

# 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
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#### 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
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#### 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
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#### 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)

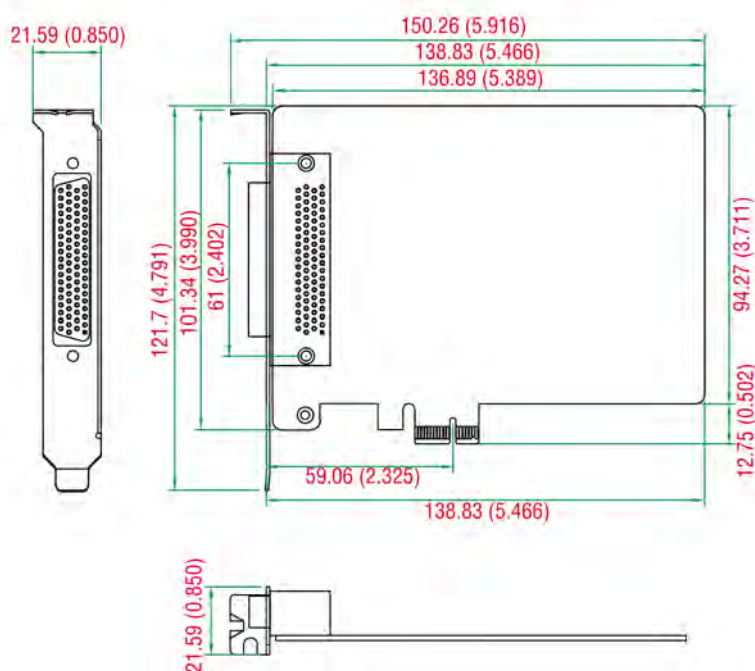
#### Standards and Certifications

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

<b>Declaration</b>	
Green Product	RoHS, CRoHS, WEEE
<b>MTBF</b>	
Time	390,883 hrs 221,331 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-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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