

NXT-6RK Proximity Reader and Keypad

Installation Guide

The Keri NXT-6RK is a keypad reader typically used for card + PIN dual verification applications. It transmits keypad data in either 8-bit burst (default) or 26-bit Wiegand formats and can be used as a keypad-only device. Since the NXT-6RK communicates via Wiegand format it requires an NXT-RIM for operation.

1.0 Specifications

1.1 NXT-Reader Dimensions

- 4.6 inches tall by 3.0 inches wide by 0.7 inches deep
- 11.7 cm by 7.7 cm by 1.8 cm

1.2 Power/Current Requirements

- 10 to 14 VDC @ 115 mA (maximum current draw at 12 VDC)

1.3 Operating Conditions

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

1.4 Read Range

- w/NXT-C - up to 6 inches (15.2 cm)
- w/NXT-I/S - up to 4 inches (10.2 cm)
- w/NXT-K - up to 3 inches (7.6 cm)

Read range is stated in a clean RF and electrical environment using credentials presented parallel to the reader surface with the reader operating at 12 VDC. Read range may be affected by local installation conditions. Read range will be reduced when mounted on metal.

- 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.

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1.5 Keypad Formats

- 8-bit burst (default)
- 26-bit Wiegand

The Keypad format can be toggled between 8-bit burst and 26-bit Wiegand using the KeypadDataMode card that is provided with the keypad. Present this card within 60 seconds of power up to toggle between states.

1.6 Cable Options

Table 1: Cable Requirements

Connection	Total Run Length	# of Conductors	Shielded	Stranded	Twisted Pair	AWG ^a	Belden Equivalent
RIM to NXT-6RK Reader	500 feet ^b	7	Y	Y	N	22	9537

a. Heavier gauges than those listed are always acceptable.

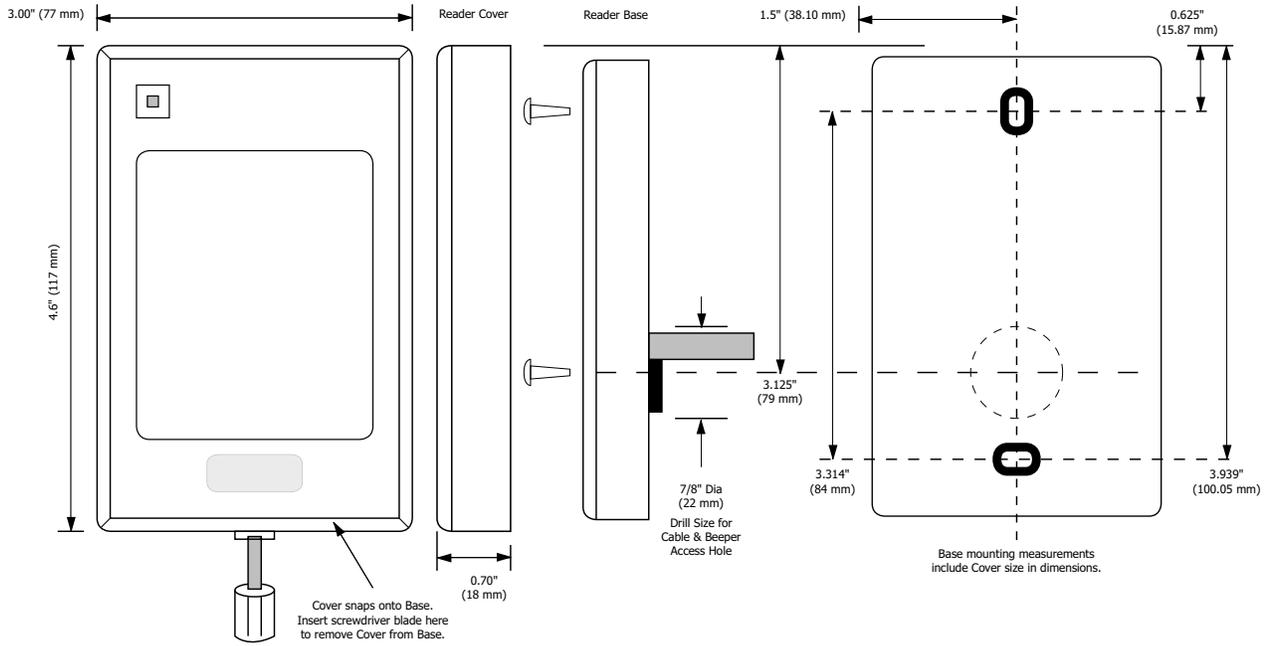
b. Run lengths greater than 500 feet are not supported.

*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. Heavier gauge cable reduces this effect.*

NOTE: 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.

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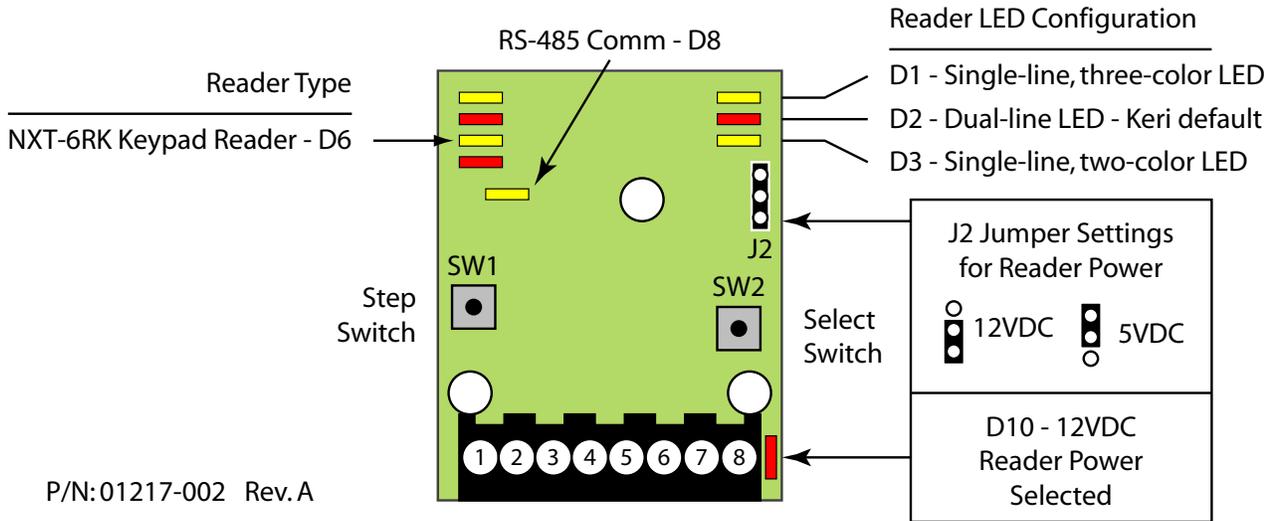
2.0 Installation Drawing



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3.0 Wiring and Configuration Drawing

NXT-6RK to RIM Wiring and Configuration Drawing



Pin #	Single-Line LED		Dual-Line LED	
	Connection	Wire Color	Connection	Wire Color
1	n/a	n/a	n/a	n/a
2	Beeper	Blue	Beeper	Blue
3	LED	Brown	Red LED	Brown
4	n/a	n/a	Green LED	Orange
5	+ 12 VDC	Red	+ 12 VDC	Red
6	Ground	Black & Shield	Ground	Black & Shield
7	Data0	Green	Data0	Green
8	Data1	White	Data1	White

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4.0 RIM Configuration

The default RIM configuration is for an MS-Series Reader using two line LED control (multi-color). Perform the following steps to configure the RIM for the NXT-6RK Keypad Reader. Refer to the Wiring and Configuration Drawing on page 4 for switch and LED locations, and Table 2 on page 6 for switch and LED definitions.

4.1 Enter Configuration Mode

1. Hold down both SW1 and SW2 for about two seconds.
2. All seven LEDs on the RIM will flash three times.
3. Release both SW1 and SW2, and the RIM is now in configuration mode.

4.2 Configure the RIM

The RIM is configured for the NXT-6KR when the Reader Type LED (D6) is set and the Reader LED Configuration LED (D2) is set.

1. First the RIM allows you to configure the Reader Type.
2. Press SW1 to step through the supported reader types. Each press of SW1 will step to the next reader type.
3. When the D6 LED is lit, press SW2. The reader type is now set.
4. Now the RIM is ready to configure the Reader LED Configuration.
5. LED D2 should be lit indicating the RIM is set in it's default mode. This is the correct mode for the NXT-6RK Keypad Reader. If D2 is not lit, press SW1 to step through the supported LED line configuration types. Each press of SW1 will step to the next LED configuration type.
6. When the D2 LED is lit, press SW2. The LED line control mode is now set.
7. The RIM is now configured and it reboots to accept the new parameters. The RIM's LEDs will be off for about 10 seconds as the unit resets itself. All seven LEDs will flash as the unit is rebooting with the new configuration parameters. When the LEDs stop flashing, the unit is operational.

*NOTE: Do **not** remove power from the RIM during the reboot process. Loss of power during rebooting will invalidate any configuration changes you have made.*

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4.3 Verifying RIM Configuration

The corresponding reader type and line control mode LEDs are illuminated during operation. Refer to the Drawing on page 1 for switch and LED locations, and the Table on page 2 for switch and LED definitions to confirm your configuration settings.

Table 2: RIM LED Guide

LED	Reader Type
D4	Keri MS Series Keri factory default setting
D5	Wiegand
D6	NXT-6RK
D7	Wiegand Reader/Keypad Combo
LED Control	
D1	single wire LED control – red, green, amber, off
D2	two wire LED control – red, green, amber, off Keri factory default setting
D3 ^a	single wire LED control – red, green, off standard setting for Wiegand Readers using a single wire to drive the LED (no amber)
Communication Active	
D8	RS-485 Bus
J2 Reader Power Setting	
D10	lit when set for 12 VDC reader power

a. This table is valid for RIM Firmware v03.01.06 and later. Please upgrade your firmware as necessary.

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5.0 Contact Keri Systems

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