Installation Sheet (Wiegand Interface)
Sentinel-Prox KP-6840 Reader with Keypad

Reader Description

The KP-6840 Reader is a radio-frequency proximity reader with integrated keypad for Access Control Systems. The Reader contains a 12-key PIN pad, transmit/receive antenna, and reader electronics, in a polycarbonate housing. The reader and keypad electronics are potted with epoxy resin to protect against the environment. The KP-6840 Reader may be mounted like a cover plate on a single-gang electrical utility box or any surface. The Reader is metal-compensated for a metal electrical utility box.

Parts List ▪ Installation Sheet ▪ Sentinel-Prox KP-6840 Reader ▪ #6-32 x 1" machine screws (qty. 2)

A. For Keypad Output with 26-bit Keypad Output

1. Connect *only* DC power (black and red wires). The LED is amber for about **3 seconds**. While the LED is amber, start entering the 10-digit password **9 1 4 3 6 9 8 8 0 0**, then press **#**. Hold each key for at least ½ second. There is a short beep with each keystroke.
2. Immediately enter the 3-digit site code (or facility code) **S S S**, then press **#**. There is a short beep with each keystroke.
3. When programming is completed, the beeper sounds 1 long beep. Then the LED is red to indicate Standby mode.
4. If the beeper doesn't sound and the LED doesn't change to red, remove power from the reader for 5 seconds; then repeat steps 1-3, above. Do not pause between the password and the site code. The yellow wire must be disconnected and floating.

- The keypad's site code must be between 000 and 255. If you do not program the site code, the **default site code** is **000**.
- The site code for the keypad may be the *same as* or *different from* the site code of the credentials (cards, keytags or wafers).
- Program the host system for (a) keypad input with 26-bit data format, and (b) the site code that you entered in step 2.

B. For Keypad Output with 4-Bit or 8-Bit Data Burst

1. If the system requires either a 4-bit data burst or an 8-bit data burst for each keystroke –
   a. Remove power from the KP-6840. Then press and hold either the **4** key for 4-bit data, or the **8** key for 8-bit data.
   b. With the **4** key or **8** key still pressed in, connect DC power to the reader's black and red wires. Wait about 3 second.
   c. The KP-6840 beeps and the LED changes color. Now release the **4** key or **8** key. The keypad data format has been changed. (This change is locked in, even after a power failure. The program may be repeated to select another format.)
2. To return to 26-bit Wiegand-type output, repeat the procedure in Step 1, except press the **2** key instead of the **4** key or **8** key

C. Installation

1. Prepare the mounting location – either a single-gang electrical utility box or a flat surface. To drill holes, use the reader's base as a template. Clearance holes are two no. 27 (0.144 inch) for screws, and one 3/8 inch hole for cable. Observe ADA height standards.
2. Remove the reader's cover by gently twisting a wide screwdriver blade in the slot at the bottom edge of the cover (see Figure 1). Do not remove the keypad assembly from the reader's base. Clip off and discard the cable's connector.
3. Use a linear regulated DC power supply, between 5 volts and 12 volts with 1A output. Power from the panel's DC terminals is OK.
4. Connect the reader's Ground, Data-0, Data-1, LED (if used), silver Drain wires, and *last* +DC power (see Figure 2). Connect the yellow wire only if it is used for Beeper control by the panel. Connect the blue wire only if it is used for Hold control by the panel. **Do not connect** the orange and violet wires to anything. Insulate all unused wires **separately;** do not clip off the wires at the shield.
5. Install the reader on the electrical utility box or other surface. Fasten the reader to the utility box with supplied screws.
6. Hook the reader's top cover over the base reader, and snap the cover closed securely.
7. To initialize the reader, present any AWID proximity credential (card, keytag or wafer) briefly to the reader. The reader beeps. The LED is red to indicate Standby mode. The reader is now ready for normal operation.
8. The LED color in Standby may be either red or green. To change the LED Standby color, call AWID's Technical Support for assistance in connecting the brown wire to the panel's reader port. If required, AWID offers a *Color Changer Card*. (Procedure with Color Changer Card: Turn power off. Then restore power. When the LED is amber, present the card.)

Operation Modes

The KP-6840 is ready for **Card+PIN**, **PIN+Card**, **Either-Card-or-PIN**, **Card-Only** and **PIN-Only**, without programming the reader. The selected Operation Mode must be programmed into the host system.

- For **26-bit** keypad output, press up to five numerical keys between 1 and 65535, then press the **#** key. To cancel PIN entry, press the *****.
- For **4-bit** and **8-bit** burst, press the number of keystrokes that the system needs in the PIN. If required, complete the PIN by pressing **#**.

Product Specifications

Cable to Controller

- 4 to 7 conductors (not twisted pairs), stranded, 22 gauge, color-coded insulation, overall 100% shielded
  The number of conductors depends upon use of the KP-6840's LED, Beeper, and Hold features. See Figure 2.
- Length for Wiegand interface ..... Up to 500 feet

Read Range with AWID Card

- At 5 volts DC ..... Up to 6 inches (15 cm)
- At 12 volts DC ..... Up to 8 inches (20 cm)

Characteristics

- Indoor and Outdoor ..... Rated for outdoor installations (Use a protective housing in rain or snow.)
- Operating Temperature Range ..... -35°C to 65°C (-31°F to 150°F)
- Operating Humidity ..... 0 to 95% non-condensing

Operating Parameters

- Excitation Frequency ..... 125 kHz
- Wiegand Output ..... Card reader: 26 bits to 50 bits Keypad: 26 bits only

Certifications ..... FCC Part 15; Industry Canada; UL listed; CE; RoHS compliant

Notes

1. Remove power before any wiring change. Connect the *black* wire (ground) first, and the *red* wire (power) last.
2. When the *brown* and *yellow* wires are not used, the LED and beeper remain active, under the reader's internal control.
3. LED, Beeper and Hold lines are at logic levels. *Never* apply power to them. If the function is not used, it may be left unconnected (floating). If the function is controlled by the panel, that control line must be pulled to the low logic level (0 to +0.8 volt DC) to enable the function, or pulled to the high logic level (+2.0 to +5.0 volts DC) to disable the function.
4. The KP-6840 *card reader* has both Wiegand and RS-232 interfaces. The KP-6840 *keypad* has only 26-bit Wiegand output, on the same Wiegand data lines as the card reader's. For information on RS-232 interface, contact AWID's Technical Support.
5. For additional information, please visit AWID's Web site www.awid.com. For technical support questions visit www.awid.com/support or call **1-800-369-5533** (in the U.S.) or +**1-408-825-1100** from 8:00am to 5:00pm Pacific Time.

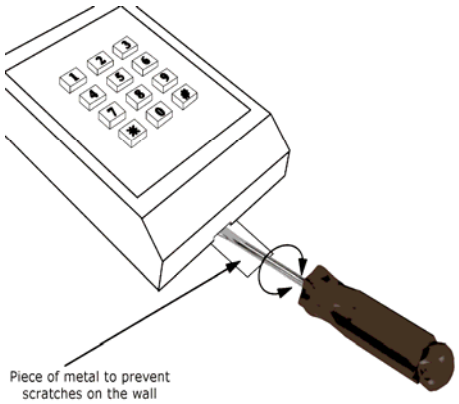

FIGURE 1: Removing the Cover

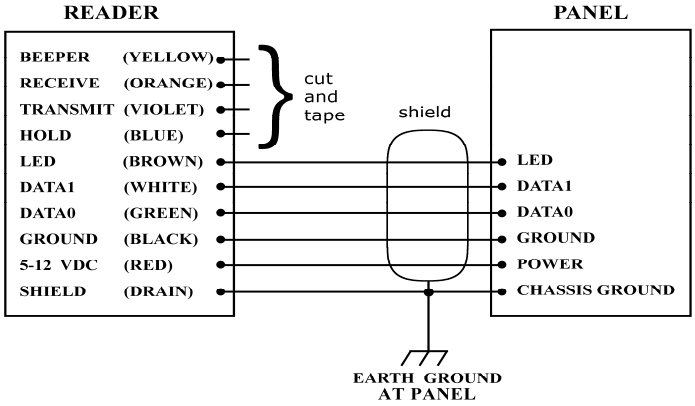

FIGURE 2: Wiring Diagram (Wiegand - see step C.4, page 1)

Compliance

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC: This equipment has been tested and found to be in compliance with the limits for FCC part 15, Class A digital device. 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 instruction manual, may cause harmful interference with 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.
The users are prohibited from making any change or modification to this product. Any modification to this product shall void the user's authority to operate under FCC Part 15 Subpart A Section 15.21 regulations.

Industry Canada: Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.