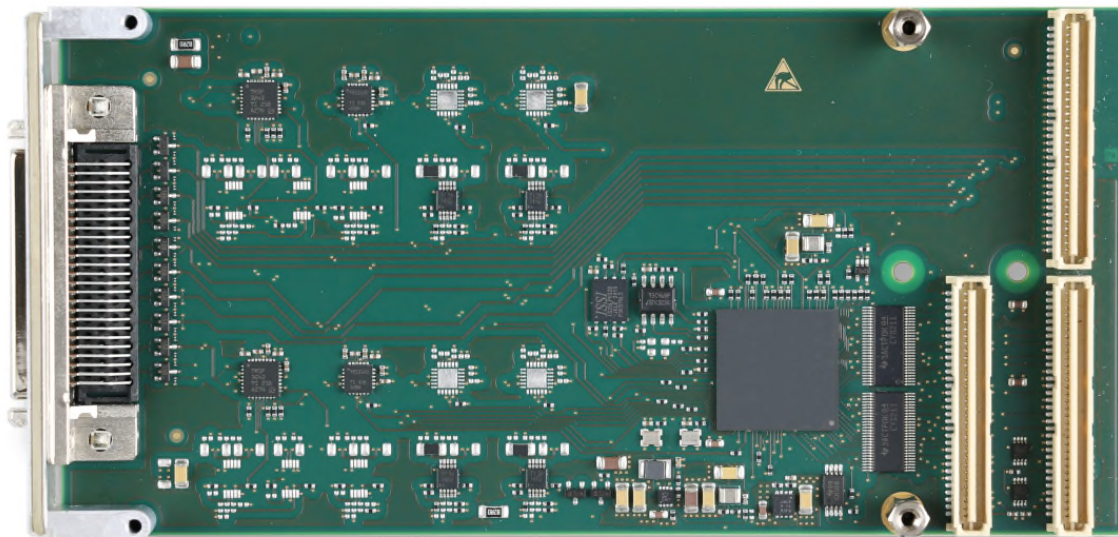# TPMC461 8 Channel Serial Interface RS232/RS422

TPMC461-12R

Application Information

The TPMC461 is a standard single-width 32 bit PMC module offering an 8 channel asynchronous serial interface.

Three different standard order options are available: TPMC461-10R provides 8 RS232 interfaces, TPMC461-11R provides 8 RS422 interfaces and TPMC461-12R provides 4 RS232 and 4 RS422 interfaces.

All standard order options provide front panel I/O on a HD50 SCSI-2 type connector and P14 Rear I/O.

Each RS232 channel supports TxD, RxD, RTS, CTS and GND signals. Each RS422 channel supports TxD+/-, RxD+/- and GND signals.

Two channels of TPMC461-10R/-12R offer full modem signal support (TxD, RxD, RTS, CTS, DTR, DSR, CD, RI and GND signals) for RS232. Two channels of TPMC461-11R support TxD+/-, RxD+/-, RTS+/-, CTS+/- and GND signals for RS422.

The RS422 channels provide on-board differential line termination (no biasing).

Each channel has 64 byte transmit and receive FIFOs, reducing the overhead required to provide data to and get data from the transmitters and receivers.

The FIFO trigger levels are programmable and the baud rate is individually programmable to up to 921.6 kbps (in 16x mode) for RS232 channels and 2.7648 Mbps (in 16x mode) or 5.5296 Mbps (in 8x mode) for RS422 channels. Current FIFO levels are readable.

All channels generate interrupts on PCI interrupt INTA. For fast interrupt source detection a Global Interrupt Source Register is available.
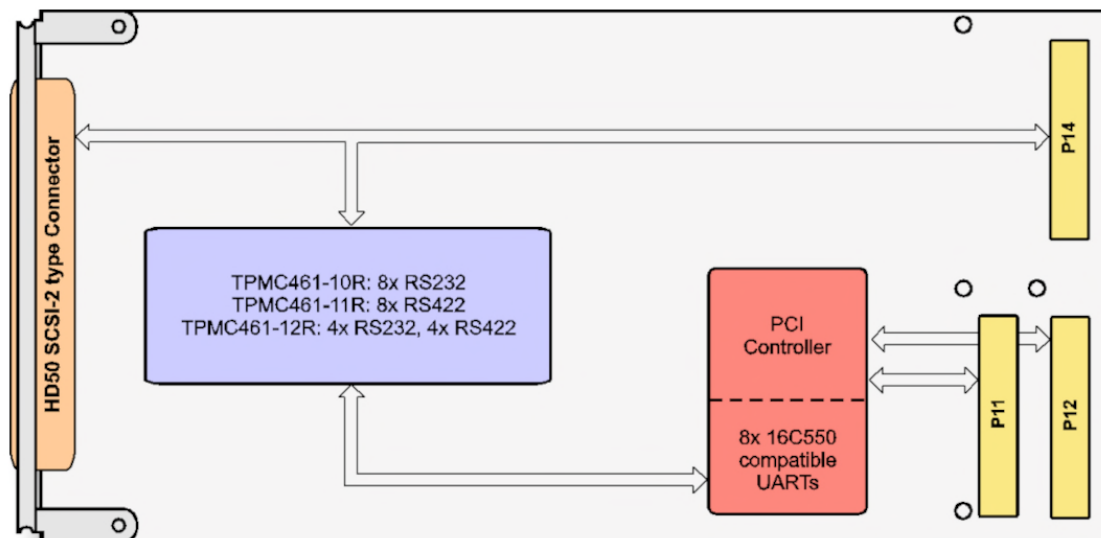
All channels use ESD protected transceivers and protection diodes providing at least ±30 kV ESD protection.

The TPMC461 can operate in a 3.3V or 5V PCI I/O environment.

Device Driver support for various operating systems is available.

Technical Information

- Standard single-width 32 bit PMC module conforming to IEEE 1386/1386.1
- Board size: 149 mm x 74 mm
- PCI 2.2 (33 MHz) compliant interface
- 3.3V PCI signaling with 5V I/O tolerance
- FPGA based PCI Target Chip & Octal UART
- 8 channel asynchronous serial interface
- Support of Txd, RxD, RTS, CTS and GND for each RS232 channel; TxD+/-, RxD+/- and GND for each RS422 channel. Two channels offer extended signal support (full modem or RTS+/- and CTS+/-)

- Programmable baud rates per channel:
  RS232: up to 921.6 kbps (in 16x mode)
  RS422: up to 5.5296 Mbps (in 8x mode)
- 64 byte transmit FIFO, 64 byte receive FIFO per channel
- Readable FIFO levels
- Global Interrupt Source Register
- General Purpose 16 bit Timer/Counter
- ESD protected I/O channels (up to ±30 kV)
- Operating temperature -40° to +85°

Block Diagram

Order Information

RoHS Compliant
TPMC461-10R 8 Channel Serial RS232, HD50 front I/O, P14 rear I/O
TPMC461-11R 8 Channel Serial RS422, HD50 front I/O, P14 rear I/O
TPMC461-12R 4 Channel Serial RS232, 4 Channel Serial RS422, HD50 front I/O, P14 rear I/O
Other configurations are available as factory build option on a per channel base.

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

Software
TDRV002-SW-25 GreenHills Integrity Device Driver
TDRV002-SW-42 VxWorks Device Driver
TDRV002-SW-65 Windows Device Driver
TDRV002-SW-82 Linux Device Driver
TDRV002-SW-95 QNX Neutrino Device Driver

For other operating systems please contact TEWS.

Related Products
TA301 Cable Kit for modules with HD50 connector
TPIM001 PIM I/O Module, HD50 connector