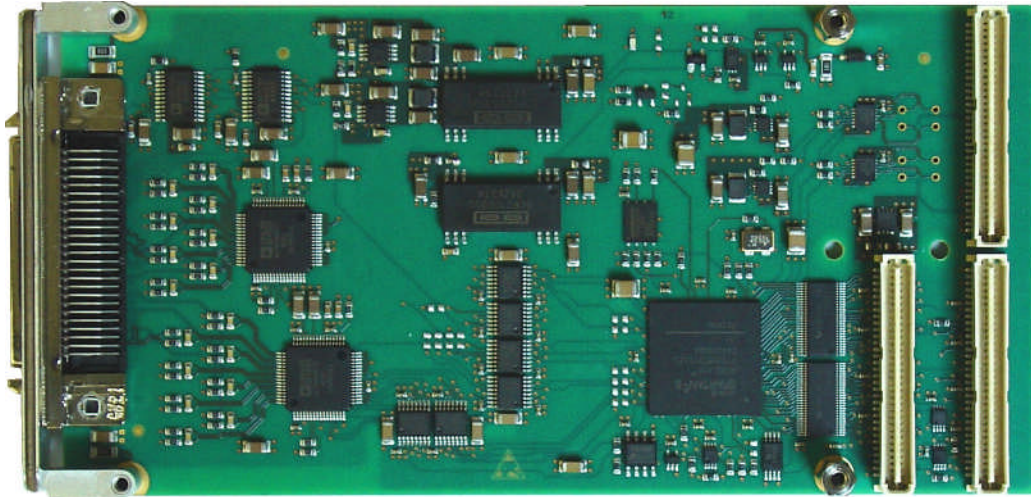


## TPMC530 16/8-Ch. Isolated Simultaneous Sampling AD/DA



### Application Information

The TPMC530 is a standard single width 32 bit PMC with faceplate I/O. The TPMC530-10R provides 16 channels of isolated 16 bit simultaneous sampling analog input and 8 channels of isolated 16 bit simultaneous update analog output. The TPMC530-20R provides 8 ADC channels and 4 DAC channels. All signals are accessible through a HD50 SCSI-2 type front I/O connector.

The ADC offers true differential inputs with software selectable  $\pm 5$  V and  $\pm 10$  V bipolar input voltage ranges (one setting for all channels). The sampling rate is up to 200 kSPS and the ADC offers an oversampling capability with digital filter.

The DAC offers software selectable 0-5 V, 0-10 V,  $\pm 5$  V and  $\pm 10$  V output voltage ranges (one setting for all channels). The conversion time is typ. 10  $\mu$ s and the DAC outputs are capable to drive a load of 2 k $\Omega$ , with a capacitance up to 4000 pF.

Both ADC and DAC offer programmable sample clocks. External synchronization is possible with a Trigger/Sync RS485 I/O.

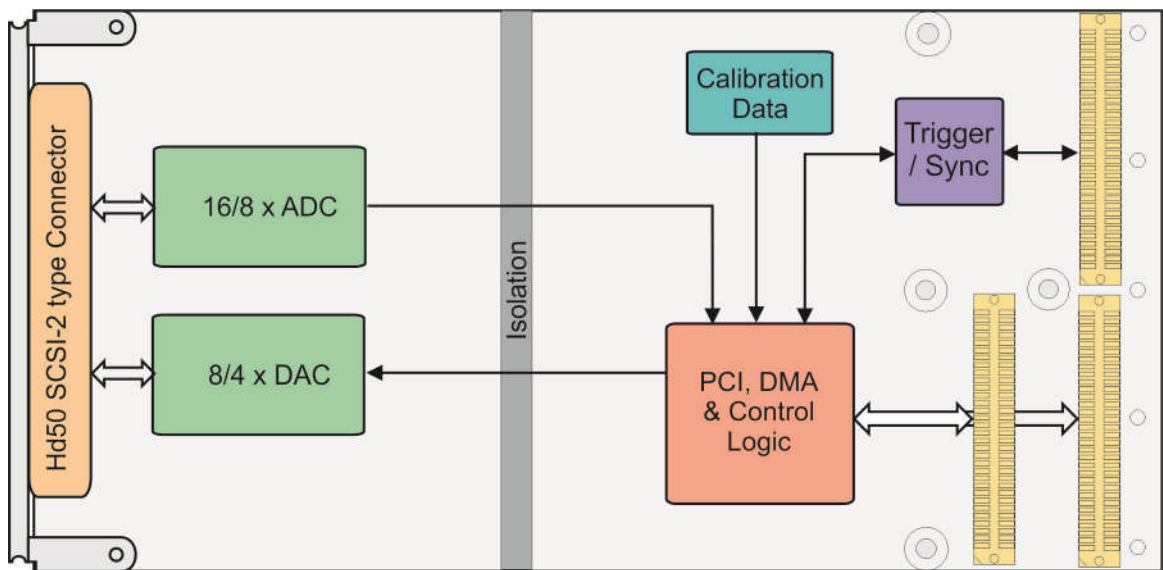
Each ADC / DAC provides a 1024 sample input / output FIFO with programmable trigger levels. Data transfer on the PCI bus is handled by TPMC530 initiated scatter-gather DMA cycles with minimum host/CPU intervention.

Each TPMC530 is factory calibrated. The calibration can be automatically applied to data written to and read from the TPMC530.

Software Support (TDRV021-SW-xx) is available for different operating systems.

### Technical Information

- Form Factor: Standard single width 32 bit PMC module with faceplate I/O conforming to IEEE P1386.1
  - Board size: 149 mm x 74 mm
  - PCI 3.0 compatible master/slave interface
  - Universal PCI I/O signaling voltage: 5 V or 3.3 V
- 16/8 channels 16 bit isolated analog input
  - Simultaneous sampling
  - True differential inputs
  - Programmable input voltage (one setting for all channels):  $\pm 5$  V,  $\pm 10$  V
  - Sampling rate: 200 kSPS
  - Overvoltage protection
- 8/4 channels single-ended 16 bit isolated analog output
  - Simultaneous update
- Programmable output voltage (one setting for all channels): 0-5 V, 0-10 V,  $\pm 5$  V,  $\pm 10$  V
- Conversion time: typ. 10  $\mu$ s
- Up to 2 k $\Omega$  resistive, 4000 pF capacitive load
- Overcurrent protection
- 1024 sample FIFO for both ADC & DAC
- Scatter-gather DMA for both ADC & DAC
- Internal correction using factory calibration data stored in EEPROM
- Operating temperature -40°C to +85°C
- MTBF (MIL-HDBK217F/FN2 GB 20°C) 544.000 h



**Order Information**

**RoHS Compliant**

**TPMC530-10R** 16/8-Ch. Isolated Simultaneous Sampling AD/DA  
**TPMC530-20R** 8/4-Ch. Isolated Simultaneous Sampling AD/DA

For the availability of non-RoHS compliant (lead solder) products please contact TEWS.

**Documentation**

**TPMC530-DOC** User Manual

**Software**

**TDRV021-SW-25** Integrity Software Support  
**TDRV021-SW-42** VxWorks Software Support (Legacy and VxBus-Enabled Software Support)  
**TDRV021-SW-65** Windows Software Support  
**TDRV021-SW-82** Linux Software Support  
**TDRV021-SW-95** QNX Software Support

For other operating systems please contact TEWS.

**Related Products**

**TA301** Cable Kit for Modules with HD50 Connector