

# 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 Windows (2000, XP/2003/Vista/2008 x86/x64, 9X/ME/NT), Windows CE 5.0/6.0, Windows XP Embedded, DOS, Linux 2.4, Linux 2.6 (x86/x64), FreeBSD 4/5, QNX 6, SCO Open Server 5/6, UnixWare 7
- > Easy maintenance with on-board LED display, and management software
- > 15 KV ESD protection and 2 KV optical isolation on the board
- > Wide temperature model available for -40 to 85°C environment



The certification logos shown here apply to some or all of the products in this section. For details, see "Regulatory Approvals" under "Specifications" below.

### 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 precision 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

ADDCC® (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 optical 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

Moxa's 20-plus years of experience in serial board design is now concentrated in 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

**Optical 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

**Driver Support**

**Operating Systems:** Windows (2000, XP/2003/Vista/2008 x86/x64, 9X/ME/NT), Windows CE 5.0/6.0, Windows XP Embedded, DOS, Linux 2.4, Linux 2.6 (x86/x64), FreeBSD 4/5, QNX 6, SCO Open Server 5/6, UnixWare 7

**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)

**Operating Humidity:** 5 to 95% RH

**Storage Temperature:** -20 to 85°C (-4 to 185°F)

**Regulatory Approvals**

**FCC:** Part 15 Class B

**EMS:** EN55022, EN55024, EN61000-3-2, EN61000-3-3, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11 (DIPS)

**Power Requirements**

**Power Consumption:**

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

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

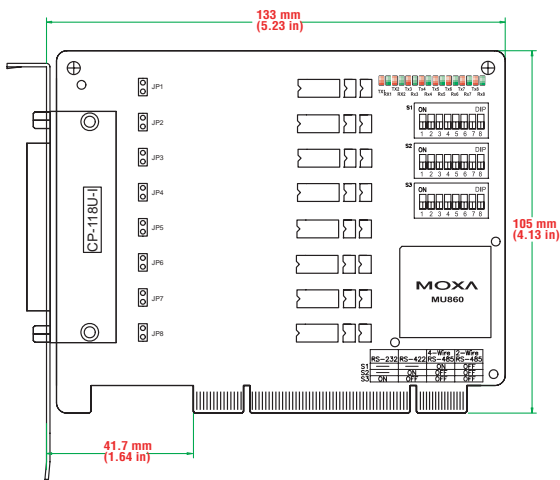
**Warranty**

**Warranty Period:** 5 years

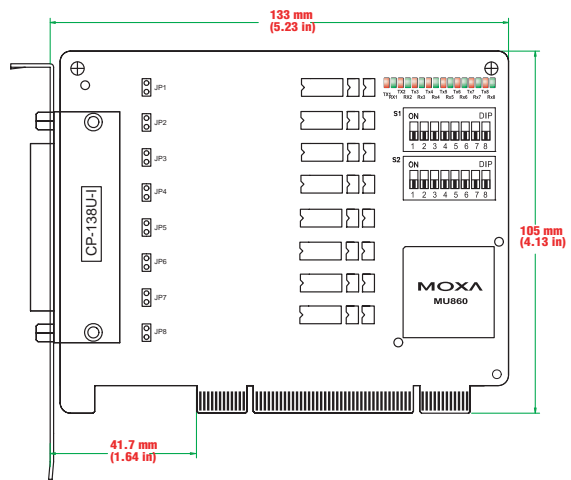
**Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

**Dimensions**

**CP-118U-I**



**CP-138U-I**



**Ordering Information**

**Available Models**

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

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

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

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

**Package Checklist**

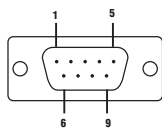
- CP-118U-I or CP-138U-I board
- Document and Software CD
- Quick Installation Guide (printed)
- Warranty Card

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

**CBL-M78M9x8-100**



**DB9 male**



**CBL-M78M25x8-100**



**DB25 male**

