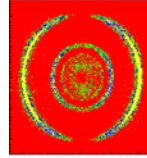


The TDC4HM multi-stop Time-to-Digital Converter



Roentdek
Handels GmbH
Supersonic Gas Jets
Detection Techniques
Data Acquisition Systems
Multifragment Imaging Systems

The **TDC4HM** is the latest version of our well-established TDC-series (<http://www.roentdek.com>). It is similar in function but has superior performance characteristics:

High resolution version “TDC4HM”:

- time resolution < 10 ps RMS, $\text{LSB}^2 = 13.02$ ps
- common start input (Nim)
- 4 high-resolution multi-stop inputs (Nim)
- unlimited number of stops per channel
- range max. 14 ms
- particle rate up to 12 MHz with up to 4 MHz start rate ¹
- multi-stop dead-time < 5 ns
- trigger on rising or falling edge (selectable for each channel)
- PCIe-based for high data throughput.
- supports Windows 7 to Windows 10 (32bit and 64bit)

Low resolution versions “TDC4HM_lr1” and “TDC4HM_lr2” comparison to TDC4HM:

- time resolution: Binsize LSB 1ns / 0.5ns
- range max. 8.4 ms
- max. start rate up to 250 MHz during short bursts. Constant max. start rate 12 MHz ¹
- multi-stop dead-time only 2 ns
- lower price



Notes:

¹ this is an upper limit, which depends on the computer hardware and data acquisition mode.

² least significant bit (TDC bin size)