

CP-118E-A-I/138E-A-I Series

8-port 3-in-1, RS-422/485 PCI Express boards with 4 kV surge protection and 2 kV electrical isolation



Features and Benefits

- PCI Express 1.0 compliant
- 921.6 kbps maximum baudrate for fast data transmission
- 128-byte FIFO and on-chip S/W flow control
- Variety of connection cables and boxes available for RS-232/422/485
- Drivers provided for a broad selection of operating systems, including Windows, Linux, and UNIX
- Easy maintenance with built-in LEDs and management software

Certifications



Introduction

The CP-118E-A-I and CP-138E-A-I are smart PCI Express multiport serial boards designed for POS and ATM applications, and for use by industrial automation system manufacturers and system integrators. The CP-118E-A-I and CP-138E-A-I are compatible with all popular operating systems, and each of their eight serial ports supports data rates of up to 921.6 kbps and provide full modem control signals, ensuring compatibility with a wide range of serial peripherals. In addition, the CP-118E-A-I and CP-138E-A-I work with PCI Express x1, allowing the boards to be installed in any PCI Express slot.

Intelligent RS-485 for Easy Installation and Troubleshooting (Patent Pending)

Setting up an RS-485 network is relatively straightforward. The challenge comes when the power is turned on and the devices connected to the network start transmitting and receiving data. In most cases, engineers will need to further tune the system by configuring pull high/low resistors and terminators at strategic points along the network. Moxa's Intelligent RS-485 technology supports two essential features to make it easy: (1) One-Click Installation automatically analyzes the network topology and then adjusts terminators and pull high/low resistors. (2) One-Click Troubleshooting tells you what to change to make a deficient network viable.

Specifications

Serial Interface

| | |
|---------------------------|--|
| Comm. Controller | 16C550C compatible |
| Bus | PCI Express 1.0 |
| Connector | DB78 female |
| FIFO | 128 bytes |
| Max. No. of Boards per PC | 8 |
| No. of Ports | 8 |
| Serial Standards | CP-118E-A-I w/o cable: RS-232, RS-422, RS-485 CP-138E-A-I w/o cable: RS-422, RS-485 |
| Baudrate | 50 bps to 921.6 kbps (supports non-standard baudrates) |
| Data Bits | 5, 6, 7, 8 |
| Stop Bits | 1, 1.5, 2 |

| | |
|--------------|---|
| Parity | None, Even, Odd, Space, Mark |
| Flow Control | CP-118E-A-I w/o cable: None, RTS/CTS, XON/XOFF CP-138E-A-I w/o cable: None, XON/XOFF |
| Isolation | 2 kV |
| Surge | 4 kV |

Serial Signals

| | |
|-----------|--|
| RS-232 | TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND |
| RS-422 | Tx+, Tx-, Rx+, Rx-, GND |
| RS-485-4w | Tx+, Tx-, Rx+, Rx-, GND |
| RS-485-2w | Data+, Data-, GND |

DIP Switch Configuration

| | |
|------------------|--|
| Serial Interface | CP-118E-A-I w/o cable: RS-232/422/485 CP-138E-A-I w/o cable: RS-422/485 |
|------------------|--|

Serial Software Features

| | |
|-----------------|--|
| Windows Drivers | DOS, Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1/10 (x86/x64), Windows 2008 R2/2012/2012 R2/2016/2019 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded |
| Linux Drivers | Linux kernel 2.4.x, Linux kernel 2.6.x, Linux kernel 3.x, Linux kernel 4.x, Linux kernel 5.x |
| UNIX Drivers | Solaris 10, UnixWare 7, SCO OpenServer 5, SCO OpenServer 6 |

Power Parameters

| | |
|---------------|--------------------|
| Input Current | 2,356 mA @ 3.3 VDC |
|---------------|--------------------|

Physical Characteristics

| | |
|------------|---------------------------------|
| Dimensions | 107 x 136.9 mm (4.21 x 5.39 in) |
| Weight | 139.7 g (0.31 lb) |

LED Interface

| | |
|----------------|------------------------------------|
| LED Indicators | Built-in Tx, Rx LEDs for each port |
|----------------|------------------------------------|

Environmental Limits

| | |
|--|---------------------------|
| Operating Temperature | 0 to 55°C (32 to 131°F) |
| Storage Temperature (package included) | -20 to 85°C (-4 to 185°F) |
| Ambient Relative Humidity | 5 to 95% (non-condensing) |

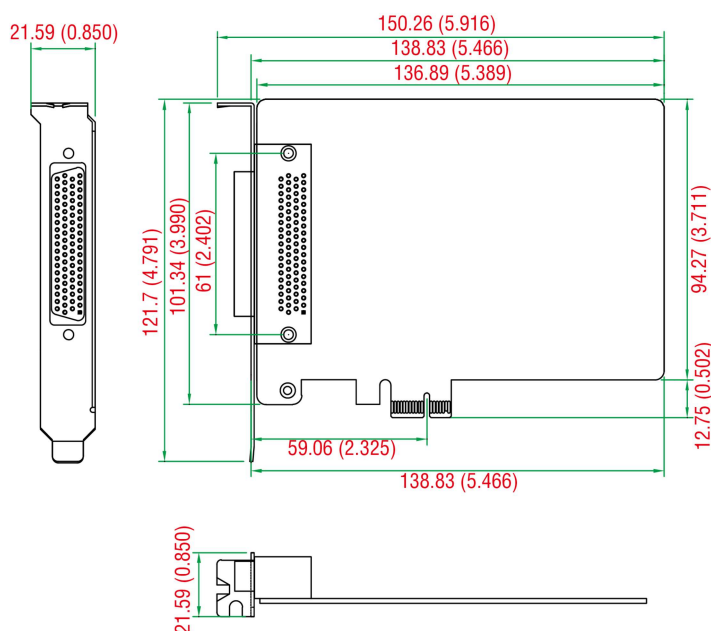
Standards and Certifications

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

| | |
|-------------------------|--|
| Declaration | |
| Green Product | RoHS, CRoHS, WEEE |
| MTBF | |
| Time | 390,883 hrs 221,331 hrs |
| Standards | Telcordia (Bellcore) Standard TR/SR |
| Warranty | |
| Warranty Period | 5 years |
| Details | See www.moxa.com/warranty |
| Package Contents | |
| Device | 1 x CP-118E-A-I/138E-A-I Series serial board |
| Documentation | 1 x quick installation guide 1 x warranty card |

Dimensions

Unit: mm (inch)



Ordering Information

| Model Name | Serial Standards | No. of Serial Ports | Isolation |
|-----------------------|------------------|---------------------|-----------|
| CP-118E-A-I w/o cable | RS-232/422/485 | 8 | 2 kV |
| CP-138E-A-I w/o cable | RS-422/485 | 8 | 2 kV |

Accessories (sold separately)

Cables

| | |
|------------------|--|
| CBL-M78M25x8-100 | M78 to 8 x DB25 male serial cable, 1 m |
| CBL-M78M9x8-100 | M78 to 8 x DB9 male serial cable, 1 m |

Connectors

Mini DB9F-to-TB

DB9 female to terminal block connector

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