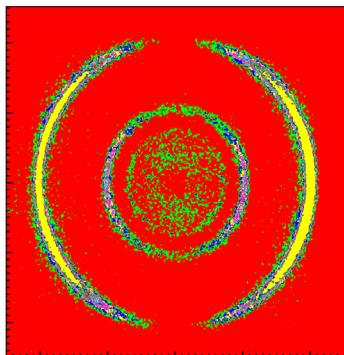




RoentDek

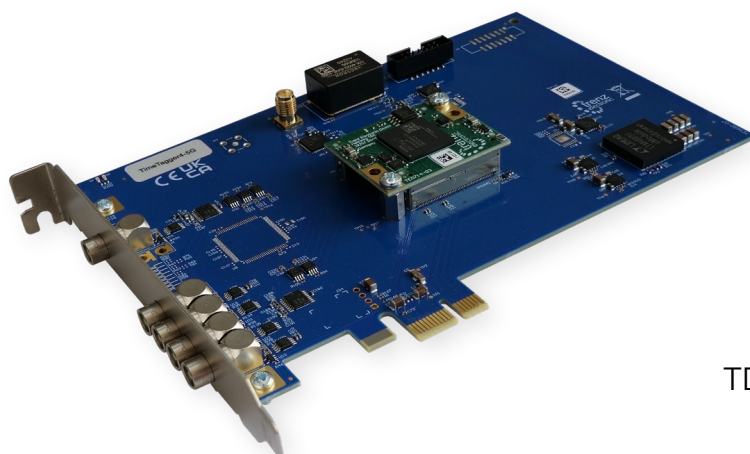
Handels GmbH

**Supersonic Gas Jets
Detection Techniques
Data Acquisition Systems
Multifragment Imaging Systems**

TDC4HM_Ir - Product Brief



TDC4HM_Ir-TBT



TDC4HM_Ir

TII 東京インスツルメンツ
TOKYO INSTRUMENTS
グローバルにネットワークを広げ、最先端の科学をお客様に提供

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TII Group Company

UNISOKU 超高真空・極低温走査型プローブ顕微鏡
高速分光測定装置、クライオスタット

LOTIS TII Nd:YAGレーザー、Ti:Sレーザー
OPOLレーザー

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www.roentdek.com

Introduction

RoentDek presents an exciting series of low-cost, mid-resolution time-to-digital converters. These time interval analyzers are available as measurement cards or desktop devices and offer a single-shot resolution of 100 ps to 800 ps with a high readout bandwidth.

TDC4HM_Ir are ideally suitable in applications that do not require the highest single-shot timing resolution, but high data acquisition rates and the lowest multiple hit deadtime. These include certain types of mass spectroscopy (TOF-MS), time-correlated single photon counting (TCSPC), phase shift measurement, quantum cryptography and frequency counting applications.

TDC4HM_Ir are high-throughput, low-cost common start time-to-digital converters (TDCs). The timestamps of leading or trailing edges of digital pulses are recorded from the TDC4HM_Ir versions with the following single shot time resolutions (quantization):

- **TDC4HM_Ir1.25** and **TDC4HM_Ir1.25-TBT:** **800 ps**
- **TDC4HM_Ir2.5** and **TDC4HM_Ir2.5-TBT:** **400 ps**
- **TDC4HM_Ir5** and **TDC4HM_Ir5-TBT:** **200 ps**
- **TDC4HM_Ir10** and **TDC4HM_Ir10-TBT:** **100 ps**

The -TBT desktop units can be connected to any Thunderbolt port and any USB4 port that supports PCIe using standard Thunderbolt cables.

For all TDC4HM_Ir, cronologic will support you with drivers for Windows and Linux.

Technical Data

Optimized for	low cost
TDC channels	1 AC-coupled start channel 4 AC-coupled stop channels
Connectors	5x LEMO 00 / board-to-board (TDC-Modules)
Bin size (version-dependent)	800 / 400 / 200 / 100 ps
Double pulse resolution	2 bins
Dead time between groups	none
Start rate (version-dependent)	0.625 / 1.25 / 2.5 / 5 GHz burst, 18 MHz sustained
Stops	0.625 / 1.25 / 2.5 / 5 GHits/s per channel for bursts of up to 3900 stops
	40 MHits/s per channel sustained
	60 MHits/s over all channels sustained
Range	1.6 ms, 430 ms extended
measuring mode	common start or continuous
Maximum hits per packet	≈8000 hits
synchronisation of multiple boards	external clock input only
Readout interface	PCIe2 x1 @ 400MB/s / USB4 (-TBT desktop units)

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