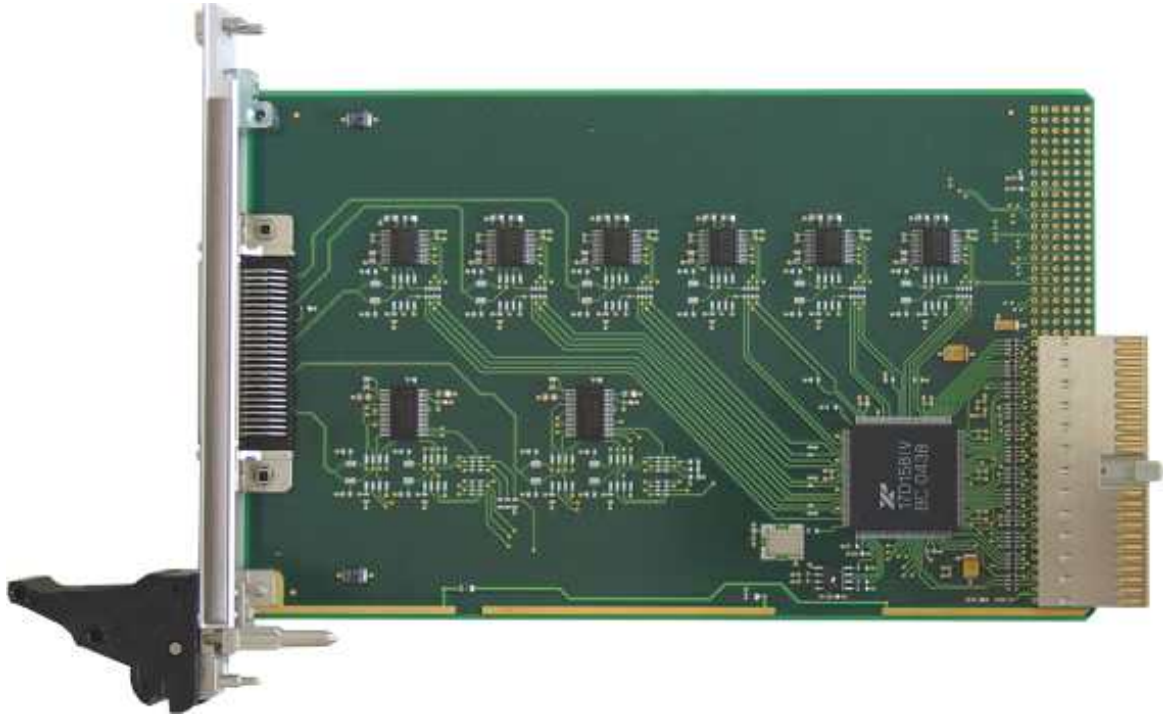# TCP461   8 Channel Serial Interface RS232/RS422

Application Information

The TCP461 is a standard 3U 32 bit CompactPCI module and offers 8 channels of high performance asynchronous serial interface.

Three different standard modules are available: The TCP461-x0R provides 8 RS232 interfaces. The TCP461-x1R provides 8 RS422 interfaces. The TCP461-x2R provides 4 RS232 and 4 RS422 interfaces.

Other configurations are available as factory build option on a per channel base.

All modules offer front panel I/O with a HD50 SCSI-2 type connector. The TCP461-2xR modules offer additional J2 rear I/O. Each RS232 channel supports RxD, TxD, RTS, CTS and GND. Each RS422 channel supports RxD+/-, TxD+/- and GND.

Two channels of the TCP461-x0R/-x2R offer full modem support (TxD, RxD, CTS, RTS, DSR, DTR, CD, RI and GND) for RS232. Two channels of the TCP461-x1R support RxD+/-, TxD+/-, RTS+/-, CTS+/- and GND for RS422.

Each channel has 64 byte transmit and receive FIFOs to significantly reduce 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 up to 921.6 kbps for RS232 channels and 5.5296 Mbps for RS422 channels. The UART offers readable FIFO levels.

All channels generate interrupts on CompactPCI interrupt INTA. For fast interrupt source detection the UART provides a special Global Interrupt Source Register.

All serial channels use ESD protected transceivers up to ±15KV.

The TCP461 can operate with 3.3V and 5.0V PCI I/O signaling voltage.

Software Support (TDRV002-SW-xx) for different operating systems is available.
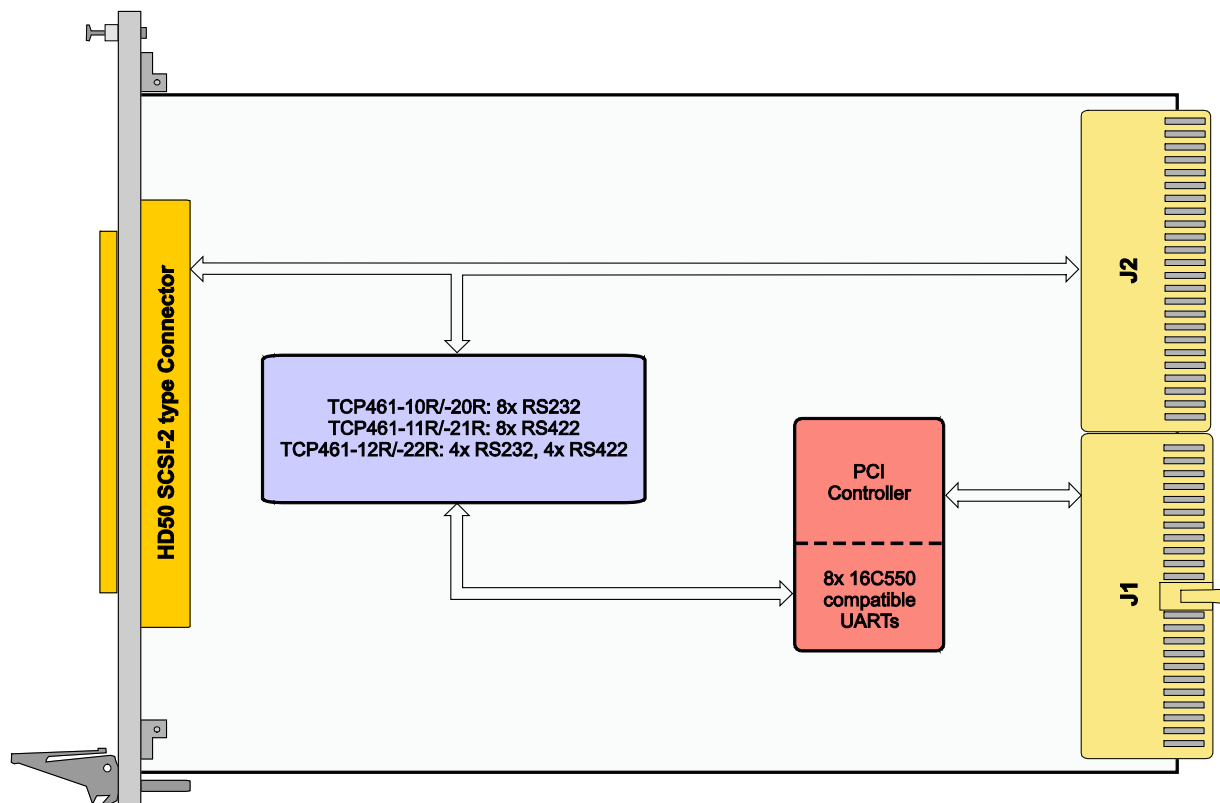
Technical Information

- ❏ Standard 3U 32 Bit CompactPCI module conforming to PICMG 2.0 R3.0
  - ❏ Target Chip: XR17D158 (Exar)
  - ❏ PCI 2.3 compliant interface
  - ❏ PCI I/O signaling voltage 5V and 3.3V
- ❏ Board size: 160 mm x 100 mm
- ❏ Asynchronous serial interface
- ❏ Octal UART: Exar XR17D158
- ❏ Support of RxD, TxD, RTS, CTS and GND for each RS232 channel; RxD+/-, TxD+/- and GND for each RS422 channel. Two channels offer extended support (full modem or RTS+/- and CTS+/-)

- ❏ Programmable baud rates:
  RS232: up to 921.6 kbps
  RS422: up to 5.5296 Mbps
- ❏ 64 byte transmit FIFO per channel
- ❏ 64 byte receive FIFO per channel
- ❏ Readable FIFO levels
- ❏ Global Interrupt Source Register
- ❏ General Purpose 16 bit Timer/Counter
- ❏ ESD protected transceiver (up to ± 15KV)
- ❏ Operating temperature -40°C to +85°C

HD50 SCSI-2 type Connector

TCP461-10R/-20R: 8x RS232
TCP461-11R/-21R: 8x RS422
TCP461-12R/-22R: 4x RS232, 4x RS422

PCI Controller

8x 16C550 compatible UARTs

J2

J1

Order Information

RoHS Compliant

TCP461-10R	8 Channel Serial RS232, HD50
TCP461-11R	8 Channel Serial RS422, HD50
TCP461-12R	4 Channel Serial RS232, 4 Channel Serial RS422, HD50
TCP461-20R	8 Channel Serial RS232, HD50 and J2 I/O
TCP461-21R	8 Channel Serial RS422, HD50 and J2 I/O
TCP461-22R	4 Channel Serial RS232, 4 Channel Serial RS422, HD50 and J2 I/O

Other configurations are available as factory option on a per channel base.

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

Documentation

TCP461-DOC	User Manual

Software

TDRV002-SW-25	Integrity Software Support
TDRV002-SW-42	VxWorks Software Support (Legacy and VxBus-Enabled Software Support)
TDRV002-SW-65	Windows Software Support
TDRV002-SW-82	Linux Software Support
TDRV002-SW-95	QNX Software Support

For other operating systems please contact TEWS.

Accessories

TA301	Cable Kit for Modules with HD50 Connector
TCP001-FP	6U Front Panel Extension for 3U cPCI Boards