

TCC-82

Serial Port Powered RS-232 4 Channel Optical Isolator



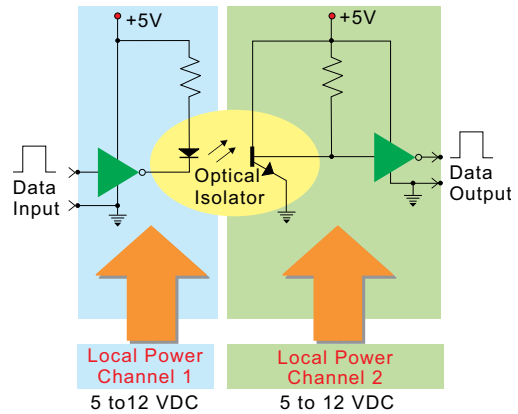
Features

- > 4 channel, 4 KV RMS Isolation for 1 minute
- > Dual self-powered or selectable external power source
- > Surge protection, 15 KV ESD
- > Auto baudrate sensing
- > Compact size



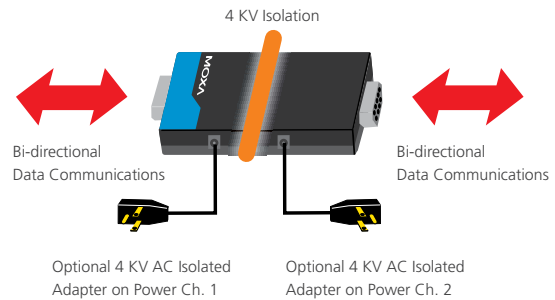
Introduction

TCC-82 is a signal isolator that provides bi-directional serial communication with full electrical isolation between two RS-232 devices. This compact sized isolator isolates both sides of the connection optically to provide perfect protection from lightning surges, accidental high voltage shorts, and most of all, ground loops. The built-in, wide range optocouplers are tested to ensure that they can withstand more than 4 KV rms input to output for 1 minute. This means that TCC-82 not only meets the requirements of general serial data communications, but also the high standards required by industrial automation and medical applications. In addition to the TxD and RxD data lines, TCC-82 also protects the RTS/CTS handshake lines on its two D-type connectors. Thus, the 4-channel (TxD, RxD, RTS, and CTS) isolation provides complete protection for RS-232 communication.



Independent Serial RS-232 Port Power

TCC-82 has two power inputs, which means that both sides of the isolator must be powered independently and separately to maintain the isolation. Ideally, both sides can derive power directly from the RS-232 TxD data lines and the RTS/DTR handshake lines, regardless of whether the signal is high or low. This also eliminates the requirements of using external power supplies in most systems. The configuration of the wires and the entire system can be maintained easily. If the applications and devices on one or both sides do not have handshake lines available, the serial cable is too long, or low powered serial ports have been used as the power source, then external USB power cords or 5-12 VDC adapters can be used as an alternative.



When connecting TCC-82, it is recommended that all signals that are outputs be connected. TCC-82 derives power from these signals, even if they are not used by your system. Care should be taken when choosing the external power supply if TCC-82's full 4 KV of isolation is required to operate correctly.

Most of the commercial power supplies that are available on the market only provide 1500 VAC isolation between the primary and secondary windings. If both sides of the isolator require external power, two separate isolated supplies are required.

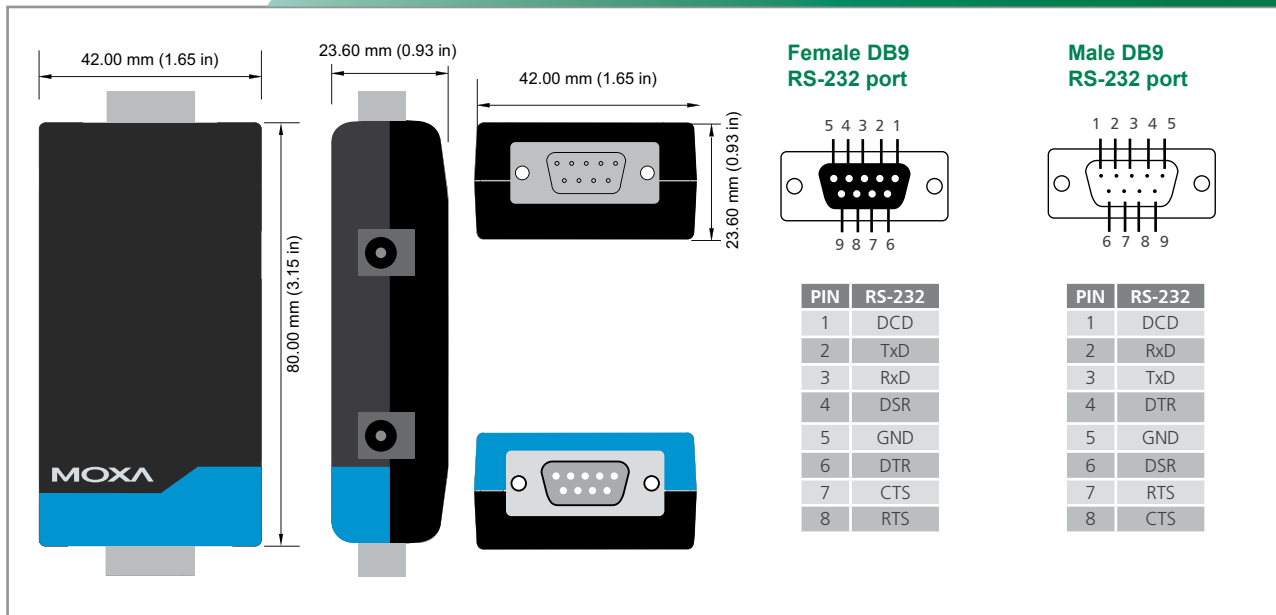
Ordering Information

TCC-82: Serial Port Powered RS-232 Isolator w/4 KV Isolation and 15 KV ESD Surge Protection

Optional Accessories

- **Power Adapter:** See page 5-6 for more detailed information
- **CBL-USBAP-50:** USB Power Cord (50 cm)

Dimensions



Specifications

Communications

Baudrate: 50 bps to 115.2 Kbps

RS-232 Female DB9 Side (Bi-Directional Reversible Connector):

Signals: Pass through TxD, RxD, RTS, and CTS

Loop back: RTS to CTS, DTR to DSR and DCD

RS-232 Male DB9 Side:

Signals: Pass through TxD, RxD, RTS, and CTS

Loop back: DTR to DSR and DCD

Surge Protection: 15 KV ESD

Optical Isolation: 4 KV RMS for 1 minute

Environmental

Operating Temperature: 0 to 60°C (32 to 140°F)

Storage Temperature: -20 to 75°C (-4 to 167°F)

Humidity: 5 to 95% RH

Power

Input Power Source:

Serial RS-232 Port: TxD, RTS, DTR; Ext Power Input (jack)

Input Power Voltage: 5 to 12 VDC

Power Consumption: 10 mA @ 5 VDC

Mechanical

Dimensions (W x D x H): 42 x 80 x 23.6 mm

Case: ABS

Weight: 60 ± 5 g

Regulatory Approvals CE Class B, FCC Class B

Warranty: 2 years