RDK-4

Proximity Reader with Keypad

Visonic *Networks*
Creating secure environments

Installation Instructions

1. INTRODUCTION

The RDK-4 is a proximity reader with keypad, compatible with the AXS-100 access control system.

The system is designed to limit access to restricted areas, while permitting authorized people to enter. The RDK-4 can be programmed by the installer to offer one of three security levels for opening the door:

1. Valid tag only.
2. Valid tag and user PIN (Personal Identification Number) code.
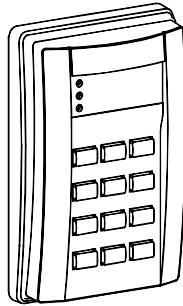3. Password only.

Figure 1 - RDK-4

It is recommended to install the RDK-4 on a wall outside the protected area, and the AXS-100 control unit inside the protected area.

Proximity access cards or tags are used as keys to open doors. When presented to an RDK-4, the access card or tag emit a coded RF signal that is read by the proximity reader. The reader prompts the user for a 4-digit PIN code (applicable to security level 2). When the correct PIN code is typed, the control unit verifies that the card is valid and makes the decision as to whether it should energize an output relay that releases the lock. All activity involving the proximity readers is recorded and logged by the AXS-100.

For information about the AXS-100 system, refer to the AXS-100 user's guide and installation instructions.

2. SPECIFICATIONS

Power input: 12-16V DC From the AXS-100

Buttons: 12 (numeric keypad)

Frequency: 125 kHz

Tag reading range: 50 - 100 mm (2 - 4 in.)

Tag codes possibilities: 10^{12} possible combinations.

Cable (to AXS-100 control unit) maximum length:
100 m (320 ft)

Minimum distance between readers: 60 cm (2 ft)

Weight: 170 g (6 oz)

Color: Metallic brown

Dimensions (L x W x D): 122 x 82 x 31 mm
(4 - 13/16 x 3 - 1/2 x 1 - 1/4 in.)

Operating temperature: -20°C to 50°C (-4°F to 122°F)

3. MOUNTING

Mount the proximity reader outside the door on the wall or door frame. The RDK-4 comes with a 1m (3 ft) cable.

Note: When installing more than one RDK-4, the distance between the readers should be at least 60 cm (2 ft.), to ensure proper operation.

To mount the proximity reader:

A. Remove the case closure screw.

B. Separate the base from the keypad assembly.

C. Place the base on the installation surface, mark points, drill the holes and insert plastic anchors, if necessary.

D. Fit the base into the rubber gasket and use the 2 mounting screws to attach the base and gasket to the selected surface.
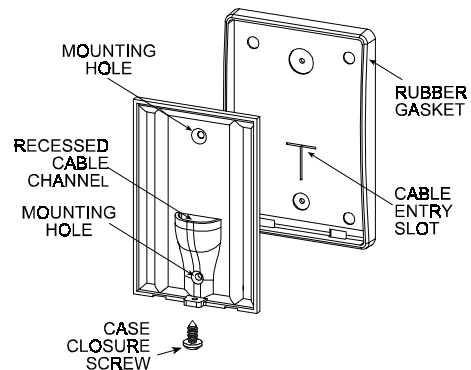
Figure 2 - Base and Gasket

4. WIRING

Each RDK-4 reader is connected to the control unit via a four-wire cable. The standard cable is color-coded. Use a cable with the same colors to avoid mistakes in connection. Connect each proximity reader to the reader sections on the AXS-100 connector blocks. See diagram for color-coding.
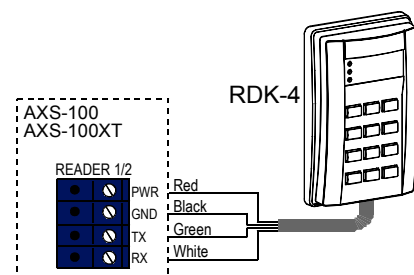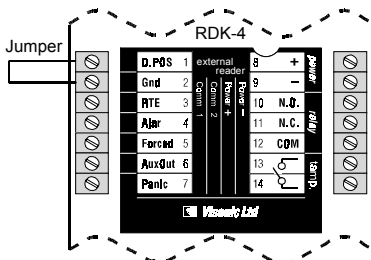
Figure 3 - Connection to AXS-100

5. SECURITY LEVEL SELECTION

The RDK-4 can be programmed by the installer to offer one of three security levels, as shown in the next table.

No.	Security level description	Security level selection
1	The door is unlocked by presentation of a valid **tag/card only.**	No jumper is not installed .
2	Door is unlocked by presentation of a valid **tag/card followed by user PIN** code keying.	Select this security level by either of the following actions: A. Install jumper in the RDK-4. B. Connect shorting wire between D.POS & GND terminals in the RDK-4 (see fig. 4). C. Set To/From time in minutes, in AXS-100 registers 8 & 9 (for Reader 1) or registers 10 & 11 (for Reader 2), to determine the period during which the RDK-4 will switch from security level 1 (tag only) to security level 2 (tag + PIN). For example, if you want that the security level 2 will be valid from 12 o'clock (720 min.) to 13 o'clock (780 min.), set AXS-100 register 8 to 720 and register 9 to 780. For details, refer to AXS-100 User Guide par. 3.2.7.
3	Door is unlocked by **Password** keying followed by pressing the # key	Set AXS-100 password as described in the AXS-100 User Guide par. 3.3.3.

Figure 4
Selecting Security
Level 2 by Using
a Jumper

6. USING THE RDK 4

To enroll an access card refer to the AXS-100 User Manual section 3.3.1 Add Keys. The PIN code of each card is automatically defined by the AXS-100. In order to receive the PIN codes for access cards, please refer to the AXS-100 User Manual section 5.2.1 Setup Flags.

To enter a door, present a valid tag to the RDK-4. If your RDK-4 is programmed to operate by tag and user's PIN code, present the tag and then enter the PIN code within 5 seconds.

When presented to an RDK-4, the access card or tag emits a coded RF signal that is read by the proximity reader. The reader prompts the user for a 4-digit PIN code by blinking the yellow light. If no PIN code is typed within 10 seconds, or a wrong PIN code is typed, the red LED will light up.

A delay of more than 5 seconds, between presenting a tag and starting to key user PIN code, or between any two digits, cancels the operation.

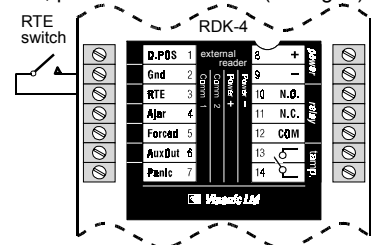The normal functions of the LEDs are summarized in the following table.

LED		Function
Green	✓	Indicates that a valid tag was presented and the output relay was activated.
Red	✗	Indicates that an invalid tag was presented or an invalid PIN was entered.
Yellow	⏻	Remains lit to indicate that power is on. In security level 2, blinks after the tag is accepted, to prompt the user for PIN.

Job Control

There is an option that when a valid exit occurs, the exit will be reported (Time & Attendance exit), if the reader is defined in EXIT mode (see AXS-100 user guide, section 4). To implement this option, ther are 2 possibilities:

1. Before opening the door, press the "∗" key in the RDK-4.
2. Before opening the door, press the RTE switch (see fig. 5).

Figure 5
RTE switch