

Teldat Router Connect-104KF

Teldat -Dm 585-I

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Chapter 1 About This Guide

This installation manual for the **Teldat Connect-104KF** router family contains information on how to correctly install the device in a working environment.

1.1 Supported Devices

The information provided in this installation manual only applies to the **Teldat Connect-104KF** TLDPM00A1 router model.

1.2 Who should read this manual?

This manual should be read by support personnel who need to install, configure, maintain and monitor the device.

1.3 When should this manual be read?

Read this manual 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 manual contains the following information:

- A description of the features available in **Teldat Connect-104KF** routers.
- Technical specifications.
- Power supply requirements.
- Elements that can be connected when the router is operating.
- How to install and uninstall modules and power sources.
- A description of the device LEDs and connectors.
- Troubleshooting.

1.5 What is not in this manual?

This manual does not contain any information relative to the device software or its configuration. For configuration instructions, please see the relevant protocol manuals found in the Teldat website: www.teldat.com.

1.6 How is the information organized?

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

1.7 Technical Support

Teldat S.A. offers a technical support service. Regular software updates are available for maintenance purposes and new features.

Contact information:

Web: www.teldat.com

Tel: +34 918 076 565

Fax: +34 918 076 566

Email: support@teldat.com

1.8 Related documentation

Dm748-I *Software Updating*.

Chapter 2 Teldat Connect-104KF Router

2.1 Characteristics

2.1.1 Power Supply

For further information on the different **Teldat Connect-104KF** power supplies, please see [Power Source](#) on page 8 in [Components and Power Supply](#) on page 4.

2.1.2 Hardware Monitoring

The LED panel is used to monitor the hardware in the **Teldat Connect-104KF** router. These LEDs provide visual information on the state of the device and reference the condition of hardware components, indicating whether there is connectivity, data flows, etc.

For further information on the LED panel, please see the [Components](#) on page 4 in the following chapter.

Chapter 3 Components and Power Supply

The following chapter provides detailed information on the chassis of the **Teldat Connect-104KF** router and its components. This information includes:

- Components.
- Information on assembly.
- Installing and removing modules.
- Power supply.
- RST button.
- Data connection.
- SIM card installation.

3.1 Components

3.1.1 Front Panel

The following figure shows the front panel.

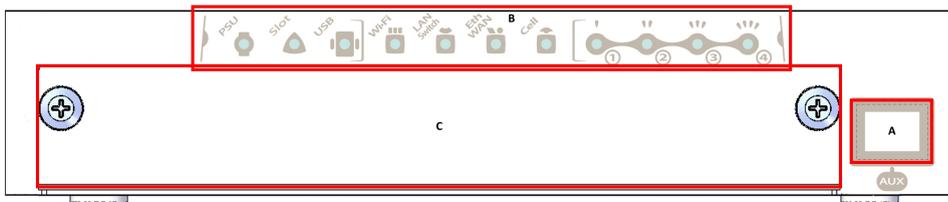


Fig. 1: Front Panel

The items on the front panel are as follows:

FRONT PANEL ELEMENTS TABLE

Item	Description
A	Aux. RJ45 Connector that provides access to the device's local console for configuration and monitoring purposes.
B	LED panel.
C	Expansion card tray.

The LED panel provides information on the status of components (whether or not they are active) and on network activity.

LED table

LED	Status	Description
PSU	Monochrome green	Off -> not receiving power from PSU On -> receiving power from PSU
Slot	Tricolor	Not used by the router.
USB	Tricolor	Not used by the router.
Wi-Fi	Bicolor	Red -> interface down Green -> interface up

		Blinking (green/red) -> activity/maintenance.
LAN Switch	Tricolor	Green -> connected. Blinks with connection data activity. Red -> disconnected.
Eth WAN	Tricolor	Green -> connected. Blinks with connection data activity. Amber -> blinking: auto-test. Red -> disconnected.
Cell	Tricolor	Not used by the router.
Coverage (1, 2, 3, 4)	Monochrome Blue	Not used by the router.

3.1.2 Rear Panel

The following figure shows the rear panel. Here you will find most of the **Teldat Connect-104KF** router connectors.

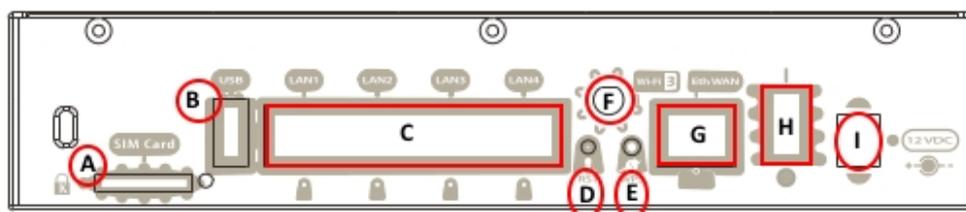


Fig. 2: Rear panel

The following table describes the various connectors:

Rear panel elements

Item	Description
A	SIM Card. Not used by the router.
B	USB. Not used by the router.
C	4-port Gigabit Ethernet Switch.
D	RST. Reset button. Please see RST Button on page 9 in this chapter for more information on how the reset button works.
E	WPS (Wireless Protected Setup). This allows for Wi-Fi network parameters to be easily and safely configured.
F	Wi-Fi antenna no. 3. Whether this connector is used or not depends on the type of Wi-Fi card in the router.
G	Eth WAN. Gigabit Ethernet WAN.
H	On/Off switch.
I	Power source connection (PSU).

3.1.3 Side Panels

Each side panel contains one Wi-Fi antenna connector and one 3G antenna connector.

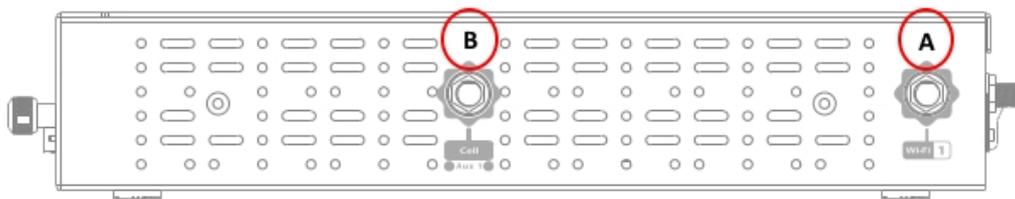


Fig. 3: Right side panel

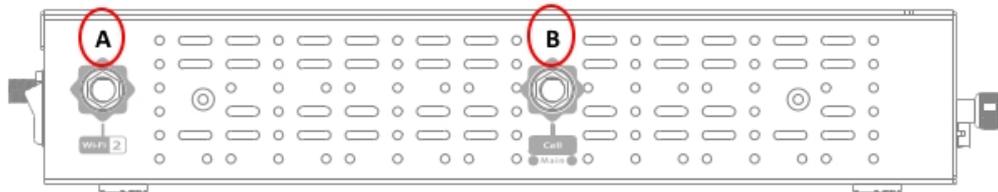


Fig. 4: Left side panel

The connectors are as follows:

Side panel connectors

Item	Description
A	Wi-Fi antenna connectors.
B	3G antenna connectors. Not used in this router.

3.1.4 Bottom Panel

The following items can be found on the bottom panel:

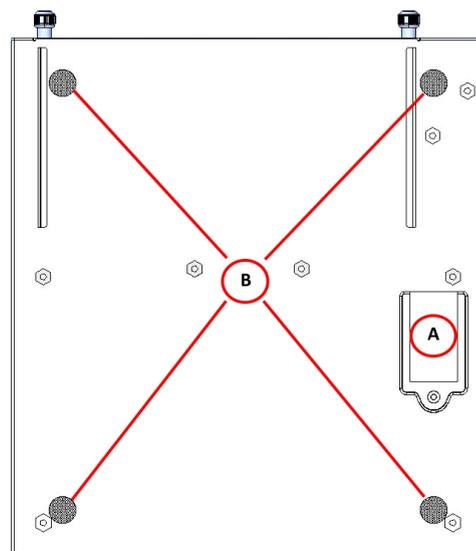


Fig. 5: Bottom panel

The main items on the bottom panel are as follows.

Bottom panel Elements Table

Item	Description
A	Internal 3G module SIM tray. Not used by the router.
B	Adhesive rubber feet (not required for rack installation).

3.2 Expansion Slot

The **Teldat Connect-104KF** router has an expansion slot that is not used.

This slot is on the *Front Panel* on page 4 of the router, as shown in the following figure:



Fig. 6: Expansion slot

3.3 Rack installation

The **Teldat Connect-104KF** router can be installed in a 19" rack. Mounting brackets and screws are not provided by default and must be purchased separately.

Each bracket is attached to the device using 2 screws, as shown in Figure 7.

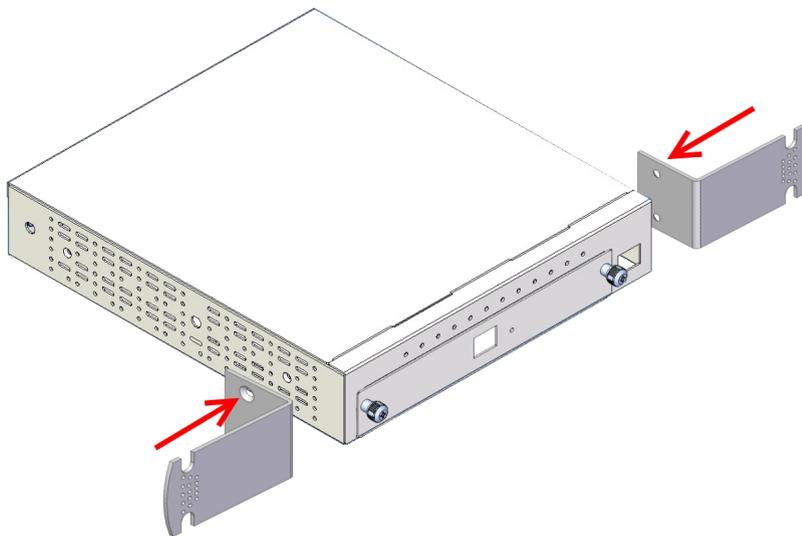


Fig. 7: Anchor bolts for a rack

3.3.1 Standalone

The **Teldat Connect-104KF** router can be placed as a standalone on a flat, stable surface. The adhesive rubber feet must be stuck to the bottom panel to prevent the router from sliding.

Make sure there is enough space around the router (for ventilation purposes) and check that the router is within reach of a power outlet.

3.3.2 Wall mounting

The **Teldat Connect-104KF** router cannot be mounted on the wall.

3.4 Plug-in Modules

The **Teldat Connect-104KF** router does not support plug-in modules

3.5 Power Source

The **Teldat Connect-104KF** routers use an external AC/DC energy source.

Workplace Conditions. Main Characteristics

- Avoid humid and or dusty locations.
- Avoid direct exposure to sunlight and any other heat sources. Do not place the device between papers, magazines or other items that could hinder natural air circulation.
- Do not place the device near strong electromagnetic fields such as those produced by speakers, motors, etc.
- Avoid knocks and/or strong vibrations during operation, storage and transport.



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 [Connecting](#) on page 8 and [Disconnecting](#) on page 9.

3.5.1 Connecting to the power source

To connect the power supply to the device, please follow the steps listed in the section headed [Connecting](#) on page 8.

To avoid electric shocks, residual current circulation and any other unwanted effects that may disrupt communication, the following is recommended:



Warning

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).

Regardless of whether the workplace is equipped 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 prevent drivers and other components from suffering premature aging problems or malfunctioning.

3.5.2 Connecting

- Make sure the device's power switch is in the OFF position (0).
- Make sure the power supply is NOT connected to the mains or to the device.
- Connect all data cables.
- Connect the power supply to the device.
- Connect the power supply to the mains.
- Set the router's power switch to ON (1).

3.5.3 Disconnecting

- Make sure the device's power switch is in the OFF position (0).
- Disconnect the power supply from the mains.
- Disconnect the power supply from the device.
- Disconnect the data cables.

3.6 RST Button

The different features of the RST button are described below.

3.6.1 Rebooting the device

Once the device is operating normally, pressing the RST button will force a restart.

3.6.2 Default Configuration

The RST button allows you to boot the device with the default configuration through the following steps:

- With the device switched off, press and hold the RST button down while you turn on the router using the ON/OFF switch (1).
- The PSU LED lights up (green) and the LED Slot starts blinking (amber). It will carry on blinking for 10 seconds.
- For the device to boot with the default settings, release the RST button while the LED Slot is still blinking (i.e. before the 10-second period expires).

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 your router's default configuration is different from the one shown above.

3.7 Data connection

The **Teldat Connect-104KF** router has the following data connections:

3.7.1 4-port Ethernet Switch

The **Teldat Connect-104KF** router incorporates a 4-port 10/100/1000 BaseT Switch with automatic MDI/MDIX to connect to a local area network (LAN).

Please pay careful attention to the labeling to avoid mistaking the switch for other port types:

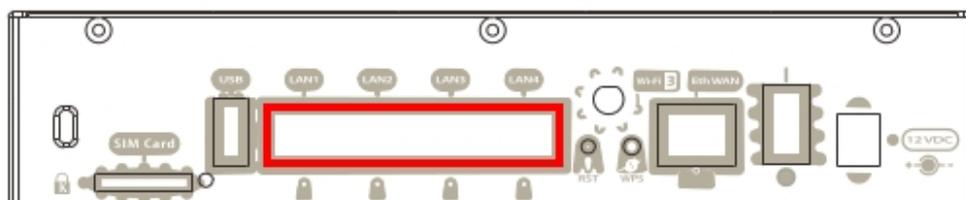


Fig. 8: LAN switch PORTS

**Note**

During booting and in BIOS mode, only the LAN 1 connector is available.

3.7.2 WAN Connection

The **Teldat Connect-104KF** router incorporates an Ethernet WAN 10/100/1000 BaseT port with automatic MDI/MDIX.

The WAN port is independent of the switch and is operated just like any other interface.

Please pay careful attention to the labeling to avoid mistaking the switch for other port types:

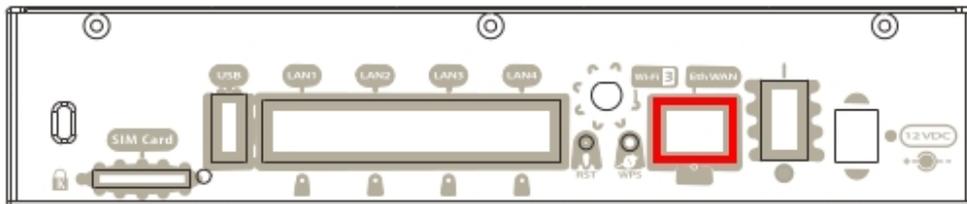


Fig. 9: WAN PORT

**Note**

During booting and in BIOS mode, the WAN connector does not work.

3.7.3 WWAN Antenna Connection (Cell connector)

The **Teldat Connect-104KF** router has two unused 3G antenna connectors on the side panel.

3.7.4 Wireless LAN Antenna Connection (Wi-Fi connectors)

The **Teldat Connect-104KF** router has three RF antenna connectors to connect an external antenna and improve the quality of the signal received and transmitted by the Wireless LAN module.

This module is internal and can be activated by purchasing the appropriate software license. To assemble the antennas supplied with the device, screw them into the connectors labeled *Wi-Fi* (located on the rear panel and both side panels of the router). Unscrew the antennas to disassemble them.

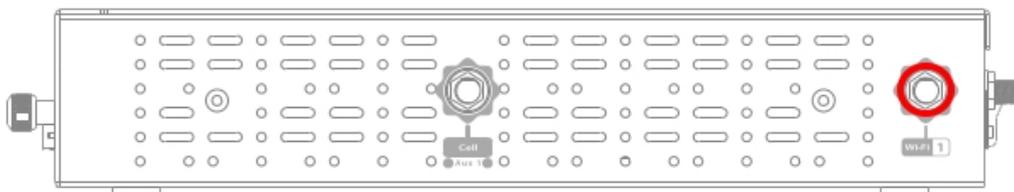


Fig. 10: Wi-Fi 1 Antenna

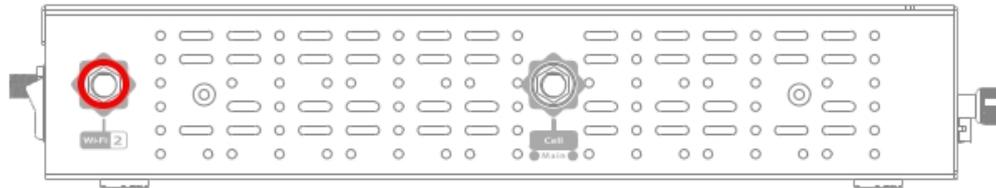


Fig. 11: Wi-Fi 2 Antenna

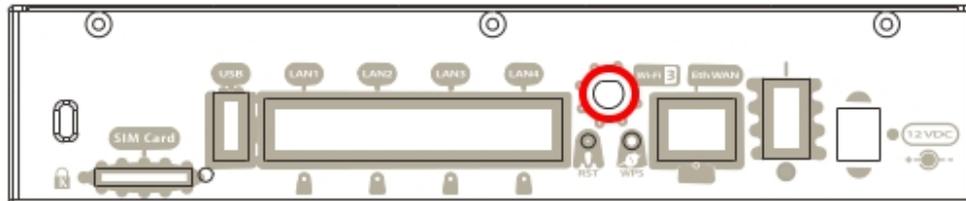


Fig. 12: Wi-Fi 3 Antenna

3.7.5 Connecting a 3G USB device (USB connector)

The **Teldat Connect-104KF** router does not support external USB modem connection.

3.8 Installing the SIM card

The **Teldat Connect-104KF** router does not use SIM cards.

Appendix A Technical information

A.1 Troubleshooting

The following table can help you solve problems when installing the router. If you cannot solve the problem, contact your dealer for more information.

Symptom	Solution
No LED lights up on the router.	Check the power supply to the router (power source, ON/OFF switch, mains socket).
You have forgotten the router's access password.	Ignore the configuration using the RST button (as explained in the relevant section).
The LAN Switch LED never turns green.	Check the Ethernet cable and the connection to the network. Verify that you have the appropriate license.
The Eth WAN LED never turns green.	Check the Ethernet cable and the connection to the network.
The Wi-Fi LED never turns green.	Check your router's configuration and that of the remote station(s). Verify that you have the appropriate license.

A.2 Updating the software

Teldat Connect-104KF routers can be updated to newer versions. Please contact your dealer for further details on new versions.

There are several ways to update a Teldat router: Please see manual “**Dm 748-I Software Updating**” for further information.

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

A.3 Connecting to the device

A.3.1 Connecting using the local console (Aux connector)

Teldat Connect-104KF routers have an RJ45 female connector on the front panel labeled “**Aux.**” that provides access to the device's local console.

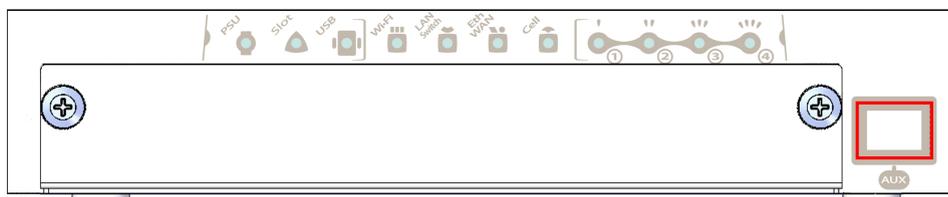


Fig. 13: Aux Connector

In order to configure the connector, you need to connect the “**Aux.**” port to an asynchronous terminal (or to a PC with terminal emulation).

The terminal configuration should be set to:

- 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 using the RJ45 connector cable, supplied with the device, together with the RJ45 Female-DB9-Female adapter also supplied with the device.

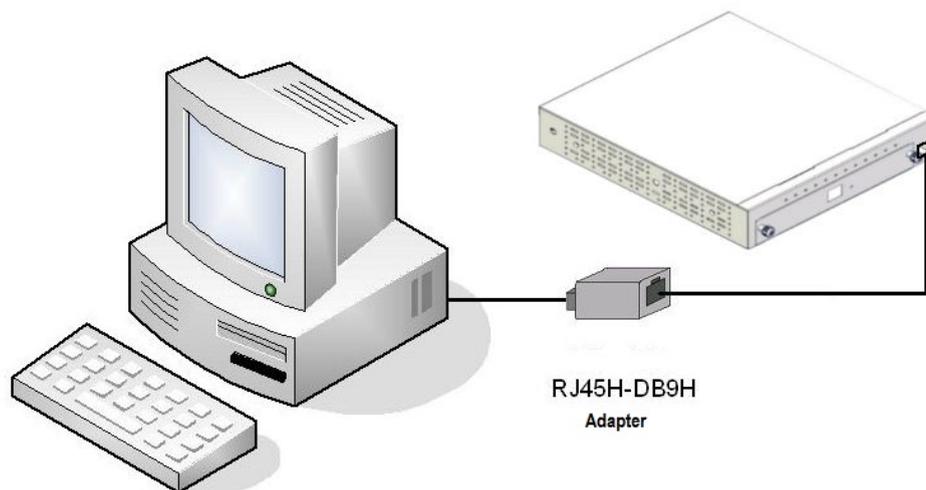


Fig. 14: Connection for Configuration

A.4 Licenses

The **Teldat Connect-104KF** router offers a single license:

Hardware encryption: Activation license for hardware encryption.

A.5 Connectors

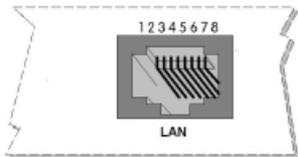
A.5.1 LAN Connector

LAN Connector

RJ45 LAN	RJ45 Pinouts	FE Signals	GE Signals
	1	BI-DA+	BI-DA+
	2	BI-DA-	BI-DA-
	3	BI-DB+	BI-DB+
	4	--	BI-DC+
	5	--	BI-DC-
	6	BI-DB-	BI-DB-
	7	--	BI-DD+
	8	--	BI-DD-

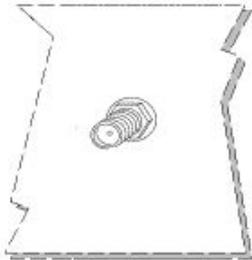
A.5.2 WAN Connector

WAN Connector

RJ45 WAN	RJ45 Pinouts	FE Signals	GE Signals
	1	BI-DA+	BI-DA+
	2	BI-DA-	BI-DA-
	3	BI-DB+	BI-DB+
	4	--	BI-DC+
	5	--	BI-DC-
	6	BI-DB-	BI-DB-
	7	--	BI-DD+
	8	--	BI-DD-

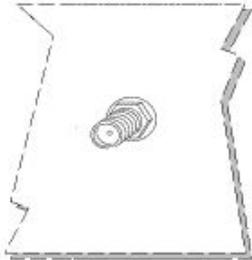
A.5.3 WWAN Connector (female)

WWAN Connector

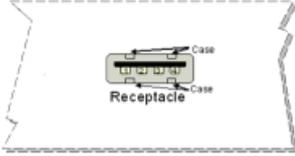
	PINOUT	ANT
	Internal	RF in/out
	External	GND

A.5.4 WLAN Connector (male)

WLAN Connector

	PINOUT	ANT
	Internal	RF in/out
	External	GND

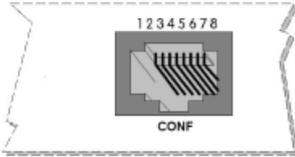
A.5.5 USB Connector

USB Type A	PINOUT	USB
	1 2 3 4 Shell	VCC DATA- DATA+ GND Shield

USB Connector

A.5.6 Configuration Connector

Configuration Connector

RJ45 CONFIGURATION	RJ45 PIN	CONF
	1 2 3 4 5 6 7 8	-- Rx D GND -- -- GND Tx D --

A.5.7 Power Supply Connector

Power Supply Connector

	PINOUT	ANT
	Internal	POSITIVE
	External	NEGATIVE

A.6 Technical Specifications

A.6.1 Hardware Architecture

PROCESSORS	Freescle QorQ
MEMORY	128 Mbytes in SDRAM.
STORAGE UNIT	FLASH Memory (32 Mbytes).

A.6.2 LAN Interface

PROTOCOLS	Ethernet (802.3).
PORTS	4 port Switch managed with MDI/MDX auto-detection.
SPEED	10/100/1000 Mbps (BaseT)
CONNECTOR	RJ45 female.

A.6.3 WAN Interface

STANDARDS	Ethernet (802.3).
SPEED	10/100/1000 Mbps (BaseT)
CONNECTOR	RJ45 female.

A.6.4 Wireless WAN Interface

STANDARDS	Not used by the router.
SPEED	Not used by the router.
CONNECTOR	2 RF SMA Female per module.
ANTENNA	Not used by the router.

A.6.5 Wireless LAN Interface

STANDARDS	802.11abgn
FREQUENCY	2.4 GHz / 5 GHz.
SPEEDs	Depends on the Wireless LAN module
CONNECTOR	3 RF SMA Male.

A.6.6 USB Interface

3G USB MODEMS	Not used by the router
SPEED	The interface uses the USB 2.0 standard (480 Mbps). Not used by the router
CONNECTOR	USB Type A

A.6.7 Configuration Interface

LOCAL TERMINAL	V.24 9600-8-N-1 without flow control
CONNECTOR	RJ45 female on the device's front panel.

A.6.8 Power Supply

INPUT VOLTAGE	+12V DC.
INPUT CURRENT	1200 mA
JACK	5.5 mm
INTERNAL PINOUT	2.5 mm

A.6.9 Dimensions and weight

TYPE	Desktop / chassis for a 1 U high rack mount enclosure
LENGTH x WIDTH x HEIGHT	245 x 210 x 45 mm.
WEIGHT	1.432 Kg.

A.6.10 Environmental Specifications

TEMPERATURE	OPERATING NORMALLY: 0°C to 45°C STORED: -25°C to 70°C
RELATIVE HUMIDITY	On: 5% a 90%

Appendix B Safety information

B.1 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 Connecting on page 8 and Disconnecting on page 9.</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). Regardless of whether the workplace is equipped 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 prevent drivers and other components from suffering premature aging problems or malfunctioning..</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). 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>

B.2 PSU Energy Efficiency

According to Commission Regulation (EU) 2019/1782 laying down ecodesign requirements for external power supplies pursuant to Directive 2009/125/EC of the European Parliament and of the Council and repealing Commission Regulation (EC) No 278/2009, the instruction manuals for end-users shall include the following information:

<i>Model</i>	DA-60N12
<i>Manufacturer Name</i>	ASIAN POWER DEVICES INC. (APD)
<i>Manufacturer Address</i>	NO.5 LANE 83. LUNG-SOU ST, TAO-YUAN CITY, TAIWAN R.O.C.
<i>Input Voltage</i>	100-240 Vac
<i>Input AC frequency</i>	50-60 Hz
<i>Output voltage</i>	12.0 V
<i>Output current</i>	5.0 A
<i>Output power</i>	60.0 W
<i>Average active efficiency</i>	88.3%
<i>Efficiency at low load (10%)</i>	87.2%
<i>No-load power consumption</i>	0.12 W