cronologic

Desktop Solutions

User Guide Appendix – Desktop Solutions

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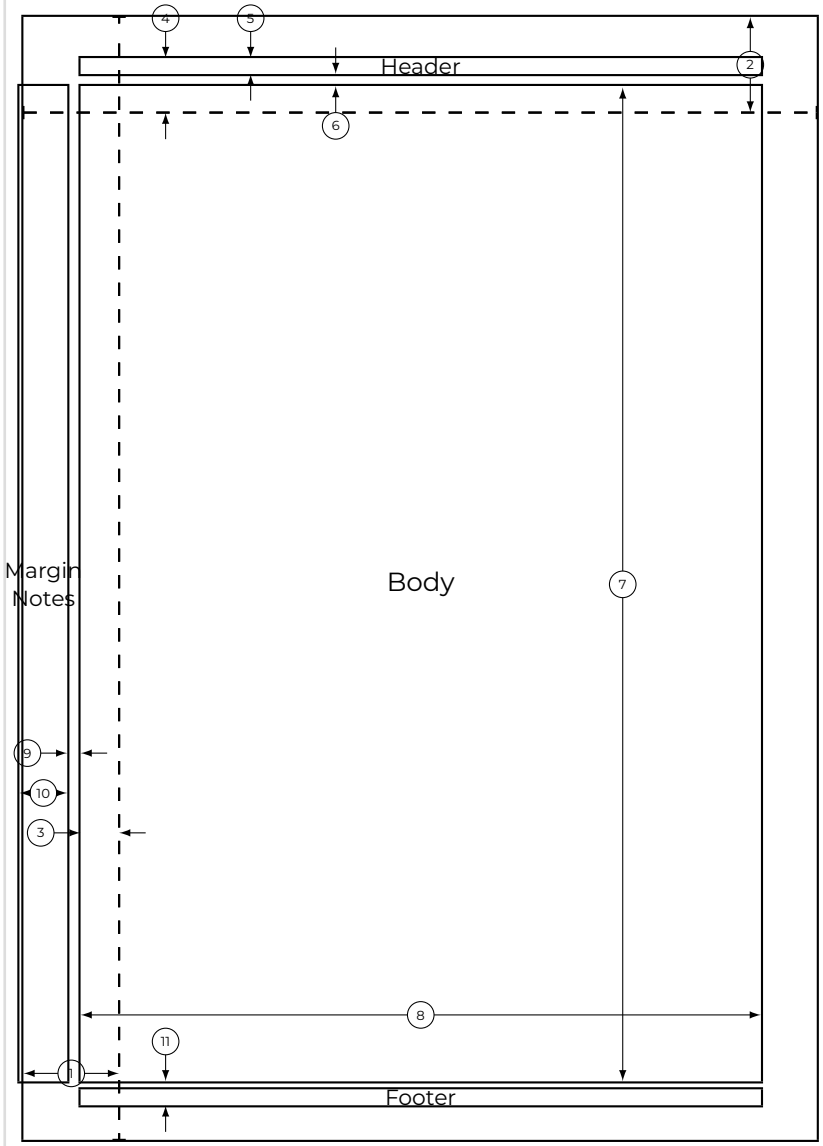

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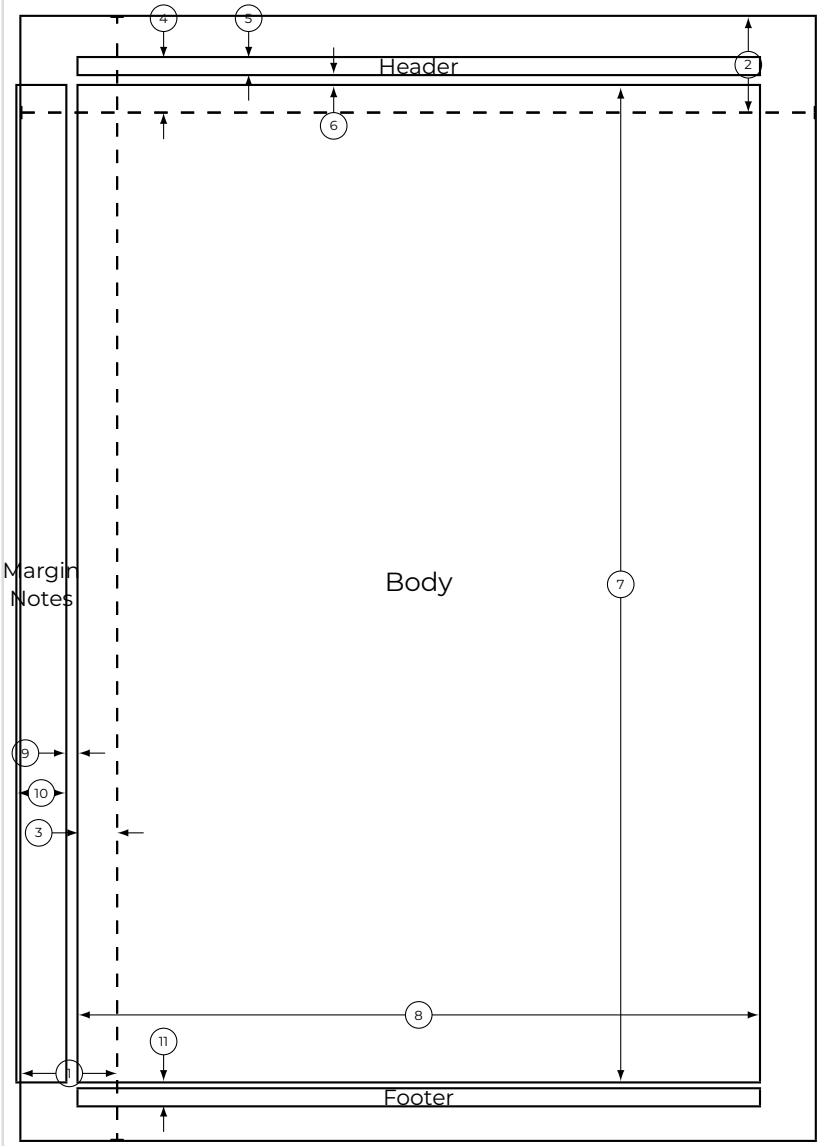

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Note: This user guide is under active development.

1 Introduction

The TimeTagger4 and xTDC4-PCIe time-to-digital (TDC) cards are available as external desktop versions, referred to as the TBT variant. Conventional Thunderbolt cables can be used to connect the TBT variants of our products to any Thunderbolt port and to any USB4 port that support PCIe.

This User Guide Appendix provides an overview of the device's operation. For an explanation of the APIs and interfaces refer to the main user guide of your product at www.cronologic.de/support/downloads.

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

2 Hardware

Figure 2.1: Front and back panel of the TBT variant of our TDC cards. The interface at the front panel is the same as the interface of the respective TDC board.

2.1 Power requirements

It is possible to supply the device 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 TBT variants of our TDC cards.

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 device does not draw power via the USB4 port.

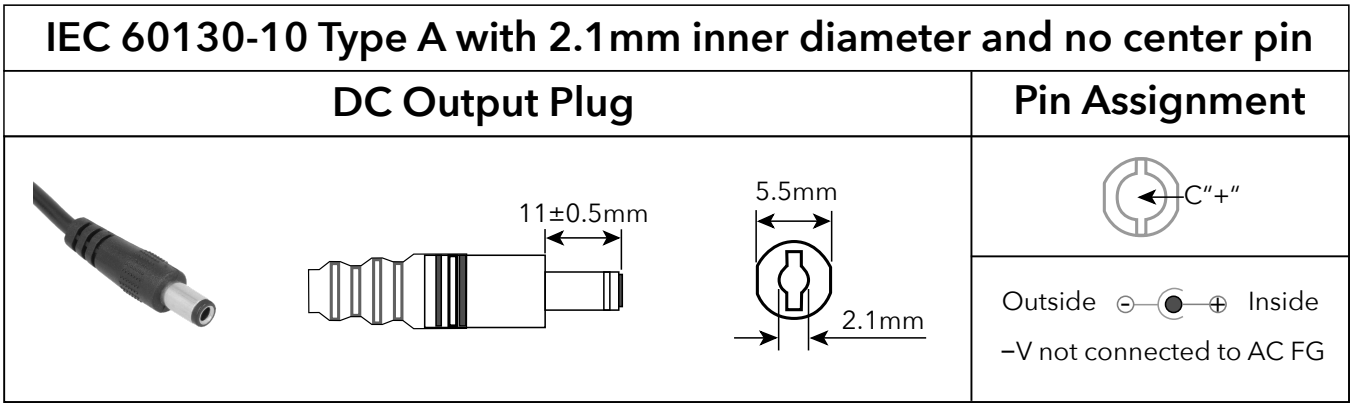


Figure 2.2: Requirements for plugs fitting the EXT PWR socket of the device.

2.2 Inputs and connectors

For the front-panel connectors, refer to the main user guide of the particular TDC card in your device.

TimeTagger4:

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

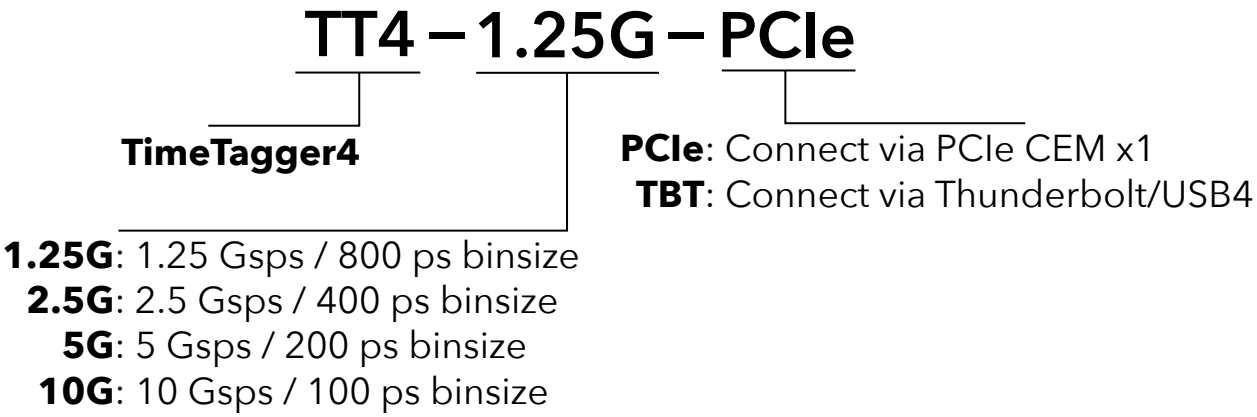
xTDC4:

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

3 Ordering Information

3.1 TimeTagger4

Multiple variants of the TimeTagger4 TDC card are available. The cards adhere to the following naming scheme:



3.2 xTDC4

xTDC4-PCIe
: TDC card to be installed in any PCIe CEM ×1 slot

xTDC4-TBT
: TDC desktop solution to be connected to any Thunderbolt port or USB4 port with PCIe capabilities using conventional Thunderbolt cables.

3.3 TBT-Upgrade-Kit

If you own the PCIe version of any product listed above, you can upgrade your device to the desktop (-TBT) version using the following ordering codes:

TT4-EXT
: Upgrade kit for any **TT4-□-PCIe** card.

xTDC4-EXT
: Upgrade kit for the **xTDC4-PCIe** card.

4 Technical Data

4.1 Size and Weight

Dimensions:

TBA

Weight:

- TimeTagger4: TBA
- xTDC4: TBA

4.2 TDC characteristics

Refer to the main user guide of the particular TDC card in your device.

TimeTagger4:

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

xTDC4:

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

4.3 Information required by DIN EN 61010-1

4.3.1 Manufacturer

The device is a product of:

cronologic GmbH & Co. KG
Jahnstraße 49
D-60318 Frankfurt

HRA 42869 beim Amtsgericht Frankfurt/M
VAT-ID: DE235184378

4.3.2 Intended Use and System Integration

The device 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).

4.3.3 Recycling

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

The device belongs to **Category 9**, **“Überwachungs und Kontrollinstrumente für ausschließlich gewerbliche Nutzung.”** The last owner of the device must recycle it in compliance with **§11** and **§12** of the German ElektroG, or return it to the manufacturer’s address listed in Section 4.3.1.

5 Revision History

5.1 Firmware, Driver, and Applications

Refer to the main user guide of the particular TDC card in your device.

TimeTagger4:

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

xTDC4:

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

5.2 User Guide

1.0.0 — DD-Mon-JJJJ
Initial release

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