ONECell25
Installation Manual

February 2009

http://www.oneaccess-net.com

February 2009 Issue

How to Read this Manual

The present document is broken down into 7 chapters.

Chapter 1 – Safety Instructions

This chapter provides the safety instructions for use and installation of the router.

Chapter 2 – Directives and Standards

This chapter details the list of standards, which the device complies with.

Chapter 3 – Router Description

This section describes the router front and rear panels and the associated technical characteristics.

Chapter 4 – Interface Description

This section describes the router interfaces.

Chapter 5 – Technical Characteristics

This section describes technical characteristics such as operating conditions.

Chapter 6 - Installation

This chapter describes how to install SIM card and gives instructions to connect the router.

Chapter 7 – Power-up

This chapter describes the device power-up and how to monitor the self-test progress.

Chapter 8 – Getting Started

This chapter explains to connect to the web Configurator and main operations with the product.

Appendix – Connection description

These chapters provide the pin-out of cables that are compatible with the router.

Table of Contents

1   Safety Instructions

The following symbol instructs the user to read the manual carefully before any connection:

1.1   Connection to Power Supply

To connect the power supply, always follow these steps:

- Connect the DC input jack from the power supply to the DC 12V power input on the rear panel of the router,
- Connect the power supply to an AC electrical outlet (200-240 VAC). Plugging in the power supply turns on the router.

 Unplug the AC input before assembling/disassembling any part on the device. The AC input is the part you must disconnect first. For safety reasons, you shall be able to easily access this part.

1.2   Overcurrent Protection

The product requires that the building's electrical installation is designed for protection against short-circuit (over current) protection.

A fuse or circuit breaker no larger than 240 VAC, 10A must be used on the phase conductors.

1.3   Safety Level of Interfaces

1.3.1   LAN Interface 10/100 Mbps (FASTETHERNET)

This section is related to interfaces whose marking on the router back panel is: FASTETHERNET.

The Ethernet 100 Mbps auto-sense has a 'SELV' (Safety Extra Low Voltage) interface.

They must be used only for indoor applications, connected to a 100 Mbps interface, which has also the 'SELV' characteristics.

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The Ethernet interfaces of the ONECell25 only support the 100 Mbps full-duplex operations in auto-sense mode. If connected to devices in 10 mbps or half-duplex, the ONECell25 interface will not be connected. The problem can appear mostly with devices forced in such mode or with old Ethernet hub.

1.3.2   V.24 Interface (CONSOLE)

This sections is related to the interface whose marking on the router back panel is: CONSOLE

The interface is SELV. It must be used only for indoor applications and connected to V.24 interfaces, which are also designed as 'SELV'.

1.3.3   GSM Antenna

The antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

2   Directives and Standards

2.1   Declaration of Conformity

Déclaration de conformité suivant les directives R&TTE, DBT et CEM
Declaration of Conformity according to R&TTE, LVD and EMC directives

ONE_CELL25

Routeur et adaptateur de réseau / *Router and network adapter*

Tension d'alimentation / *Supply voltage* :   **200-240 Vac, 20 W, 50-60 Hz (12V – 1A)**

Nous déclarons que ce produit est présumé conforme aux exigences essentielles applicables des directives suivantes du Parlement Européen et du Conseil :
- la Directive R&TTE 1999/5/CE, du 9 mars 1999, concernant les équipements hertziens et les équipements terminaux de télécommunications et la reconnaissance mutuelle de leur conformité;
- la Directive Basse Tension 2006/95/EC du 12 décembre 2006 concernant le rapprochement des législations des Etats Membres relatives au matériel électrique destiné à être employé dans certaines limites de tension;
- la Directive CEM 2004/108/EC du 15 décembre 2004 relative au rapprochement des législations des États membres concernant la compatibilité électromagnétique et abrogeant la directive 89/336/CEE.

We declare that this product has been given a presumption of conformity with the applicable essential requirements of the following directives of the European Parliament and of the Council :
- *R&TTE Directive 1999/5/EC of march 9th 1999, on radio equipment and telecommunication terminal equipment and the mutual recognition of their conformity ;*
- *Low Voltage Directive 2006/95/EC of december 12th 2006, on the harmonization of the laws of Member States relating to electrical equipment designed for use within certain voltage limits;*
- *EMC Directive 2004/108/EC of december 15th 2004, on the approximation of the laws of the Member States relating to electromagnetic compatibility and repealing Directive 89/336/EEC.*

Nous déclarons que les normes harmonisées suivantes ont été utilisées pour démontrer cette présomption de conformité et ont donné lieu aux rapports de tests suivants, disponibles sur demande.

We declare that the following harmonised standards were used to demonstrate this presumption of conformity and the results are included in the following tests reports, which can be made available on request.

EN/IEC 60950-1 (2001) – First Edition
EN 55022 (1998)
EN 55024 (1998)
EN 300511 (1995-07)
EN 301489-1 (2007-04)
EN 301489-7 (2005-11)

Laboratoire GYL Technologie pour la Sécurité */ GYL Technologie for Safety.*
Laboratoire Gyl Technologie pour CEM */ Gyl Technologie Laboratory for EMC.*

Le produit est marqué du symbole « CE » en application des directives citées ci-dessus.
The product is marked with the « CE » symbol in accordance with the directives mentionned above.

Responsable autorisé / *Authorized signatory*   Directeur Général / *Chief Operating Officer*

_____
Nom / *Name* **: Denis BEHAGHEL**

2.2 Standards

The ONECell25 is designed in conformity with the standards listed hereafter, provided that the basic housing, modules, interface boards and installation kits are mounted as recommended in the corresponding installation manual(s).

Safety	
EN/IEC 60950-1: 2001, First Edition	Safety of information technology equipment, including electrical business equipment.

Environment:	
Climatic, physico chemical, mechanic, packing	
ETS 300 019-1	Environmental conditions and environmental testing for telecommunication equipment
	In use : Class 3.1- Temperature controlled locations
	Storage : Class 1.1 - Weather protected, partly temperature controlled storage locations
	Transportation : Class 2.3 – Public transportation

Electromagnetic Compatibility, immunity	
EN 55022	Information technology equipment – Radio disturbance characteristics- Limits and methods of measurement
EN 55024	Information technology equipment - Immunity characteristics - Limits and methods of measurement
EN 301 511	Harmonized EN for mobile stations in the GSM 900 and GSM 1800 bands covering essential requirements under article 3.2 of the R&TTE directive (1999/5/EC)
EN 301 489-01	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements
EN 301 489-07	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 7: Specific conditions for mobile and portable radio and ancillary equipment of digital cellular radio telecommunications systems (GSM and DCS)

Waste Electrical and Electronic Equipment	
2002/96/EC	The ONECell25 respects the European directive on the waste disposal from the electrical and electronics components.
Restricted use of Hazardous Substances (RoHS)	
2002/95/EC	The ONECell25 respects the European directive on the restricted use of Hazardous Substances in electric and electronic equipment.

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3   Router Description

3.1   Hardware Description

3.1.1   Motherboard Interfaces

The ONECell25 motherboard is equipped with the following interfaces. The interface marking is indicated in bold and between brackets.

- 1 console port (**CONSOLE**),
- 2 Ethernet port (LAN 100 BT) (**FASTETHERNET**)

The Ethernet interfaces of the ONECell25 only support the 100 Mbps full-duplex operations in auto-sense mode. If connected to devices in 10 mbps or half-duplex, the ONECell25 interface will not be connected. The problem can appear mostly with devices forced in such mode or with old Ethernet hub.

3.2   Front Panel

The front panel is provided with LEDS, which inform about the status of several router functions.

Figure 1.   Front panel

Leds	OFF	Green	Blinking green
Status	Router is switched Off	Switched On & Operational	Reboot in progress
EDGE	Not configured or connection not established	EDGE/GPRS connection established	Traffic on EDGE/GPRS
IP	Not used	All IP interfaces are up	At least one IP interface is down

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3.3   Rear Panel

This section details the various types of ONECell25 rear panel so that the user can identify the interface type and port numbering.

The interface marking is indicated in bold and between bracket.

All the connectors are located on the rear panel:

- 1 console port (RJ45) (**CONSOLE**),
- 2 Ethernet ports (RJ45) (**FASTETHERNET 1/0** and **FASTETHERNET 0/0**),
- 1 connectors for GSM antenna (**ANTENNA**),
- Input for the external power supply connector (DC input jack, **12V-1A**).
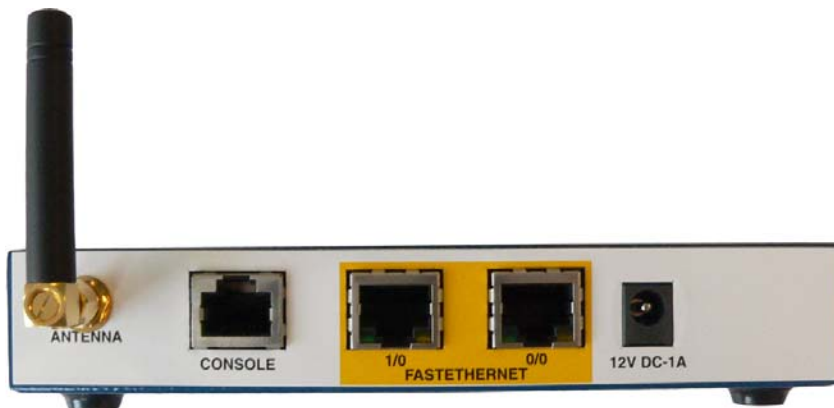

Figure 2.   Rear panel

3.4   Motherboard

The motherboard provides:

- Router resources (CPU, DSP, memory RAM and Flash),
- Standard router interfaces (console interface, Fast Ethernet, and LEDs),
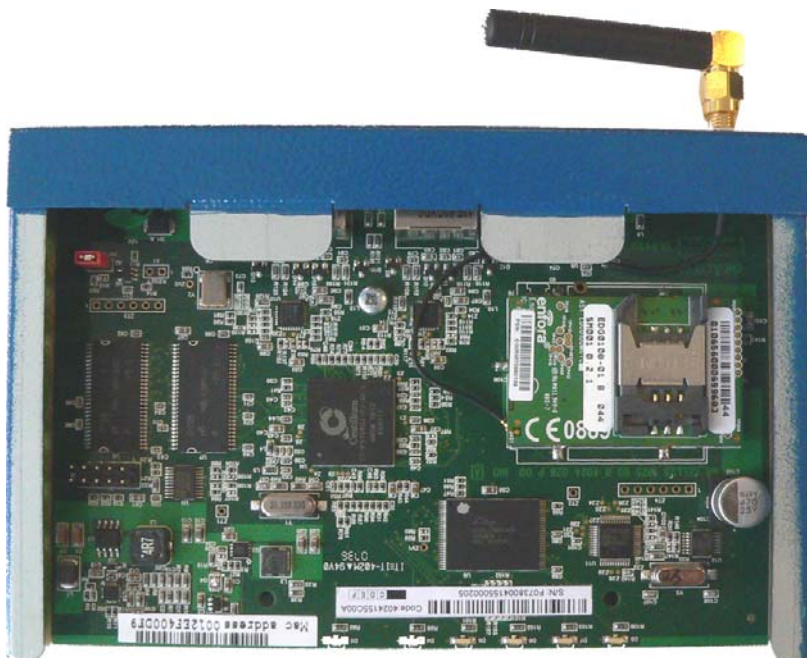- An EDGE/GPRS radio module supporting a SIM card

Figure 3.   Motherboard

4 Interface Description

4.1 LAN 10/100 Mbps Interface (FASTETHERNET)

4.1.1 Characteristics

- 100Base-TX,
- Full duplex,
- Auto-negotiation.
- Auto MDI/MDX

> *The Ethernet interfaces of the ONECell25 only support the 100 Mbps full-duplex operations in auto-sense mode. If connected to devices in 10 mbps or half-duplex, the ONECell25 interface will not be connected. The problem can appear mostly with devices forced in such mode or with old Ethernet hub.*

4.1.2 Meaning of LED Colors
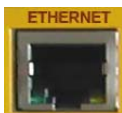
Lit green Led	Link active
Blinking yellow Led	Traffic in progress

4.1.3 Connector Pinout

RJ45 Connector:

	Pin	Signal	Pin	Signal
	1	TD (+)	5	NC
	2	TD (-)	6	RD (-)
	3	RD (+)	7	NC
	4	NC	8	NC

4.1.4 Cables

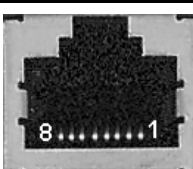A standard Ethernet cable is needed (shielded UTP Cat. 5).

4.2   Console port (CONSOLE)

4.2.1   Characteristics

- RS 232,
- 9600 bps,
- 8 bits, 1 bit for stop, no parity.
- No flow control

4.2.2   Connector Pinout

RJ45 Connector:

	Pin	Signal	Pin	Signal
	1	TX	5	NC
	2	RX	6	NC
	3	GND	7	NC
	4	NC	8	NC

- TX: Transmission
- RX: Reception
- NC: Not connected
- GND: Ground

A console cable for router configuration and maintenance only requires TX, RX and GND to be connected.

4.2.3   Cables

The console cable is defined in Appendix A.

5 Technical Characteristics

5.1 Climatic Environment

Operating Conditions:

Temperature	$0°\,C \le T \le 45°C$
Relative Humidity (HR)	$5\% \le HR \le 80\%$
Absolute Humidity	$\le 24g\,/\,m3$
Altitude	$\le 2500\,m$

Storage Environment:

Temperature	$-25°\,C \le T \le 55°C$
Relative Humidity (HR)	$5\% \le HR \le 80\%$
Absolute Humidity	$\le 24g\,/\,m3$
Altitude	$\le 2500\,m$

5.2 Power Supply

- External Power Supply OneAccess 200-240 VAC / 20W (12V – 1,7A),
- External Power Supply OneAccess 230 VAC / 12W (12V – 1A),

Using another power supply than the ones recommended by OneAccess causes the product warranty to be void.

5.3 Dimensions

The dimensions of the housing are:

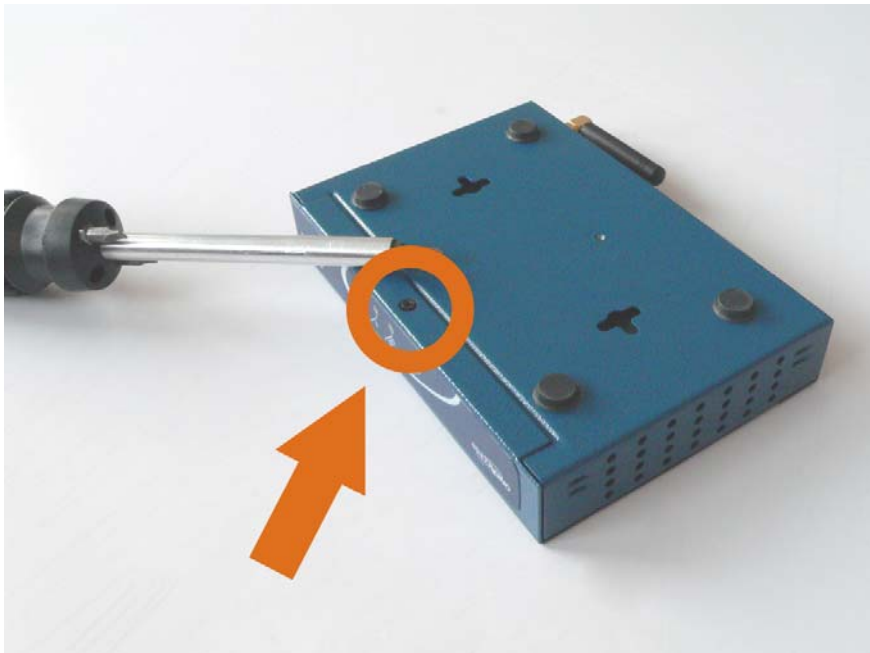| Width	152 mm
Height	26 mm
Depth	102 mm

6   Installation

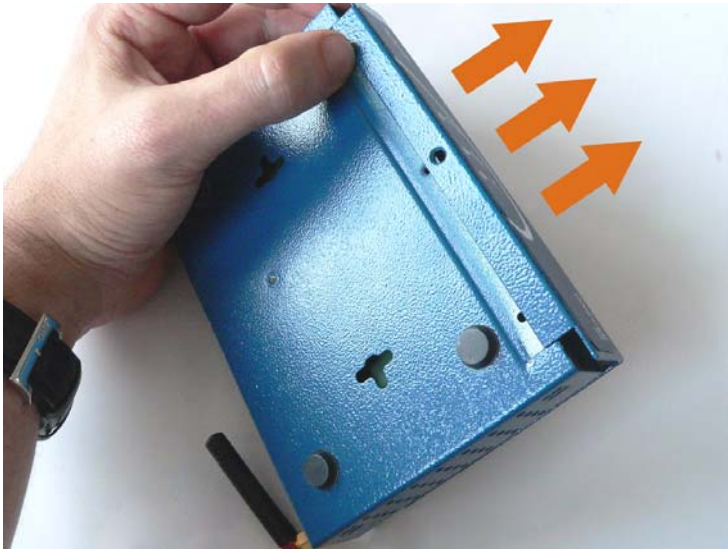> ⚠ *Always unplug the power AC cable before any hardware maintenance operation.*

This chapter describes assembling/disassembling operations.

6.1   Opening Casing

1   Unlock the screw at the bottom of the product and remove it.
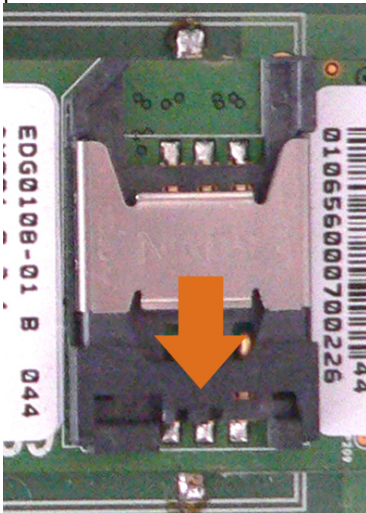

2   Remove the cover by sliding horizontally the cover away from the bottom part of the casing.
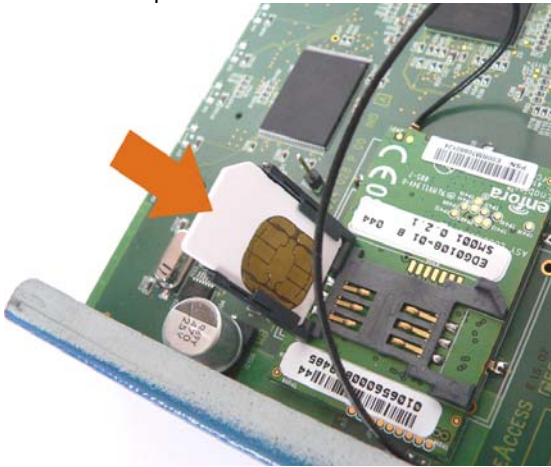
6.2   Installing SIM Card

The casing must be open. The steps are the following:

1   Unlock the SIM card holder by sliding the locking metal piece as indicated on the picture below

2   Raise the SIM card holder in vertical position

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3   Insert the SIM card; make sure the SIM card is inserted in the right position as shown on the picture below.

4   Put the SIM card holder in its former position and lock it.

6.3 Wall Mounting

The lower part of the router has 2 notches in order to enable wall-mounting. By installing two screws at the required distance, the router can be hung on any vertical surface.

Instructions:

1. Bore two horizontal holes separated by 80 mm of distance if the router is hung with the rear panel in the upper position
2. Mount both screws in each hole. Do not screw them completely but leave a distance of 5 mm between the wall and the head of the screw,
3. Hang the router gently and if necessary adjust the screws in the notches of the router.
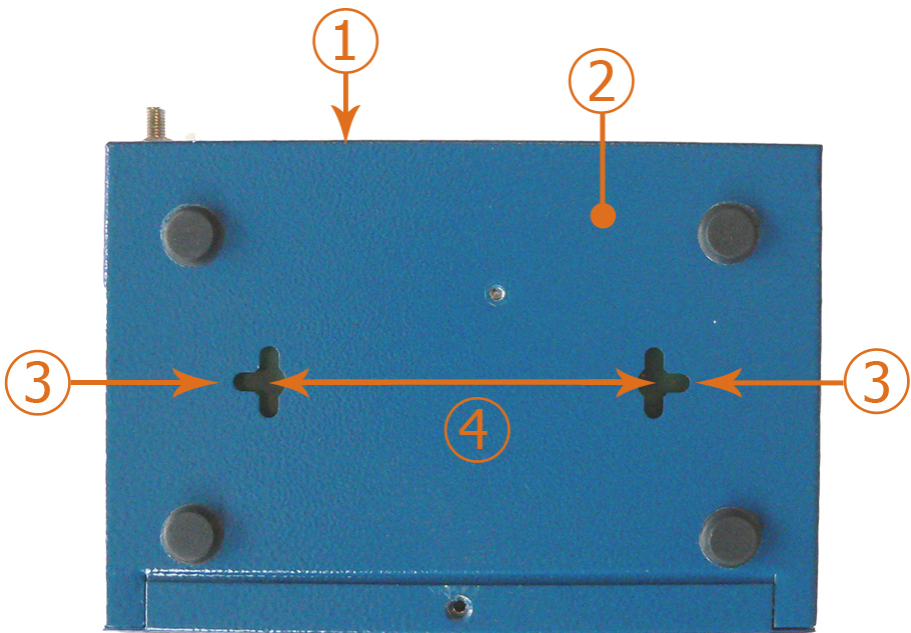

Figure 4.   Positioning of the notches

1	Rear panel of the router	3	Notches
2	Bottom of the router	4	Distance between holes: 80 mm

6.4   Connections

The external power supply is connected on the rear panel of the device.

The external power supply is delivered with the router package. Connect the 'jack' connector of the external power supply to the connector marked '**12V-1A**' device connector,

The router shall not be used with another power supply than a power supply recommended by OneAccess. Using another power supply than the ones recommended by OneAccess causes the product warranty to be void.

7   Power up

To power up the device, always follow these steps:

- Connect the DC power input jack from the power supply to the DC power input of the rear panel of the router,
- Connect the power supply to the AC mains (200-240 V AC).

Few seconds after power-on, the device performs a series of self-tests and loads the software into memory (RAM), during which the 'STATUS' LED on the front panel blinks.

At the end of software loading (about 30 seconds):

- The 'STATUS' LED light remains steady green if software initialization was successful,
- The 'STATUS' LED blinks in case of software absence or error during software loading.

8   Getting Started

When the router is delivered with the default OneAccess factory settings, the router is configured as follows:

- **FASTETHERNET 0/0** port is configured with the IP address 192.168.1.1 (netmask: 255.255.255.0)
- DHCP server is enabled
- HTTP server for fast web-based configuration is enabled

8.1   Connect your PC

Your PC should be configured to acquire its IP address via DHCP protocol; alternatively, you can assign a static IP address to your PC LAN interface in the network range 192.168.1.2 – 192.168.1.254.

Connect your PC with a LAN cable (straight or crossed; the ONECell25 adapts to both wiring).

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8.2   Starting the Web Configurator

Open a web browser and use the following URL: http://192.168.1.1/
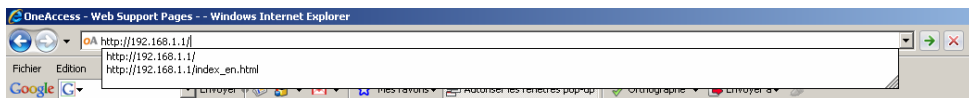
The web configurator developed by OneAccess uses intensively javascript. It has been tested with Internet Explorer version 6 and 7 as well as Firefox 2. Using the web configurator with other web browsers may not work and are not supported by OneAccess.

You will be directed to a login page. The default login is **webadmin** and the password is **admin**.

It is recommended to use the EDGE connection wizard to setup the EDGE connection.

Please consult the web user manual for more details.

8.3   Restoring Factory Settings

It might happen that:

- Access passwords to the web interface are lost
- New configuration parameters (such as firewall or unknown LAN IP) are such that you cannot connect to the ONECELL25 web configurator

In that case, the restore factory settings will help you because, the following factory settings are restored:

- Software and web configurator loaded at manufacturing time
- Factory configuration files
- Factory default passwords

If the factory restore option is set (default OneAccess settings), one can now use the factory restore procedure. It is triggered as follows:

- Power-on the product
- The 'Status' LED blinks very quickly, then it blinks more slowly.
- When all LEDs of the front panel are lit, unplug the power cable.
- Repeat the process three times and then let the router boot. The restore operation will be done.

8.4   Configuration by Telnet / SSH / Console

The default telnet/console login / password is admin / admin. It is highly recommended to change the default password from web interface to avoid intrusion from hackers.

The ONECell25 has many powerful features that cannot be configured and managed via the web Configurator.

Any user can use the console at own risks:

- It may cause the web Configurator not to work properly
- OneAccess only supports customers having with a maintenance contract with OneAccess and being certified, trained users
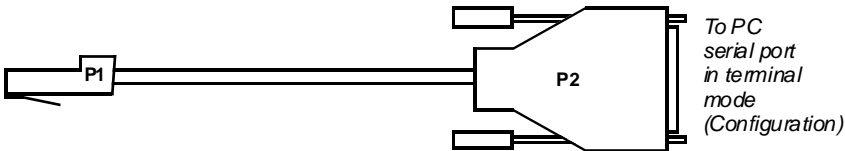
8.5   Getting Support on ONECell25

Please use this link to get more documents and help:

http://www.oneaccess-net.com/en/cell

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Appendix A - Console Cable

Catalog reference: **4 022 332 B 00 Ed A**

RJ45 - P1	SIGNAL	SUB-D 9 Pts Female - P2
1	TX	2
2	RX	3
3	GND	5