cronologic

TBT2PCIe

USER GUIDE

TBT2PCIe

www.cronologic.de

Contents

Note: This user guide is under active development.

1 Introduction

Using the **TBT2PCIe** enclosure, it is possible to connect the TimeTagger4 and xTDC4-PCIe time-to-digital (TDC) cards connects to any Thunderbolt^{TM} and to USB4 ports that support PCIe.

This user guide provides an overview of the enclosure. The APIs and interfaces of the respective TDC board wihtin the enclosure are unchanged. Refer to the particular user guides at www.cronologic.de/support/downloads.

This user guide is available at readthedoc and at www.docs.cronologic.de as HTML and as PDF download.

2   Hardware

Figure 2.1: Front and back panel of the **TBT2PCIe** enclosure. The interface at the front panel is the same as the interface of your respective TDC board.

2.1   Power requirements

It is possible to supply the **TBT2PCIe** enclosure with sufficient power via the USB4 connector. If that is the case, the LED next to the USB4 port (see Fig. 2.1) lights up **green** (input voltage > 8 V) and no additional power supply needs to be connected. If the LED lights up **red**, an external power supply is necessary.

Note: No external power supply is provided with the **TBT2PCIe** enclosure.

In case an external power supply is necessary, we recommend the MeanWell GST40A12-P1J (12 V DC, 3.34 A) power supply. However, any power supply providing **$12 - 17.5$ V DC @ 3 A** with a plug as depicted in Fig. 2.2 is sufficient.

If the power supply connected to the EXT PWR socket is sufficient, the LED next to it will light up **green** (input voltage > 11.3 V). If a power supply is connected that does not provide sufficient

power, the LED will light up **red**.

Note: While an external power supply is connected, the **TBT2PCIe** enclosure does not draw power via the USB4 port.

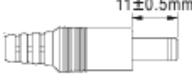**Figure 2.2:** Requirements for plugs fitting the EXT PWR socket of the **TBT2PCIe** enclosure.

2.2   Inputs and connectors

Refer to the respective user guide of the particular TDC card that is installed in your **TBT2PCIe** enclosure.

TimeTagger4:

https://download.cronologic.de/TimeTagger/TimeTagger4_User_Guide.pdf

xTDC4:

https://download.cronologic.de/xTDC4-PCIe/xTDC4_User_Guide.pdf

3 Technical Data

3.1 TDC characteristics

Refer to the respective user guide of the particular TDC card that is installed in your **TBT2PCIe** enclosure.

TimeTagger4:

https://download.cronologic.de/TimeTagger/TimeTagger4_User_Guide.pdf

xTDC4:

https://download.cronologic.de/xTDC4-PCIe/xTDC4_User_Guide.pdf

3.2 Information required by DIN EN 61010-1

3.2.1 Manufacturer

The crate is a product of:

cronologic GmbH & Co. KG

Jahnstraße 49

60318 Frankfurt

HRA 42869 beim Amtsgericht Frankfurt/M

VAT-ID: DE235184378

3.2.2 Intended Use and System Integration

The **TBT2PCIe** enclosure is designed to comply with **DIN EN 61326-1** when operated as outlined in this manual. The enclosure does not pose any hazards as defined by **EN 61010-1.**

When handling the enclosure, adequate measures have to be taken to protect the circuits against electrostatic discharge (ESD). Is that so?

3.2.3   Recycling

cronologic is registered with the "Stiftung Elektro-Altgeräte Register" as a manufacturer of electronic systems with **Registration ID DE 77895909**.

The **TBT2PCIe** enclosure belongs to **category 9**, **"Überwachungs und Kontrollinstrumente für ausschließlich gewerbliche Nutzung"**. The last owner of a **TBT2PCIe** enclosure must recycle it, treat the board in compliance with **§11** and **§12** of the German ElektroG, or return it to the manufacturer's address listed in Section 3.2.1.

3.2.4   Export Control

Note: TODO

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4   Revision History

Revision	Date	Comments
1.0.0	WIP	Initial Release