

---

# SLSC-12202

# Getting Started

---

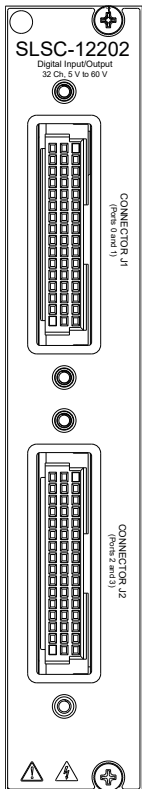
2025-03-20



# Contents

Getting Started with the SLSC-12202 .....	3
Circuitry .....	4
SLSC-12202 Pinout .....	4
Connecting Digital Devices to the SLSC-12202 .....	7
Channel-Disconnect Switch .....	8
Short-Circuit Protection .....	8
Overcurrent Fault .....	9
Front I/O Overvoltage Protection .....	9
Fault Indicator .....	9
Product Certifications and Declarations .....	10
NI Services .....	10

# Getting Started with the SLSC-12202



This document explains how to connect the SLSC-12202.

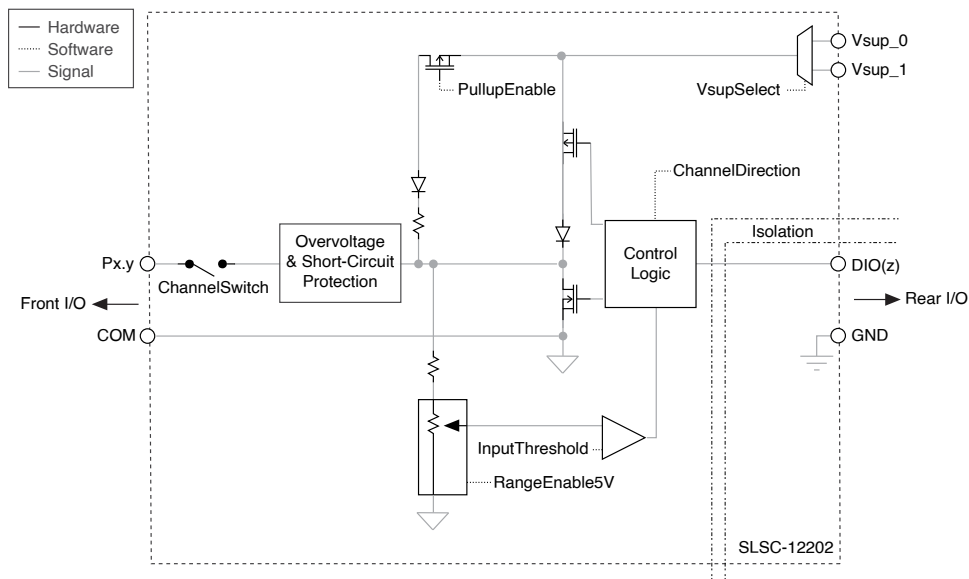


**Note** Before you begin, read the ***SLSC-12202 Safety, Environmental, and Regulatory Information*** document on [ni.com/manuals](https://ni.com/manuals) and complete the software and hardware installation procedures in your chassis documentation.



**Note** The guidelines in this document are specific to the SLSC-12202. 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.

# Circuitry



**Note** Diagram only shows one channel.

All front-end DIO voltages are relative to COM 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 channel disconnect and rear I/O channels to input.

## SLSC-12202 Pinout

Figure 1. Front Panel Pinout

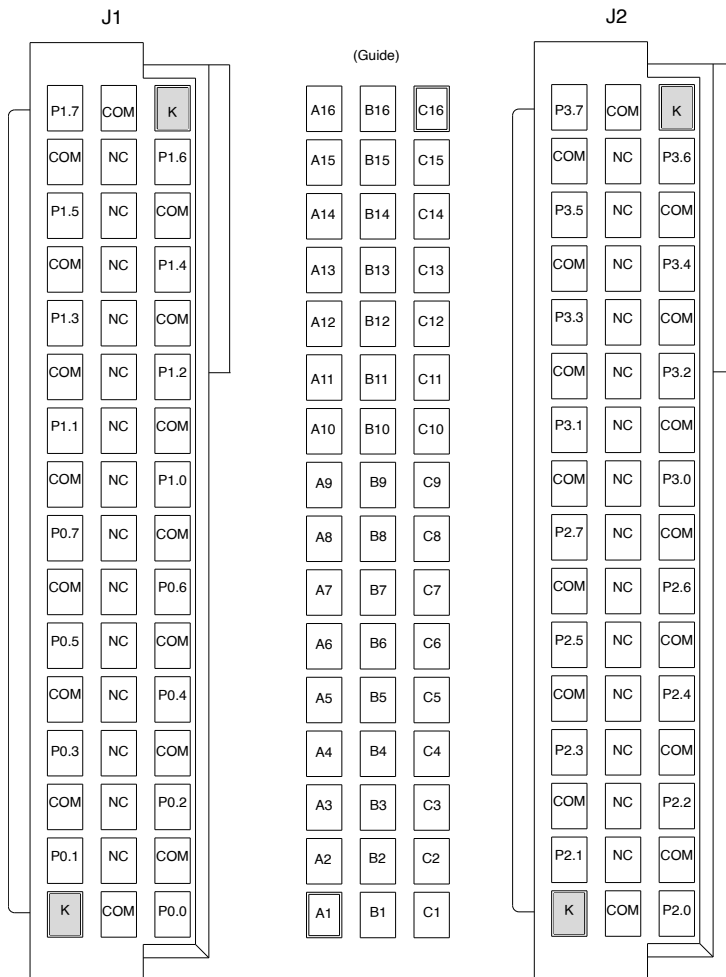


Table 1. Front Panel Signal Descriptions

Signal	Description
Px.y	Line <b>y</b> in Port <b>x</b>
K	Keying
COM	Common reference connection to isolated ground
NC	No connection

Figure 2. XJ2 Connector Pinout

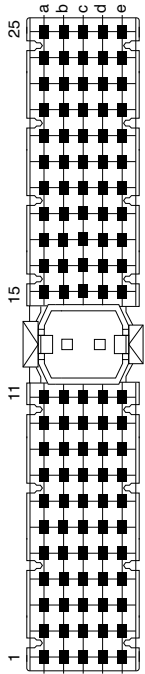


Table 2. XJ2 Connector Pin Assignments

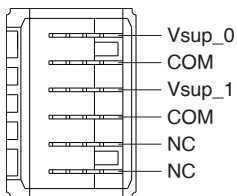
Row	e	d	c	b	a
1	DIO3	DIO2	NC	DIO1	DIO0
2	DIO7	DIO6	NC	DIO5	DIO4
3	GND	GND	GND	GND	GND
4	DIO11	DIO10	NC	DIO9	DIO8
5	DIO15	DIO14	NC	DIO13	DIO12
6	GND	GND	GND	GND	GND
7	DIO19	DIO18	NC	DIO17	DIO16
8	DIO23	DIO22	NC	DIO21	DIO20
9	GND	GND	GND	GND	GND
10	DIO27	DIO26	NC	DIO25	DIO24
11	DIO31	DIO30	NC	DIO29	DIO28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

**Figure 3.** XJ4 Connector Pinout

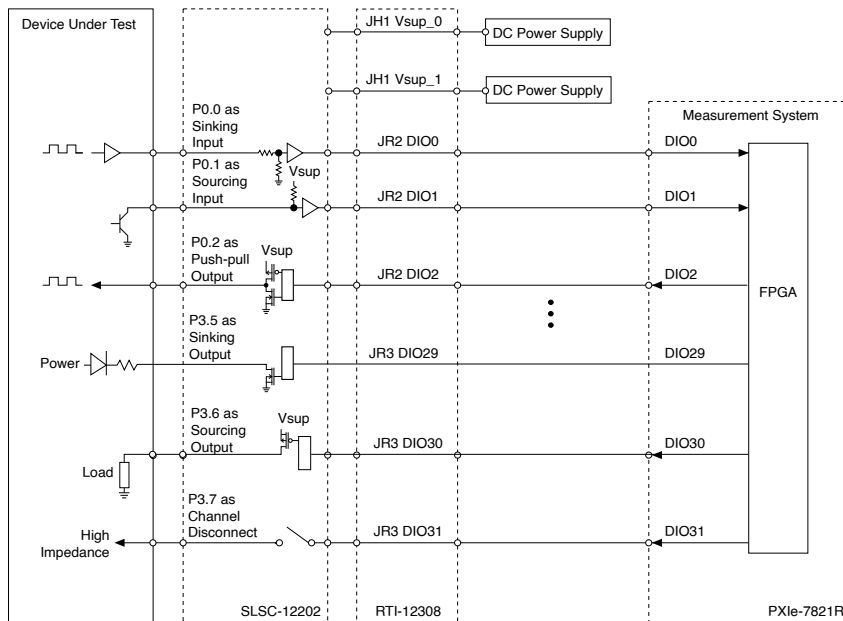


**Table 4.** XJ4 Connector Signal Descriptions

Signal	Description
Vsup_<0, 1>	Voltage supply connection for Bank 0 and Bank 1. You can select either for a given bank.
COM	Common reference connection to isolated ground
NC	No connection

## Connecting Digital Devices to the SLSC-12202

The SLSC-12202 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  $V_{sup}$  connections. The banks are further organized into two ports of eight channels each. In the example shown below, the SLSC-12202 connects to the PXIe-7821R through the RTI-12308.



## Channel-Disconnect Switch

Channel-disconnect switch is used to connect or disconnect the digital input and output to the front I/O connector.



**Note** The channel-disconnect switch is controlled through software and the switching rate is software-dependent.

## Short-Circuit Protection

Digital output channels are protected against short-circuit faults.





**Note** Short-circuit protection is based on hiccup-mode protection where the control logic will disconnect the channel using the channel-disconnect switch once short-circuit fault is detected. This channel will stay disconnected for one second before the control logic attempts to enable this channel again automatically. However, if the short-circuit fault is not removed, then this channel will continue to operate in hiccup protection mode with invalid input or output signal.

## Overcurrent Fault

Overcurrent fault is a scenario when a digital output is sourcing or sinking a continuous output current greater than 150 mA before the short-circuit protection is activated.



**Caution** The number of digital output channels with overcurrent fault should not be more than ten channels simultaneously.

## Front I/O Overvoltage Protection

Digital input and output channels are protected against overvoltage which is outside of the valid operating range at the front I/O connector up to  $\pm 100$  V.



**Note** Overvoltage protection is based on hiccup-mode protection using the channel-disconnect switch with one second auto-retry time.

## Fault Indicator

The short-circuit fault and front I/O overvoltage fault share one common fault indicator which is stored in a register.



**Note** Refer to the example LabVIEW VI to get more information about module registers.

## Product Certifications and Declarations

Refer to the product Declaration of Conformity (DoC) for additional regulatory compliance information. To obtain product certifications and the DoC for NI products, visit [ni.com/product-certifications](https://ni.com/product-certifications), search by model number, and click the appropriate link.

## NI Services

Visit [ni.com/support](https://ni.com/support) to find support resources including documentation, downloads, and troubleshooting and application development self-help such as tutorials and examples.

Visit [ni.com/services](https://ni.com/services) to learn about NI service offerings such as calibration options, repair, and replacement.

Visit [ni.com/register](https://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 N Mopac Expwy, Austin, TX, 78759-3504, USA.