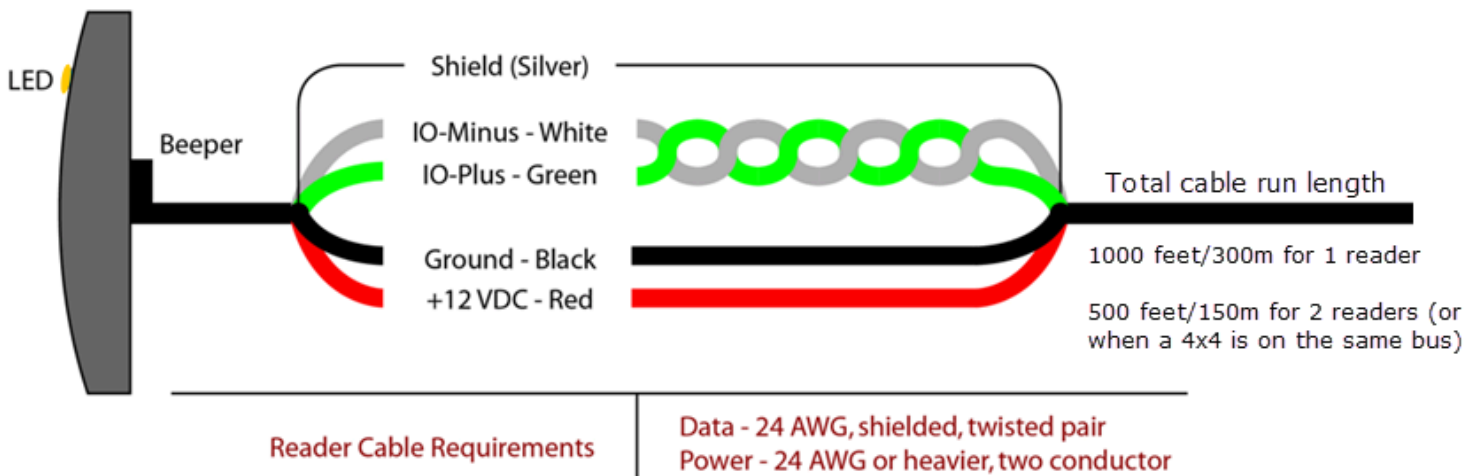


NXT-1R/-3R/-5R Reader - Installation Guide

1.0 Wiring and Layout Diagrams

1.1 NXT-1R/-3R/-5R Readers



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.

- Changes to this equipment not expressly approved by Keri Systems, Inc. may void FCC certification and the user's authority to operate this equipment.
- Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

2.0 Specifications

2.1 NXT-Reader Dimensions

- NXT-1R Euro Mount Prox Reader - 3.25 inches tall by 3.25 inches wide by 0.5625 inches deep, not including wiring connectors - 8.25 cm by 8.25 cm by 1.43 cm
- NXT-3R Mullion Reader - 3.75 inches tall by 1.625 inches wide by 0.50 inches deep - 9.52 cm by 4.13 cm by 1.27 cm
- NXT-5R Wall Switch Reader - 4.50 inches tall by 3.00 inches wide by 0.625 inches deep, not including wiring connectors - 11.43 cm by 7.62 cm by 1.59 cm

2.2 Power/Current Requirements

- 10 to 14 VDC @ 120 mA (maximum current draw at 12 VDC)

2.3 Operating Conditions

- -40°F to 150°F (-40°C to 65°C) – 0% to 90% Relative Humidity, non-condensing

3.0 Cable Options

RS-485 bus runs can daisy-chain together an NXT-4x4 and NXT-Reader on one line. The total cable run distance should be less than 500 feet from the NXT controller for runs with two Readers or one Reader and one 4x4, and less than 1,000 feet for single Reader runs.

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

Recommended RS-485 Cable Types

Connection	Run Length	Purpose	Conductors	Shielded	Stranded	Twisted Pair	AWG
RS-485 from NXT-MSC controller to NXT	Up to 500 feet (150)	Power	2	N	Y	N	18

4x4 (with or without an NXT 1R/3R/5R reader)	meters)	Data	2	Y	Y	Y	22 or 24
RS-485 from NXT-MSC controller to NXT 1R/3R/5R readers	Up to 1,000 feet (300 meters)	Power	2	N	Y	N	18
		Data	2	Y	Y	Y	22 or 24

Controller Power, Inputs, and Outputs Cable Requirements

Connection	Total Run Length	# of Conductors	Shielded	Stranded	AWG
Controller Power	250 feet [a]	2	N	Y	18
Earth Ground	Shortest path [b]	1	N	N	18
Inputs and Outputs [c]	500 feet	2	N	Y	22

- a. To meet CE and C-tick regulations, the length of the controller power line can be no longer than 3 Meters (9.85 feet).
- b. 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.
- c. Values listed are minimums. Individual input and output devices may have more specific requirements.

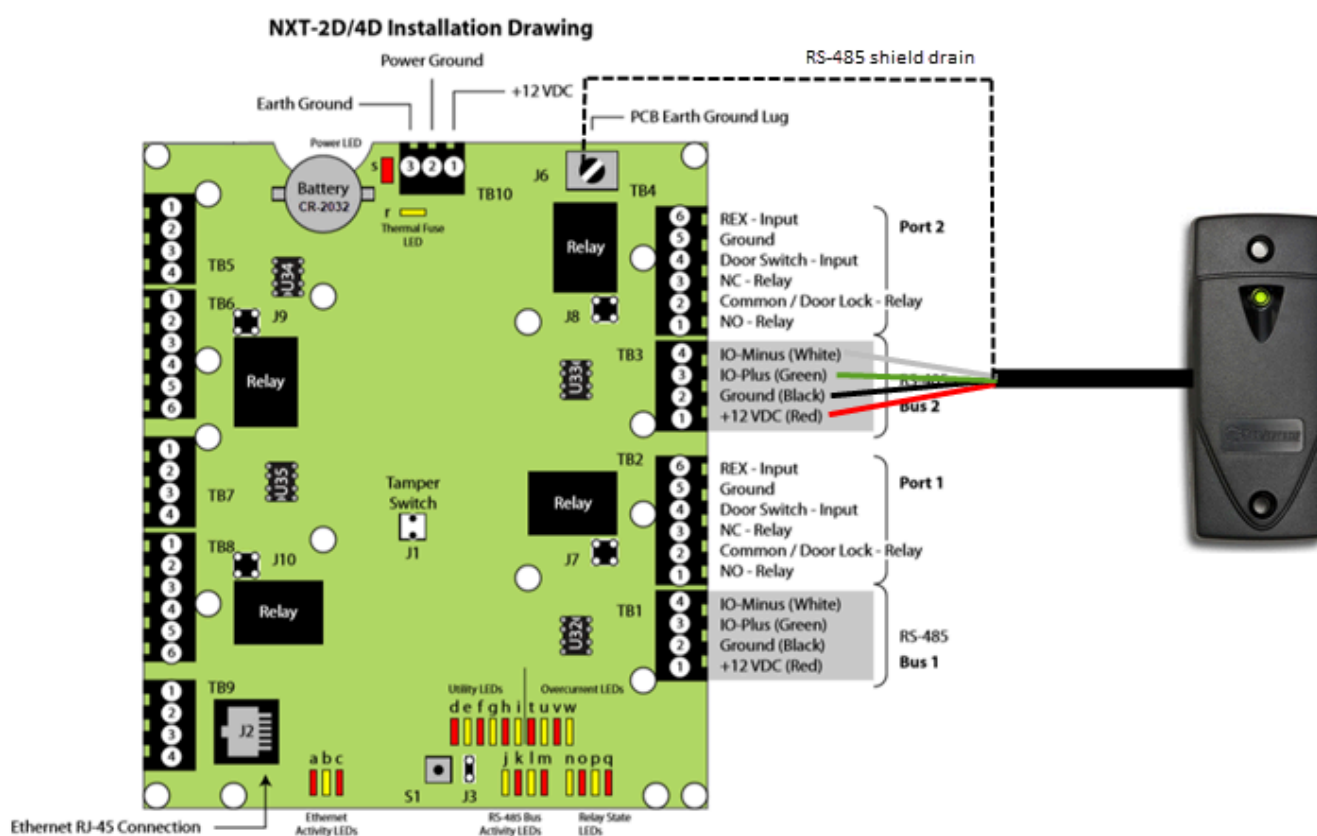
Notes:

1. The Lock Output relay may require a heavier gauge of wire depending upon the current demands of the lock and the length of the lock wiring run.
2. Cable resistance causes a drop in voltage at the end of long cable runs. Ensure the appropriate power and current for your device is available at the device at the end of the cable run. Heavier gauge cable reduces this effect.
3. Keri does not recommend hot-plugging a Reader, RIM, or 4x4 into an NXT controller. Remove power from the controller prior to connecting these devices.

IMPORTANT NOTE: Burg 4-conductor and CAT5/6 cable should NOT be used.

4.0 Reader Grounding

The shield/drain wire of any reader/peripheral cables MUST be terminated to one of the following points-any corner screw attaching the controller to the enclosure, Pin 3 of TB10, the green ground lug (J6) on the controller, or the ground lug of the enclosure. Failure to properly earth ground the reader/peripheral drain wire may result in unreliable communication or operation of the attached peripheral.



5.0 Entrance/Exit Reader Option

Keri NXT controllers with Mercury firmware now provide an Entrance/Exit door control feature. Keri readers with this capability have Firmware v3.01.01 or greater. This Entrance/Exit feature allows two readers to be wired to one bus on the NXT controller, but assigns one reader to access requests entering through one specific door (an Entrance Reader) and the other reader to requests exiting through that same door (an Exit Reader). To use this feature you must pair an Entrance Reader with


an Exit Reader; pairing two Entrance Readers or two Exit Readers together on one bus is an illegal configuration resulting in neither reader being recognized by the system.

Note: The Entrance/Exit Door reader feature is currently only available on NXT controllers using the optional, Mercury Inside firmware. For NXT controllers using standard firmware, a reader configured as an Exit-reader is not recognized by the Doors.NET software.

The standard Keri reader configuration is as an Entrance Reader. Readers can be ordered configured by the factory as Exit Readers. Other than this feature, all specifications and wiring information for the two reader types are identical. Readers with Exit-door capability have an “E” suffix on the part number.

Table 2: NXT Reader Model Numbers

Keri Default Entrance Reader	Factory Configured Exit Reader
NXT-1R	NXT-1RE
NXT-3R	NXT-3RE
NXT-5R	NXT-5RE

 **Note:** Please refer to the NXT-1RE/-3RE/-5RE Installation Guide for exit reader installation information (P/N 01250-001).



(P/N 01250-001).

