



Regesta-PRO-ER

Installation Manual

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I Related Documents

Teldat-Dm748-I *Software Updating*

Teldat-Dm781-I *Cellular Interface*

Chapter 1 About This Guide

This is the **Regesta-PRO-ER** router family installation manual and contains the instructions needed to correctly install the router in its operating environment.

1.1 Supported Devices

The information provided in this installation guide only applies to the **Regesta-PRO-ER** router family.

1.2 Who should read this manual?

This manual should be read by installers who need to install, configure, maintain and monitor the router.

1.3 When should I read this manual?

Read this guide as soon as you are ready to familiarize yourself with the device and its components.

This manual will help you understand your new device in greater depth.

1.4 What is in this manual?

This installation guide contains the following information:

- Description of the general characteristics available in the **Regesta-PRO-ER** router family.
- Technical Specifications.
- Power supply requirements.
- Description of the LEDs and the router connectors.
- Troubleshooting.

1.5 What is not in this manual?

This does not contain information on the device software or its configuration. For information on how to configure the device, please see the relevant protocol manuals in the Teldat website: <http://www.teldat.com>.

1.6 How is the information organized?

Each chapter focuses on a specific part of the router hardware and its components. All technical specifications, or information on a component, can be found in the relevant chapter.

1.7 Technical Support

Teldat S.A. offers a technical support service. The device software can be regularly updated for maintenance and new features.

Contact information:

Web: <http://www.teldat.com>

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Email: support@teldat.com

Chapter 2 Regesta-PRO-ER Routers

2.1 Characteristics

The **Regesta-PRO-ER** router family is a range of IP routers particularly suited for hostile and extreme environments. Thanks to its ruggedized mechanics and special characteristics, allowing it to bear extreme temperatures, this router is particularly suited for: industrial environments, industrial telecontrol, distribution installations for electricity, gas, water, etc.

The main characteristic of this router family lies in the possibility of accessing WirelessWAN (WWAN) and ADSL/ADSL2+ data networks.

Thanks to its modular design, this device can quickly adapt to the latest WWAN technologies. The **Regesta-PRO-ER** family is compatible with wireless technologies such as GPRS, EDGE, UMTS, HSDPA, HSUPA, CDMA 2000 1xRTT, CDMA Ev-Do, etc.

As for the LAN networks, this device incorporates a 6 port 10/100 BaseT LAN Ethernet Switch. The basic license enables the first 2 ports. By upgrading the basic license you can enable all 6 ports.

There are several **Regesta-PRO-ER** models, depending on their type of access technology, their serial port equipment and their power supply:

Regesta-PRO-ER Models

Device	ADSL	2G/3G Modules	RS-232 Ports	Power Supply
REGESTA-PRO-ER-001	0	0	1	-48 volts
REGESTA-PRO-ER-003	0	0	1 + 2	-48 volts
REGESTA-PRO-ER-011	0	1	1	-48 volts
REGESTA-PRO-ER-013	0	1	1 + 2	-48 volts
REGESTA-PRO-ER-021	0	2	1	-48 volts
REGESTA-PRO-ER-101	1	0	1	-48 volts
REGESTA-PRO-ER-103	1	0	1 + 2	-48 volts
REGESTA-PRO-ER-111	1	1	1	-48 volts
REGESTA-PRO-ER-113	1	1	1 + 2	-48 volts
REGESTA-PRO-ER-011-CA	0	1	1	220 V AC
REGESTA-PRO-ER-003-CA	0	0	1+2	220 V AC

The devices with software version 10.08.29 and above have the option to convert the console serial port into a DCE asynchronous serial port in all models. This port has the following limitations:

- (1) Its speed is limited to 38400 bps.
- (2) It doesn't have control signals complying with the RS-232 norm.

Models 003, 013, 103 and 113 are equipped with an internal USB card with 2 RS-232 asynchronous serial ports. The maximum speed configured in these ports is 115200 bps and hardware flow control is permitted.

Models 001, 011, 021, 101 and 111 do not have an internal serial ports card and the DB-9 connectors are closed.

Models 001, 003, 011, 013 and 021 do not have an ADSL interface and the DSL connector is closed.

By default, the device incorporates a transparent protector that prevents the connectors from being touched while the device is running.

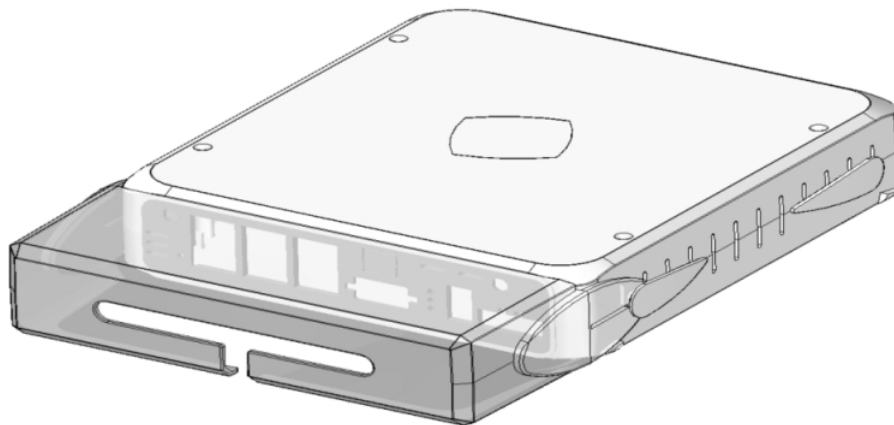


Fig. 1: Regesta with transparent protector

2.1.1 Power Supply

For further information on the power sources for the **Regesta-PRO-ER** router family, please see [Components and Power Supply](#) on page 6 under [Power Source](#) on page 12.

2.1.2 Monitoring hardware

The only way to monitor the **Regesta-PRO-ER** router family hardware is through the LEDs on the front panel. The LEDs provide visual information on what is happening in the router. These indicate the status of the hardware components, if there is connection or not, data flow, etc.

For further information on the LEDs panel, please see section [Front Panel](#) on page 6.

Chapter 3 Components and Power Supply

The following chapter provides information on the **Regesta-PRO-ER** router family chassis and its components. This information includes:

- Components.
- Assembly instructions.
- Power supply.
- RST button.
- Data connection.
- Installing the SIM card.

3.1 Components

3.1.1 Front Panel

The following figure illustrates the AC version front panel.

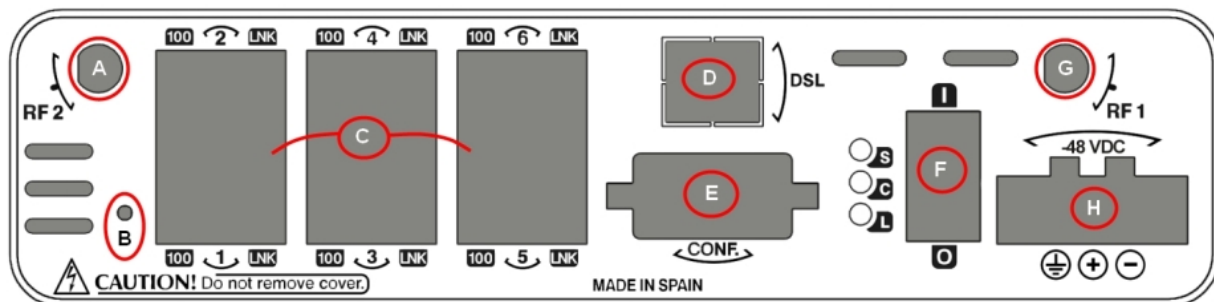


Fig. 2: Front panel

The front panel elements are as follows:

Elements table for the front panel

Item	Description
A	RF2. WWAN antenna connector.
B	RST. Reset button. For further information on how the reset button works, please see section RST Button on page 14 further on in this chapter. This button is only available in version AC.
C	6-port Ethernet Switch
D	DSL. ADSL connector permitting connection to an ADSL/ADSL2+ over ISDN network.
E	CONF. DB9 connector providing Access to the device local console for configuration and monitoring purposes. (This connector can also be used as an RS-232 asynchronous DCE serial port in some code versions).
F	I/O. ON/OFF power switch, position I for ON and position O to switch it OFF.
G	RF1. WWAN antenna connector.
H	-48VDC. Power connection (DC). For further information on the power connection, please see section Connecting to the Power Supply on page 12.

In addition to the connectors, the front panel also contains a set of LEDs that provide information on what is happening in the router.

The LEDs are organized, as shown in the following figure, on the router front panel:

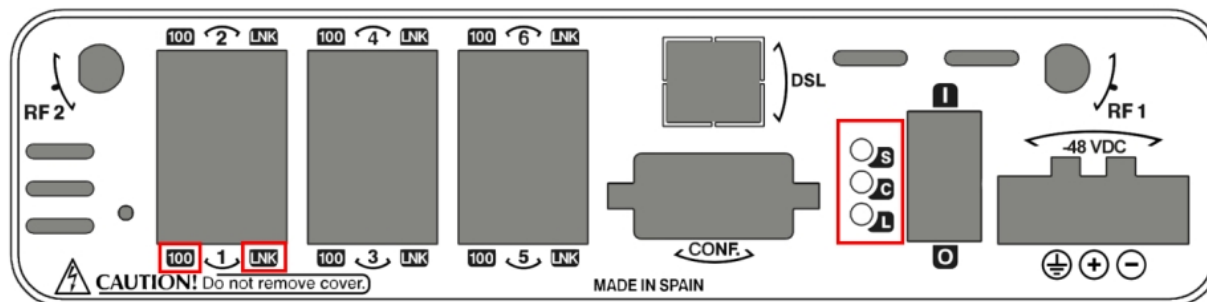


Fig. 3: Front panel LEDs

While the device is in startup mode, LED “L” lights up in green. Once the device has booted, the LEDs indicate the following:

Front panel LEDs table

LED	Associated interface	Status	Description
S	Cellular interface corresponding to the active SIM	Green	SK1 operating SIM. This is processing traffic through the carrier for the SIM installed in this tray.
		Amber	SK2 operating SIM. This is processing traffic through the carrier for the SIM installed in this tray.
C	Cellular interface corresponding to the active SIM or the status of the ADSL connection.	Red	Cellular interface is not available, not installed or not registered.
	In cases where the router is equipped with both an ADSL interface and a cellular interface, the color of the LED is operated by both interfaces.	Amber	The device has registered in the network and is in process of establishing the PPP protocol.
		Green	The device is registered, PPP is established and it can send IP traffic through the PPP interface.
		Red	The device is registered, PPP is established and it can send IP traffic through the PPP interface.
		Yellow	- Steady light: Data is not being transferred.
		Green	- Flashing: Data is being transferred.
			ADSL
			The device is not connected to the ADSL network.
			ADSL connection is being

			established. The device is connected to the ADSL network.
L	Cellular interface corresponding to the active SIM	Green Yellow Red Off	Coverage level above -90dBm. Coverage level between -90 dBm and -100 dBm. Coverage level below -100dBm. Cellular interface is not active.
100	Associated to each Ethernet switch connector (LAN1...LAN6)	Amber	ON # Connection at 100 Mbps OFF # Connection at 10 Mbps
LNK	Associated to each Ethernet switch connector (LAN1...LAN6)	Green	ON # Ethernet connection (link) established: - Steady light: Data is not being transferred. - Flashing: Data is being transferred.

3.1.2 Rear Panel

The following figure illustrates the rear panel:

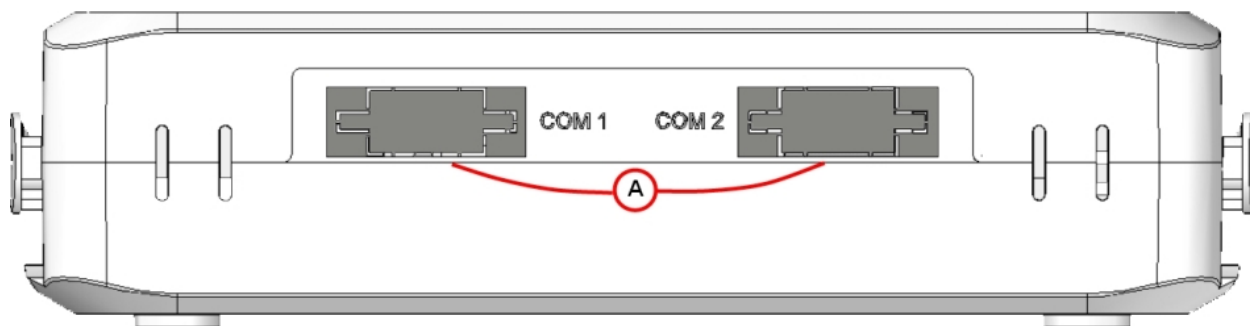


Fig. 4: Rear Panel

The rear panel elements are as follows:

Rear panel elements table

Item	Description
A	COM1, COM2. DCE RS-232 serial ports. Note: These are only available in the following Regesta-PRO-ER models: 003, 013, 103 and 113.

3.1.3 Underside Panel

The following figure illustrates the underside panel:

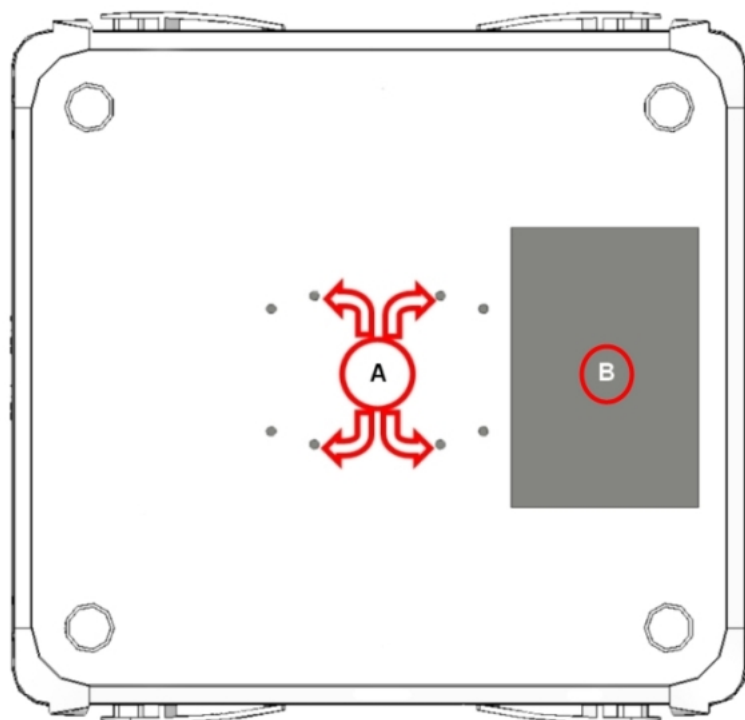


Fig. 5: Underside Panel

The underside panel elements are as follows:

Underside panel elements table

Item	Description
A	Slots for the accessories to attach the device to the DIN rail mount. For further information on this accessory, please see section Installing a DIN rail mount accessory on page 10 further on in this chapter.
B	Platform where the sticker containing information on the product is attached. This sticker contains the information on the device model, MAC, serial number, etc.

3.1.4 Upper Panel

The following figure shows the aspect of the upper panel:

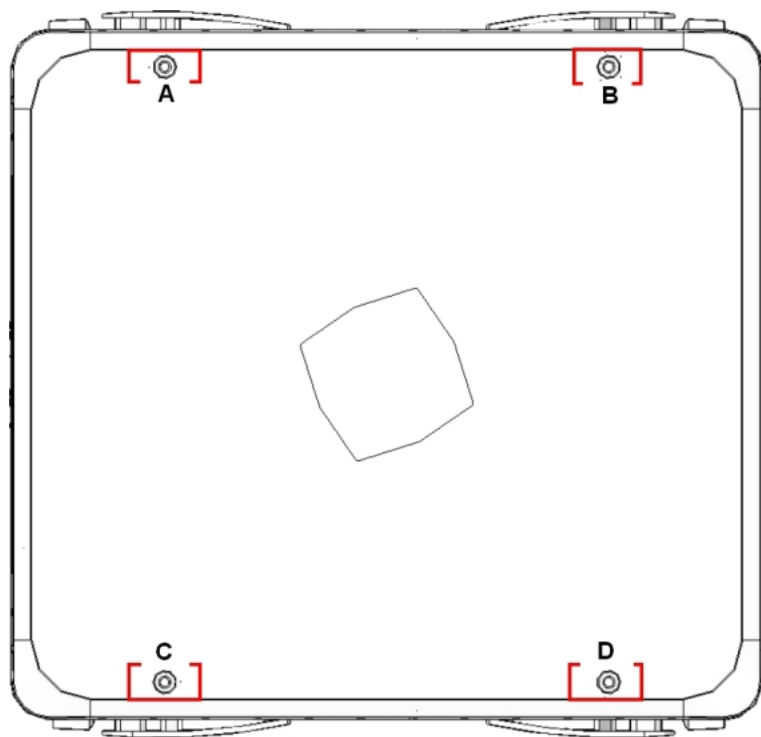


Fig. 6: Upper Panel

The upper casing elements are as follows:

Upper casing elements table

Items	Description
A, B, C, D	Screws that allow you to disassemble the router's upper casing.

3.2 Assembly

3.2.1 Installing a DIN rail mount accessory

The device packaging includes a DIN rail mount kit to which the device can be connected, thus allowing various positions.

The kit contains 2 screws to adjust the rail mount to the underside of the device. There are a set of holes on the underside that allow you to place the DIN rail mount in two different positions:

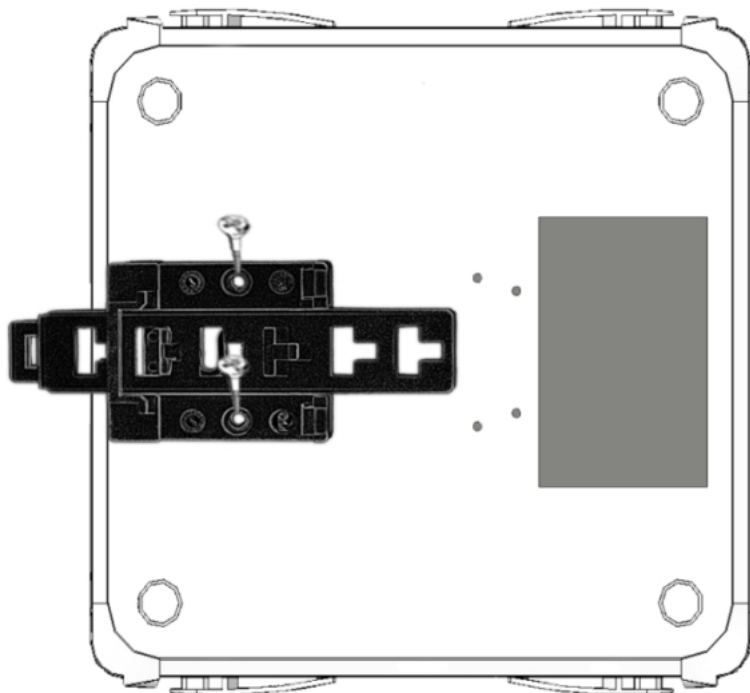


Fig. 7: DIN rail mount: Position 1

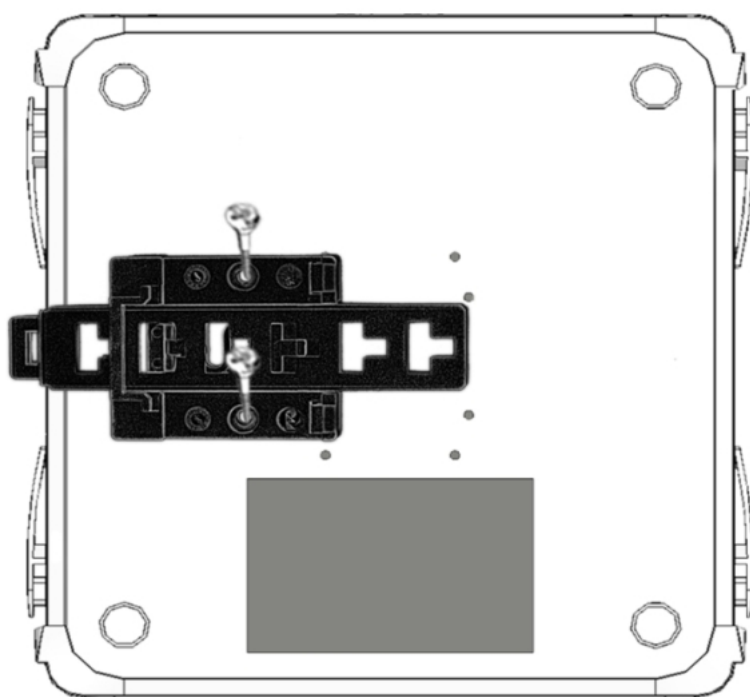


Fig. 8: DIN rail mount: Position 2

3.2.2 Installing the Protector

The transparent protector protects the device connectors from being manipulated while the device is operating. The protector is not mounted on the device in the package; it is a separate piece.

The following figure shows you how to attach the protector on the device:

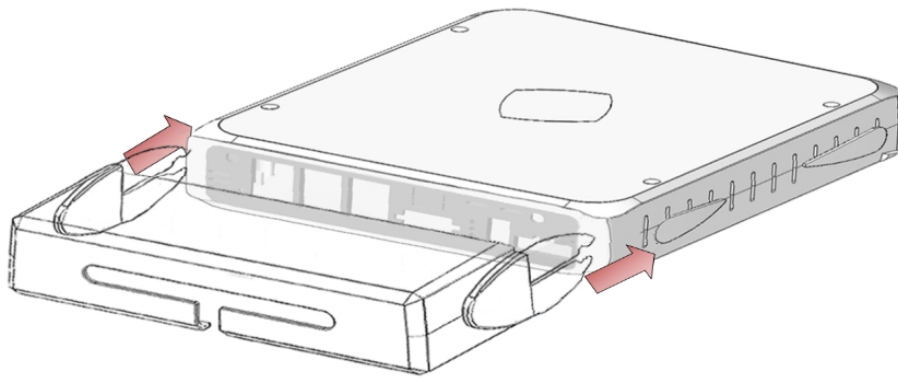


Fig. 9: Installing the transparent protector

3.3 Power Source

The **Regesta-PRO-ER** router family is powered with an external -48 V DC or a 220 V AC voltage element, depending on the model.

Devices with a -48 V DC power supply have a different power connector from the devices powered at 220 V AC. This is to prevent the devices from being connected using the wrong power voltage.



Caution

Before connecting the router, please read the following instructions carefully.

Workplace. Main characteristics

- The device should not be placed amongst papers, magazines or other elements that could hinder natural air circulation.
- Knocks and/or strong vibrations should be avoided during transport, operation and storage.



Warning

The electric current in power cables, telephone lines and communication cables is dangerous. To prevent electric shocks, before installing, handling or opening the equipment covers, connect and disconnect the cables following the steps set forth in *To Connect* on page 13 and *To Disconnect* on page 13.

3.3.1 Connecting to the Power Supply

To connect the power supply to the router, please follow the steps set forth in section *To Connect* on page 13.



Warning

To avoid electric shocks, residual current circulation and other unwanted effects, also affecting communications, the following is recommended:

All interconnected communication devices should be plugged to THE SAME GROUNDED POWER OUTLET, which should at the same time be of good quality (lower than 10 ohms).

Whether the workplace is provided with an uninterrupted power supply system (UPS), regulated supply or it is independent from the rest (such as lighting, etc.); it is highly recommended that all data devices should be connected to the same power source. This will avoid operating and premature aging problems of drivers and other components.

3.3.1.1 To Connect

- Make sure that the power supply cable is not connected to the device.
- Connect all data cables.
- Connect the power supply cable to the device.
- Place the on/off switch in position 1.
- Lower the transparent protector.

3.3.1.2 To Disconnect

- Raise the transparent protector.
- Place the on/off switch in position 0.
- Disconnect the power supply cable from the device.
- Disconnect the data cables.

3.3.2 Device powered with -48 V DC

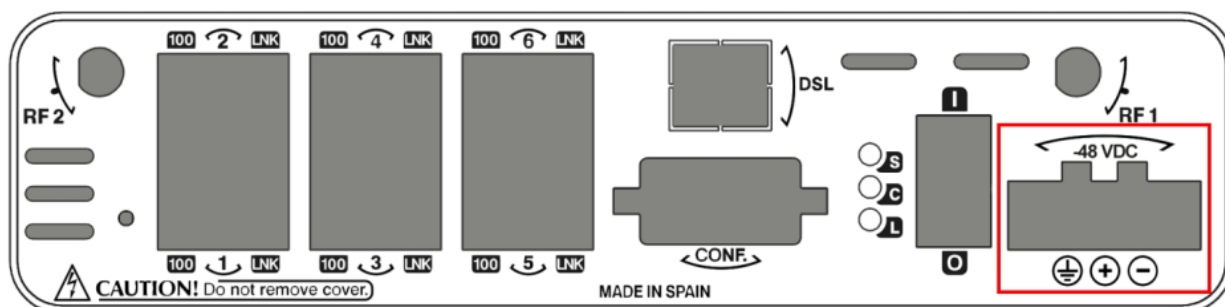


Fig. 10: Power supply connector with external source -48 V DC

The connector has 3 terminals; 2 for the -48 V DC power and another (labeled ground) that connects the device to the ground point where the rest of the devices are connected.

3.3.3 Device powered with 220 V AC

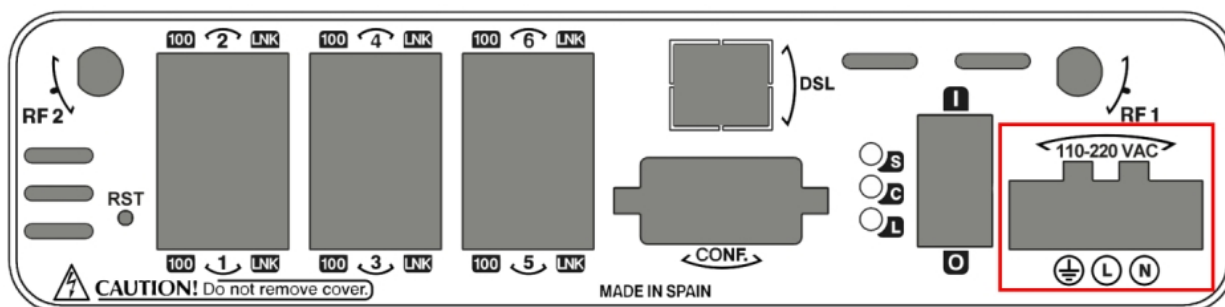


Fig. 11: Power supply connection with external source 110-220 V AC

The connector has 3 terminals; 2 for the 220 V AC power and another (labeled ground) that connects the device to the ground point where the rest of the devices are connected.

To connect the power to the device, please carry out the steps set forth in section [To Connect](#) on page 13: check that the power switch is in the OFF position (0) and that the power source is NOT connected to the electricity network; locate the Power Supply connector on the front panel and insert the power cable connector.

3.4 RST Button

There are two types of **Regesta-PRO-ER** routers: one has an externally accessible button on the front panel labeled “RST” and the other has an internally accessible button with no “RST” label on the front panel. This button has two functions:

- To initiate a restart.
- To restart the device with the default configuration. The default configuration has IP 192.168.1.1 assigned in all the switch ports.

The external button is physically protected, so it cannot be accidentally pushed. You need a sharp-edged object to activate it.

The model with the internal button has to be opened up in order to access the motherboard where the button is placed. The following figure shows you its location.

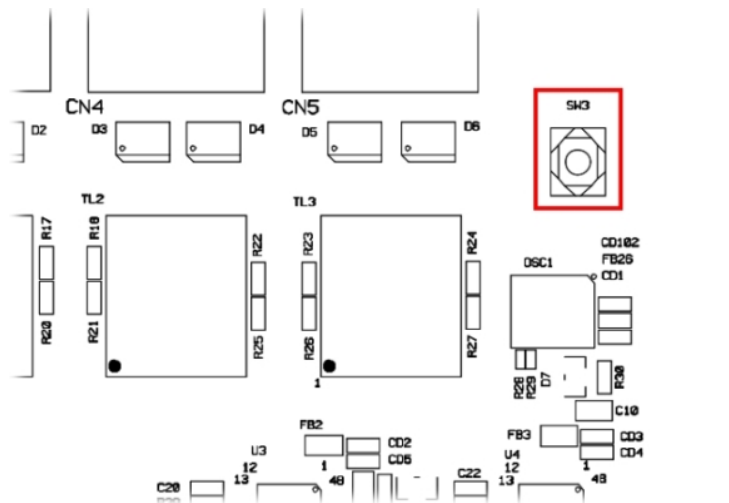


Fig. 12: Position of the internal reset button

3.4.1 Restarting the device

Follow the steps below to restart the device:

- (1) Press the RST internal/external button. Device restart is indicated by the 3 LEDs on the front panel lighting up in amber.
- (2) Stop pressing the RST internal/external button as soon as the 3 LEDs on the front panel are lit up.
- (3) The device will begin the restart with LEDs S and C off and LED L in green.

3.4.2 Default Configuration

The following procedure allows you to install the default configuration:

- (1) Press the RST internal/external button. Device restart is indicated by the 3 LEDs on the front panel lighting up in amber.
- (2) Keep pressing the RST internal/external button. The S LED will flash green while you are still pressing the RST internal/external button. This state implies that the device configuration has changed to the default configuration.
- (3) Stop pressing the RST internal/external button to allow the device to restart.
- (4) The device will begin the restart with LEDs S and C off and LED L in green.
- (5) As the device now has the default configuration, you can access it through the IP bearing in mind that the default address for the equipment is 192.168.1.1, and that it is accessible from any switch port.

3.5 Data Connections

The **Regesta-PRO-ER** router family has the following data connectors:

3.5.1 Ethernet Switch

Some models in the **Regesta-PRO-ER** family incorporate a 6 port Switch, 10/100 BaseT with automatic MDI/MDIX to connect to the LAN; this has a 100 LED to indicate connection at 100 Mbps and a LNK LED indicating the physical connection.

The first two ports, port 1 and port 2, are enabled through a basic license. If you upgrade the license, all six ports are enabled.

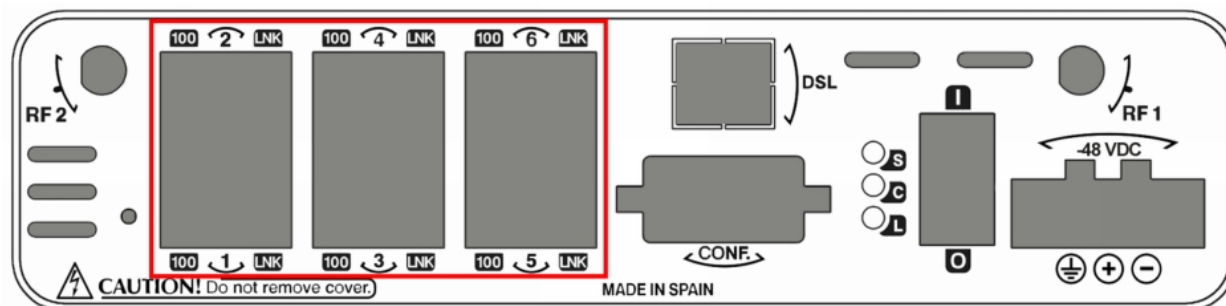


Fig. 13: LAN switch ports (6)

3.5.2 Connecting the WWAN Antenna (RF connectors)

The **Regesta-PRO-ER** routers have two connectors to connect RF antennas. To assemble and disassemble the antennas, simply screw them into the connectors labeled as RF1/RF2 (located on the front panel of the device).

In cases involving a device with 2 WWAN modules, each connector is connected to each of the WWAN modules (MAIN internal connectors for both modules). Whenever a device has just one WWAN module, the RF1 connector is connected to the module's MAIN connector and the RF2 connector to the AUX connector in the same module. This configuration means you can use diverse techniques to improve the quality of the radio connection (valid for HSDPA and HSUPA technologies).

Antenna installation is essential in the **Regesta-PRO-ER** routers in order to improve the quality of the signal received and transmitted by the WWAN module (GPRS, UMTS, HSDPA, HSUPA, etc.).

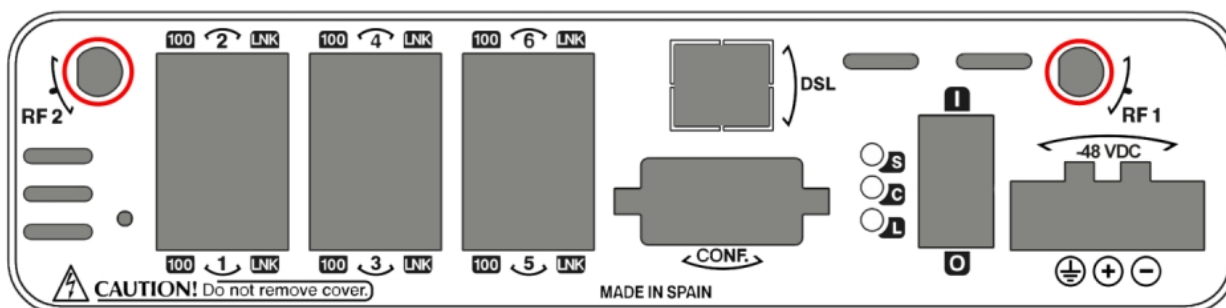


Fig. 14: WWAN antenna connectors



Caution

To get high-quality performance, the router must always have the WWAN antennas installed.

The WWAN interfaces with access to the 2G network (GPRS/EDGE) are operative in all the devices in this range. To access the 3G network (UMTS/HSDPA/HSUPA) the device must have the corresponding software license incorporated.

Teldat has a series of accessories (dipole antennas, exterior antennas, roof mount antennas, extension cables, etc.)

that allow you to install the **Regesta-PRO-ER** routers in different locations.

3.5.2.1 Positioning the Antenna

The antenna orientation and its location with respect to other wireless devices and radiation devices (such as communication devices, personal computers, etc.) can influence significantly the device performance.

The antennas transmit and receive radio signals. Performance is also affected by environmental factors (such as the distance between the device and the base station), physical obstacles and other interferences due to radio frequencies (RF).

To achieve the best coverage, follow these steps:

- Whenever possible, place the antenna where there are no physical obstacles. Obstacles between the antenna and the base station degrade the wireless signal. Place the antenna above ground level and steer it towards the nearest base station.
- Density of materials also affects the antennas. Place them away from any type of wall, metal screens, mirrors, etc.
- Do not place the antenna near columns that can produce shadow areas and reduce the coverage zone.
- Keep the antenna away from metal pipes such as canals air-conditioning, etc.
- Please bear in mind that other wireless devices such as telephones, microwaves, etc., can temporarily interfere with the quality of the wireless signal.
- We do not recommend that you install the antennas near or between racks containing communication devices, computers, etc. Use an extension cable and place the antenna outside.

The following recommendations are applicable to all wireless devices:

- Do not touch or move the antenna while the device is transmitting or receiving.
- When the antenna is transmitting, do not touch any equipment that contains devices that radiate very close to, or touching, any exposed part of the body (particularly face and eyes).
- Do not install the device in areas where the atmosphere is potentially explosive.
- Wireless devices can cause interference in other devices. Do not use the device in areas where medical equipment is installed.
- In order to ensure that you are complying with the R&TTE 1999/5/EC norm, the device must be at least 15 cm away from any person when operating.

3.5.3 Connecting ADSL/ADSL2+ over ISDN (DSL connector)

The **Regesta-PRO-ER** router has a DSL connector that allows connection to an ADSL/ADSL2+ network over ISDN. It is a 4-wire female RJ11, and only the **two middle ones are used** for data transmission and reception.

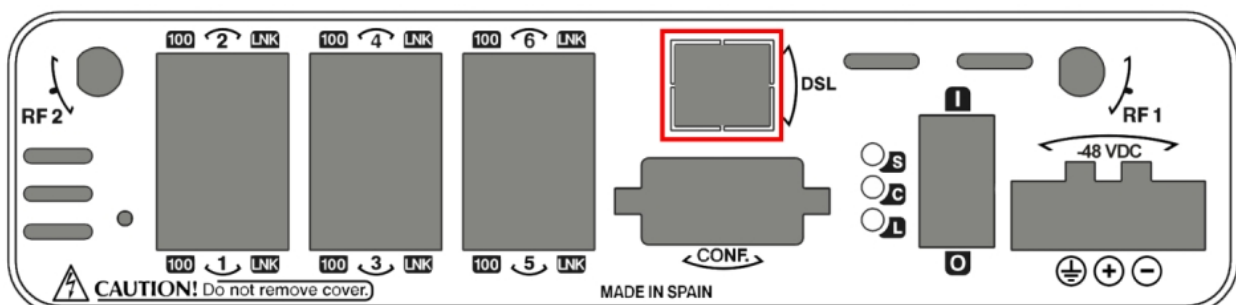


Fig. 15: DSL connector (ADSL & ADSL2+)

The *Full Rate* ADSL (ITU G.dmt or G.922.1) operating mode uses a higher transmission capacity that does not allow

the use of telephones directly connected to the same line. It is necessary to use a mechanism known as “*splitter*,” which separates the band frequencies used for voice telephony from those used by the ADSL connection to transmit data. This way, interferences between the telephone and ADSL services are avoided. The next figure shows a typical installation with a *splitter*.

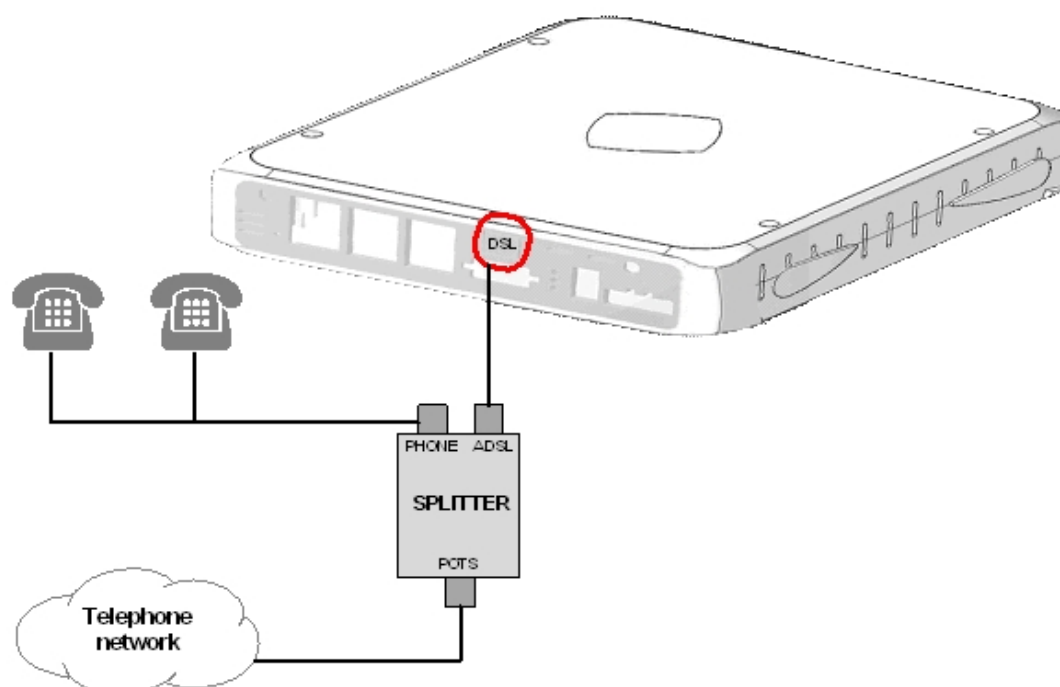
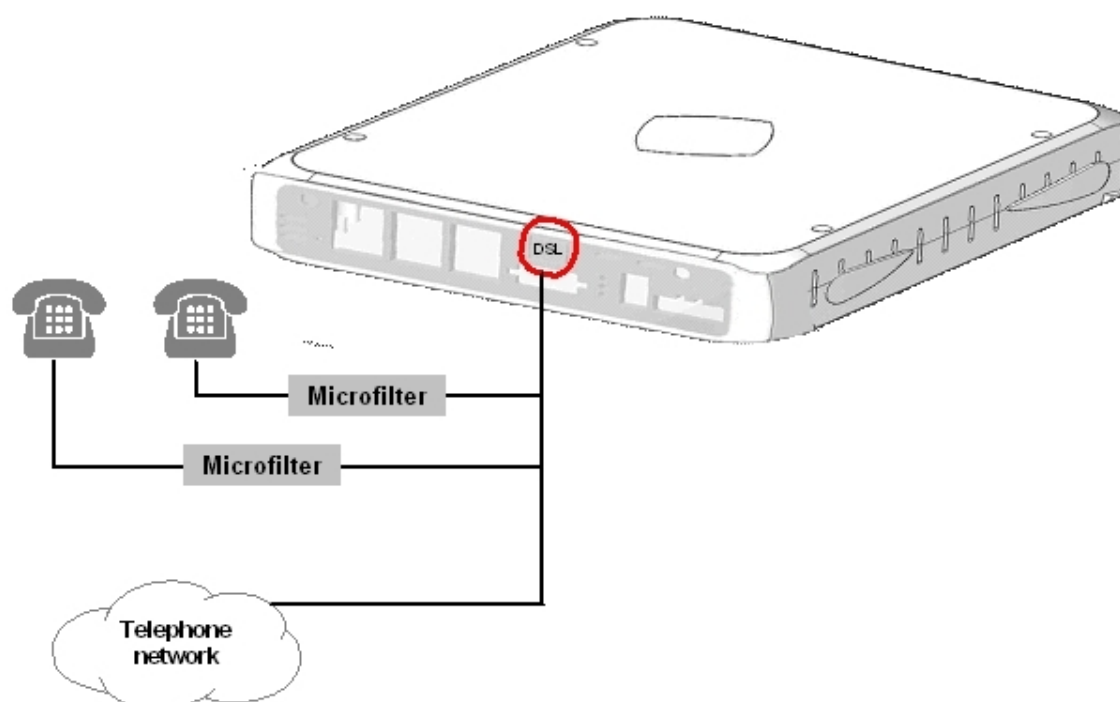


Fig. 16: ADSL installation with a splitter

The G. Lite (ITU G.922.2) operating mode uses reduced transmission power. It allows the use of telephones directly connected to the same line through the installation of a “micro-filter.” This device ensures that the ADSL signal does not reach the telephone and that undesired signals generated by the telephone do not interfere with the ADSL signal.

A typical installation with micro-filters is shown in next figure.



ADSL installation with micro-filter

3.5.4 Connecting to the serial ports

The **Regesta-PRO-ER** router family can have one or various female DB9 connectors, depending on the model.

3.5.4.1 Console connector as serial port (CONF connector)

Software version 10.08.29 and following allow you to convert the console port into an RS-232 asynchronous DCE serial port. This port has the following characteristics:

- (1) DCE port.
- (2) RS-232 norm.
- (3) Maximum speed of 38400 bps.
- (4) Only the following signals are available: RxD (pin 2), TxD (pin 3) and GND (5).
- (5) DB-9 connector.

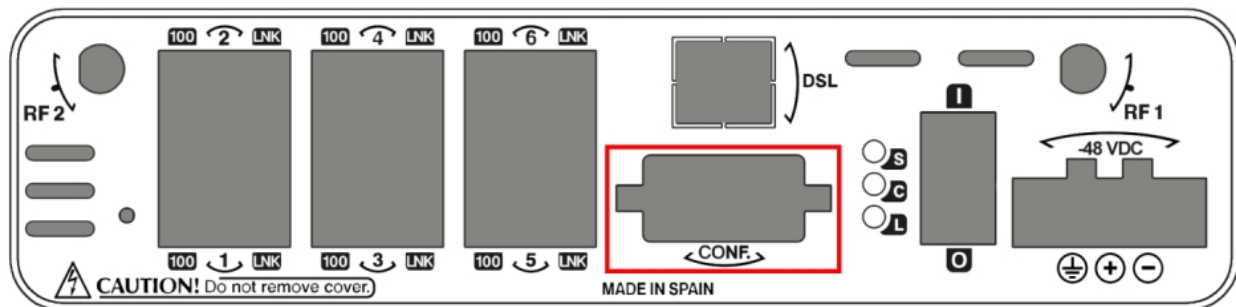


Fig. 18: Console connector as serial port

To use this as the router's configuration port, please see section [Connecting to the router](#) on page 22.

3.5.4.2 Asynchronous serial ports

Models 003, 013, 103 and 113 are equipped with 2 serial ports. These serial ports have the following characteristics:

- (1) DCE port.
- (2) RS-232 norm.
- (3) Maximum speed of 115200 bps.
- (4) All control signals are available.
- (5) DB-9 connector.

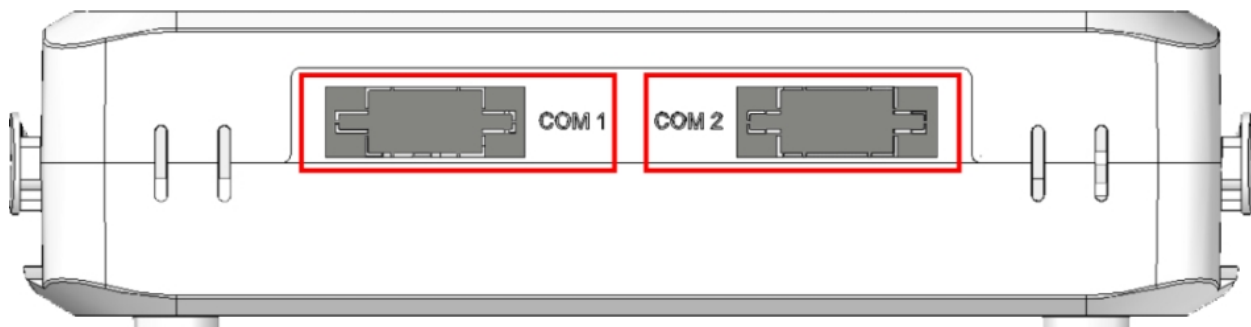



Fig. 19: RS-232 asynchronous serial connectors

Chapter 4 Installing the SIM card

The **Regesta-PRO-ER** routers have Wireless WAN interfaces that in order to operate may require at least one SIM card that must be inserted into the device. There are determined services (CDMA) provided by some carriers in certain countries that do not require SIM cards.

The **Regesta-PRO-ER** routers have two SIM trays. Both trays are located inside the device casing and are labeled SK1 and SK2.

In installations where only one SIM card is required, we recommend that it is installed in the main SK1 tray.

 **Warning**

Never install the SIM cards when the device is switched on.

Always disconnect the device from the main power supply before installing the SIM cards.

Always disconnect the device before removing the casing to access the trays.

When inserting the SIM cards, please protect yourself against electrostatic discharges (ESD).

Do not touch the SIM cards connectors.

To access the SIM tray, you need to open the upper casing of the device. To do this, you need to undo the four screws which are on the upper side of the device.

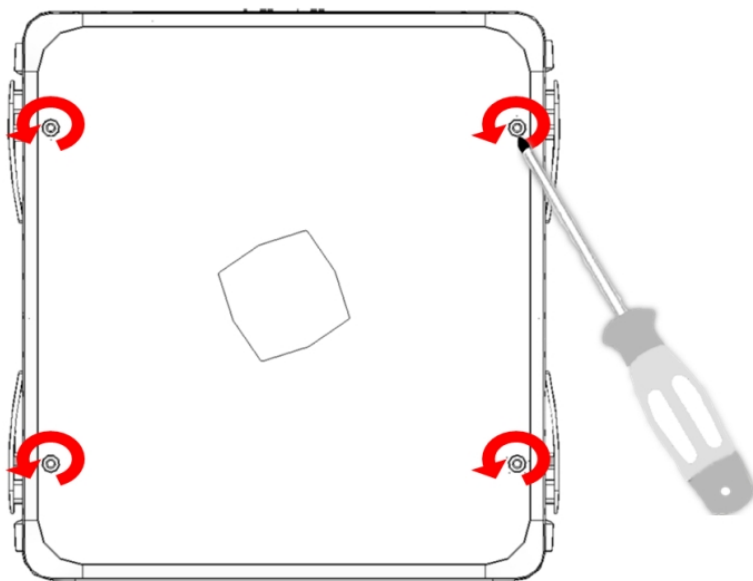


Fig. 20: **Screws on the upper casing**

4.1 Identifying the SIM trays

Once you have removed the upper casing, you will be able to see the different elements illustrated below.

The **Regesta-PRO-ER** incorporates 2 SIM cards, which allow you to execute some special configurations. One example is installing two SIMs and using one as a backup to the other. To carry out this type of configuration, you must assign a tray to each SIM (since the latter require different configuration parameters).

The SIM trays are identified as SK1 and SK2 i.e. socket 1 and socket 2.

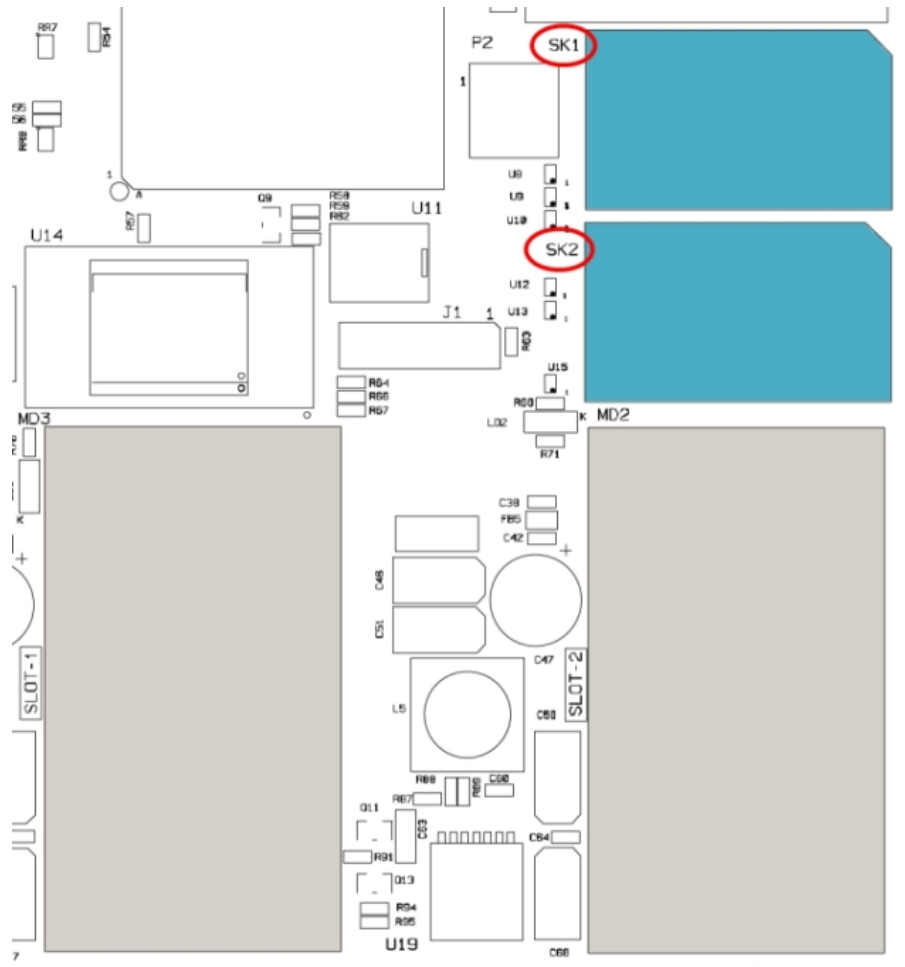


Fig. 21: Location of the SK1 and SK2 SIM trays

4.2 Procedure to install the SIM

In order to insert a SIM card in a tray, locate the retaining flange (metal fastening with OPEN and LOCK on it) so you can open the tray and place the SIM card on it. The steps are as follows:

- (1) Push the fastening in the direction indicated by the arrow with the word OPEN.
- (2) Open the upper part of the tray.
- (3) Fully insert the SIM card using the guides.
- (4) Return the tray to its original position.
- (5) While pressing on the tray, push the fastening towards the direction indicated by the word LOCK until it is firmly in place.

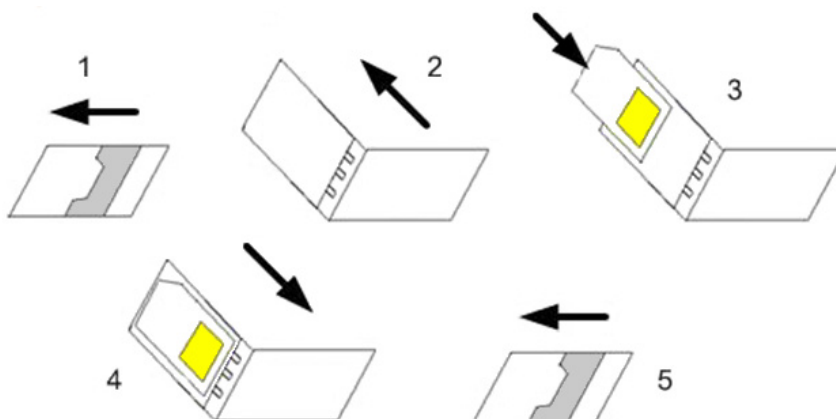


Fig. 22: Inserting the SIM in the internal tray

Appendix A Technical Information

A.1 Troubleshooting

Below, you will find a table that will help you solve problems during the installation of the device. If you cannot solve the problem, please ask your distributor for additional information.

Symptom	Solution
None of the LEDs lights up on the device.	Check the power supply to the device (power cable, main power outlet).
The local console does not respond.	Check that the console cable is the right one and that it is connected to the device and the asynchronous terminal. Check that the terminal has the correct port configured. Check that the terminal configuration is 9600 8N1. Check that the console is not an events process.
The local console only displays rubbish.	Check that the terminal has the correct port configured. Check that the terminal configuration is 9600 8N1
You have forgotten the access password for the device.	Ignore the configuration through the RST button (as explained in the relevant section).
The date and time in the device are lost on when restarted.	Parameters configured through the <i>time set</i> command will be lost when the device restarts. Use the NTP protocol to keep the date and time configuration.
The LAN LED does not light up in green.	Check the Ethernet cable and the network connection (you may need a crossover cable).
The S LED is red.	Check that the SIM card has been inserted correctly, or Check that the SIM PIN is correct, or Check that the antenna is properly installed (been screwed in correctly), or Get your technical service to check that the device is in the optimum position for the service.

A.2 Updating the software

The **Regesta-PRO-ER** routers can be updated to new releases. Please contact your distributor for further details on new releases.

There are various ways to update a Teldat router. Please see manual “Teldat-Dm748-I *Updating Software*” for further information.

The software required to update Teldat routers is supplied in a format known as **distribution**. This consists of a single file which contains all the files needed to update your device as well as in-depth information on the contents of the files.

The **Regesta-PRO-ER** router incorporates independent modules for the Wireless WAN interface. You can pick modules from different manufacturers or choose several modules from the same provider, depending on the technology used. Generally, the firmware is independent from the device's software. There is an UPGRADE file for each Wireless LAN module. Please ask your distributor for the correct UPGRADE file (according to the module in your device). The manual describing the CELLULAR interface (Teldat-Dm781-I) explains how to upgrade the module.

A.3 Connecting to the router

There are two ways of accessing the device CLI:

- Through the CONF connector.
- Through the Telnet protocol.

A.3.1 Connecting through the local console (CONF connector)

The **Regesta-PRO-ER** routers have a DB-9 female connector on the front panel referred to as “**CONF.**”, which provides access to the device local console. In order to configure this, you must connect the “**CONF.**” port to an asynchronous terminal (or to a PC with terminal emulation).



Note

Configuration for the terminal must be as follows:

- Speed: 9600 bps.
- Eight data bits.
- One stop bit.
- No parity bit.
- No type of flow control.

Connection to the configuration port can be done by joining a DB9 male and a DB9 female connector cable. If the terminal has DB25 connectors, you will need to use an additional adapter.

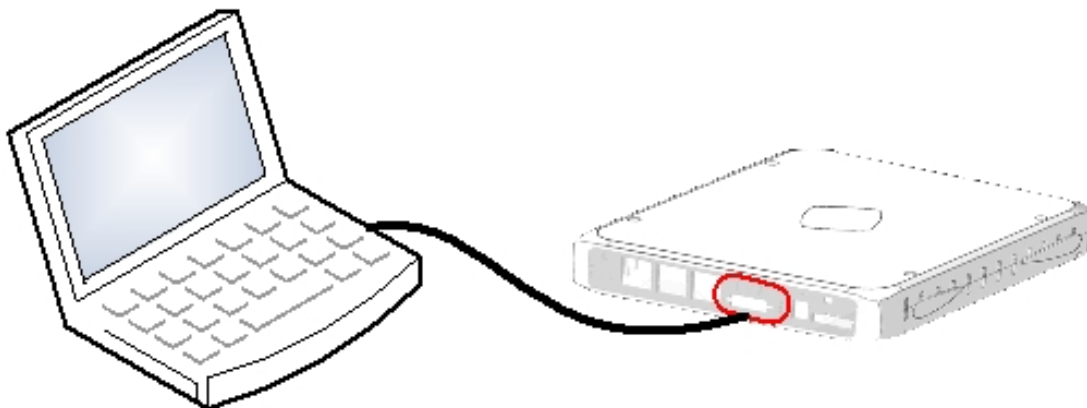


Fig. 23: Connection for configuration

A.3.2 Connection through an IP terminal (LAN 1..6 connectors)

The **Regesta-PRO-ER** router includes a default configuration that activates if you haven't configured anything previously.

The router's default configuration establishes the following IP address and access mask:

- IP address: 192.168.1.1
- IP mask: 255.255.255.0

**Note**

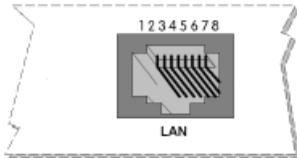
Some devices leave the factory with customized settings. This personalization can mean that the default configuration is different from the one shown above.

This initial configuration allows you to access the device configuration console through the Telnet IP protocol. To do this, follow these steps:

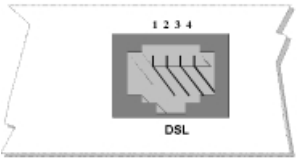
- Configure the IP terminal (normally a PC) Ethernet interface with an IP address within the range [192.168.1.2, 192.168.1.254] and with mask 255.255.255.0. E.g. 192.168.1.2, 255.255.255.0.
- Connect the IP terminal Ethernet interface to any of the **Regesta-PRO-ER** router's Ethernet Switch ports (LAN1..6) through the Ethernet cable (RJ45) provided.
- Initiate a Telnet session from the IP terminal to IP address 192.168.1.1 (**Regesta-PRO-ER** default address).
- The default configuration does not ask for credentials (user/password) to access the console.

A.4 Connectors


A.4.1 LAN Connector

RJ45 LAN	RJ45 PIN	LAN
	1	Tx+(input)
	2	Tx-(input)
	3	Rx+(output)
	4	--
	5	--
	6	Rx-(output)
	7	--
	8	--

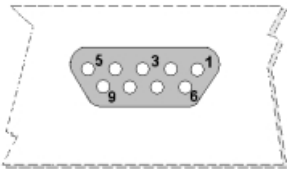
A.4.2 DSL Connector

RJ11 DSL	RJ11 PIN	DSL
	1	Joined to 2
	2	Line
	3	Line
	4	Joined to 3

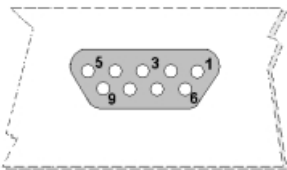
A.4.3 RF Connectors

	PIN	ANT
	Internal	RF in/out
	External	GND

A.4.4 Configuration Connector

DB9 CONFIGURATION	PIN	CONF
	1	--
	2	RxD
	3	TxD
	4	--
	5	GND
	6	--
	7	--
	8	--

A.4.5 Serial Port Connectors

DB9	PIN	SERIAL
	1	CD
	2	RxD
	3	TxD
	4	DTR
	5	GND
	6	DSR
	7	RTS
	8	CTS

A.5 Technical Specifications

A.5.1 LAN Interface

PROTOCOLS	Ethernet (802.3)
SPEED	Switch 10/100 Mbps (Base T)
CONNECTOR	RJ45 female

A.5.2 DSL Interface

STANDARDS	Please see the DSL manual
SPEED	Please see the DSL manual
CONNECTOR	RJ11 female

A.5.3 Wireless WAN Interface

STANDARDS	GPRS, UMTS, HSDPA, HSUPA, HSPA+, LTE ... Depends on the device's wireless WAN version.
SPEED	Depends on the device's wireless WAN version. Please see the manual on the appropriate module.
CONNECTOR	RF SMA female
ANTENNA	Depends on the type of wireless WAN. Please see the catalog on the antennas for cellular interfaces.

A.5.4 Configuration Interface

LOCAL TERMINAL	V.24 9600-8-N-1 without flow control
CONNECTOR	DB9 female on the front panel of the device.

A.5.5 Direct Power Supply

INPUT VOLTAGE	-48 V DC
INPUT CURRENT	300 mA
MAXIMUM POWER	15 W

A.5.6 Alternating Power Supply

INPUT VOLTAGE	220 V AC
INPUT FREQUENCY	50 Hz
MAXIMUM POWER	23.3 VA / Factor 0.6 / 14 W

A.5.7 Dimensions and Weight

TYPE	Ruggedized casing that allows for DIN rail mount support
LENGTH x WIDTH x HEIGHT	Without protector: 230 x 186 x 50 mm With protector: 270 x 186 x 50 mm
WEIGHT	650 gr

A.5.8 Environmental Specifications

AMBIENT TEMPERATURE	ON: -10 °C to +60 °C OFF: -25 °C to +60 °C
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Appendix B Safety information

B.1 Recycling and the Environment




Please do not, under any circumstances, throw away any **Regesta-PRO-ER** with normal domestic waste. Ask your local town hall for information on how to correctly dispose of them in order to protect the environment against e-waste. Always respect the current laws regarding waste material. Anyone found violating the environmental laws will be subject to fines and any additional steps established by law.

All the packing materials i.e. the cardboard box, plastic and any other packaging, together with the pieces making up a **Regesta-PRO-ER**, must be recycled complying with the current active laws regarding recycling materials.

The below symbol with a cross over the rubbish container can be seen on the device. This means that, when a device reaches the end of its life, it must be taken to the official recycling/disposal centers where it must be disposed of in an environmentally responsible manner and separately from normal domestic waste.



B.2 Translated Safety Warnings

	<p>The electric current in power cables, telephone lines and communication cables is dangerous. To prevent electric shocks, before installing, handling or opening the equipment covers, connect and disconnect the cables following the steps set forth in To Connect on page 13 and To Disconnect on page 13.</p>
	<p>La tensión eléctrica de los cables de alimentación, de los cables de la línea telefónica y de los cables de comunicación es peligrosa. Para evitar descargas, antes de instalar, mover o abrir las cubiertas de este equipo, conecte y desconecte los cables siguiendo el orden que se detalla en los apartados "Conectar" y "Desconectar".</p>
	<p>All interconnected communication devices should be plugged to THE SAME GROUNDED POWER OUTLET, which should at the same time be of good quality (lower than 10 ohms).</p> <p>Whether the workplace is provided with an uninterrupted power supply system (UPS), regulated supply or it is independent from the rest (such as lighting, etc.); it is highly recommended that all data devices should be connected to the same power source. This will avoid operating and premature aging problems of drivers and other components.</p>
	<p>Todos los equipos de comunicaciones interconectados deberán estar unidos a UNA MISMA TOMA DE TIERRA, a ser posible de buena calidad (inferior a 10 ohmios).</p> <p>Si la instalación está dotada de un Sistema de Alimentación Ininterrumpida (SAI), alimentación estabilizada, o bien es independiente del resto (alumbrado, etc.), conecte todos los equipos de comunicaciones a la misma fuente de alimentación. Así, se ahorrará problemas de funcionamiento y envejecimiento prematuro de drivers y demás componentes.</p>
	<p>Never install the SIM cards when the device is switched on.</p> <p>Always disconnect the device from the main power supply before installing the SIM cards.</p> <p>Always disconnect the device before removing the casing to access the trays.</p> <p>When inserting the SIM cards, please protect yourself against electrostatic discharges (ESD).</p> <p>Do not touch the SIM card connectors.</p>
	<p>No instale nunca las tarjetas SIM con el equipo encendido.</p> <p>Desconecte siempre el equipo de la red antes de instalar las tarjetas SIM.</p> <p>Desconecte siempre el equipo antes de desmontar la carcasa para acceder a las bandejas.</p> <p>Al insertar las tarjetas SIM, protéjase contra descargas electrostáticas (ESD).</p> <p>No toque los conectores de las tarjetas SIM.</p>