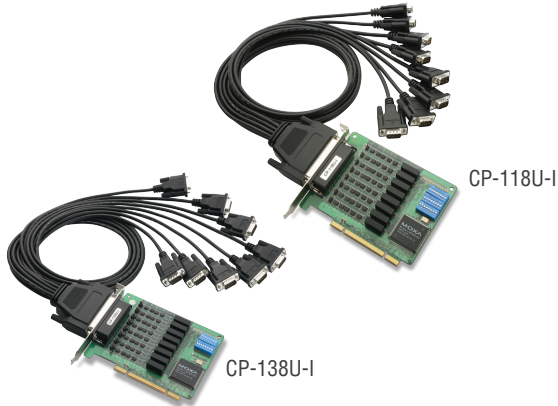# CP-118U-I/138U-I

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

CP-118U-I

CP-138U-I

> 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 3.3/5 V 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
> Wide temperature model available for -40 to 85°C environments

PComm Lite | Extreme Performance Turbo Serial Engine | -40°C 85°C

: Overview

The CP-118U-I and CP-138U-I are 8-port serial boards designed for long distance, multipoint, 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

ADDC® (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 and Linux/Unix 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
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
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
Physical Characteristics
Dimensions: 105 x 133 mm (4.13 x 5.23 in)
Driver Support
Windows: Windows 95/98/ME/NT/2000, Windows XP/2003/ Vista/2008/7/8/8.1/10 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), DOS, Windows Embedded CE 5.0/6.0, Windows XP Embedded
Linux: Linux 2.4.x, 2.6.x, 3.x

Unix-like Systems: QNX 6, SCO OpenServer, UnixWare 7, Solaris 10, FreeBSD
Note: Please refer to Moxa's website for the latest driver support information.

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)

Standards and Certifications
EMC: EN 55022/24
EMI: CISPR 22, FCC Part 15B Class B
EMS:
CP-118U-I:
IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV
IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m

CP-138U-I:
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

MTBF (mean time between failures)
Time:
CP-118U-I: 350,975 hrs
CP-138U-I: 370,390 hrs
Standard: Telcordia (Bellcore) SR-332

Power Requirements
Input Current:
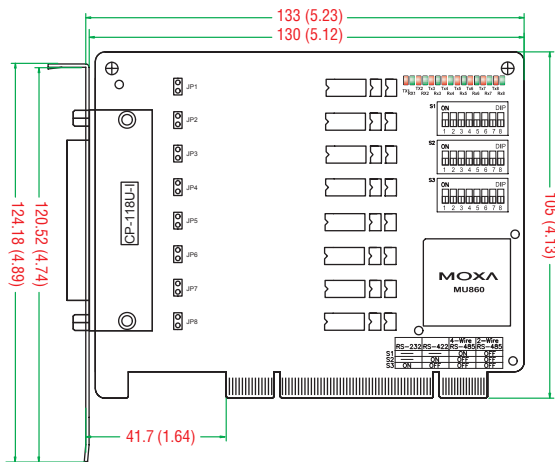CP-118U-I: 860 mA @ 5 VDC
CP-138U-I: 330 mA @ 5 VDC

Warranty
Warranty Period: 5 years
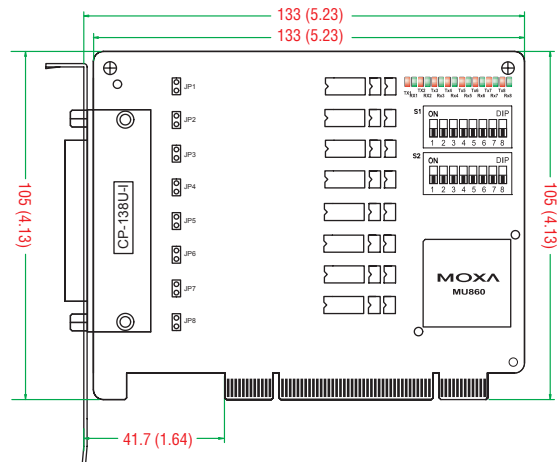**Details:** See www.moxa.com/warranty

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)
CBL-M68M9x8-100: SCSI VHDCI 68 to 8 x DB9-M cable, 100 cm
CBL-M68M25x8-100: SCSI VHDCI 68 to 8 x DB25-M cable, 100 cm

Optional Connectors (choose one per board)
OPT8-M9+: VHDCI 68 to 8 x DB9-M connection box
OPT8B+: VHDCI 68 to 8 x DB25-M connection box
OPT8A+: VHDCI 68 to 8 x DB25-F connection box
OPT8-RJ45+: VHDCI 68 to 8 x RJ45 (8-pin) connection box
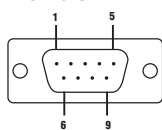**OPT8S+:** VHDCI 68 to 8 x DB25-F connection box w/ surge protection

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**