

## Industrial RS-422/485 converters/repeaters with optional 2 kV isolation



### Features and Benefits

- Boosts serial signal to extend transmission distance
- Wall mounting or DIN-rail mounting
- Terminal block for easy wiring
- Power input from terminal block
- DIP switch setting for built-in terminator (120 ohm)
- Boosts RS-422 or RS-485 signal, or converts RS-422 to RS-485
- 2 kV isolation protection (TCC-120I)

### Certifications



## Introduction

The TCC-120 and TCC-120I are RS-422/485 converters/repeaters designed to extend RS-422/485 transmission distance. Both products have a superior industrial-grade design that includes DIN-rail mounting, terminal block wiring, and an external terminal block for power. In addition, the TCC-120I supports optical isolation for system protection. The TCC-120 and TCC-120I are ideal RS-422/485 converters/repeaters for critical industrial environments.

## Specifications

### Serial Interface

|                                   |                                                        |
|-----------------------------------|--------------------------------------------------------|
| Connector                         | Terminal block                                         |
| No. of Ports                      | 2                                                      |
| Serial Standards                  | RS-422<br>RS-485                                       |
| Baudrate                          | 50 bps to 921.6 kbps (supports non-standard baudrates) |
| Isolation                         | TCC-120I: 2 kV                                         |
| Pull High/Low Resistor for RS-485 | 1 kilo-ohm, 150 kilo-ohms                              |
| RS-485 Data Direction Control     | ADDC (automatic data direction control)                |
| Terminator for RS-485             | N/A, 120 ohms, 120 kilo-ohms                           |

### Serial Signals

|           |                         |
|-----------|-------------------------|
| RS-422    | Tx+, Tx-, Rx+, Rx-, GND |
| RS-485-4w | Tx+, Tx-, Rx+, Rx-, GND |
| RS-485-2w | Data+, Data-, GND       |

### Power Parameters

|               |                                                      |
|---------------|------------------------------------------------------|
| Input Current | TCC-120: 65 mA @ 12 VDC<br>TCC-120I: 180 mA @ 12 VDC |
| Input Voltage | 12 to 48 VDC                                         |

|                             |                                                      |
|-----------------------------|------------------------------------------------------|
| No. of Power Inputs         | 1                                                    |
| Overload Current Protection | Supported                                            |
| Power Connector             | Terminal block (for DC models)                       |
| Power Consumption           | TCC-120: 65 mA @ 12 VDC<br>TCC-120I: 180 mA @ 12 VDC |

#### Physical Characteristics

|              |                                                        |
|--------------|--------------------------------------------------------|
| Housing      | Metal                                                  |
| IP Rating    | IP30                                                   |
| Dimensions   | 67 x 100.4 x 22 mm (2.64 x 3.93 x 0.87 in)             |
| Weight       | 148 g (0.33 lb)                                        |
| Installation | DIN-rail mounting (with optional kit)<br>Wall mounting |

#### Environmental Limits

|                                        |                                            |
|----------------------------------------|--------------------------------------------|
| Operating Temperature                  | Standard Models: -20 to 60°C (-4 to 140°F) |
| Storage Temperature (package included) | -40 to 85°C (-40 to 185°F)                 |
| Ambient Relative Humidity              | 5 to 95% (non-condensing)                  |

#### Standards and Certifications

|                       |                                                                                                                                                                                                                                                                  |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EMC                   | EN 55032/35                                                                                                                                                                                                                                                      |
| EMI                   | CISPR 32, FCC Part 15B Class A                                                                                                                                                                                                                                   |
| EMS                   | IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV<br>IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m<br>IEC 61000-4-4 EFT: Power: 1 kV; Signal: 0.5 kV<br>IEC 61000-4-5 Surge: Power: 1 kV<br>IEC 61000-4-6 CS: 150 kHz to 80 MHz: 3 V/m; Signal: 3 V/m<br>IEC 61000-4-8 PFMF |
| Environmental Testing | IEC 60068-2-1<br>IEC 60068-2-2<br>IEC 60068-2-3                                                                                                                                                                                                                  |
| Safety                | UL 60950-1                                                                                                                                                                                                                                                       |
| Vibration             | IEC 60068-2-6                                                                                                                                                                                                                                                    |

#### MTBF

|           |                          |
|-----------|--------------------------|
| Time      | 1,949,025 hrs            |
| Standards | Telcordia (Bellcore), GB |

#### Warranty

|                 |                                                                      |
|-----------------|----------------------------------------------------------------------|
| Warranty Period | 5 years                                                              |
| Details         | See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> |

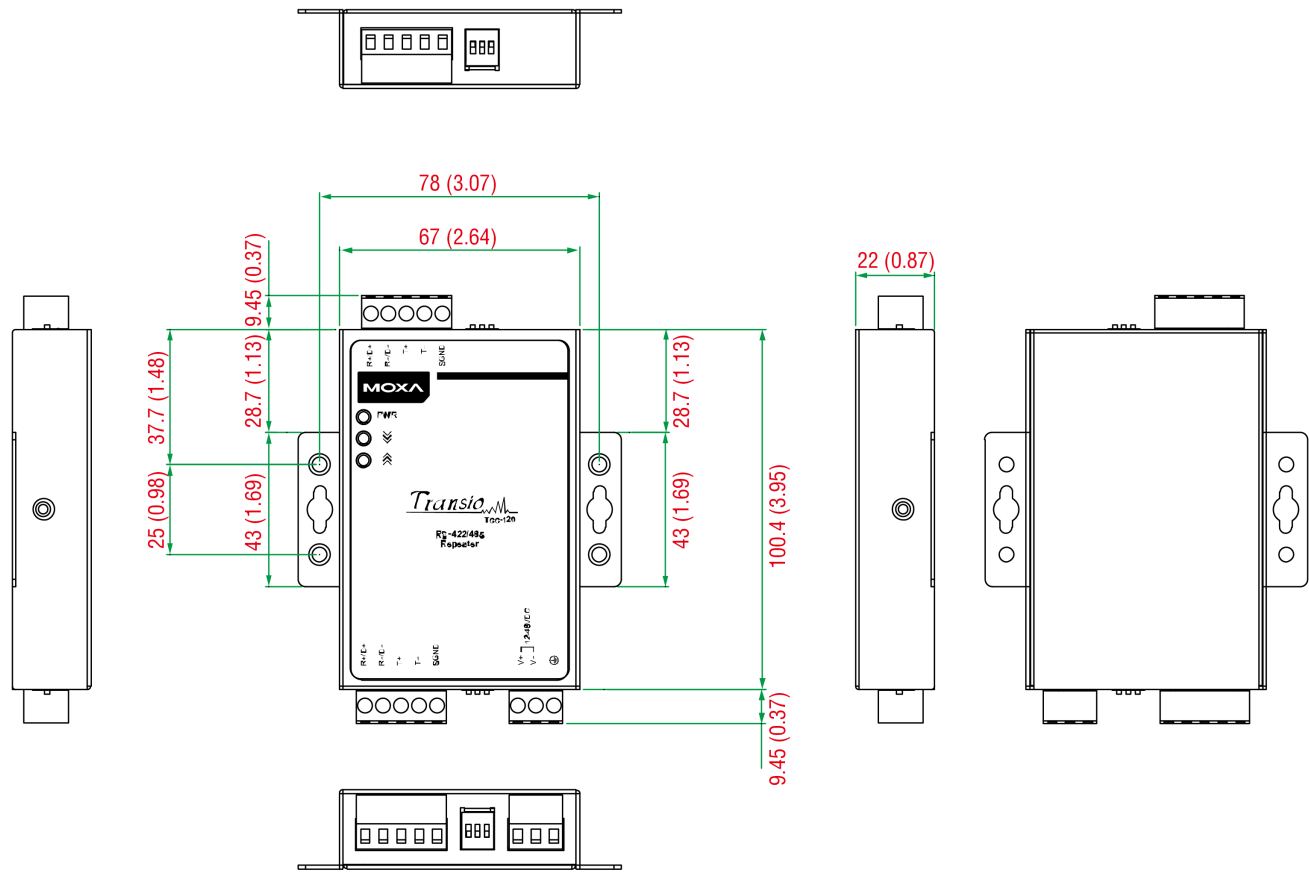
#### Package Contents

|        |                                            |
|--------|--------------------------------------------|
| Device | 1 x TCC-120/120I Series isolator           |
| Cable  | 1 x terminal block to power jack converter |

|                  |                                                   |
|------------------|---------------------------------------------------|
| Installation Kit | 1 x DIN-rail kit<br>1 x rubber stand              |
| Documentation    | 1 x quick installation guide<br>1 x warranty card |

## Dimensions

Unit: mm (inch)



## Ordering Information

| Model Name | Isolation | Operating Temp. |
|------------|-----------|-----------------|
| TCC-120    | -         | -20 to 60°C     |
| TCC-120I   | ✓         | -20 to 60°C     |

## Accessories (sold separately)

### DIN-Rail Mounting Kits

|       |                              |
|-------|------------------------------|
| DK35A | DIN-rail mounting kit, 35 mm |
|-------|------------------------------|

### Power Cords

|             |                                            |
|-------------|--------------------------------------------|
| CBL-PJTB-10 | Non-locking barrel plug to bare-wire cable |
|-------------|--------------------------------------------|

© Moxa Inc. All rights reserved. Updated Feb 02, 2023.

This document and any portion thereof may not be reproduced or used in any manner whatsoever without the express written permission of Moxa Inc. Product specifications subject to change without notice. Visit our website for the most up-to-date product information.