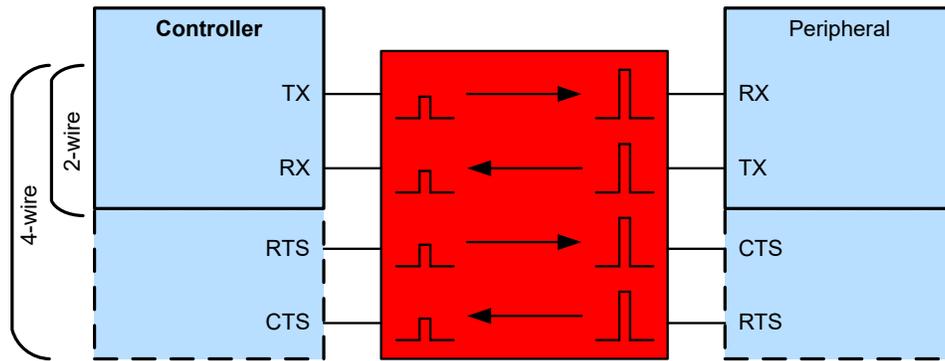


Translate Voltages for UART



Example UART Voltage Translation Block Diagram

See more about this use case in the *Logic Minute* video [Voltage Translation for UART](#).

Design Considerations

- Some devices support up to 5 Mbps UART communication; most are limited to 115 kbps or less
- Translators enable communication when devices have mismatched logic voltage levels
- Prevent damage to devices that cannot support higher voltage inputs
- Improve data rates over discrete translation solutions
- Protect controller while peripheral is not connected
- [\[FAQ\] What are the power sequencing requirements for the translation device?](#)
- [\[FAQ\] What should be done with unused I/O pins of the level translator devices?](#)
- Need additional assistance? Ask our engineers a question on the [TI E2E™ Logic Support Forum](#)

Recommended Parts

Part Number	AEC-Q100	Supported UART Topology	Voltage Translation Range	Features
TXU0204		2-wire and 4-wire	1.1 V–5.5 V	Schmitt-trigger inputs Integrated pulldown resistors V _{CC} Isolation and V _{CC} Disconnect
TXU0204-Q1	✓			
SN74AXC2T245		2-wire	0.65 V–3.6 V	Direction controlled Glitch-free power supply sequencing V _{CC} Isolation
SN74AXC2T245-Q1	✓			
SN74AXC4T245		2-wire and 4-wire		
SN74AXC4T245-Q1	✓			

For more devices, browse through the [online parametric tool](#) where you can sort by desired voltage, channel numbers, and other features.

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