

# 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](http://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

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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  $\mu$ A at 10 mVDC

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DC path resistance	
Initial.....	<1 $\Omega$
End of life .....	$\geq 2 \Omega$

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  $\Omega$ . Load ratings apply to relays used within the specification before the end of relay life.

Thermal EMF (differential).....	<3 $\mu\text{V}$
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## RF Performance Characteristics

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Typical channel-to-channel isolation (50 $\Omega$ termination)	
10 kHz .....	>70 dB
100 kHz .....	>55 dB
1 MHz.....	>50 dB
5 MHz.....	>40 dB
10 MHz.....	>25 dB

## Dynamic Characteristics

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Maximum scan rate .....	100 channels/s
Relay operate time (at 20 $^{\circ}\text{C}$ ) .....	3 ms typical, 5 ms maximum
Release time (at 20 $^{\circ}\text{C}$ ).....	1.5 ms typical, 5 ms maximum
Expected relay life	
Mechanical .....	50,000,000 cycles
Electrical	
30 V, 1 A .....	200,000 cycles
250 V, 200 $\mu\text{A}$ .....	100,000 cycles
250 V, 200 mA.....	50,000 cycles

# Trigger Characteristics

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## 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  $\mu$ s

# Physical Characteristics

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Relay types ..... Electromechanical, non-latching

Relay contact material ..... Gold-clad silver alloy

Dimensions (W  $\times$  H  $\times$  D) ..... 3.0 cm  $\times$  17.2 cm  $\times$  20.3 cm  
(1.2 in.  $\times$  6.9 in.  $\times$  8.0 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

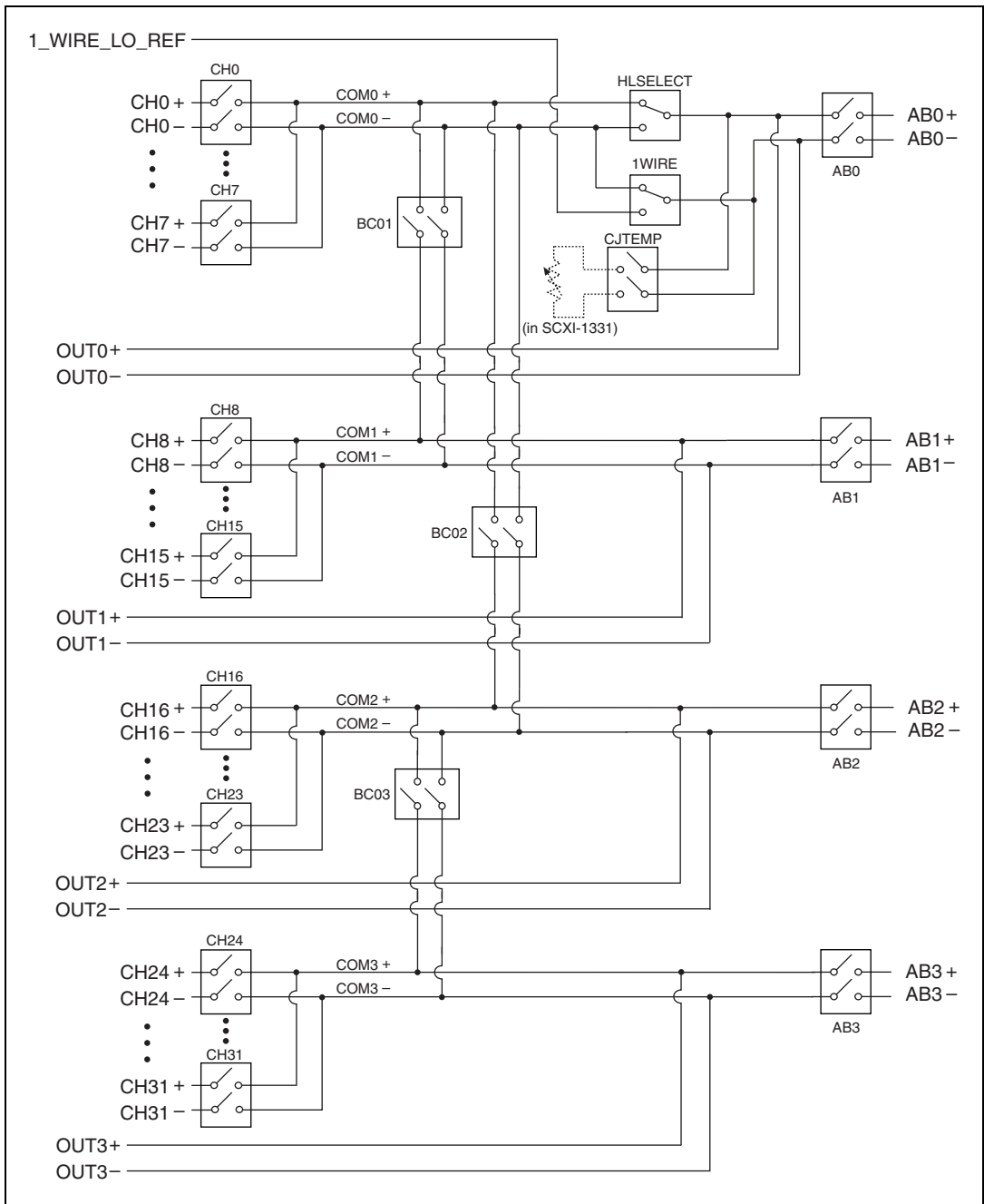
Approved at altitudes up to 2,000 m

# Accessories

Visit [ni.com](http://ni.com) for more information about the following accessories.

**Table 1.** Accessories Available for the NI SCXI-1127

<b>Accessory</b>	<b>Part Number</b>
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

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## 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](http://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/](http://ni.com/hardref.nsf/).