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xTDC4-PCIe

xTDC4-PCIe
User Guide

www.cronologic.de

Contents

The PCIe-to-USB4 adapter offers the ability to connect our time-to-digital converters (TDCs), that is,

- TimeTagger
- xTDC4-PCIe
- xHPTDC8-PCIe

to any USB4/Thunderbolt port.

This user guide provides an overview of the adapter. The APIs and interfaces of the respective TDC-card are unchanged, information of which can be found online 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.

Note: This user guide is under active development.

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1 Hardware

The PCIe-to-USB4 adapter enables direct connection of our time-to-digital converters via USB4/Thunderbolt while keeping the same Driver Programming API for a connection via PCIe.

Figure 1 gives an overview of the adapter and Tab. 1 gives an overview of the interface.

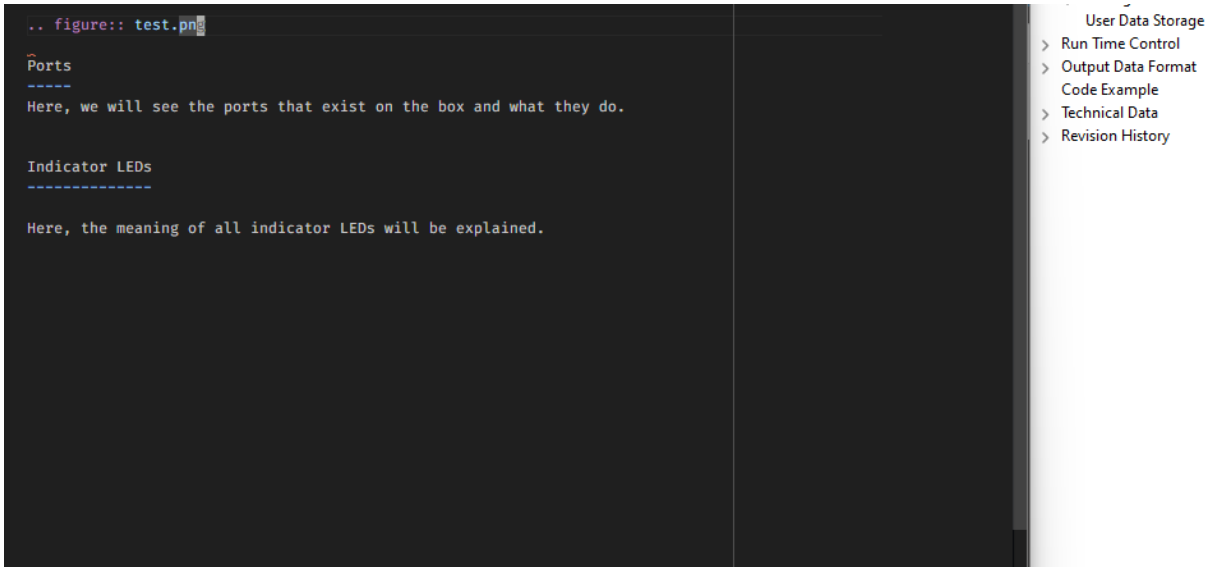

Figure 1: Dummy picture. For a description of the labels, see Tab. 1.

Table 1: Interface of the Thunderbolt2PCIe adapter.

Label	Description
(1)	Input for external power supply
(2)	USB-C / Thunderbolt connector
(3)	Status LED external power supply
(4)	Status LED for power supply over USB-C

1.1 Section

1.1.1 Subsection

Subsubsection

Paragraph

2 Requirements

What is necessary to operate the device?

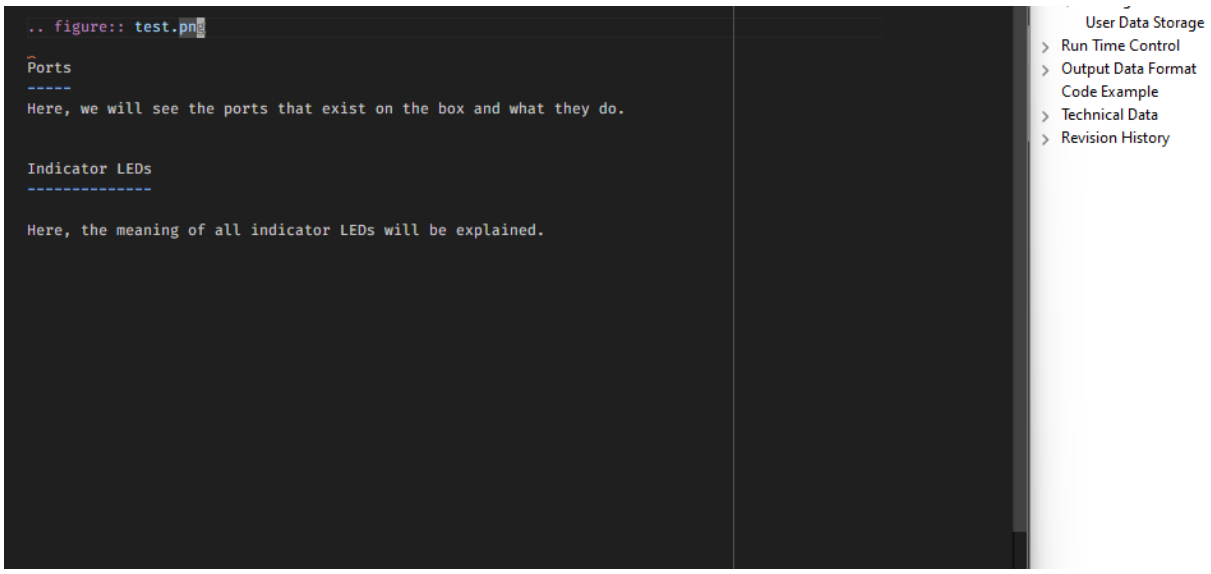

Figure 2: Here is my captions.

3 Installation

Connect the TDC card to the PCIe bus on the Thunderbolt2PCIe-Crate. Secure the card via the supplied screws at **Position (5)**. Connect the Thunderbolt2PCIe adapter using an appropriate Thunderbolt cable.

The Thunderbolt2PCIe-Crate may be directly supplied with power by the USB-C port it is connected to. If the power output of the connected board is sufficient, the **LED (4)** will light up green.

4 Status LEDs

LEDs (3) and **(4)** indicate the voltage supplied by an external power supply and via the USB-C port itself, respectively, as is described in Tabs. 2 and 3.

Table 2: LED (3)

Color	Voltage supplied by external power supply
red	> 11.3 V
green	< 11.3 V

Table 3: LED (4)

Color	Voltage supplied by USB-C port
green	> 8 V
red	< 8 V (insufficient)