

# THR02-TDC

Advanced 4-Channel Time to Digital Converter



## HIGHLIGHTS

### FEATURE

### BENEFIT

The THR02–TDC is an instrument optimized for photon-counting position measurements (x, y) using 2D cross delay-line detectors, with additional time resolved capability (x, y, t).

FPGA based device

Fast and highly reliable hardware algorithms for event detection and filtering  
External triggering supported  
Easy 4-channel diagnostics

Time to digital conversion

Time resolved ready  
Multi-hit capability  
Low dead time

4 independent CFD included

High accuracy, low jitter  
Easy channel monitoring using external LVTTTL outputs

Ethernet controlled

On-the-fly configurable operation

Based on National Instruments commercial-off-the-shelf PCIe TM acquisition board

High throughput  
Prompt and long-term technical support

NI LabView-based development libraries available

Good system flexibility and compatibility with different experimental setups

## APPLICATIONS

- Spectroscopy:
  - hemispherical electron analysers
  - time-of-flight detectors
  - spin detectors
  - coincidence experiments
- Time-resolved imaging

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## HOW DOES IT WORK?

The THR02-TDC system is a versatile 4-channel TDC (Time to Digital Converter). It performs photon-counting measurements with a high resolution time-resolved capability. It is particularly optimized for use with any kind of delay-line (1D) and cross

delay-line (2D) detectors. Alternatively the system can be connected to 4 independent single channel detectors. The system supports either internal or external triggering.

## SPECIFICATIONS

<b>Input channels</b>	4 independent channels with integrated CFD
<b>Power supply</b>	220Vac 50Hz
<b>Form factor</b>	2 rack unit (19-inch)

## RELATED PRODUCTS

- Delay-Line (1D) and Cross Delay-Line (2D) Detectors
- RUD-RFLN-XLS, Pulse Amplifier
- PIT-RFLN, Wide Bandwidth Pulse Amplifier
- CFD V2.0, Constant Fraction Discriminator
- **Coming soon:** THR02-TAC, Advanced 4-Channel Time to Analogue Converter

THR02-TDC is part of the acquisition chain in the 3D (x, y, t) High Count Rate Detectors.

**See the single product brochures for details.**

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## Contact us!

### Industrial Liaison Office

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