

# CP-168EL

## 8-port RS-232 PCI Express serial board



- > PCI Express x1 compliant
- > 921.6 Kbps maximum baudrate for super fast data transmission
- > 128-byte FIFO and on-chip H/W, S/W flow control
- > Choose from a wide range of connection cables and boxes
- > Low profile form factor fits small-sized PCs
- > Drivers provided for Windows (2000, XP/2003/Vista/2008 x86/x64), 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
- > 15 KV ESD protection on the board



### Overview

The CP-168EL is a smart, 8-port PCI Express board designed for POS and ATM applications. It is a top choice of industrial automation engineers and system integrators, and supports many different operating systems, including Windows, Linux, and even Unix. In

addition, each of the board's 8 RS-232 serial ports supports a super fast 921.6 Kbps baudrate. The CP-168EL provides full modem control signals to ensure compatibility with a wide range of serial peripherals, and its PCI Express "x1" classification allows it to be installed in any PCI Express slot.

### Smaller Form Factor

The CP-168EL is a low profile board that is compatible with any PCI Express slot. The board requires only a 3.3 VDC power supply, which

means that the board fits any host computer, ranging from shoebox to standard-sized PCs.

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

Moxa continues to support a wide variety of operating systems, and the CP-168EL board is no exception. Reliable Windows COM and Linux/Unix TTY drivers are provided for all Moxa boards, and other

operating systems, such as WEPOS, are also supported for embedded integration.

### Specifications

#### Hardware

**Comm. Controller:** MU860 (16C550C compatible)

**Bus:** PCI Express x1

**Connector:** VHDCI 68

#### Serial Interface

**Number of Ports:** 8

**Serial Standards:** RS-232

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

#### Serial Line Protection

**ESD Protection:** 15 KV on the board

#### 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

#### Driver Support

**Operating Systems:** Windows (2000, XP/2003/Vista/2008 x86/x64), 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:** 67.21 x 102 mm (2.65 x 4.02 in)

#### Environmental Limits

**Operating Temperature:** 0 to 55°C (32 to 131°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

#### Power Requirements

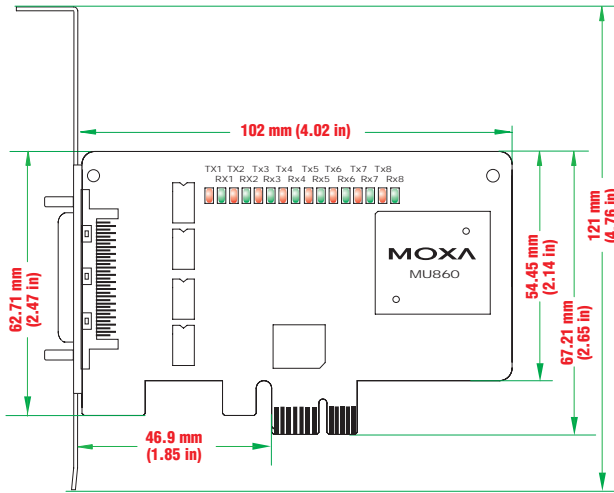
**Power Consumption:** 630 mA @ 3.3 V

#### Warranty

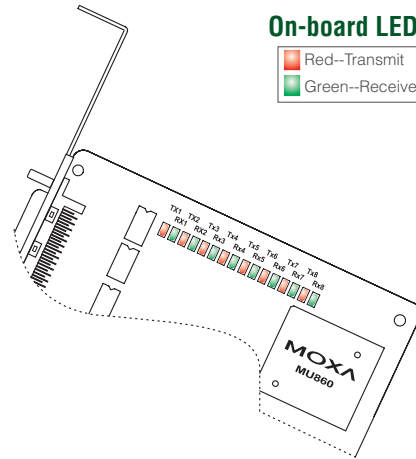
**Warranty Period:** 5 years

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

**Dimensions**



**On-board LEDs**



**Ordering Information**

**Available Models**

**CP-168EL:** 8-port RS-232 low profile PCI Express x1 serial board

**Package Checklist**

- CP-168EL board
- Standard bracket and low profile bracket
- Document and Software CD
- Quick Installation Guide (printed)
- Warranty Card

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

**OPT8-M9+**

DB9 male x 8 (150 cm cable)



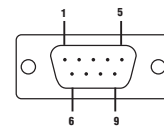
**CBL-M68M9x8-100 (OPT8D+)**

DB9 male x 8 (100 cm cable)



PIN	RS-232	PIN	RS-232
1	DCD	5	GND
2	RxD	6	DSR
3	TxD	7	RTS
4	DTR	8	CTS

**DB9 male**



**OPT8B+**

DB25 male x 8 (150 cm cable)



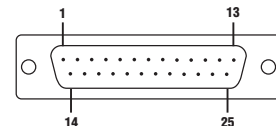
**CBL-M68M25x8-100 (OPT8C+)**

DB25 male x 8 (100 cm cable)



PIN	RS-232	PIN	RS-232
2	TxD	6	DSR
3	RxD	7	GND
4	RTS	8	DCD
5	CTS	20	DTR

**DB25 male**



**OPT8A+**

DB25 female x 8, 150 cm Cable



**OPT8S+**

DB25 female x 8 (150 cm cable)  
25 KV ESD protection



**OPT8F+/Z+ (RS-422)**

DB25 female x 8 (150 cm cable)  
110 or 230 VAC power adaptor  
(115.2 Kbps max. baudrate)



OPT8F+ with 500 V isolation

**OPT8K+ (RS-422/485)**

DB25 female x 8 (150 cm cable)  
110 or 230 VAC power adaptor

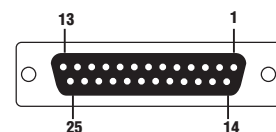


OPT8K+ with 2 KV isolation

PIN	RS-232	PIN	RS-232
2	RxD	6	DTR
3	TxD	7	GND
4	CTS	8	DCD
5	RTS	20	DSR

PIN	RS-422/RS-485-4w	RS-485-2w
2	RxD+(B)	Data+(B)
3	TxD+(B)	
7	GND	GND
14	RxD-(A)	Data-(A)
16	TxD-(A)	

**DB25 female**



**OPT8-RJ45+**

8-pin RJ45 (30 cm cable)



PIN	RS-232	PIN	RS-232
1	DSR	5	RxD
2	RTS	6	DCD
3	GND	7	CTS
4	TxD	8	DTR

**8-pin RJ45**

