

NI SCXI™-1127 Specifications

32-Channel Relay Multiplexer/Matrix

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 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-channel 250 V, CAT II

Channel-to-ground 250 V



Caution 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.

Maximum switching current 1 A
(per channel)

Maximum carry current 2 A
(per channel)

Simultaneous channels
at maximum carry current Up to 4

Maximum switching power30 W, 60 VA
(per channel)

Minimum switching capacity10 μ A at 10 mVDC

DC path resistance

Initial.....<1 Ω

End of life \geq 2 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 1 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 rate100 channels/s

Relay operate time (at 20 $^{\circ}$ C)3 ms typical, 5 ms maximum

Release time (at 20 $^{\circ}$ C).....1.5 ms typical, 5 ms maximum

Expected relay life

Mechanical50,000,000 cycles

Electrical

30 V, 1 A200,000 cycles

250 V, 200 μ A.....100,000 cycles

250 V, 200 mA.....50,000 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 cm \times 17.3 cm \times 19.8 cm (1.2 in. \times 6.8 in. \times 7.8 in.)
Weight.....	680 g (1 lb 8 oz)

Environment

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

Operating temperature..... 0 °C to 50 °C

Storage temperature

–20 °C to 70 °C

Relative humidity

5% to 85% noncondensing

Recommended warm-up time

5 minutes

Pollution Degree

2

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

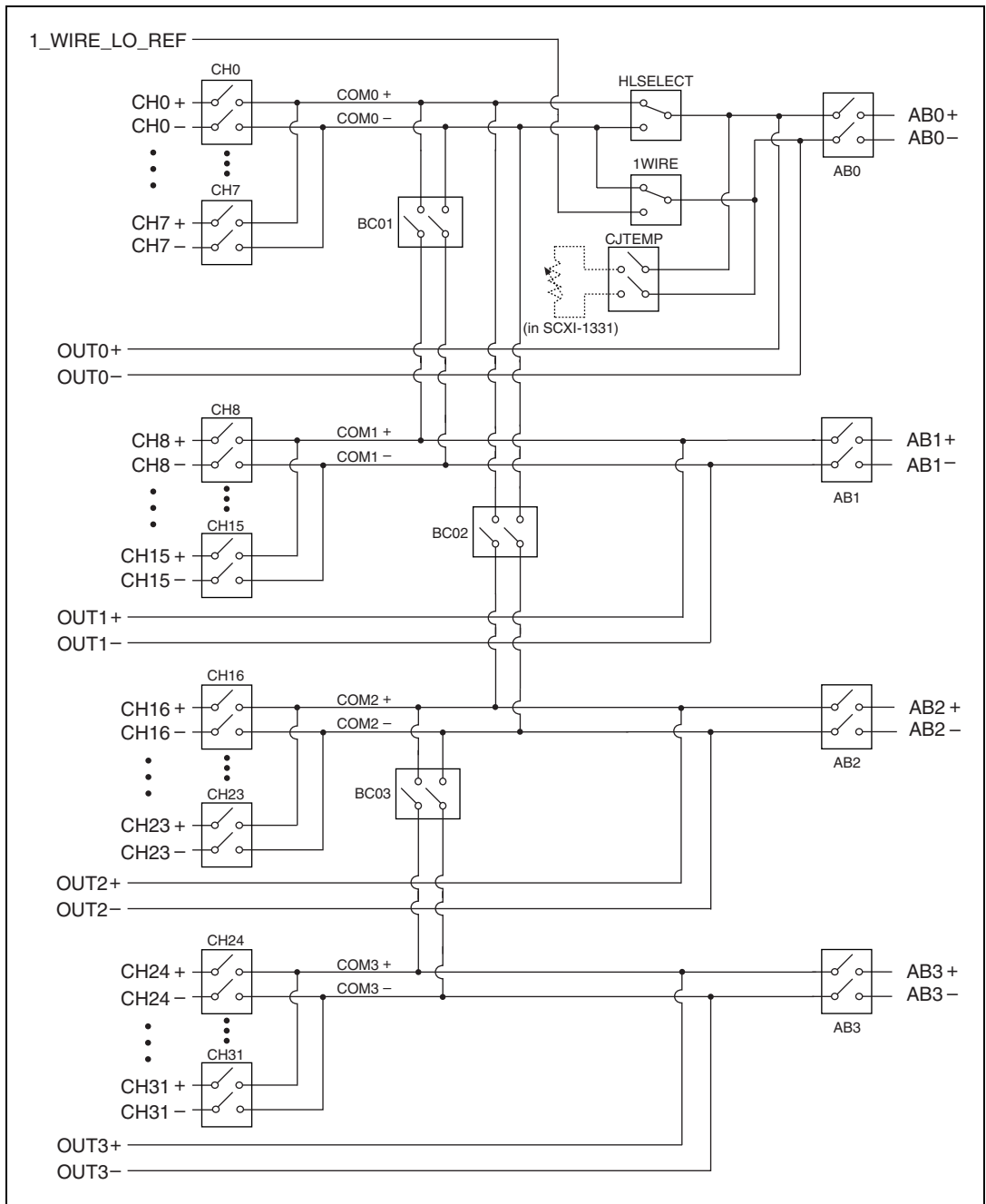


Figure 1. NI SCXI-1127 Power-On State

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
- CAN/CSA C22.2 No. 61010-1



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

Electromagnetic Compatibility

Emissions.....	EN 55011 Class A at 10 m FCC Part 15A above 1 GHz
Immunity	EN 61326:1997 + A2:2001, Table 1
EMC/EMI	CE, C-Tick, and FCC Part 15 (Class A) Compliant



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

CE Compliance

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

Low-Voltage Directive (safety).....	73/23/EEC
Electromagnetic Compatibility Directive (EMC)	89/336/EEC



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.

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