

# CP-102N Series

## 2-port RS-232 Mini PCI Express boards



### Features and Benefits

- Mini PCIe interface support
- 921.6 kbps maximum baudrate for fast data transmission
- 128-byte FIFO and on-chip H/W, S/W flow control
- Drivers provided for a broad selection of operating systems, including Windows and Linux

### Certifications



## Introduction

The CP-102N is a multiport serial board designed for industrial automation system and industrial PC manufacturers. It is compatible with any Mini PCI Express slot. The board requires only a 3.3 VDC power supply, which means it can work with host computers ranging from DIN-rail PCs to standard-sized PCs.

The CP-102N is a top choice of industrial automation engineers and system integrators and supports Windows and Linux operating systems. In addition, the four RS-232 serial ports support a fast 921.6 kbps baudrate. The CP-102N provides full-modem control signals to ensure compatibility with a wide range of serial peripherals. It also provides 1 kV line-to-line surge protection and 2.5 kV isolation (for the I model), ensuring compatibility in a wide range of industrial environments.

### A New Family of Mini PCI Express Multiport Serial Boards for Faster Time to Market

Moxa's new Mini PCI Express multiport serial board family fulfills the need for customized expansion and enables faster time to market for OEMs and system integrators. It includes Isolated and non-Isolated RS-232/422/485 communication cards for various applications.

The serial boards feature high performance 16C950 compatible UARTs and are available in 4-port and 2-port versions compatible with all popular operating systems. They support data rates of up to 921.6 kbps and have 128-byte transmit and receive FIFOs. The serial boards can operate in the -40 to 85°C temperature range. Door brackets are included in the package for all models, enabling the installation of the serial boards in a Moxa IPC expansion slot.

## Specifications

### Serial Interface

|                  |  |
|------------------|--|
| Comm. Controller | 16C550C compatible                                     |
| Bus              | Mini PCI Express                                       |
| Connector        | 2 x DB9 male<br>DB9 male                               |
| FIFO             | 128 bytes  |
| No. of Ports     | 2  |
| Serial Standards | RS-232   |
| Baudrate         | 50 bps to 921.6 kbps (supports non-standard baudrates) |
| Stop Bits        | 1, 1.5, 2  |
| Parity           | None, Even, Odd, Space, Mark                           |

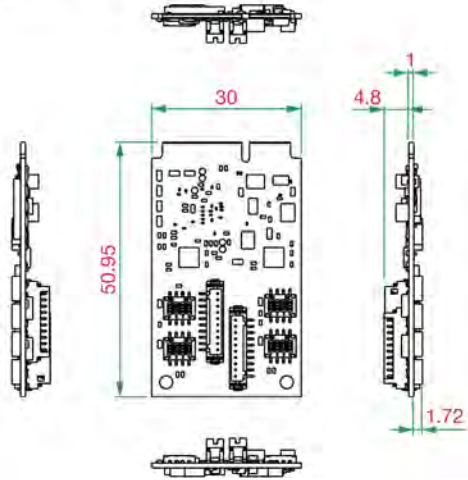
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| Flow Control                           | None, RTS/CTS, XON/XOFF  |
| Isolation                              | 2.5 kV<br>(I models)   |
| <b>Serial Signals</b>                  |  |
| RS-232                                 | TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND   |
| <b>Serial Software Features</b>        |  |
| Windows Drivers                        | Windows 7/8/8.1/10/11 (x86/x64), Windows 2008 R2/2012/2012 R2/2016/2019 (x64), Windows Server 2022   |
| Linux Drivers                          | Linux kernel 4.x, Linux kernel 5.x   |
| <b>Power Parameters</b>                |  |
| Input Current                          | CP-102N-T: 377 mA @ 3.3 VDC<br>CP-102N-I-T: 458 mA @ 3.3 VDC   |
| <b>Physical Characteristics</b>        |  |
| Dimensions                             | 30 x 50.95 mm (1.18 x 2 in)  |
| <b>Environmental Limits</b>            |  |
| Operating Temperature                  | -40 to 85°C (-40 to 185°F)   |
| Storage Temperature (package included) | -20 to 85°C (-4 to 185°F)  |
| Ambient Relative Humidity              | 5 to 95% (non-condensing)  |
| <b>Standards and Certifications</b>    |  |
| 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: 2 kV, Signal: 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 |
| <b>Declaration</b>                     |  |
| Green Product                          | RoHS, CRoHS, WEEE  |
| <b>MTBF</b>                            |  |
| Time                                   | CP-102N-I-T: 3,512,504 hrs<br>CP-102N-T: 4,715,178 hrs   |
| Standards                              | Telcordia (Bellcore) Standard TR/SR  |
| <b>Warranty</b>                        |  |
| Warranty Period                        | 5 years  |
| Details                                | See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a>   |
| <b>Package Contents</b>                |  |
| Device                                 | 1 x CP-102N Series serial board  |
| Cable                                  | 2 x 10-pin female to 1 DB9 male serial cable, 25 cm  |

|                  |   |
|------------------|---|
| Installation Kit | Door/CP-100N Port12                               |
| Documentation    | 1 x quick installation guide<br>1 x warranty card |

## Dimensions

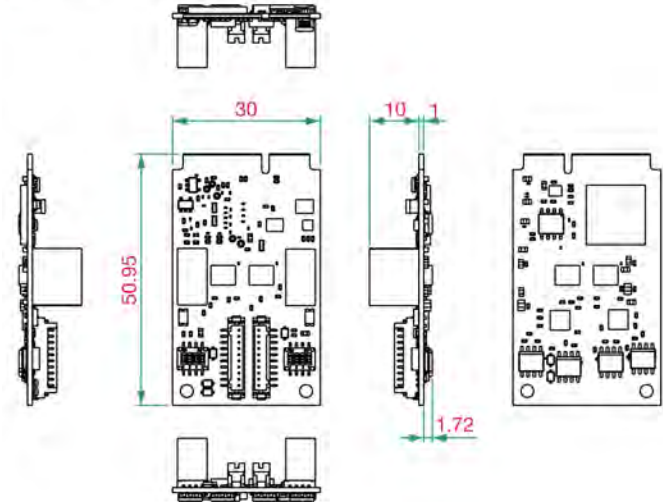
### CP-102N-T

Unit: mm



### CP-102N-I-T

Unit: mm



## Ordering Information

| Model Name  | Serial Standards | No. of Serial Ports | Serial Isolation Protection |
|-------------|------------------|---------------------|-----------------------------|
| CP-102N-T   | RS-232           | 2                   | -                           |
| CP-102N-I-T | RS-232           | 2                   | 2.5 kV                      |

## Accessories (sold separately)

### Connectors

|                 |  |
|-----------------|--|
| Mini DB9F-to-TB | DB9 female to terminal block connector |
|-----------------|--|

### Cables

|                      |  |
|----------------------|--|
| CBL-M9HSF1x10H-15-01 | 10-pin female to 1 DB9 male serial cable, 15 cm<br>Applicable Models:<br>CP-102N-I-T |
| CBL-M9HSF1x10H-15-02 | 10-pin female to 1 DB9 male serial cable, 15 cm<br>Applicable Models:<br>CP-102N-T   |

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