

THR08-TDC

Advanced 8-Channel Time to Digital Converter



Highlights

The THR08–TDC is a versatile instrument for time-resolved event detection applications. With its 8 independent input channels, THR08–TDC is an optimal choice for coincidence experiments.

Feature	Benefit
FPGA based device	Multiple acquisition modes Reliable hardware event detection and filtering Advanced optimizations for position measurements with delay-line detectors
Up to 8 Constant Fraction Discriminators included	High accuracy, low jitter and optimized for delay line detector applications Front panel LVTTTL outputs, available for monitoring and correlation with other instruments Thresholds tunable on a per-channel basis
Time to digital conversion	Dedicated time-to-digital converter board included Multi-hit capability and low dead time, resulting in high response linearity Advanced event filtering and rejection of false/duplicate events
Multi-channel mode	Special acquisition mode allowing simplified system diagnostics Raw data from individual channels always available
2D/1D acquisition modes	Dedicated modes allowing optimal system tuning for applications with bidimensional or monodimensional delay-line detectors
Time resolved capability	Internal or external triggering, very wide time-scale Time precision: better than 50ps Time resolution independent on time-scale, bin size: 1ps Ready for time-resolved studies of dynamics with sub-ns precision
UDP communication protocol and LabVIEW drivers	High data throughput Direct or software-mediated control of the instrument High flexibility and easiness of integration with varied experimental setups



How Does It Work?

With its 8 independent input channels, THR08-TDC allows the measurement of the arrival time of multiple types of events on an arbitrarily long and continuous time-scale, by means of a time-to-digital conversion device featuring a 1ps LSB. It is therefore suitable for coincidence detection and time-resolved experiments.

The THR08-TDC provides advanced hardware features, which allow the optimal operation in position measurement with 1D or 2D delay-line detectors with intrinsic time-resolved capability. The instrument is controlled via Ethernet and has a 2 rack unit form factor.

Applications

- Spectroscopy:
 - cross delay anode detectors for hemispherical electron analysers
 - time-of-flight detectors
 - coincidence experiments
- Time-resolved imaging

Available Options

- THR08-TDC (with 4 analogue channels)
- THR08-TDC (with 8 analogue channels)
- THR08-TDC (with 4 analogue channels + 4 digital channels)

Related Products

- Delay-Line (1D) and Cross Delay-Line (2D) Detectors
- RF Pulse Amplifier

See the single product brochures for details.



Contact us!

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