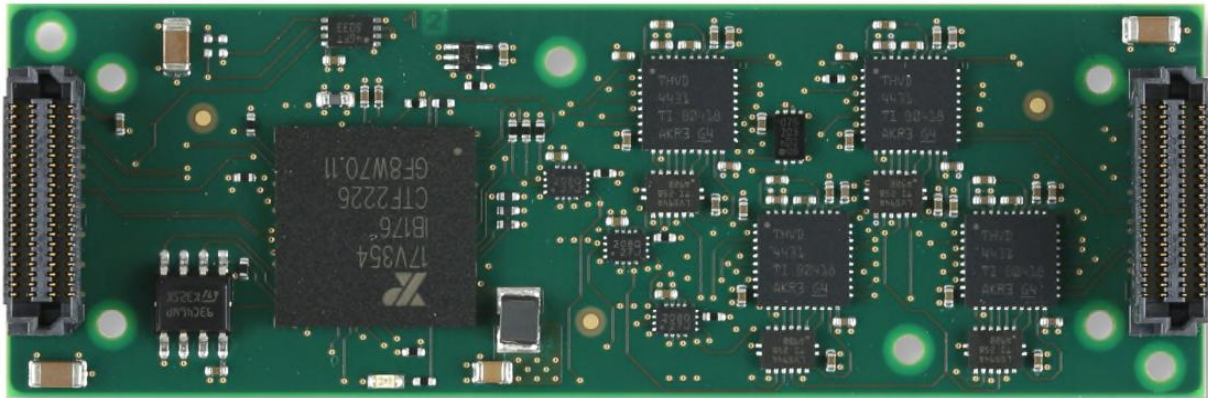# *The Embedded I/O Company*

TQMC400 4 Channel Full-Modem RS232/RS422/RS485 Programmable Serial Interface

TQMC400-10R

Application Information

The TQMC400 is a VITA 93.0 compatible Small Form Factor Mezzanine Card (QMC) offering 4 UART channels with multiprotocol transceivers. Each channel can be programmed to operate as an RS232, RS422/RS485 full-duplex or RS485 half-duplex interface.

Each RS232 channel supports RxD, TxD, RTS, CTS, DTR, DSR, CD, RI and GND. RS422 and RS485 full-duplex supports a four wire interface (RX+, RX-, TX+, TX-) plus ground (GND). RS485 half-duplex supports a two wire interface (DX+, DX-) plus ground (GND). On-chip switchable termination of 120Ω is provided for the RS422/RS485 interfaces.

Selectable data rates are up to 1 Mbps for RS232 mode and 20 Mbps for RS422/RS485 half-duplex and full-duplex mode. Additionally a reduced slew rate mode with lower EMI provides data rates with max. 250 kbps for RS232 and max. 500 kbps for RS422/RS485.

Each channel has 256 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. The UART offers readable FIFO levels.

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

The TQMC400 is available as air cooled and conduction cooled variant.

Conduction Cooled TQMC400
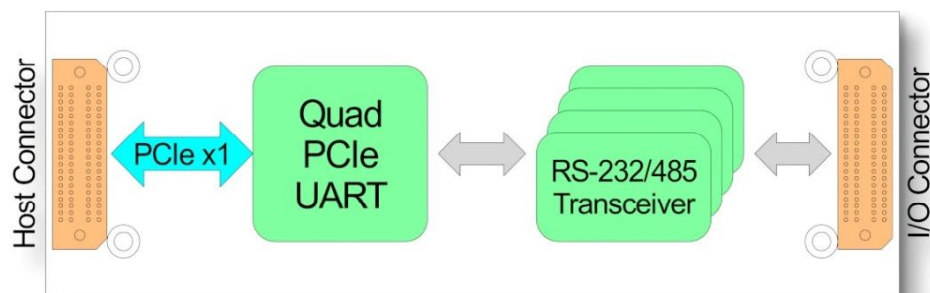
powerBridge Computer

Ehlbeek 15a
30938 Burgwedel
fon 05139-9980-0
fax 05139-9980-49

www.powerbridge.de
info@powerbridge.de

Technical Information

- Form Factor: Standard single QMC module conforming to VITA 93.0
  - Board size: 26 mm x 78.25 mm
- PCI Express 2.0 Gen1 (2.5Gbps) compliant interface
- IPMI resource: FRU hardware definition information stored in on-board EEPROM
- Asynchronous serial interface
- Quad UART: Exar XR17V354
- Programmable Interfaces:
  - RS232
  - RS422
  - RS485 full-duplex
  - RS485 half-duplex
- On-chip switchable 120Ω Termination for each RS422/RS485 channel

- Support of full modem RS232 (RxD, TxD, RTS, CTS, DTR, DSR, CD, RI and GND)
- RxD+/-, TxD+/- and GND for each RS422/RS485 FD channel; D+/- and GND for each RS485 HD channel
- Programmable data rates:
  - RS232: up to 1 Mbps
  - RS422/RS485: up to 20 Mbps
- 256 byte transmit and receive FIFO per channel
- Readable FIFO levels
- Global Interrupt Source Register
- General Purpose 16 bit Timer/Counter
- Operating temperature -40 °C to +85 °C
- MTBF (MIL-HDBK217F/FN2 GB 20 °C)
  - TQMC400-10R: 1530000 h

Block Diagram

Order Information

RoHS Compliant

TQMC400-10R-A   4 Channel Programmable RS232/RS422/RS485 Serial Interface, air cooled
TQMC400-10R-H   4 Channel Programmable RS232/RS422/RS485 Serial Interface, conduction cooled

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

Software

TDRV002-SW-25   Integrity Software Support
TDRV002-SW-42   VxWorks 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.

Related Products

TPCE210   2 Site QMC Carrier, PCIe x4, Gen2, low-profile, VHDCI-68 I/O