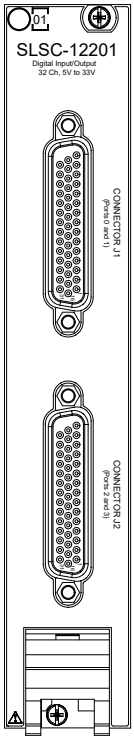
# SLSC-12201 Getting Started

2025-03-20

# Contents

# Getting Started with the SLSC-12201




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.

**Attention** Suivez toutes les instructions et respectez toutes les mises en garde de la documentation utilisateur. L'utilisation d'un modèle de toute autre façon que celle spécifiée risque de l'endommager et de compromettre la protection de sécurité intégrée. Renvoyez les modèles endommagés à NI pour réparation.

## 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.

**Attention** Ne connectez pas le SLSC-12201 à des signaux et ne l'utilisez pas pour effectuer des mesures dans les catégories de mesure II, III ou 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 low-voltage 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.

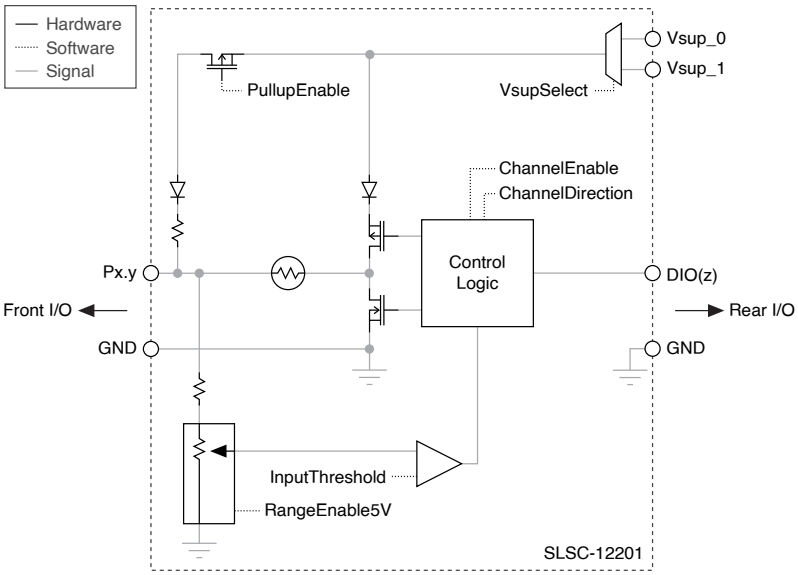
| | |
|---|---|
| Module operating temperature (IEC 60068-2-1, IEC 60068-2-2) | 0 °C to 85 °C[1] |
| Operating humidity (IEC 60068-2-78) | 10% RH to 90% RH, noncondensing |
| Pollution Degree | 2 |
| Maximum altitude | 2,000 m |

Indoor use only.

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

# Circuitry

1. The chassis internal ambient temperature may reach 85 °C with all slots at the maximum allowed power dissipation.




**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


**Table 1.** Front Panel Signal Descriptions

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

## XJ2 Connector Pinout

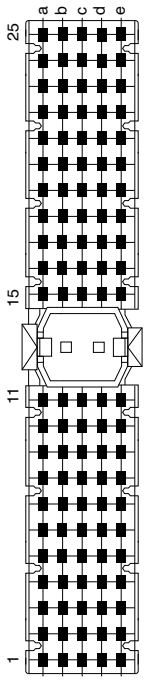



**Table 2.** XJ2 Connector Pin Assignments

| 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 |

| Row | e | d | c | b | a |
|---|---|---|---|---|---|
| 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

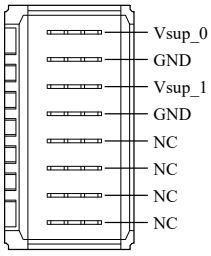
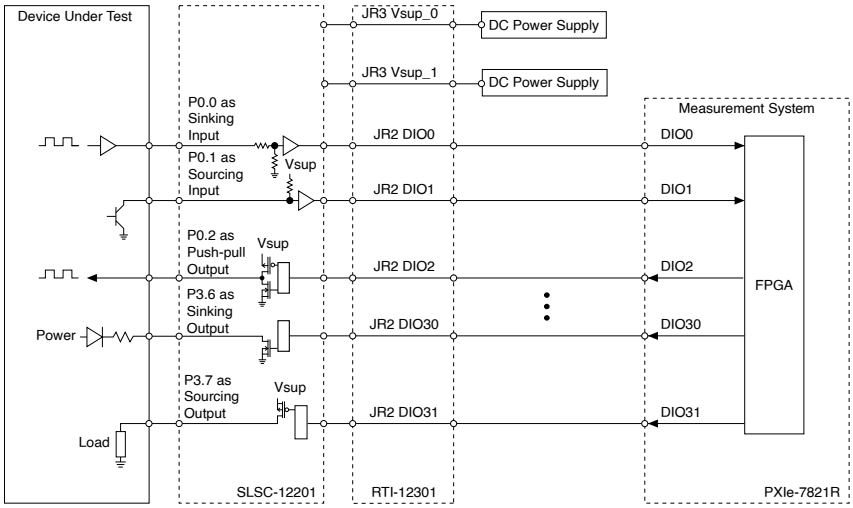



**Table 4.** XJ3 Connector Signal Descriptions

| 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.