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SCXI-1331

NI SCXI™-1127 Specifications

32-Channel Relay Multiplexer/Matrix

このドキュメントには、日本語ページも含まれています。

This document lists specifications for the NI SCXI-1127 multiplexer/matrix module. All specifications are subject to change without notice. Visit ni.com/manuals for the most current specifications.

Configurations..... 64 × 1, 1-wire multiplexer
32 × 1, 2-wire multiplexer
16 × 1, 4-wire multiplexer
4 × 8, 2-wire matrix

Input Characteristics

All input characteristics are DC, AC_{rms} , or a combination unless otherwise specified.

Maximum switching voltage

Channel-to-ground 300 V, CAT II



Caution This module is rated for Measurement Category II and intended to carry signal voltages no greater than 300 V. This module features 2300 V_{rms} isolation between input signals and the backplane as verified by a dielectric withstand test, 1 minute maximum. Do *not* use this module for connection to signals or for measurements within Categories III or IV. Refer to the *Read Me First: Safety and Electromagnetic Compatibility* document for more information about measurement categories.

Modules that can connect to a common high-voltage analog backplane derate to their lowest common voltage rating. Refer to the *NI Switches Getting Started Guide* for more information.

When hazardous voltages ($>42.4 V_{pk}/60 VDC$) are present on any relay terminal, safety low-voltage ($\leq 42.4 V_{pk}/60 VDC$) cannot be connected to any other relay terminal.



Caution The switching power is limited by the maximum switching current, the maximum voltage, and must not exceed 30 W, 60 VA.

Maximum switching power30 W, 60 VA
(per channel)

Maximum switching current.....1 A
(per channel)

Maximum carry current2 A
(per channel)

Simultaneous channels
at maximum carry current.....Up to 4

Minimum switching capacity10 μ A at 10 mVDC



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. For more information about transient suppression, visit ni.com/info and enter the Info Code induct.

DC path resistance

Initial.....<2 Ω

End of life>4 Ω

DC path resistance typically remains low for the life of the relay. At the end of relay life, the path resistance rises rapidly above 2 Ω . Load ratings apply to relays used within the specification before the end of relay life.

Thermal EMF (differential)<3 μ V

RF Performance Characteristics

Typical bandwidth \geq 11 MHz
(50 Ω termination)

Typical channel-to-channel isolation
(50 Ω termination)

10 kHz>70 dB

100 kHz>55 dB

1 MHz.....>50 dB

5 MHz.....>40 dB

10 MHz.....>25 dB

Dynamic Characteristics

Maximum scan rate	100 channels/s
Relay operate time (at 20 °C).....	3 ms typical, 5 ms maximum
Release time (at 20 °C)	1.5 ms typical, 5 ms maximum
Expected relay life	
Mechanical.....	5×10^7 cycles
Electrical	
30 V, 1 A	2×10^5 cycles
250 V, 200 μ A	1×10^5 cycles
250 V, 200 mA	5×10^4 cycles

Trigger Characteristics

Input trigger	
Sources	SCXI trigger line 0, Rear connector, Front panel
Minimum pulse width	500 ns
Scanner advanced trigger	
Destinations	SCXI trigger line 2, Front panel
Pulse width.....	1.1 μ s

Physical Characteristics

Relay types	Electromechanical, non-latching
Relay contact material.....	Gold-clad silver alloy
Dimensions (W \times H \times D).....	$3.0 \times 17.3 \times 19.8$ cm ($1.2 \times 6.8 \times 7.8$ in.)
Weight.....	680 g (1 lb 8 oz)

Environment

The NI SCXI-1127 is intended for indoor use only.

Operating temperature0 °C to 50 °C

Storage temperature–20 °C to 70 °C

Relative humidity5% to 85%, noncondensing

Recommended warm-up time.....5 minutes

Pollution Degree2

Approved at altitudes up to 2,000 m.

Accessories

Visit ni.com for more information about the following accessories.

Table 1. Accessories Available for the NI SCXI-1127

Accessory	Part Number
NI SCXI-1331 terminal block (64 × 1, 1-wire multiplexer) (32 × 1, 2-wire multiplexer) (16 × 1, 4-wire multiplexer)	777687-31
NI SCXI-1332 terminal block (4 × 8, 2-wire matrix)	777687-32
0.40 m matrix expansion cable	185440-0R4
0.75 m matrix expansion cable	185440-0R75

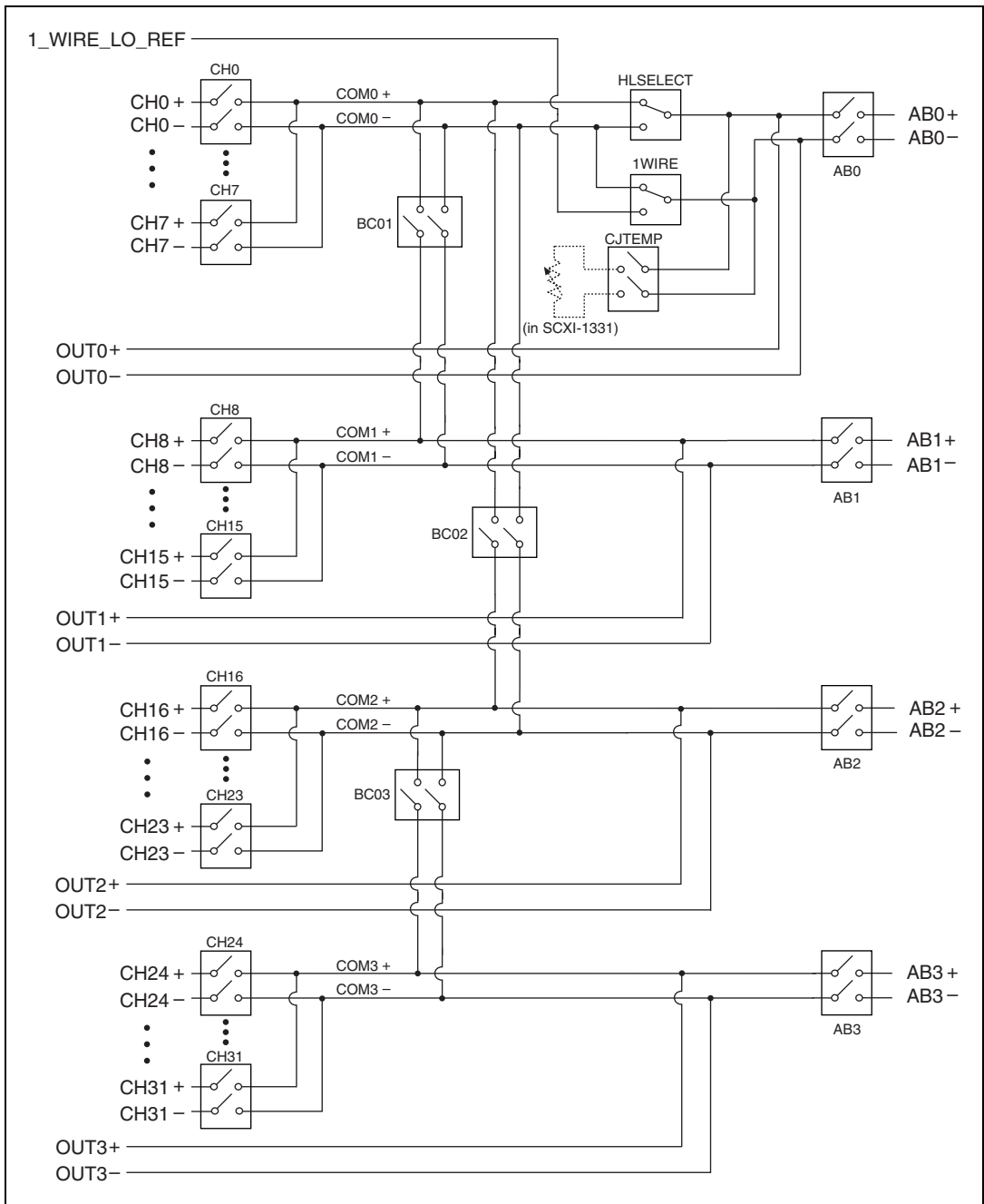


Figure 1. NI SCXI-1127 Power-On State

Compliance and Certifications

Safety

This product is designed to meet the requirements of the following standards of safety for electrical equipment for measurement, control, and laboratory use:

- IEC 61010-1, EN 61010-1
- UL 61010-1, CSA 61010-1



Note For UL and other safety certifications, refer to the product label or visit ni.com/certification, search by model number or product line, and click the appropriate link in the Certification column.

Electromagnetic Compatibility

This product is designed to meet the requirements of the following standards of EMC for electrical equipment for measurement, control, and laboratory use:

- EN 61326 EMC requirements; Minimum Immunity
- EN 55011 Emissions; Group 1, Class A
- CE, C-Tick, ICES, and FCC Part 15 Emissions; Class A



Note For EMC compliance, operate this device with shielded cables.

CE Compliance

This product meets the essential requirements of applicable European Directives, as amended for CE marking, as follows:

- 2006/95/EC; Low-Voltage Directive (safety)
- 2004/108/EC; Electromagnetic Compatibility Directive (EMC)



Note Refer to the Declaration of Conformity (DoC) for this product for any additional regulatory compliance information. To obtain the DoC for this product, visit ni.com/certification, search by model number or product line, and click the appropriate link in the Certification column.

Environmental Management

National Instruments is committed to designing and manufacturing products in an environmentally responsible manner. NI recognizes that eliminating certain hazardous substances from our products is beneficial not only to the environment but also to NI customers.

For additional environmental information, refer to the *NI and the Environment* Web page at 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 their life cycle, all products *must* be sent to a WEEE recycling center. For more information about WEEE recycling centers and National Instruments WEEE initiatives, visit ni.com/environment/weee.htm.

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