

# USER GUIDE

# NI CB-68LP/CB-68LPR

## Unshielded 68-Pin Screw Terminal Connector Block Accessories

The National Instruments CB-68LP and CB-68LPR are unshielded I/O accessories with 68 screw terminals for easy signal connection to a National Instruments 68-pin DAQ device.

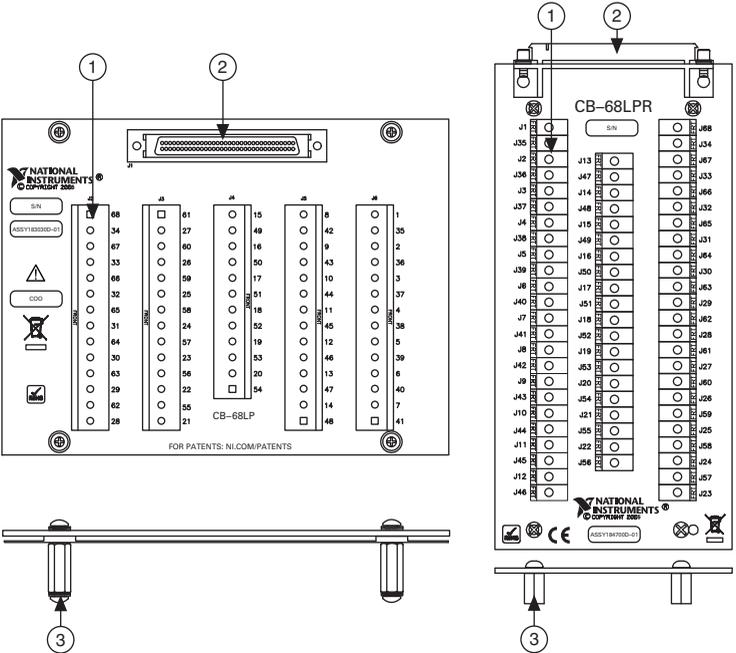


**Caution** The CB-68LP/CB-68LPR accessory must be installed inside a suitable enclosure prior to use.



**Caution** Before using this unshielded accessory, determine if the documentation for the connected device requires shielded cables or accessories to ensure its specified EMC performance. If the connected device requires shielded cables or accessories, do not use this product unless it is installed in a shielded enclosure with properly designed and shielded input/output ports and connected to the NI product using a shielded cable.

**Figure 1.** CB-68LP/CB-68LPR Parts Locator Diagram



1 Screw Terminals

2 68-Pin I/O Connector

3 Metal Standoff Foot



**Note** If the accessory is missing any of the components in Figure 1, contact NI.



**Note** The CE marking on the CB-68LP/CB-68LPR accessories indicates compliance with the RoHS directive 2011/65/EU only.

## What You Need to Get Started

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To set up and use your CB-68LP/CB-68LPR, you need the following:

- CB-68LP/CB-68LPR accessory kit(s)<sup>1</sup>
- Compatible 68-pin DAQ device and device documentation
- The correct cable(s) for your device
- 0.125 in. flathead screwdriver
- 0.0509 to 3.31 mm<sup>2</sup> (12 to 30 AWG) wire
- Wire cutters
- Wire insulation stripper

## Getting Started with the CB-68LP/CB-68LPR

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Remove all cables from the CB-68LP/CB-68LPR before getting started. If you have not already installed your DAQ device, refer to the installation guide that came with your DAQ device for instructions. Complete the following steps to set up the CB-68LP/CB-68LPR.

1. (Optional) Mount the CB-68LP/CB-68LPR to a custom panel by removing the four metal standoff feet. Refer to Figure 2 or 3 for the mounting dimensions of your accessory.
2. Connect the wires to the screw terminals by stripping 6 mm (0.25 in.) of insulation, inserting the wires into the screw terminals, and securely tightening the screws with the flathead screwdriver to a torque of 0.5 N · m (4.4 lb · in.). Refer to your device documentation for the DAQ device pinout and signal information.



**Caution** Do *not* connect input voltages  $>30 V_{\text{rms}}/42 V_{\text{pk}}/60 \text{ VDC}$  to the CB-68LP/CB-68LPR. The CB-68LP/CB-68LPR are not designed for any input voltages  $>30 V_{\text{rms}}/42 V_{\text{pk}}/60 \text{ VDC}$ , even if a user-installed voltage divider reduces the voltage to within the input range of the DAQ device. Input voltages  $>30 V_{\text{rms}}/42 V_{\text{pk}}/60 \text{ VDC}$  can damage the CB-68LP/CB-68LPR, all devices connected to it, and the host computer.



**Caution** Do *not* use for measurements within Categories II, III, or IV.

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<sup>1</sup> You can use up to two CB-68LP/CB-68LPR accessories with M/X Series devices with two connectors.

3. Connect the CB-68LP/CB-68LPR(s) to the DAQ device using the appropriate cable(s) for your device.
4. Launch Measurement & Automation Explorer (MAX). In the left panel, expand **Devices and Interfaces** to confirm that your DAQ device is recognized, and then configure your device settings.
5. Test specific device functionality. Run a Test Panel in MAX by right-clicking your DAQ device and selecting **Test Panels**. Click **Start** to test the device functions.

When you have finished using the CB-68LP/CB-68LPR, power off any external signals connected to the CB-68LP/CB-68LPR before you power off your computer.

## Specifications

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These specifications are typical at 25 °C unless otherwise noted.



**Caution** Do *not* connect hazardous voltages ( $>30 V_{\text{rms}}/42 V_{\text{pk}}/60 \text{ VDC}$ ) to the CB-68LP/CB-68LPR.

## Physical Characteristics

### Dimensions

CB-68LP .....	143.5 mm × 107.4 mm × 30.0 mm (5.65 in. × 4.23 in. × 1.18 in.)
CB-68LPR .....	167.6 mm × 76.2 mm × 29.2 mm (6.60 in. × 3.00 in. × 1.15 in.)

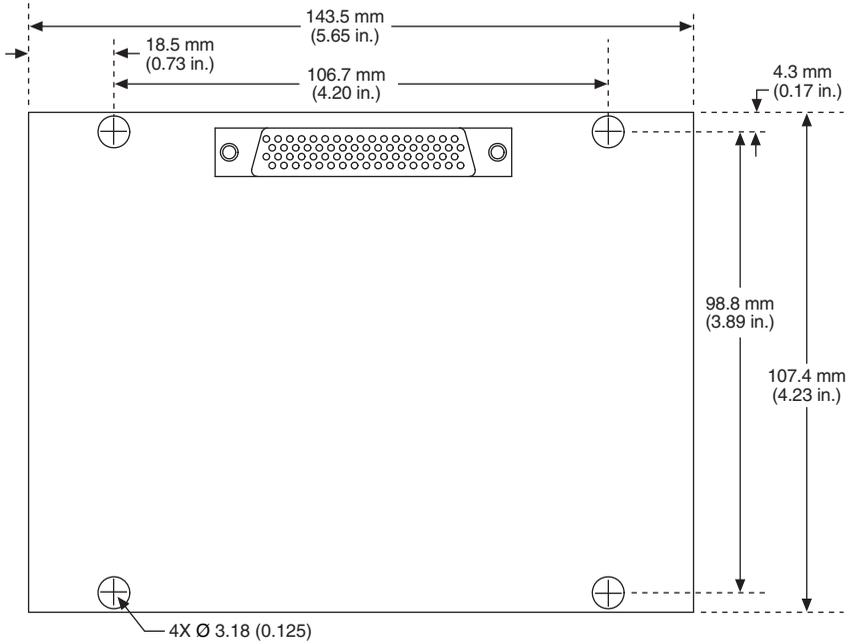
### Weight

CB-68LP .....	155 g (5.4 oz)
CB-68LPR .....	162 g (5.7 oz)

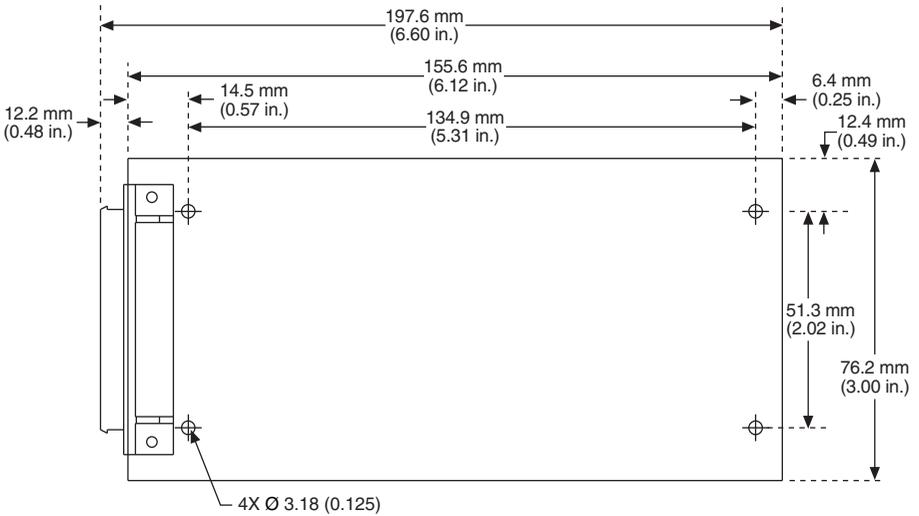
I/O connector .....	One 68-pin male SCSI connector
Screw terminals .....	68, all I/O signals are available at screw terminals
Wire gauge .....	0.0509 to 3.31 mm <sup>2</sup> (12 to 30 AWG)
Torque .....	0.5 N · m (4.4 lb · in.)

Clean the hardware with a soft, nonmetallic brush.

**Figure 2. NI CB-68LP Dimensions**



**Figure 3. NI CB-68LPR Dimensions**



# Safety Voltages

Connect only voltages that are no greater than 30 V<sub>rms</sub>/42 V<sub>pk</sub>/60 VDC.

## Environmental

### Temperature

Operating .....	0 to 70 °C
Storage .....	-20 to 70 °C

### Relative humidity

Operating .....	5 to 90% RH, noncondensing
Storage .....	5 to 90% RH, noncondensing

Pollution Degree ..... 2

Maximum altitude..... 2,000 m

Indoor use only.



**Caution** The protection provided by the DAQ device and the CB-68LP/CB-68LPR can be impaired if it is used in a manner not described in this user guide and the user documentation for your DAQ device.

## Environmental Management

NI is committed to designing and manufacturing products in an environmentally responsible manner. NI recognizes that eliminating certain hazardous substances from our products is beneficial to the environment and to NI customers.

For additional environmental information, refer to the *Minimize Our Environmental Impact* web page at [ni.com/environment](http://ni.com/environment). This page contains the environmental regulations and directives with which NI complies, as well as other environmental information not included in this document.

## Waste Electrical and Electronic Equipment (WEEE)



**EU Customers** At the end of the product life cycle, all products *must* be sent to a WEEE recycling center. For more information about WEEE recycling centers, National Instruments WEEE initiatives, and compliance with WEEE Directive 2002/96/EC on Waste and Electronic Equipment, visit [ni.com/environment/weee](http://ni.com/environment/weee).

## 电子信息产品污染控制管理办法（中国 RoHS）



**中国客户** National Instruments 符合中国电子信息产品中限制使用某些有害物质指令 (RoHS)。关于 National Instruments 中国 RoHS 合规性信息，请登录 [ni.com/environment/rohs\\_china](http://ni.com/environment/rohs_china)。(For information about China RoHS compliance, go to [ni.com/environment/rohs\\_china](http://ni.com/environment/rohs_china).)

# Related Documentation

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For more information about using the CB-68LP/CB-68LPR with your DAQ device, refer to the following resources:

- Documentation for your DAQ device at [ni.com/manuals](http://ni.com/manuals)
- *Measurement & Automation Explorer Help*
- *NI-DAQmx Help*
- NI KnowledgeBase at [ni.com/kb](http://ni.com/kb)
- NI Developer Zone at [ni.com/zone](http://ni.com/zone)

## Where to Go for Support

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The National Instruments Web site is your complete resource for technical support. At [ni.com/support](http://ni.com/support) you have access to everything from troubleshooting and application development self-help resources to email and phone assistance from NI Application Engineers.

National Instruments corporate headquarters is located at 11500 North Mopac Expressway, Austin, Texas, 78759-3504. National Instruments also has offices located around the world to help address your support needs. For telephone support in the United States, create your service request at [ni.com/support](http://ni.com/support) and follow the calling instructions or dial 512 795 8248. For telephone support outside the United States, visit the Worldwide Offices section of [ni.com/niglobal](http://ni.com/niglobal) to access the branch office Web sites, which provide up-to-date contact information, support phone numbers, email addresses, and current events.

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