

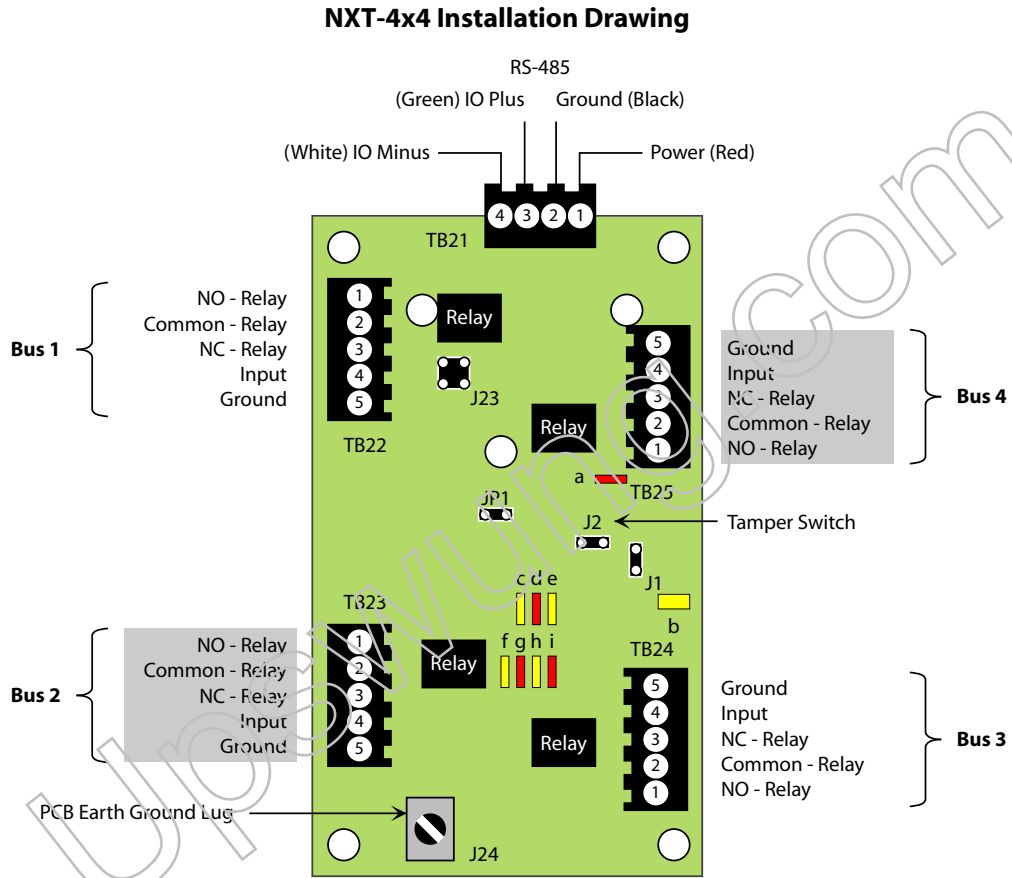
NXT 4x4

Installation Guide

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1.0 Wiring and Layout Diagrams

1.1 NXT-4x4 I/O Module



P/N: 01998-002 - Rev. B

See Table 1 on page 2 for LED definitions.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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Table 1: 4x4 LEDs

Power	Purpose	LED	Future Application	Purpose	LED
	indicator	a		undefined	b
Utility	Purpose	LED	Relay State	Purpose	LED
	RS-485 Tx	c		Bus 1	f
	User 1	d		Bus 2	g
	User 2	e		Bus 3	h
				Bus 4	i

2.0 Specifications

2.1 NXT-4x4 Dimensions

- 4x4 PCB
 - 5.25 inches tall by 3.10 inches wide by 1.00 inches deep, not including wiring connectors
 - 13.33 cm by 7.87 cm by 2.54 cm
- 4x4 Enclosure
 - 8.00 inches tall by 7.00 inches wide by 2.75 inches deep
 - 20.32 cm by 17.78 cm by 6.98 cm

2.2 Power Requirements

- 10 to 14 VDC @ 0.5 A (maximum current draw for a fully loaded NXT-4x4)

2.3 Current Requirements at 12 VDC

- 250 mA max for each NXT-4x4

NOTE: If you are driving an electronic locking device (magnetic lock, door strike, etc.) using the same power supply as the 4x4, ensure the power supply provides enough current to drive every device connected, including an adequate safety margin.

2.4 Relay Contact Rating

1 A @ 24 VDC

2.5 Operating Conditions

- NXT-4x4
 - 32°F to 150°F (0°C to 60°C) – 0% to 90% Relative Humidity, non-condensing

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2.6 Cable Requirements

RS-485 bus runs can daisy-chain together an NXT-4x4 and NXT-Reader on one line. The total distance for this cable run should be no greater than 500 feet from the NXT controller for runs with 4x4s and no greater than 1,000 feet for runs with Readers only.

*NOTE: On long cable runs, cable resistance causes a drop in voltage at the end of the cable run. Ensure the appropriate power and current for your device is available **at the device** at the end of the cable run.*

Table 2: Cable Requirements

Connection	Total Run Length	# of Conductors	Shielded	Stranded	Twisted -Pair	AWG ^a	Belden Equivalent
RS-485 bus from NXT-2D/-4D to NXT-4x4 (with or without 1R/-3R/-5R Readers)	up to 500 feet ^b	4	Y	Y	Y	18 Pwr 22 Data	1502P
RS-485 bus from NXT-2D/-4D to 1R/-3R/-5R Readers only	up to 1,000 feet	4	Y	Y	Y	22	8723
4x4 power ^c	500 feet	2	N	Y	Y	18	8461
earth ground	shortest path ^d	1	N	N	n/a	18	no specific requirement
inputs and outputs ^e	500 feet	2	N	Y	n/a	22	no specific requirement

- Heavier gauges than those listed are always acceptable.
- Run lengths greater than 500 feet are not recommended, and require a power supply to be installed local to the 4x4 unit.
- If powered remotely rather than via the RS-485 bus. To meet CE and C-tick regulations, the length of the 4x4 power line can be no longer than 3 Meters.
- Use the shortest possible path from earth ground point to PCB. Connect the earth ground only to the designated pin on the terminal block. This is important as all transient protection for the unit is made through this earth ground connection. For unit protection, the earth ground connection should always be made first.
- Values listed are minimums. Individual input and output devices may have more specific requirements.

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3.0 Product Documentation

All Keri technical documentation can be found on the Keri CD in the Technical Documentation folder or online at <http://www.kerisys.com/pages/download/techdocs.asp>.

4.0 Contact Keri Systems

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