

Specifications for the NI SCXI™-1129

256-Crosspoint Relay Matrix

This document lists specifications for the NI SCXI-1129 matrix module. All specifications are subject to change without notice. Visit ni.com/manuals for the most current specifications.

Configurations..... Quad 4x16 2-wire matrix
4x64 2-wire matrix
8x32 2-wire matrix
16x16 2-wire matrix
Dual 4x32 2-wire matrix
Dual 8x16 2-wire matrix

Input Characteristics

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

Maximum switching voltage..... 150 V, CAT I
(channel-to-channel and channel-to-earth)



Caution This module is rated for Measurement Category I and intended to carry signal voltages no greater than 150 V. This module can withstand up to 800 V impulse voltage. Do not use this module for connection to signals or for measurements within Categories II, III, or IV. Do not connect to MAINS supply circuits (e.g., wall outlets) of 115 or 230 VAC. Refer to the *NI Switches Getting Started Guide* for more information on measurement categories.

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 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.

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Maximum switching current.....	1 A
(per channel)	
Maximum carry current	2 A
(per channel)	
Maximum module current	5 A
Maximum switching power	30 W, 37.5 VA
(per channel)	
DC path resistance	
Initial.....	<1 Ω
End of life	$\geq 2 \Omega$
Path resistance is a combination of relay contact resistance and trace resistance. Contact resistance typically remains low for the life of a relay. At the end of relay life, the contact resistance rises rapidly above 1.0 Ω .	
Thermal EMF	<9 μ V

RF Performance Characteristics

Typical channel-to-channel isolation (50 Ω termination)	
10 kHz	>80 dB
100 kHz	>65 dB
1 MHz.....	>50 dB

Dynamic Characteristics

Maximum scan rate	125 crosspoints/s
Relay operate time (at 20 °C)	4 ms maximum
Release time (at 20 °C)	4 ms maximum
Expected relay life	
Mechanical	50,000,000 cycles
Electrical.....	100,000 cycles
(maximum load)	

Trigger Characteristics

Input trigger

Sources SCXI trigger lines 0–7,
Rear connector,
Front panel

Minimum pulse width 150 ns

Output trigger

Destinations SCXI trigger lines 0–7,
Front panel

Pulse width 1 μ s

Physical Characteristics

Relay types Electromechanical,
latching and nonlatching

Relay contact material Gold/gold-clad silver

SCXI DC Power Requirement

+5 VDC 50 mA

+18.5 VDC to +25 VDC 170 mA

–18.5 VDC to –25 VDC 170 mA

Dimensions (W \times H \times D) 3.0 cm \times 17.3 cm \times 19.6 cm
(1.2 in. \times 6.7 in. \times 7.6 in.)

Weight 725 g
(1 lb 10 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

Accessories

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

Table 1. Accessories Available for the NI SCXI-1129

Accessory	Part Number
NI SCXI-1333 terminal block (quad 4x16 2-wire matrix)	777687-33
NI SCXI-1334 terminal block (4x64 2-wire matrix)	777687-34
NI SCXI-1335 terminal block (8x32 2-wire matrix)	777687-35
NI SCXI-1336 terminal block (16x16 2-wire matrix)	777687-36
NI SCXI-1337 terminal block (dual 4x32 2-wire matrix)	777687-37
NI SCXI-1339 terminal block (dual 8x16 2-wire matrix)	777687-39
Matrix expansion plug	778364-01
0.40 m matrix expansion cable	185440-0R4
0.75 m matrix expansion cable	185440-0R75

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/.

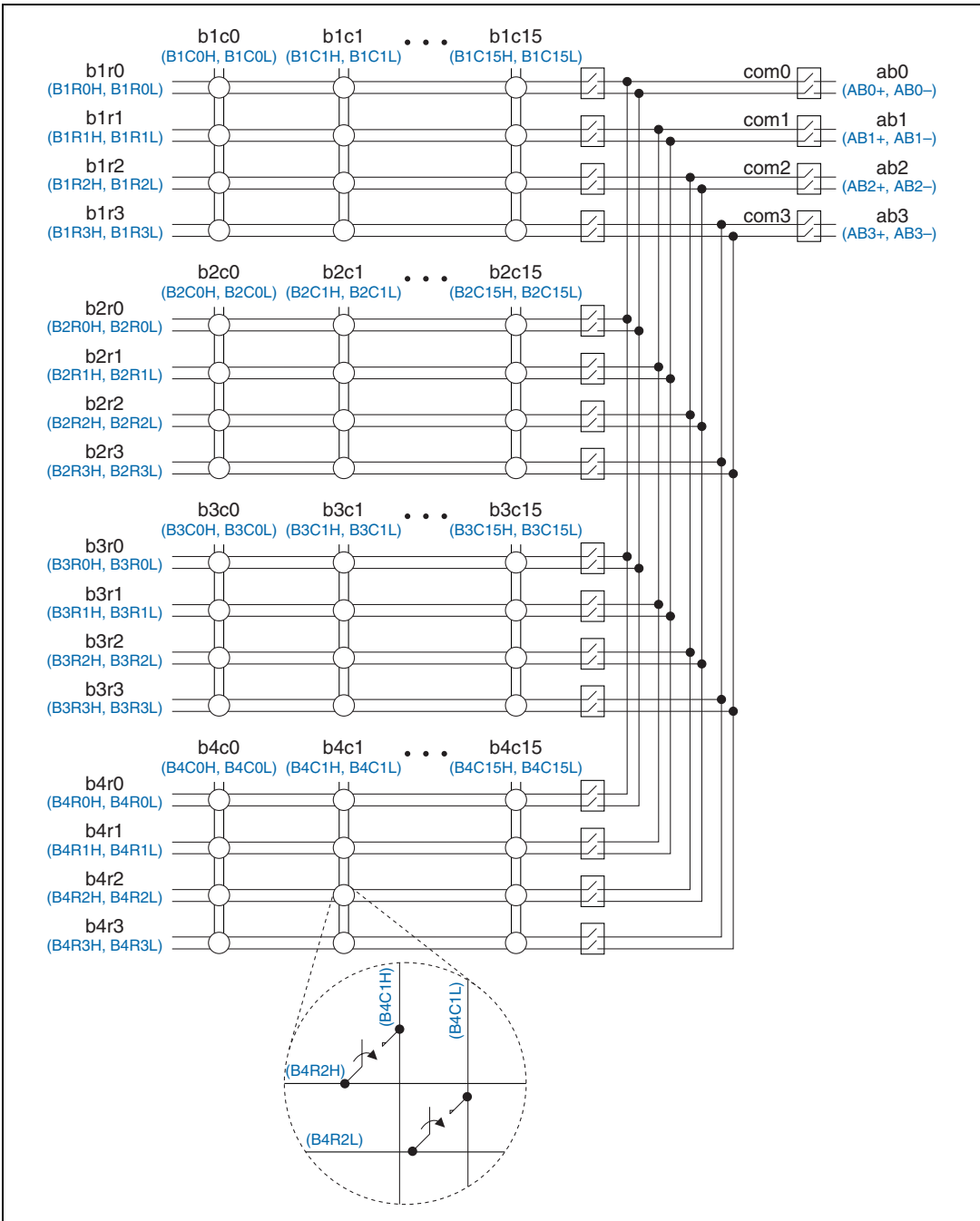


Figure 1. NI SCXI-1129 Quad 4x16 2-Wire Matrix