# TCP863   4 Channel High Speed Synch/Asynch Serial Interface

Application Information

The TCP863 is a standard 3U 32 bit CompactPCI module with four high speed serial data communication channels.

The TCP863 is the successor of the discontinued TCP862, providing similar functionality and full connector and pin-out compatibility.

The TCP863-10x provides front panel I/O via HD68 SCSI-3 type connector and TCP863-20x additionally provides rear I/O via J2.
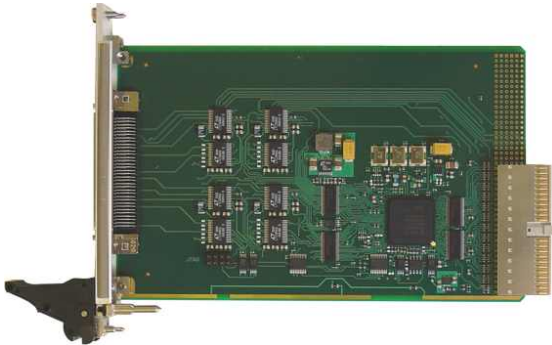
The serial communication controller is implemented in FPGA logic, along with the bus master capable PCI interface, guaranteeing long term availability and having the option to implement additional functions in the future.

Each channel provides dedicated receive and transmit FIFOs for high data throughput.

Data transfer on the PCI bus is handled via TCP863 initiated DMA cycles with minimum host/CPU intervention.

Several serial communication protocols are supported by each channel, such as asynchronous, isochronous, synchronous and HDLC mode.

A 14.7456 MHz oscillator provides standard asynchronous baud rates. An additional 24 MHz oscillator is provided for other baud rates. A 10 MHz oscillator is used for the synchronous baud rate of 10 Mbit/s.

Each channel also provides various interrupt sources, generated on INTA. The interrupt sources can be enabled or disabled individually.

Multiprotocol transceivers are used for the line interface. The physical interface is selectable by software, individually for each channel as EIA-232, EIA-422, EIA-449, EIA-530, EIA-530A, V.35, V.36 or X.21.

The following signals are provided by the TCP863 for each channel at the front and rear-I/O connectors: Receive Data (RxD +/-), Transmit Data (TxD +/-), Receive Clock (RxC +/-), Transmit Clock (TxC +/-), Ready-To-Send (RTS +/-), Clear-To-Send (CTS +/-), Carrier-Detect (CD +/-) and GND. Additionally serial channel 3 provides Data-Set-

Ready (DSR3 +/-) and Data-Terminal-Ready (DTR3 +/-) at the front I/O connector.

For First-Time-Buyers the engineering documentation TCP863-ED is recommended. The engineering documentation includes TCP863-DOC, schematics and data sheets of TCP863.

Technical Information

- ❍ Standard 3U 32 Bit CompactPCI module conforming to PICMG 2.0 R3.0
- ❍ PCI 2.1 compliant master/slave interface
- ❍ 3.3V and 5V PCI Signaling Voltage
- ❍ Board size: 160 mm x 100 mm
- ❍ Four high speed synchronous/asynchronous serial interfaces
- ❍ Support of RxD, TxD, RxC, TxC, RTS, CTS, CD and GND on HD68 front connector, parallel to rear connector J2 (TCP863-20x); DTR3 and DSR3 only at front I/O
- ❍ Physical interface (individually programmable per channel): EIA-232, EIA-422, EIA-449, EIA-530, EIA-530A, V.35, V.36 and X.21
- ❍ Maximum data rate: 10 Mbit/s (synchronous), 2 Mbit/s (asynchronous), internal or external provided clock
- ❍ EIA-232: up to 115.2 kbit/s
- ❍ Operating temperature range: -40°C to +85°C

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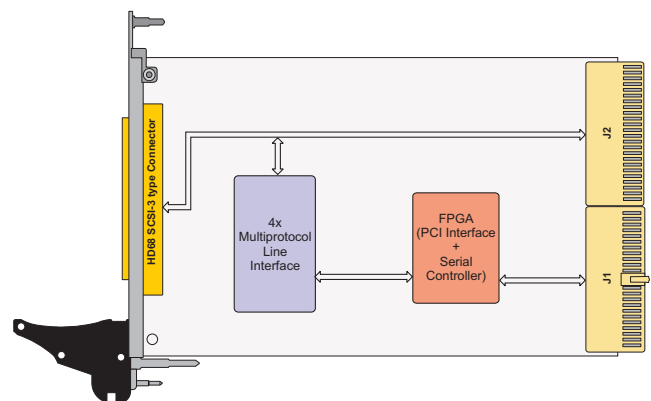
Order Information

RoHS Compliant

TCP863-10R   4 Channel High Speed Synch/Asynch Serial Interface, front I/O

TCP863-20R   4 Channel High Speed Synch/Asynch Serial Interface, front I/O and J2 I/O

None RoHS Compliant

TCP863-10   None RoHS compliant version of TCP863-10R

TCP863-20   None RoHS compliant version of TCP863-20R

Documentation

TCP863-DOC   User Manual

TCP863-ED   Engineering documentation (TCP863-DOC, Schematics, Assembly Drawing, Data Sheets)

Software

TDRV009-SW-25   Integrity Software Support

TDRV009-SW-42   VxWorks Software Support (Legacy and VxBus-Enabled Software Support)

TDRV009-SW-65   Windows XP/XPE/2000 Software Support

TDRV009-SW-72   LynxOS Software Support

TDRV009-SW-82   LiNUX Software Support

TDRV009-SW-95   QNX 6 Software Support

For other operating systems please contact TEWS.

Related Products

TA304   Cable Kit for modules with HD68 connector

TCP001-FP   6U front panel extension for 3U cPCI boards