMAL OPERATION

- 1 Click “Normal Operation”.
- 2 Select which software to start and click “OK”.
- 3 Select which settings to use for the software and click “OK”. The product will restart and return to normal operation.

## 6. DEMONSTRATION MODE

The Demonstration Mode can be set when the module is running in normal operation, either via the product's web interface or manually by using the Mode button.

Press and hold the Mode button for 10 seconds.

Demonstration Mode is indicated by the Status LED with slow flashing yellow light  and by the Mode button LED with fixed blue light .

The module will automatically return to the previous license and parameters (without restart) after 2 hours.

Exiting before the 2 hours have passed, is done from the product's web interface, refer to the product documentation. Restarting the Demonstration Mode after exiting, can be done from the product's web interface after a delay of 10 minutes, but an immediate restart can be done by using the Mode button.

## 7. MAINTENANCE

### 7.1 SOFTWARE MANAGEMENT

#### 7.1.1 INSTALLATION OF SOFTWARE

Normally the installation of software is done from the product's web interface but it can also be done in Boot Mode, see [5.1.3 Install Software in Boot Mode](#) on page 26.

#### 7.1.2 CREATE BACKUP OF SOFTWARE SETTINGS

Normally the backup is done from the product's web interface but it can also be done in Boot Mode.



Set the product in Boot Mode, see [5.1 Set Product in Boot Mode](#) on page 25.


- 1 Select Software > Install software.
- 2 Click "Backup". All settings for last run software will be saved.
- 3 Click "Save" in the File Download window.
- 4 Select where to save the file and click "Save" again.


#### 7.1.3 FIELD UPGRADE OF BOOT SOFTWARE


By using a USB memory stick with a Boot software (autoupdate.bin), the product can be upgraded on the field.

- 1 Insert the USB memory stick in the upper USB connector marked 1.
- 2 Perform a controlled restart via the Restart button, by pressing the button and releasing it within 4 seconds.

The Status LED indicates shutting down with quick flashing blue light . Before starting up again, the Status LED will indicate "waiting" for one minute with flashing yellow light .

- 3 When the Status LED indicates starting up with quick flashing blue light , press the Mode button within 3 seconds.

The Mode button should indicate by showing fixed blue light .

The module now detects the memory stick and begins the upgrade process which is indicated by the Status LED with fixed yellow light . The upgrading process takes 7-8 minutes.

After the upgrade process has finished, the product will continue and start up the last used software. The complete operation can take up to 10 minutes.

To verify a successful upgrade, you can put the USB stick back in your computer and open the file autoupdate.log. In the end of that file, you should then see the text "Upgrade finished successfully".

NOTE: If the USB memory stick contains faulty Boot software, the module will start up in Boot Mode.



## 7.2 RESTARTING THE PRODUCT

### 7.2.1 CONTROLLED RESTART USING RESTART BUTTON

When a controlled restart is performed via the Restart button, all ongoing jobs on the product ends in a controlled way and everything is logged. When the product has shut down, the user can unplug the power cable or wait one minute for the product to automatically start up again. During startup, there is a delay for three seconds where the user is able to interact with the product and change to Boot Mode.

Use a paper clip or similar and press the Restart button and release it within 4 seconds. The Status LED indicates shutting down with quick flashing blue light ■■■■■. Before starting up again, the Status LED will indicate "waiting" for one minute with yellow light ■■■■■. Here the power cable can be detached.

If the power cable is not detached the module starts up automatically after one minute. The Status LED indicates starting up with quick flashing blue light ■■■■■.

Another form of a controlled restart can be performed via the GUI, but then the product will immediately start up again without the one minute delay and will not give you enough time to unplug the power cable.

### 7.2.2 FORCED RESTART

Forced restart is used as a last resort when the product does not respond at all.

When a Forced restart is performed, ongoing jobs are not finished (as in a controlled restart).

The product detects that a forced restart has been made and a voltage restart is performed. During startup, there is a delay for three seconds where the user is able to interact with the product to change to Boot Mode.

Use a paper clip or similar and press the Restart button for at least 5 seconds.

The power LED will turn off for a short time (3 seconds) and when it turns on again the Status LED indicates starting up with quick flashing blue light ■■■■■.

## 7.3 FACTORY RESET

Resetting the product's software back to factory default settings can be done from the product's web interface on the Configuration page under Software. Either by switching software or reinstalling software and selecting factory default settings.

Factory default settings can also be chosen from the Boot Mode's web interface when new software is installed or when returning to Normal Operation from Boot Mode, see [5.1.3 Install Software in Boot Mode](#) on page 26.

NOTE: Network settings (IP address, Host name, etc.) are not changed.

## 8. TROUBLESHOOTING

Troubleshooting is normally done by accessing the product's web interface to see logs, statistics etc. But if for some reason the application's web interface cannot be reached, it is possible to get access to the information by placing the product in Troubleshoot mode. See [8.1 Troubleshooting from Boot Mode](#) on page 32

Fault	Probable cause	Action or comment
Several functions of the software application on product does not start.	<ul style="list-style-type: none"> <li>– There is not a valid license</li> <li>– The module has been running for more than two hours in Demonstration mode.</li> </ul>	Check if the functions starts in Demonstration mode, if it does enter a valid license and restart the product.
The product has put itself in Boot Mode.	No software is installed or the installed software is malfunctioning.	Install new software
A LED shows slow or quick flashing red light		See <a href="#">3.3 LED Indications</a> on page 8
The product cannot be accessed via the management port.	<ul style="list-style-type: none"> <li>– The required port driver is not installed on the PC or for the USB port you have connected to (or not correctly installed).</li> <li>– The PC has not been given enough time to obtain an IP address from the DHCP server.</li> </ul>	<p>NOTE: The installation differs between Windows XP/Vista and Windows 7. Follow the instructions in chapter <a href="#">4.4.2 Access via Management Port</a> on page 20.</p> <p>When switching between mass storage mode and network mode, it takes about 30 seconds before an IP address is obtained from the DHCP server.</p>
The installation of the USB port driver has been successful, but you still cannot connect to your product via the USB network.		<p>Try the following. Open the Command Prompt and type:</p> <pre>route DELETE 192.5.36.229 arp -d 192.5.36.229</pre>
An external battery is connected but the Power LED shows slow flashing red light and in System status (under System Information in Troubleshoot Mode) the "Charge external supply" shows "off" even if the external battery voltage is shown in "External power supply".	The product does not charge the external battery.	The product does not charge the external battery if the battery voltage is below 8.0 Vdc or if the internal power supply voltage is less than 13.8 Vdc

## 8.1 TROUBLESHOOTING FROM BOOT MODE

Via the Troubleshoot button in the Boot Mode GUI, you get access to the product's web interface (no applications are running) and will be able to see logs and other information. When troubleshooting, it is always a good idea to examine the log files, since they provide additional information that may prove useful. When reporting an error to your supplier, always include the appropriate log file.

- 1 Enter Boot Mode, see [5.1 Set Product in Boot Mode](#) on page 25.
- 2 Click the "Troubleshoot" button.
- 3 Click "OK" in the Troubleshoot dialog window.

The system will restart in troubleshoot mode within approximately 5 minutes. The browser refreshes to the application's GUI automatically.

- 4 Access the product's Configuration page.
- 5 Select Other Settings > Advanced Configuration. You will now be able to perform troubleshoot actions and view system information, logs etc.

## 9. RELATED DOCUMENTS

Installation and Operation Manual, CPDM3