
PXI-2568

Features

2025-03-26



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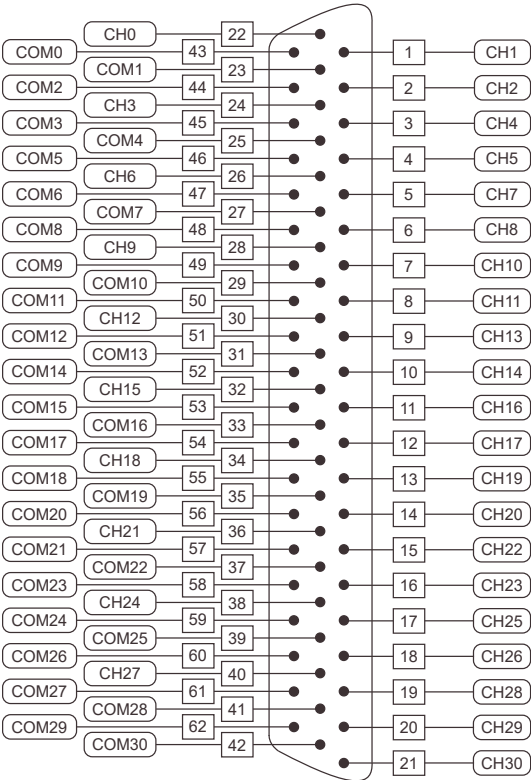
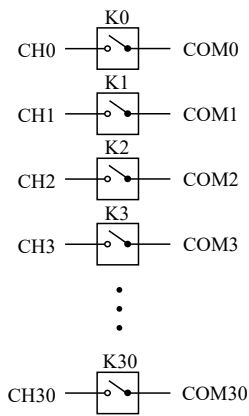


Table 2. Signal Descriptions

Signal	Description
CHx	Signal connection
COMx	Routing destination for the corresponding channel

PXI-2568 Hardware Diagram

This figure shows the hardware diagram of the module.



Topologies

PXI-2568 15-DPST Topology

Module software name: 2568/15-DPST (NISWITCH_TOPOLOGY_2568_15_DPST)

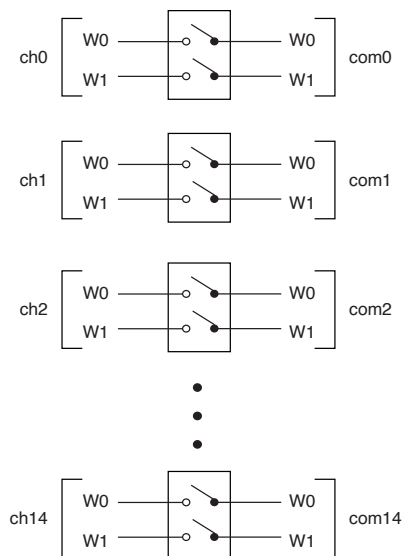
The module is composed of 31 armature latching SPST relays.

For certain applications, you may need to increase the default settling time.



Note Switching inductive loads (for example, motors and solenoids) can produce high voltage transients in excess of the module's rated voltage. Without additional protection, these transients can interfere with module operation and impact relay life.

15-DPST Topology



Making a Connection

Both the scanning command, `ch2->com2;`, and the immediate operation, `niSwitch Connect Channels VI` or the `niSwitch_Connect` function with parameters `ch2` and `com2`, result in the following connections:

- signal connected to CH2W0 is routed to COM2W0
- signal connected to CH2W1 is routed to COM2W1

PXI-2568 31-SPST Topology

Module software name: 2568/31-SPST (NISWITCH_TOPOLOGY_2568_31_SPST)

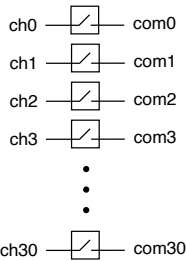
The module is composed of 31 armature latching SPST relays.

For certain applications, you may need to increase the default settling time.



Note Switching inductive loads (for example, motors and solenoids) can produce high voltage transients in excess of the module's rated voltage. Without additional protection, these transients can interfere with module operation and impact relay life.

31-SPST Topology



Making a Connection

You can control the channels using the `niSwitch_Connect Channels VI` or the `niSwitch_Connect` function.

For example, to close the relay of channel 2, call `niSwitch_Connect(vi, "ch2", "com2")`. To open the relay of channel 2, call `niSwitch_Disconnect(vi, "ch2", "com2")`.

When scanning the module, a typical scan list entry could be `ch2->com2`; . This entry closes the relay between CH2 and COM2.

PXI-2568 Relay Replacement

The module uses electromechanical armature relays.

Refer to the following table for information about ordering replacement relays.

Replacement Relay	Part Number
AXICOM (Tyco Electronics) (relay manufacturer)	IM42GR (3-1462037-1)
NI relay kit (10 relays)	779356-01

Ensure you have the following:

- Temperature-regulated soldering iron
 - Set to 371 °C (700 °F) for lead-free solder rework
 - Set to 316 °C (600 °F) for lead solder rework

- Solder
 - 96.5/3.0/0.5 Tin/Silver/Copper solder (flux core) for lead-free solder rework
 - 63/37 Tin/Lead solder (flux core) for lead solder rework
- Solder wick
- Fine pick
- Isopropyl alcohol
- Cotton swabs



Note NI recommends using lead-free solder for relay replacement on lead-free assemblies, and lead solder for relay replacement on lead assemblies.



Notice Do not rework lead assemblies using a lead-free work station. Lead solder from the unit could contaminate the station.



Notice If a lead-free assembly is reworked with lead solder, label the assembly to indicate this. This can prevent the same unit from being reworked later on a lead-free solder station, which could contaminate the station.

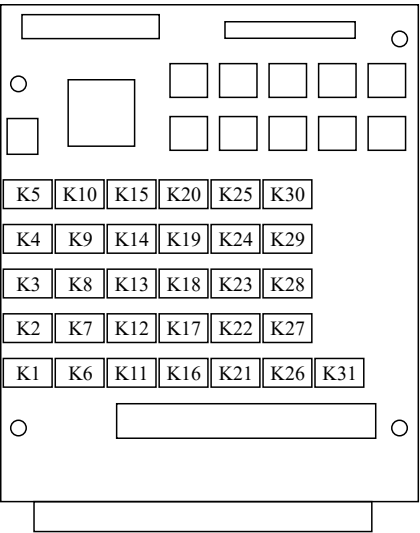
Complete the following sets of steps to disassemble your module and replace a failed relay.

1. Ground yourself using a grounding strap or a ground connected to your PXI chassis.



Note Properly grounding yourself prevents damage to your module from electrostatic discharge.

2. Locate the relay you want to replace. Refer to the following figure and table for relay locations.



Channel Name	Relay Name	Channel Name	Relay Name
CH0	K1	CH16	K17
CH1	K2	CH17	K18
CH2	K3	CH18	K19
CH3	K4	CH19	K20
CH4	K5	CH20	K21
CH5	K6	CH21	K22
CH6	K7	CH22	K23
CH7	K8	CH23	K24
CH8	K9	CH24	K25
CH9	K10	CH25	K26
ch10	K11	CH26	K27
CH11	K12	CH27	K28
CH12	K13	CH28	K29
CH13	K14	CH29	K30
CH14	K15	CH30	K31
CH15	K16	—	—



Note Older versions of this module might have adhesive plastic lead covers that you must remove. The module retains full specifications even if the covers are not reinstalled.

3. Locate the assembly and serial number labels on the board with the relay you want to replace.
 - Green labels indicate the board was assembled using lead-free solder (Sn 96.5Ag 3.0Cu 0.5). Lead-free assemblies have assembly numbers ending in L.
 - White labels indicate the board was assembled using lead solder (Sn 63Pb 37).
 The different label types are shown in the following figure.



If you have a surface mount rework station, replace the relay as you would any other surface mount part. Otherwise, complete the following steps to replace the relay:

1. Use the soldering iron and solder wick to remove as much solder from the relay pads as possible. Do not leave the soldering iron on any lead for more than 5 seconds.



Note If it is necessary to reapply the soldering iron to the pad, allow the connection to cool completely before reapplying the soldering iron.

2. Apply heat to the pads one at a time, and use the pick to gently pry the relay pins from the pads. Make sure that the solder is molten before prying.



Notice Using excessive force on a soldered pad can result in lifting the PCB trace and ruining the board.

3. Remove the relay.
4. Clean the pads with isopropyl alcohol and cotton swabs.
5. Place the new relay on the PCB pads and solder.
6. Remove the excess flux with isopropyl alcohol and cotton swabs.



Notice Do not use flux remover to clean the board after relay replacement.



Tip Use the NI-SWITCH Switch Soft Front Panel to reset the relay count after you have replaced a failed relay. Refer to the ***Switch Soft Front Panel Help*** for more information.