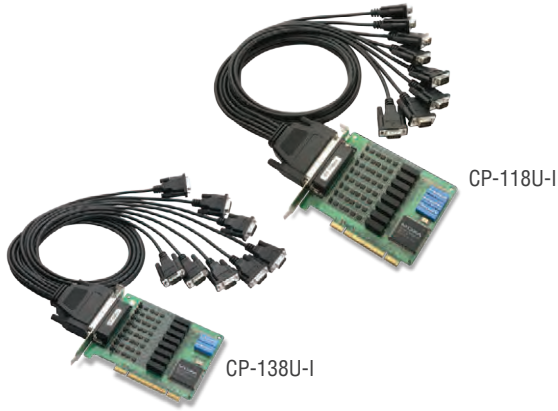


# CP-118U-I/138U-I

## 8-port RS-232/422/485 Universal PCI serial boards with 2 kV isolation



- > Over 700 kbps data throughput for top performance
- > 921.6 kbps maximum baudrate for super fast data transmission
- > 128-byte FIFO and on-chip H/W, S/W flow control
- > Compatible with 3.3/5V PCI and PCI-X
- > Drivers provided for a broad selection of operating systems, including the latest Windows and Linux
- > Easy maintenance with on-board LED display, and management software
- > 15 kV ESD protection and 2 kV electrical isolation on the board
- > Wide temperature model available for -40 to 85°C environments



### Overview

The CP-118U-I and CP-138U-I are 8-port serial boards designed for long distance, multi-point, PC-based data acquisition applications. Industrial automation system integrators will be eager to use these boards for many of their industrial automation projects.

#### On-chip ADDC® for precise RS-485 communication

RS-485 communication requires precise timing control to enable and disable the line driver, and the Moxa Turbo Serial Engine™ chip that powers the CP-118U-I and CP-138U-I boards come with on-chip

ADDAC® (automatic data direction control) to make RS-485 as easy to use as RS-232.

#### RS-485 multidrop for up to 31 devices within 1.2 km

The CP-118U-I's 8 RS-232/422/485 ports and the CP-138U-I's 8 RS-422/485 ports can achieve data rates up to 921.6 kbps, and in RS-485 mode, one serial port can connect up to 31 daisy-chained RS-485 devices within a range of 1.2 km. In addition, the 2 kV electrical isolation protection on the CP-118U-I and CP-138U-I boards helps prevent equipment damage for long distance RS-485 communication.

### Top Serial Performance

With 20-plus years of experience in serial board design, Moxa is now concentrating on a new high performance serial data transmission chip. The Turbo Serial Engine™ chip provides serial boards with a 128-

byte FIFO, on-chip hardware and software flow control, and burst data mode. Thanks to the Turbo Serial Engine™, Moxa is able to offer the world's best performing smart serial boards.

### Drivers Provided for Windows, Linux, and Unix

Moxa continues to support a wide variety of operating systems, and the CP-118U-I and CP-138U-I boards are no exception. Reliable

Windows COM and Linux/Unix TTY drivers are provided for most Moxa boards, and other operating systems, such as WEPOS, are also supported for embedded integration.

### Specifications

#### Hardware

**Comm. Controller:** MU860 (16C550C compatible)  
**Bus:** 32-bit Universal PCI  
**Connector:** DB78 female

#### Serial Interface

**Number of Ports:** 8  
**Serial Standards:**  
 CP-118U-I: RS-232/422/485  
 CP-138U-I: RS-422/485

**Max. No. of Boards per PC:** 4

#### Serial Line Protection

**ESD Protection:** 15 kV on the board  
**Electrical Isolation:** 2 kV

#### Performance

**Baudrate:** 50 bps to 921.6 kbps

#### Serial Communication Parameters

**Data Bits:** 5, 6, 7, 8  
**Stop Bits:** 1, 1.5, 2  
**Parity:** None, Even, Odd, Space, Mark  
**Flow Control:** RTS/CTS, XON/XOFF  
**I/O Address:** Assigned by BIOS  
**IRQ:** Assigned by BIOS

#### Serial Signals

**RS-232:** TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND  
**RS-422:** TxD+(B), TxD-(A), RxD+(B), RxD-(A), GND  
**RS-485-4w:** TxD+(B), TxD-(A), RxD+(B), RxD-(A), GND  
**RS-485-2w:** Data+(B), Data-(A), GND

**Operating Systems**

**Windows Real COM Drivers:** Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), DOS, Windows Embedded CE 5.0/6.0, Windows XP Embedded

**Fixed TTY Drivers:** QNX 6, SCO OpenServer, UnixWare 7, Solaris 10, FreeBSD

**Linux Real TTY Drivers:** Linux 2.4.x, 2.6.x

*Note: Please refer to Moxa's website for the latest driver support information.*

**Physical Characteristics**

**Dimensions:** 105 x 133 mm (4.13 x 5.23 in)

**Environmental Limits**

**Operating Temperature:**

Standard Models: 0 to 55°C (32 to 131°F)

Wide Temp. Models: -40 to 85°C (-40 to 185°F)

**Storage Temperature:** -40 to 85°C (-40 to 185°F)

**Ambient Relative Humidity:** 5 to 95% (non-condensing)

**Altitude:** Up to 2000 m

*Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.*

**Standards and Certifications**

**EMC:** CE, FCC

**EMI:** EN 55022, FCC Part 15 Subpart B Class B

**EMS:** EN 55024, IEC 61000-4-2, IEC 61000-4-3

**Green Product:** RoHS, CRoHS, WEEE

**MTBF (mean time between failures)**

**Time:** 1,147,210 hrs

**Database:** Telcordia (Bellcore), GB

**Power Requirements**

**Power Consumption:**

CP-118U-I: 860 mA @ +5 V

CP-138U-I: 330 mA @ +5V

**Warranty**

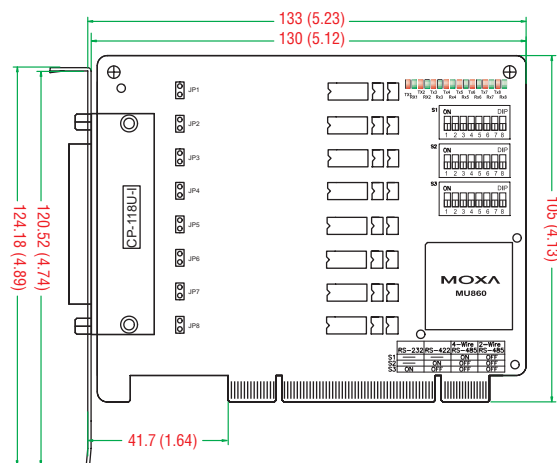
**Warranty Period:** 5 years

**Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

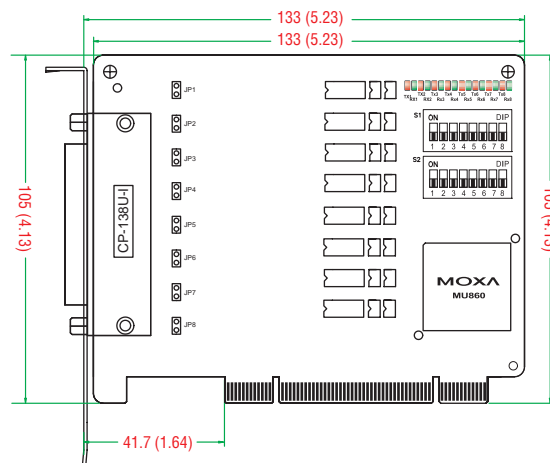
**Dimensions**

Unit: mm (inch)

**CP-118U-I**



**CP-138U-I**



**: Ordering Information**

**Available Models**

**CP-118U-I:** 8-port RS-232/422/485 Universal PCI serial board with electrical isolation, 0 to 55°C operating temperature

**CP-138U-I:** 8-port RS-422/485 Universal PCI serial board with electrical isolation, 0 to 55°C operating temperature

**CP-118U-I-T:** 8-port RS-232/422/485 Universal PCI serial board with electrical isolation, -40 to 85°C operating temperature

**CP-138U-I-T:** 8-port RS-422/485 Universal PCI serial board with electrical isolation, -40 to 85°C operating temperature

**Connection Options** (can be purchased separately)

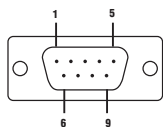
**Package Checklist**

- 1 CP-118U-I or CP-138U-I board
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card

**CBL-M78M9x8-100**



**DB9 male**



**CBL-M78M25x8-100**



**DB25 male**

