

Specifications for the NI SCXI™-1127

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..... 64x1 1-wire multiplexer
32x1 2-wire multiplexer
16x1 4-wire multiplexer
4x8 2-wire matrix

Input Characteristics

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

Maximum switching voltage..... 250 V, CAT II
(channel-to-channel and channel-to-ground)



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.

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 power 30 W, 60 VA
(per channel)

Minimum switching capacity 10 µA at 10 mVDC

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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 \times 17.3 \times 19.8 cm
(1.2 \times 6.8 \times 7.8 in.)

Weight 680 g
(1 lb 8 oz)

Environment

Operating temperature 0 $^{\circ}$ C to 50 $^{\circ}$ C

Storage temperature -20 $^{\circ}$ C to 70 $^{\circ}$ 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 (64x1 1-wire multiplexer) (32x1 2-wire multiplexer) (16x1 4-wire multiplexer)	777687-31
NI SCXI-1332 terminal block (4x8 2-wire matrix)	777687-32
0.40 m matrix expansion cable	185440-0R4
0.75 m matrix expansion cable	185440-0R75

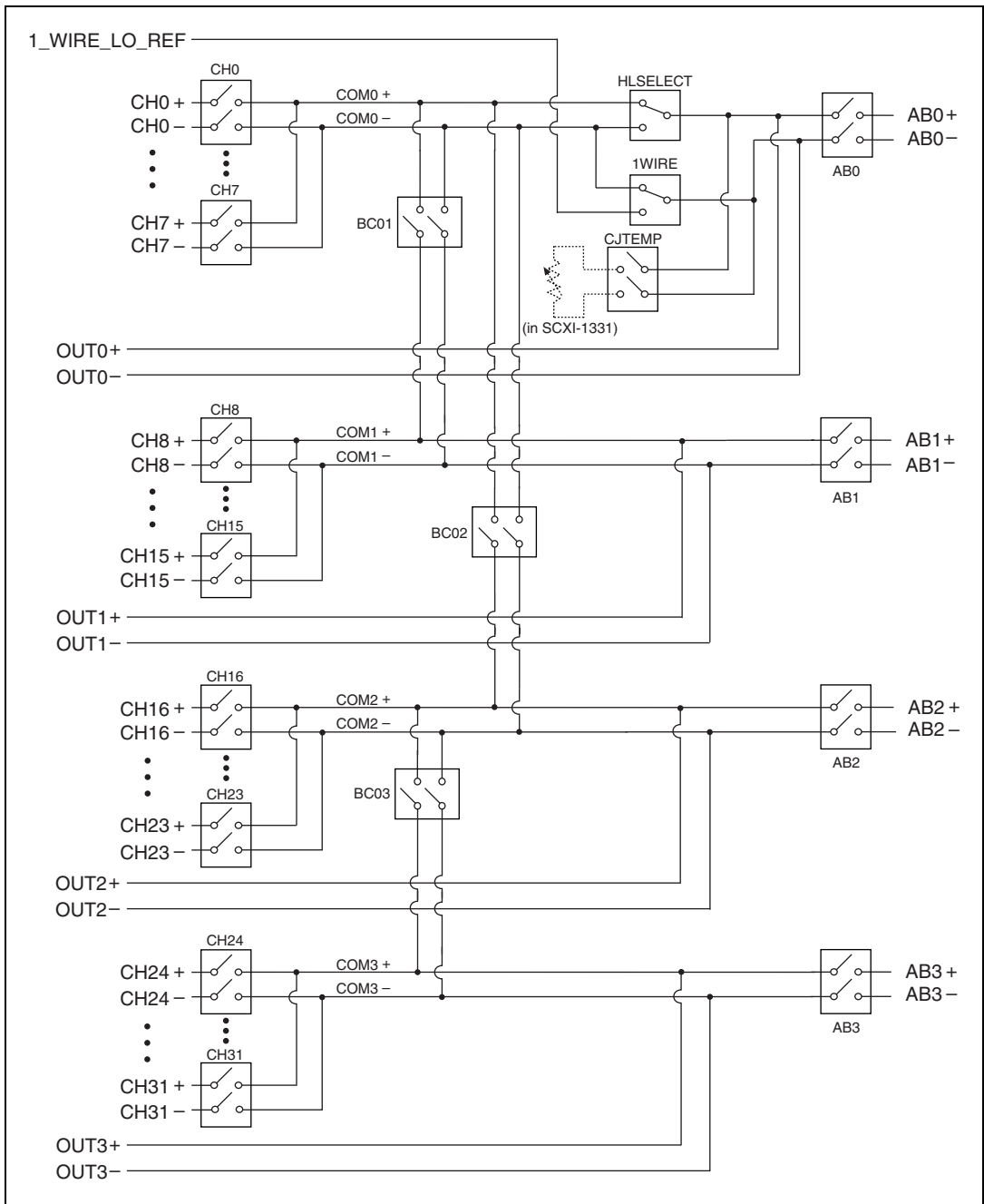


Figure 1. NI SCXI-1127 Power-On State

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 3111-1, UL 61010B-1
- CAN/CSA C22.2 No. 1010.1



Note For UL and other safety certifications, refer to the product label or visit ni.com.

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, you *must* 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, click **Declarations of Conformity Information** at ni.com/hardref.nsf/.