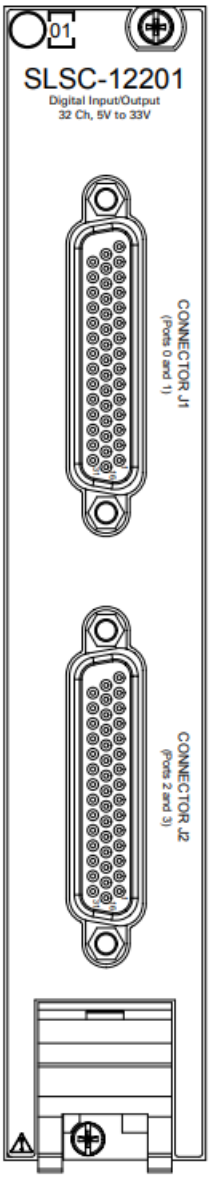
NATIONAL INSTRUMENTS SLSC-12201 32 Channel 5 V Module Development Kit User Guide

GETTING STARTED GUIDE
SLSC-12201
32 Channel, 5 V to 33 V, Digital Input/Output



Contents

SLSC-12201 32 Channel 5 V Module Development Kit

This document explains how to connect the SLSC-12201.

Note
Before you begin, complete the software and hardware installation procedures applicable to your application.

Note

The guidelines in this document are specific to the SLSC-12201. The other components in the system might not meet the same safety ratings. Refer to the documentation of each component in the system to determine the safety and EMC ratings for the entire system.

Safety Guidelines

Caution
Observe all instructions and cautions in the user documentation. Using the model in a manner not specified can damage the model and compromise the built-in safety protection. Return damaged models to NI for repair.

Safety Voltages

Measurement category	O
Isolation	
Channel-to-channel	None
Channel-to-earth ground	None

Caution
Do not connect the SLSC-12201 to signals or use for measurements within Measurement Categories II, III, or IV.

Measurement Category I is for measurements performed on circuits not directly connected to the electrical distribution system referred to as MAINS voltage. MAINS is a hazardous live electrical supply system that powers equipment. This category is for measurements of voltages from specially protected secondary circuits. Such voltage measurements include signal levels, special equipment, limited-energy parts of equipment, circuits powered by regulated lowvoltage sources, and electronics.

Note
Measurement Categories CAT I and CAT O are equivalent. These test and measurement circuits are for other circuits not intended for direct connection to the MAINS building installations of Measurement Categories CAT II, CAT III, or CAT IV.

EMC Guidelines

This product was tested and complies with the regulatory requirements and limits for electromagnetic compatibility (EMC) stated in the product specifications. These requirements and limits provide reasonable protection against harmful interference when the product is operated in the intended operational electromagnetic environment.

This product is intended for use in industrial locations. However, harmful interference may occur in some installations, when the product is connected to a peripheral device or test object, or if the product is used in residential or commercial areas. To minimize interference with radio and television reception and prevent unacceptable performance degradation, install and use this product in strict accordance with the instructions in the product documentation.
Furthermore, any changes or modifications to the product not expressly approved by National Instruments could void your authority to operate it under your local regulatory rules.

Notice
To ensure the specified EMC performance, operate this product only with shielded cables and accessories.

Notice
To ensure the specified EMC performance, the length of all I/O cables must be no longer than 3 m (10 ft).

Preparing the Environment

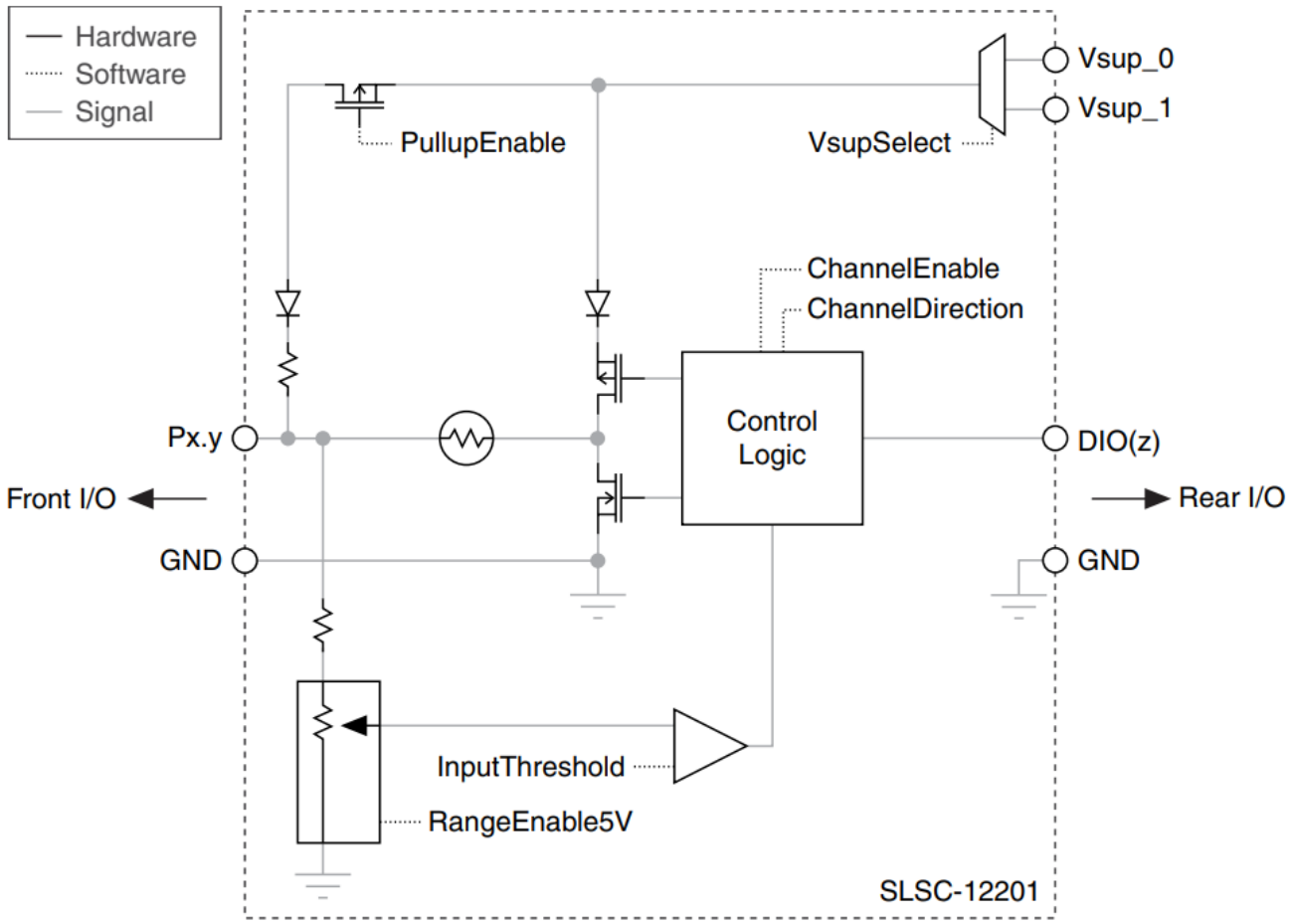
Ensure that the environment in which you are using the SLSC-12201 meets the following specifications.

Module operating temperature (IEC 60068-2-1, IEC 60068-2-2)	0 °C to 85 °C1
Operating humidity (IEC 60068-2-78)	10% RH to 90% RH, noncondensing
Pollution Degree	2
Maximum altitude	2,000 m

Indoor use only.

Note Refer to the device specifications on ni.com/manuals for complete specifications.

Circuitry



Note
Diagram only shows one channel.

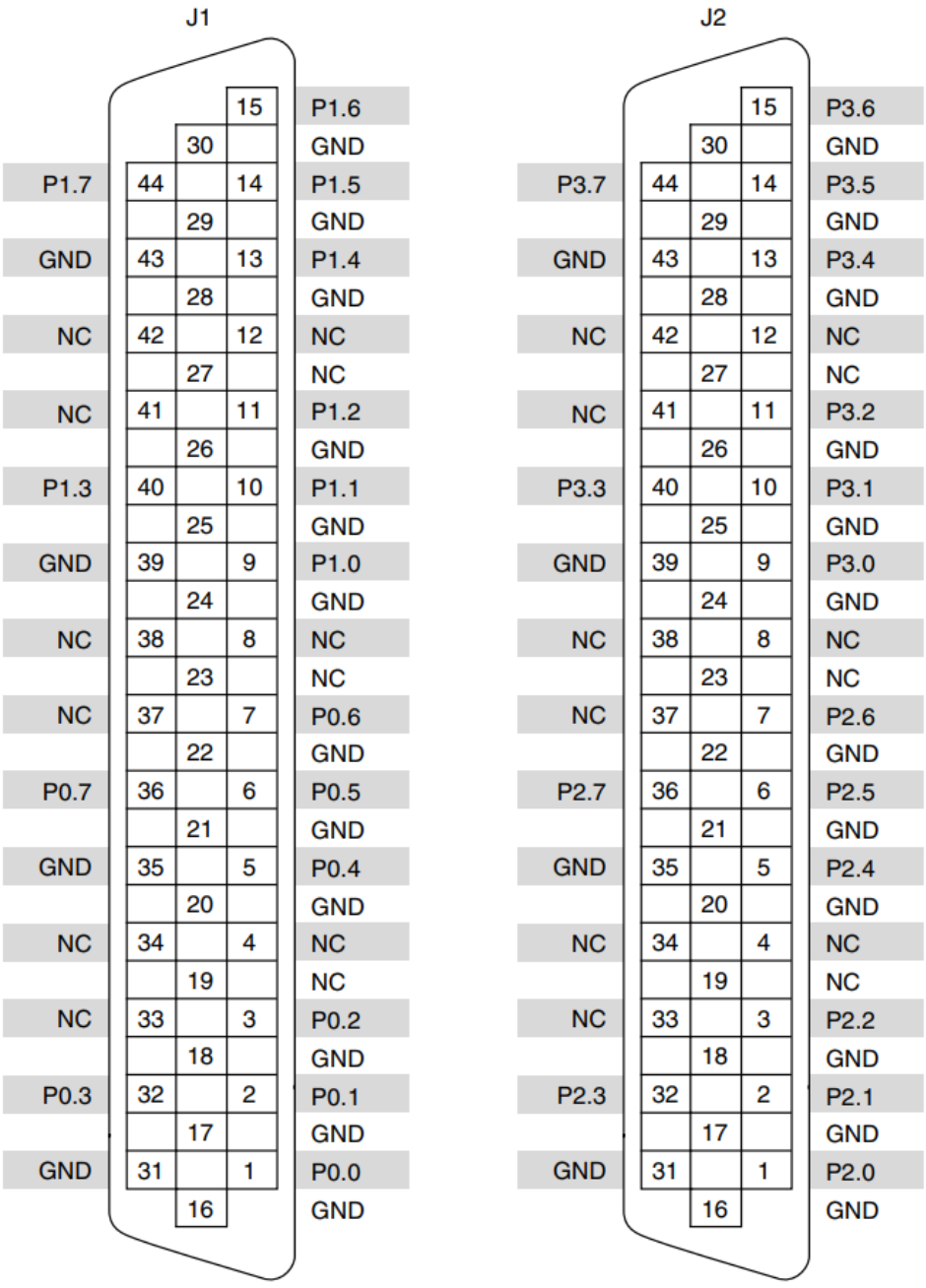
All voltages are relative to GND unless otherwise noted.

Note

You can configure the power-on configuration in the software. The factory default power-on configuration sets the front I/O channels to sinking input and rear I/O channels to input.

SLSC-12201 Pinout

Front Panel Pinout



Signal	Description
P x. y	Line y in Port x
GND	Ground connection
NC	No connection

XJ2 Connector Pinout

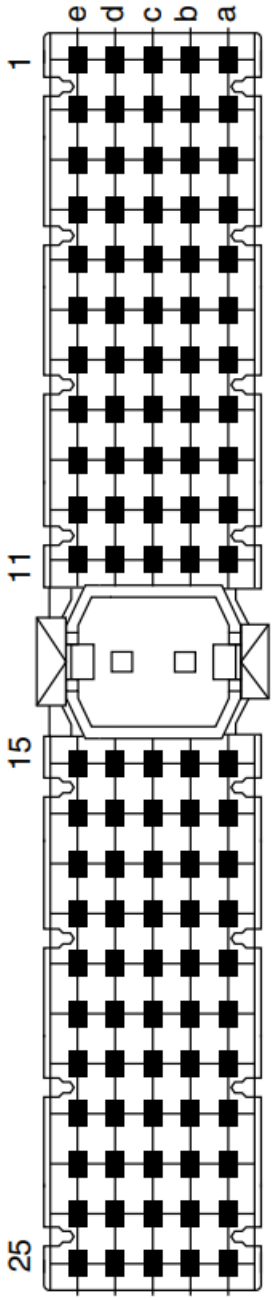


Table 2. XJ2 Connector Pin Assignments

Row	e	d	c	b	a
1	DIO3	DIO2	NC	DIO1	DIO0
2	DIO7	DIO6	NC	DIO5	DIO4
3	GND	GND	GND	GND	GND
4	DIO11	DIO10	NC	DIO9	DIO8
5	DIO15	DIO14	NC	DIO13	DIO12
6	GND	GND	GND	GND	GND
7	DIO19	DIO18	NC	DIO17	DIO16
8	DIO23	DIO22	NC	DIO21	DIO20
9	GND	GND	GND	GND	GND
10	DIO27	DIO26	NC	DIO25	DIO24
11	DIO31	DIO30	NC	DIO29	DIO28
15	NC	NC	NC	NC	NC
16	NC	NC	NC	NC	NC
17	NC	NC	NC	NC	NC
18	NC	NC	NC	NC	NC
19	NC	NC	NC	NC	NC
20	NC	NC	NC	NC	NC
21	NC	NC	NC	NC	NC
22	NC	NC	NC	NC	NC
23	NC	NC	NC	NC	NC
24	NC	NC	NC	NC	NC
25	NC	NC	NC	NC	NC

Table 3. XJ2 Connector Signal Descriptions

Signal	**Description**
DIO	Digital input/output signal connection
GND	Ground connection
NC	No connection

XJ3 Connector Pinout

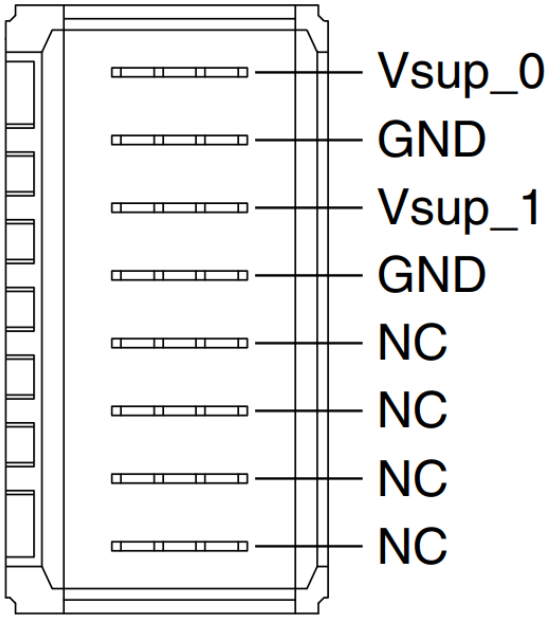
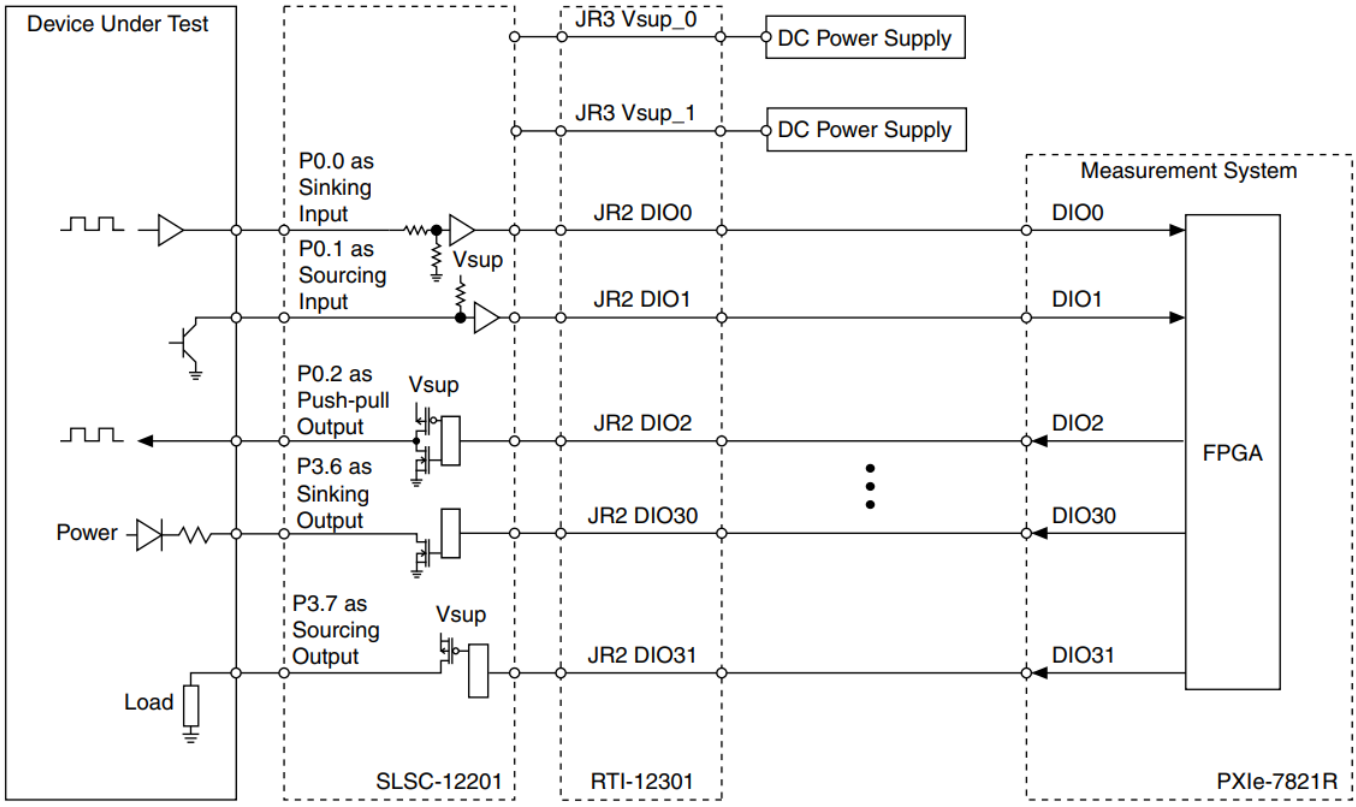


Table 4. XJ3 Connector Signal Descriptions

Signal	Description
Vsup_<0, 1>	Voltage supply connection for Bank 0 and Bank 1. You can select either for a given bank.
GND	Ground connection
NC	No connection

Connecting Digital Devices to the SLSC-12201

The SLSC-12201 has 32 digital input/output channels that allow the direction to be configured for each channel. The 32 channels are organized into two banks of 16 channels each. Each bank can be powered from either of the Vsup connections. The banks are further organized into two ports of eight channels each. In the example shown below, the SLSC-12201 connects to the PXIe-7821R through the RTI-12301.



Short-Circuit Protection

Digital output channels are protected against short-circuit faults.

Note
The SLSC-12201 supports up to 10 channels in simultaneous short-circuit fault.

Worldwide Support and Services

The NI website is your complete resource for technical support. At **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.
Visit **ni.com/services** for information about the services NI offers.
Visit **ni.com/register** to register your NI product. Product registration facilitates technical support and ensures that you receive important information updates from NI.
NI corporate headquarters is located at 11500 North Mopac Expressway, Austin, Texas, 78759-3504. NI also has offices located around the world. For support in the United States, create your service request at **ni.com/support** or dial 1 866 ASK MYNI (275 6964). For support outside the United States, visit the Worldwide Offices section of **ni.com/niglobal** to access the branch office websites, which provide up-to-date contact information.

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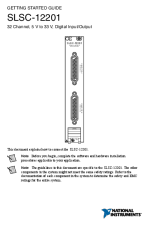
Documents / Resources

	NATIONAL INSTRUMENTS SLSC-12201 32 Channel 5 V Module Development Kit [pdf] User Guide SLSC-12201, SLSC-12201 32 Channel 5 V Module Development Kit, 32 Channel 5 V Module Development Kit, 5 V Module Development Kit, Module Development Kit, Development Kit, Kit

References

- Manual-Hub.com - Free PDF manuals!
- Test and Measurement Systems, a part of Emerson - NI
- Trade Compliance - NI
- Product Documentation - NI
- Contact Us - NI
- National Instruments Patents - NI
- Log In - National Instruments
- NI Services - NI
- Support - NI
- NI Trademarks and Logo Guidelines - NI
- Product Documentation - NI
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- Manual-Hub.com - Free PDF manuals!
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