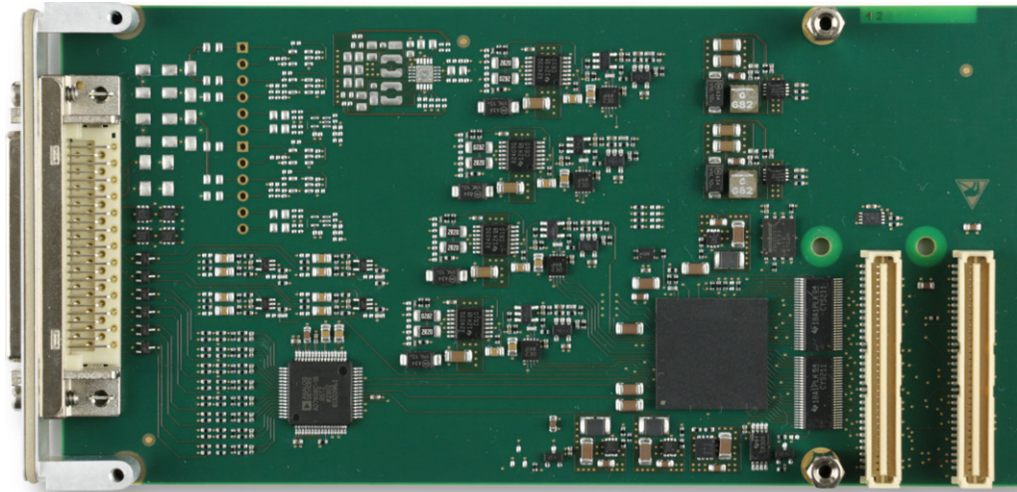


## TPMC151 4 Channel Resolver or LVDT/RVDT-to-Digital Converter



TPMC151-10R

### Application Information

The TPMC151 is a standard single-width 32-bit PMC module and supports a 33 MHz / 32-bit universal (5 V / 3.3 V) PCI interface.

The TPMC151-10R provides 4 channels of Resolver or LVDT/RVDT to Digital Converter with 16-bit resolution. It accepts input signals up to 12 V<sub>RMS</sub>, with frequencies ranging from 1 kHz to 20 kHz and allows tracking rates up to ¼ of the excitation frequency (i.e. 10 kHz -> 2500 rps). The converter provides a digital angle, respectively stroke value, and a digital velocity value. For LVDT/RVDT differential and ratiometric sensor configuration is supported.

The TPMC151 provides individual excitation outputs with software selectable excitation frequency and output voltage swing for each channel. Adjustable frequency is ranging from 1 kHz to 20 kHz and the output voltage range is 0 to 12 V<sub>RMS</sub> with up to 100 mA. No external power supply is required. Alternatively, an external excitation can be used.

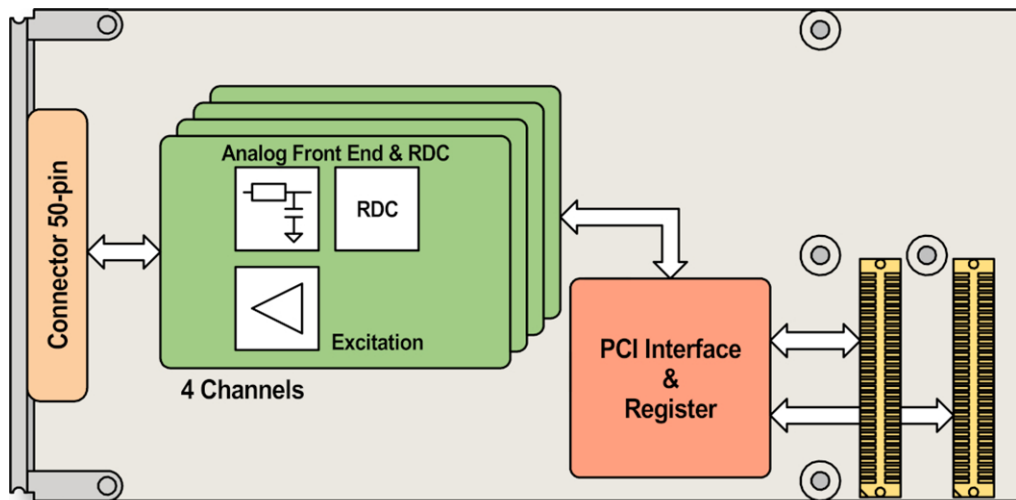
The TPMC151-20R replaces two resolver channels with two Synchro-to-Digital Converter channels. For Synchro channels the excitation output is not available and an external excitation must be used. Synchro channels accept input signals up to 28 V<sub>RMS</sub>, with frequencies ranging from 400 Hz to 20 kHz.

All TPMC151 signals are accessible through a 50-pin MDR type front I/O connector.

Software Support (TPMC151-SW-xx) for different operating systems is available.

### Technical Information

- Form Factor: Standard single-width 32-bit PMC module conforming to IEEE Std 1386/1386.1
  - Board size: 149 mm x 74 mm
- PCI 3.0 compliant interface
- 5 V and 3.3 V PCI /O signaling interface
- 4 Resolver or LVDT/RVDT-to-digital converter channels
  - Angle with 16-bit resolution
  - 0-12 V<sub>RMS</sub> programmable sensor input
  - 0-12 V<sub>RMS</sub>, 1-20 kHz programmable excitation
  - Tracking rate up to ¼ excitation frequency
  - Digital velocity value
- Synchro channels:
  - 0-28 V<sub>RMS</sub> programmable sensor input
  - external excitation up to 28 V<sub>RMS</sub>, 400 Hz – 20 kHz
- 50-pin MDR type I/O connector mounted in front panel
- Operating temperature -40°C to +85°C
- MTBF (MIL-HDBK217F/FN2 G<sub>B</sub> 20°C)
  - TPMC151-10R: 682 000 h
  - TPMC151-20R: 463 000 h



Block Diagram TPMC151-10R

### Order Information

#### RoHS Compliant

- TPMC151-10R** 4 Channel Resolver or LVDT/RVDT-to-Digital Converter  
**TPMC151-20R** 2 Channel Resolver or LVDT/RVDT-to-Digital Converter, 2 Channel Synchro-to-Digital Converter

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

#### Software

- TPMC151-SW-25** Integrity Software Support  
**TPMC151-SW-42** VxWorks Software Support (Legacy and VxBus-Enabled Software Support)  
**TPMC151-SW-65** Windows Software Support  
**TPMC151-SW-82** Linux Software Support  
**TPMC151-SW-95** QNX Software Support

For other operating systems please contact TEWS.

#### Related Products

- TA314** Cable Kit for modules with MDR50 male connector