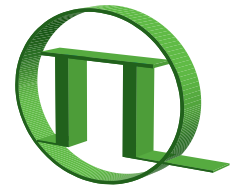


PRT 400

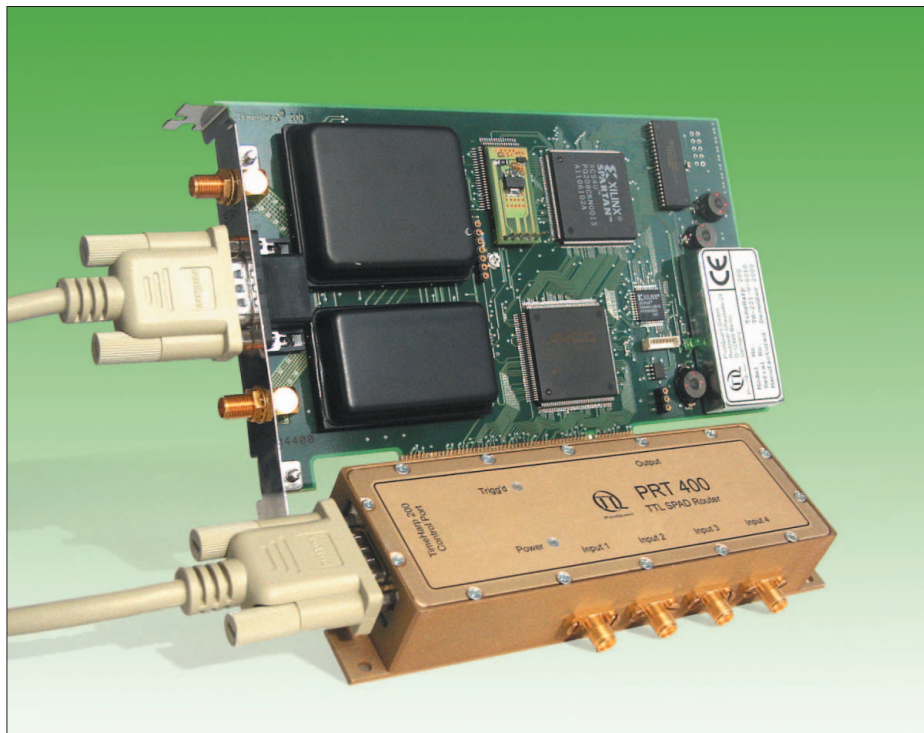


PICOQUANT
Unternehmen für optoelektronische
Forschung und Entwicklung

<http://www.picoquant.com>

4-Channel TTL SPAD Router for the TimeHarp 200 TCSPC-Board

- Easy connection of 4 detectors to one TimeHarp 200 board
- Allowing simultaneous measurements on 4 channels
- Deadtime <70 ns
- Easy to install in the signal path with SMA-connectors
- Fully supported by TimeHarp 200 software
- Support of oscilloscope, integration and TTTR measurement mode



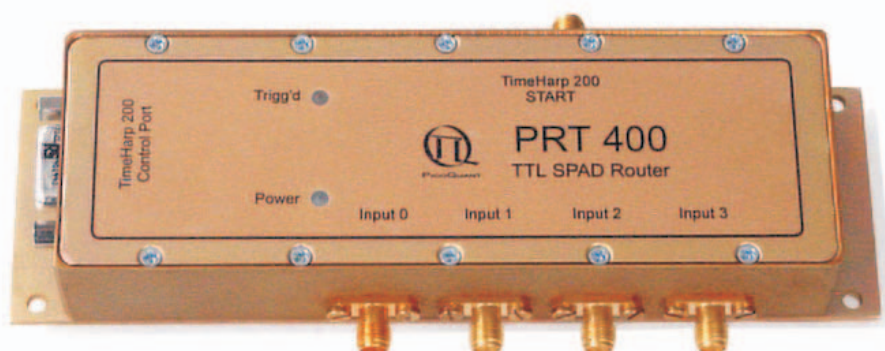
Applications

- Simultaneous recording of anisotropy or different spectral information
- Multi-colour Single Molecule Spectroscopy (SMS)
- Multi-colour Fluorescence Lifetime Imaging (FLIM)
- Fluorescence Correlation Spectroscopy (FCS) of mixed fluorophores
- Diffuse Optical Tomography (DOT)

4-Channel TTL SPAD Router for the TimeHarp 200

The PRT 400 is an accessory for the TimeHarp 200 TCSPC-board. It permits to operate up to 4 SPAD detectors with TTL output (e.g. Perkin-Elmer SPCM-AQR or PDM Series) quasi in parallel on one TimeHarp 200 board, allowing users to collect fluorescence lifetime decays on multiple channels simultaneously. This permits simplified collection of e.g. polarization dependent data as well as sophisticated new multi-dimensional fluorescence detection methods in the life sciences or in general sensitive analytics, down to the single molecule level.

The 4-channel router is powered by the TimeHarp 200 board and supports both histogramming and Time-Tagged Time-Resolved (TTTR) mode. The latter allows the recording of each individual photon with its picosecond timing, the arrival time at 100 ns resolution and the detector channel it came from. This permits ultimate flexibility in data analysis e.g. for single molecule burst detection or Fluorescence Correlation Spectroscopy (FCS) combined with fluorescence lifetime information. Using two detectors and TTTR mode it is possible to perform cross correlated FCS, thereby eliminating afterpulsing artefacts of the SPAD detectors.



Specifications

Detector Input

Pulse width >15 ns
Pulse height >2.5 V (TTL)

Electrical Parameters

Dead time <70 ns
Count cross talk <0.01% @ 200k cps per channel
Output +200 to +300 mV positive going pulse

Connectors

Input/Output SMA female
Supply/Routing HD Sub-D 15 pin dedicated for TimeHarp 200

Power Supply (from TimeHarp 200)

Voltage 4.5 to 5.25 V
Current consumption <100 mA

Software Support (with TimeHarp 200)

Supported modes Oscilloscope, integration and TTTR

Dimensions

Width 157 mm (with flange)
Depth 47 mm
Height 25 mm

Additionally available is the 4-channel PMT Router "NRT 400" for the TimeHarp 200. Please ask for detailed information and data sheet. **Please check our website for updated information.**

All Information given here is reliable to our best knowledge. However, no responsibility is assumed for possible inaccuracies or omissions. Specifications and external appearances are subject to change without notice. Trademarks or corporate names are used for explanation and identification, to the owner's benefit and without intent to infringe.

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