TBC1-8ETH card

Installation Manual

Legal Notice

Warranty

This publication is subject to change.

Teldat S.A. offers no warranty whatsoever for information contained in this manual.

Teldat S.A. is not liable for any direct, indirect, collateral, consequential or any other damage connected to the delivery, supply or use of this manual.

Table of Contents

Chapter 1 About This Manual

This installation guide contains step by step instructions on how to correctly install, uninstall and replace the **TBC1-8ETH** expansion card in the Teldat M/iM router family.

1.1 Supported Devices

The information contained in this installation manual only applies to the **TBC1-8ETH** card.

1.2 Warning and notes

Observe the warnings and instructions given in this manual to avoid and prevent injuries or damage during installation and maintenance. Please follow the security procedures and guidelines when working near electrical equipment. The warnings and notes are provided in each chapter as appropriate.

1.3 Who should read this manual?

This manual should be read by installers and network administrators who need to install, configure or maintain networks. This guide assumes that the installer is familiar with network electronics and technologies.

1.4 What is in this manual?

This installation guide contains the following information:

- A description of the general characteristics of the **TBC1-8ETH** expansion card.
- A description of the steps to carry out to install the **TBC1-8ETH** card in the Teldat M/iM routers.
- A description of the **TBC1-8ETH** expansion card LEDs and connector pinouts.

1.5 How is the information organized?

This document aims to provide all the information necessary for installing the **TBC1-8ETH** expansion card in the Teldat M/iM router family.

- **TBC1-8ETH** expansion card characteristics.
- **TBC1-8ETH** expansion card connectors.
- Requirements prior to installation.
- Installing the **TBC1-8ETH** expansion card.

1.6 Technical Support

Teldat S.A. offers a technical support service. Device software can be upgraded on a regular basis for maintenance purposes and for new features.

Contact information:

Web: http://www.teldat.com

Tel.: +34 918 076 565

Fax: +34 918 076 566

Email: support@teldat.com

1.7 Related Documentation

Teldat Dm569-I *Teldat M1 Installation.*

Note

The manufacturer reserves the right to make changes and improvements to the appropriate features in both the software and hardware of this product, modifying the specifications of this manual without prior notice.

The images showing the front and back panels of the device are for information purposes only. Some small modifications may exist in the actual device.

Chapter 2 TBC1-8ETH expansion card

This manual focuses on the **TBC1-8ETH** expansion card.

Sometimes customers require more LAN ports than those available in the router. Depending on the application, these ports can be used as an expansion of the switch ports available or, may be assigned to a new, independent interface.

The **TBC1-8ETH** card, compatible with the new Teldat M/iM router family, is designed to meet these requirements.

The **TBC1-8ETH** card provides eight additional *Gigabit Ethernet* ports and can also act as PoE Power Supply Equipment (PSE) - compatible with the current PoE daughter boards - providing power on the Ethernet cable up to 15.40 W (802.3af).

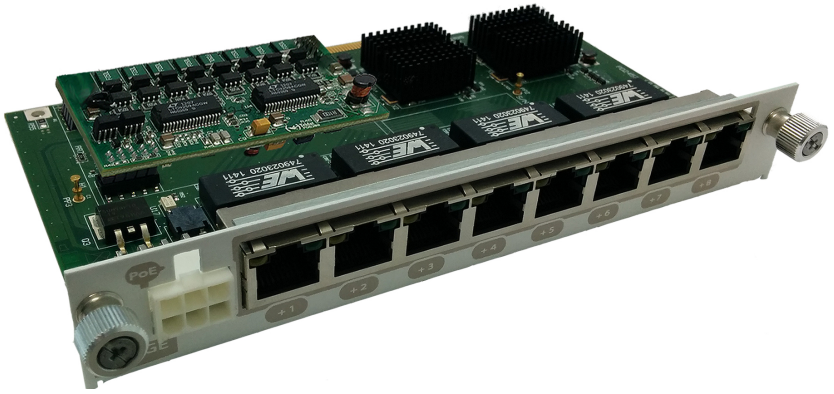

Fig. 1: **TBC1-8ETH card**

2.1 TBC1-8ETH expansion card: Characteristics

The main characteristics of the **TBC1-8ETH** expansion card are as follows:

TBC1-8ETH card: Characteristics

Ports	8 RJ45 Gigabit Ethernet PoE port.
Standards	IEEE • 802.3af (POE, optional). • 802.1Q (VLAN). • 1000-BaseT.
Speed	1000 Mbps full duplex.

2.2 TBC1-8ETH expansion card: Connectors

Figure 2 shows the front board of the **TBC1-8ETH** card:

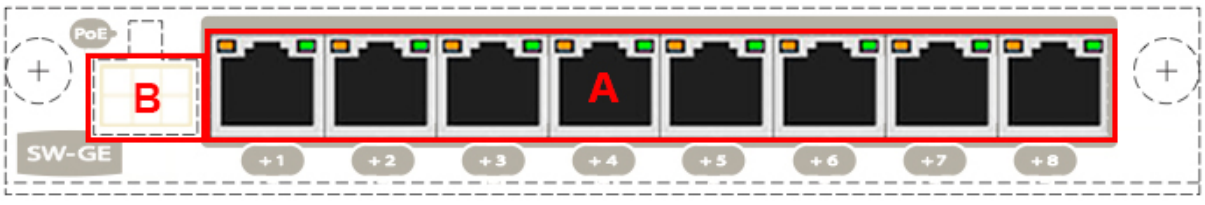

Fig. 2: **Front of the TBC1-8ETH card**

The front board elements are as follows:

Elements table for the front of the TBC1-8ETH card

Item	Description
A	8 Gigabit Ethernet ports. (RJ45 connector).
B	One power connector for PoE power supply, (3x2 male header), optional.

The numbering of each port is the offset to the last switch port. If the baseboard switch has 4 ports, then port **+1** is port **5.** If the daughter board does not belong to any switch, then port **+1** is port **1** of the new Ethernet interface.

Chapter 3 Installing the TBC1-8ETH expansion card

This chapter provides information on how to install and uninstall the **TBC1-8ETH** expansion card in the Teldat M/iM routers.

This information includes:

- Requirements prior to installation.
- Installing or replacing a **TBC1-8ETH** expansion card.

3.1 Requirements prior to installation

To configure the care, you must be able to access the Teldat M/iM router through a console or a Telnet connection. For further information, please see the *Configuring for Configuration* section under the *Teldat-Dm569-I Teldat M1 Installation* manual.

3.2 Installing or replacing the TBC1-8ETH expansion card.

To install or replace a **TBC1-8ETH** card, please see the *Expansion Slot* section in manual *Teldat-Dm569-I Teldat M1 Installation*.

Chapter 4 LEDs and connector pinouts: Description

This chapter provides information on the **TBC1-8ETH** expansion card LEDs and connector pinouts.

4.1 TBC1-8ETH expansion card: LEDs

The **TBC1-8ETH** expansion card has two LEDs per port: a green one and an orange one. They both function according to the following criteria:

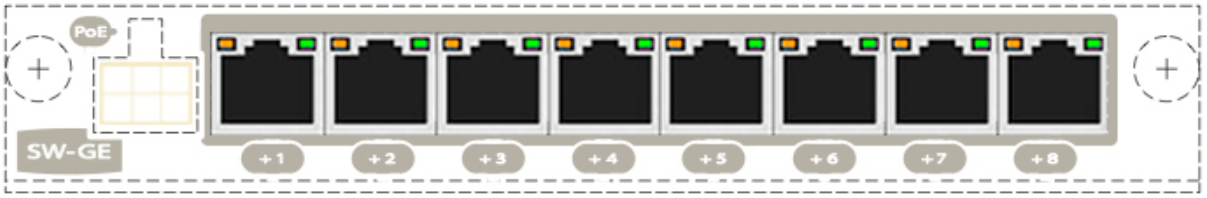

Fig. 3: **TBC1-8ETH** *card*: **LEDs**

LEDs table of the TBC1-8ETH card

Item	State
Green (reflects the link state)	Off => Link has not been detected. On => Link has been detected. Blink => Activity. Blink speed => link speed (1000 blinks at 84 mSec, 100 blinks at 170 mSec and 10 blinks at 340 mSec) The LED will blink 3 times on each new link up, even if there is no activity, so the speed of the link can be observed.
Orange (reflects the PoE state)	Off => Open Circuit. No PoE is applied or port is disabled. On => Correct class has been detected and power is applied or forced. Rapid blinking => Shortcut detected. Slow Blinking => Detection error (Signature Low or High).

4.2 Connector pinouts

The **TBC1-8ETH** expansion card has one RJ-45 connector.

4.2.1 RJ-45 Connector

The following figure shows the RJ-45 connector pinouts.

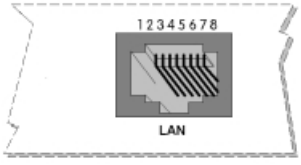

Fig. 4: **RJ-45 Connector Pinouts**

The following table display the information associated to each connector pinout:

TBC1-8ETH card RJ-45 Connector Pinouts

RJ-45 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-

Note

The Ethernet connectors have a MDI-X and auto-polarity auto-detection feature that acts bidirectionally. You do not need a null HUB cable to connect it to another Ethernet interface.

The following table details the characteristics of the RJ-45 switch connectors controlled by the ESR-APC-POE card:

TBC1-8ETH card PoE Characteristics

Power out	*Spare-pair power*, which uses the free wire pairs (Mode B).
Pinout polarity	Pinouts 4 and 5 (V+) ; Pinouts 7 and 8 (V-).
Output voltage	-48 V.
User port power	15.5 W(max.).

Note

Do not forget to connect the PSU to the PoE connector in the device.

4.2.2 PoE Connector

The following figure shows the PoE connector pinouts:

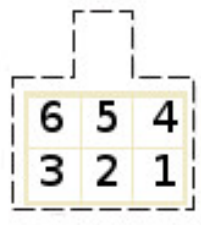

Fig. 5: **PoE connector pinouts**

The following table display the information associated to each PoE connector pinout:

TBC1-8ETH card PoE Connector Pinouts

Pinouts	Voltage
6, 5, 4	-48 VDC
3, 2 ,1	0 VDC

Chapter 5 Regulatory compliance and safety information

5.1 Manufacturer Information

Brand	Teldat
Manufacturer	Teldat S.A.
Country	Spain
Postal Address	Isacc Newton, 10 Parque Tecnológico de Madrid, 28760 Tres Cantos, Madid, Spain
International Phone	+34 91 807 65 65

5.2 WEEE Information

The waste container symbol with the >X< indicates that the device must be disposed of separately from normal domestic waste at an appropriate waste disposal facility at the end of its useful service life.

Das auf dem Gerät befindliche Symbol mit dem durchgekreuzten Müllcontainerbedeutet, dass das Gerät am Ende der Nutzungsdauer bei den hierfür vorgesehenenEntsorgungsstellen getrennt vom normalen Hausmüll zu entsorgen ist.

El símbolo del contenedor con la cruz, que se encuentra en el aparato, significa que cuando el equipo haya llegado al final de su vida útil, deberá ser llevado a los centros de recogida previstos, y que su tratamiento debe estar separado del de los residuos urbanos.

5.3 REACH

In compliance with the REACH Candidate List, the delivered product and product packaging do not contain chemical substances above a concentration limit of 0.1% weight by weight (w/w). This declaration will be updated whenever any changes occur or other chemical substances are added to the REACH Candidate List. Information is currently provided to consumers upon request.

5.4 EC Declaration of Conformity

English (EN)	This equipment is in compliance with the essential requirements and other relevant provisions of: Directive 2014/30/EU (EMC) Directive 2014/35/EU (LVD) Directive 2011/65/EU (RoHS) of the European Parliament
Spanish (ES) Español	Este dispositivo cumple con los requisitos esenciales y con las normas correspondientes de las siguientes directivas: Directiva 2014/30/UE (EMC) Directiva 2014/35/UE (LVD) Directiva 2011/65/UE (RoHS) del Parlamento Europeo
German (DE) Deutsch	Dieses Gerät entspricht den grundlegenden Anforderungen und den weiteren entsprechenden Vorgaben der Richtlinie 2014/30/UE (EMC) Richtlinie 2014/35/UE (LVD) Richtlinie 2011/65/UE (RoHS) des Europäischen Parlaments.

Note

Directive 2014/30/EU (EMC) replaces Directive 2004/108/EC (EMC) on 20th April 2016

Directive 2014/35/EU (LVD) replaces Directive 2006/95/EC (LVD) on 20th April 2016

The EC declaration of conformity and additional product documentation can be accessed here: http://www.teldat.com

5.5 CE Marking

This equipment is in conformity with the CE procedures and marking.