TCC-80/80I Series

Port-powered RS-232 to RS-422/485 converters with optional 2.5 KV isolation

TCC-80-DB9   TCC-80

TCC-80I-DB9   TCC-80I

> External power source supported but not required
> Compact size
> Converts RS-422, and both 2-wire and 4-wire RS-485
> RS-485 automatic data direction control
> Automatic baudrate detection
> 15 KV serial ESD protection
> Built-in 120-ohm termination resistors
> 2.5 KV isolation (for TCC-80I only)
> LED port power indicator

USB Power | Port Power | Ext. Power | 2.5KV Isolation | 15 KV ESD

: Introduction

The TCC-80/80I media converters provide complete signal conversion between RS-232 and RS-422/485, without requiring an external power source. The converters support both half duplex 2-wire RS-485 and full duplex 4-wire RS-422/485, either of which can be converted between RS-232's TxD and RxD lines. In addition,the TCC-80/80I's 15 KV ESD protection guards against damage from electrostatic discharge, and the TCC-80I is the world's first high-speed, port-powered converter with 2.5 KV isolation.
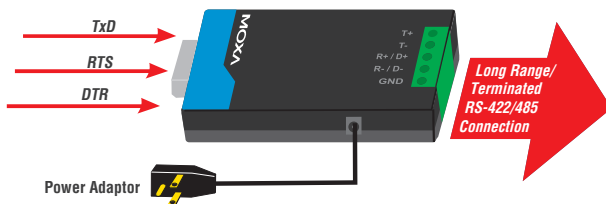
Automatic data direction control is provided for RS-485. In this case, the RS-485 driver is enabled automatically when the circuitry senses the TxD output from the RS-232 signal. This means that no programming effort is required to control the transmission direction of the RS-485 signal. Moreover, the TCC-80I's patented LED port power indicator lets you check whether or not the TCC-80I is receiving enough power.
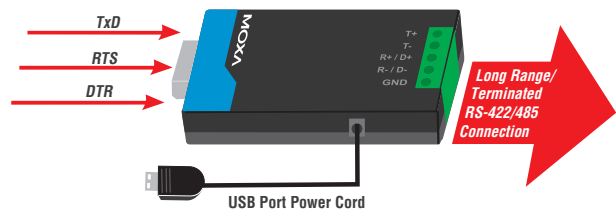
: Port Power over RS-232

The RS-232 port of the TCC-80/80I is a DB9 female socket that can connect directly to the host PC, with power drawn from the TxD line. Regardless of whether the signal is high or low, the TCC-80/80I can obtain enough power from the data line. However, external power can be used if the handshake line is not available, if the serial cable is too long, or if the RS-232 device is a low power device. For external power, a 5 to 12 VDC power supply can be connected using an adaptor or a USB power cord.

Power over TXD
TxD

T+
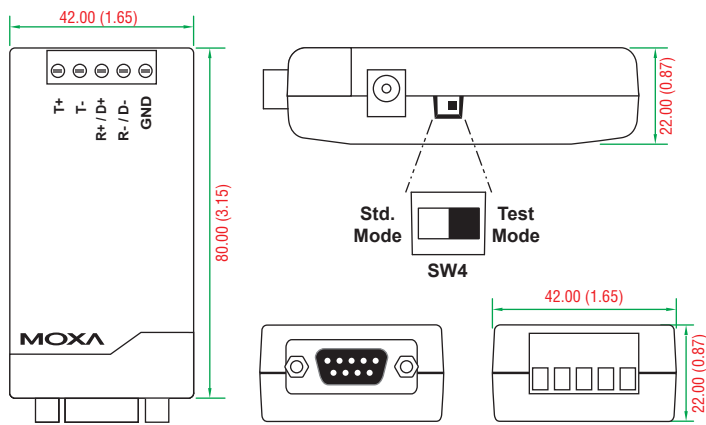T-
R+ / D+
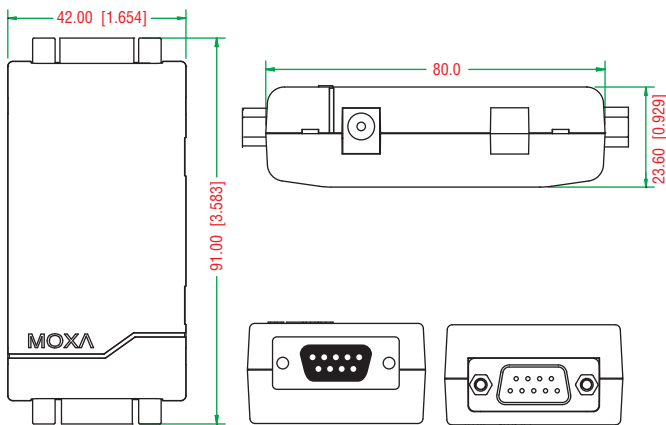R- / D-
GND

RS-422/485 Devices

External Power Adaptor

TxD
RTS
DTR

T+
T-
R+ / D+
R- / D-
GND

Long Range/ Terminated RS-422/485 Connection

Power Adaptor

USB Power

TxD
RTS
DTR

T+
T-
R+ / D+
R- / D-
GND

Long Range/ Terminated RS-422/485 Connection

USB Port Power Cord

MOXA®

Dimensions

Unit: mm (inch)

TCC-80/80I

42.00 (1.65)

22.00 (0.87)

80.00 (3.15)

T+
T-
R+ / D+
R- / D-
GND

Std. Mode   Test Mode

SW4

42.00 (1.65)

22.00 (0.87)

MOXA

TCC-80-DB9, TCC-80I-DB9

42.00 [1.654]

80.0

91.00 [3.583]

23.60 [0.929]

MOXA

DB9 female connector

5 4 3 2 1

9 8 7 6
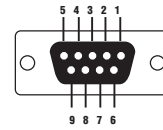
PIN	RS-232
1	DCD
2	TxD
3	RxD
4	DSR
5	GND
6	DTR
7	CTS
8	RTS

DIP Switch Settings

ON

1 2 3

DIP Switch Settings			
RS-422 with Terminator	SW1	SW2	SW3
	OFF	OFF	ON
RS-422	SW1	SW2	SW3
	OFF	OFF	OFF
4-wire RS-485 with Terminator	SW1	SW2	SW3
	ON	OFF	ON
4-wire RS-485	SW1	SW2	SW3
	ON	OFF	OFF
2-wire RS-485 with Terminator	SW1	SW2	SW3
	ON	ON	ON
2-wire RS-485	SW1	SW2	SW3
	ON	ON	OFF

DB9 male RS-422/485 port

1 2 3 4 5

6 7 8 9
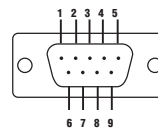
PIN	RS-422/RS-485-4w	RS-485-2w
1	TxD+(B)	–
2	TxD-(A)	–
3	RxD+(B)	Data+(B)
4	RxD-(A)	Data-(A)
5	GND	GND
6	–	–
7	–	–
8	–	–

⦂ Ordering Information

Available Models

TCC-80: Port-powered RS-232 to RS-422/485 converter with 15 KV serial ESD protection and terminal block on the RS-422/485 side

TCC-80-DB9: Port-powered RS-232 to RS-422/485 converter with 15 KV serial ESD protection and DB9 male connector on the RS-422/485 side

TCC-80I: Port-powered RS-232 to RS-422/485 converter with 15 KV serial ESD protection, terminal block on the RS-422/485 side, and 2.5 KV optical isolation

TCC-80I-DB9: Port-powered RS-232 to RS-422/485 converter with 15 KV serial ESD protection, DB9 male connector on the RS-422/485 side, and 2.5 KV optical isolation

Optional Accessories (can be purchased separately)

CBL-F9M9-20: DB9 male to DB9 female RS-232 cable (20 cm)

Power Adaptor: See Appendix A for details

Package Checklist

- 1 TCC-80 or TCC-80I media converter
- USB power cord (50 cm)
- Quick installation guide (printed)
- Warranty card