WyReLess ACCESS

INSTALLATION INSTRUCTIONS

WIRELESS INTEGRATED STRIKE INTERFACE (WISI)

RECOGNITION SOURCE

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INSTALLATION INSTRUCTIONS

Wireless Integrated Strike Interface (WISI)

NOTE: These instructions are for installing the Wireless Integrated Strike Interface (WISI), a component of a Wyreless Access System. After completing this installation refer to the "Configuring and Operating the Wyreless Access System" manual.

Table of Contents

1. Wyreless Access^{TM} System Components

1.1 Overview

Every access control system that uses Wyreless Access^{TM} contains two different types of modules (Figure 1-1):

- at least one Wireless Panel Interface Module (WPIM), and

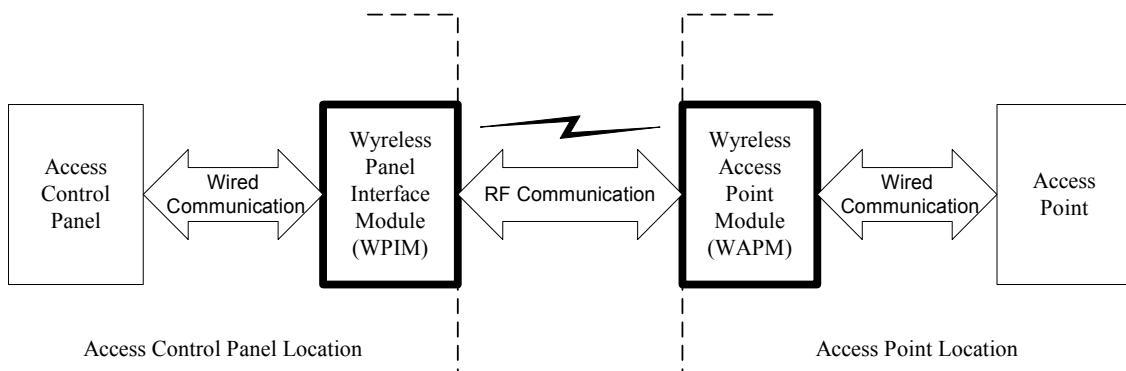- at least one Wyreless Access Point Module (WAPM)

Figure 1-1 – Wyreless Access System Block Diagram

Recognition Source's product line contains several different expressions of each module.

The WPIM is wired to the access control panel and ideally is installed very close to the access control panel. The WPIMs installation location is determined by the location of the WAPMs with which it will communicate using RF.

The WAPM is installed at the access point where access will be controlled and/or monitored. Depending on the application and which WAPM is used, some wiring at the access control point may be required.

Regardless of which WPIM or WAPM module is used, the communication link between the WPIM and WAPM is always RF.

This manual describes the installation of a Wireless Integrated Strike Interface (WISI) which is a WAPM.

1.2 WISI Components & Sales Models

The WISI includes a Card Reader Assembly (HID proximity, magnetic, or Wiegand), a Control Transceiver Module, and a Battery Pack (located inside the Control Transceiver Module) (Figure 1-2 and Figure 1-3).

If the access point where the WISI will be used requires a strike, then an optional Battery Operated Strike (BOS) Assembly (Figure 1-2) must also be ordered. There is one BOS that is approved for the WISI. It comes with three faceplates for use with cylindrical locksets, mortise locksets without a deadbolt, or a mortise panic exit devices with or without a deadlatch. The BOS is available from Recognition Source as a BOS-100 or directly from Locknetics as a 9110 TRI-BP.

NOTE: Using any other strike with the WISI may damage the Control Transceiver Module and will void the WISI warranty.

Figure 1-2 – WISI & Peripherals

Figure 1-3 – WISI Battery Pack

MODEL	CARD READER	MOUNTING	LOCATION
WISI-MS	Magnetic	Surface	indoor
WISI-PROX	HID Proximity	Surface	indoor

Table 1-1- WISI Sales Model Table

MODEL	SUPPLIER	LOCATION
BOS-100	Recognition Source	indoor
9110 TRI-BP	Locknetics	indoor

Table 1-2- WISI Battery Operated Strikes

2. Installing the WISI

2.1 Tools – Hardware Required

- Hammer

- 9/32" & 3/4" drill bits

- Flat and Phillips head screwdrivers (1/8" wide flat blade for screw terminals)

- Pencil

- Transceiver Control Box Mounting Kit (K381-000-001), provided, including four zinc, pan head Phillips, 8-18 X 1 ½" sheet metal screws and four heavy-duty anchors

- Card Reader Mounting Kit (K384-002-001), provided, including two black, flat head Phillips, 8-18 X 1 ½" sheet metal screws and two heavy-duty anchors

2.2 Determining the Best WPIM and WISI Locations

Proper selection of WPIM and WISI Transceiver Control Box mounting locations insures reliable RF communications.

The WPIM manual contains a section for determining the best location for the WPIM.

The maximum distance between WPIM and a WISI is 200' horizontally when installed inside a building on the same floor that uses normal building construction materials. Never locate the WISI and WPIM more than one (1) floor apart. If on different floors, limit the maximum horizontal distance to 100'. The maximum distance is 1000' for a line of sight installation.

This section provides additional application specific help and guidelines to select the best mounting location for the WISI Transceiver Control Box:

- Mount the WISI Transceiver Control Box inside the protected area.

- Mount the WISI Transceiver Control Box on the wall, at least 55" from the floor

- Mount the WISI Transceiver Control Box within 6 cable feet of the Card Reader

- If a Battery Operated Strike is used, mount the WISI Transceiver Control Box within 15 cable feet of the Strike.

2.3 Mounting the WISI Components

2.3.1 **TRANSCEIVER CONTROL BOX** – A 1" hole is provided in the back of the Transceiver Control Box for routing wires in & out. If needed, additional hole(s) can be drilled in the lower left hand corner of the Transceiver Control Box. Wire routing inside the enclosure is very important. Improper wire routing will reduce the RF range. Keep the wires inside the enclosure as short as possible (i.e. do not coil any excess wire inside the enclosure) (Figure 2-1 & Figure 2-2).

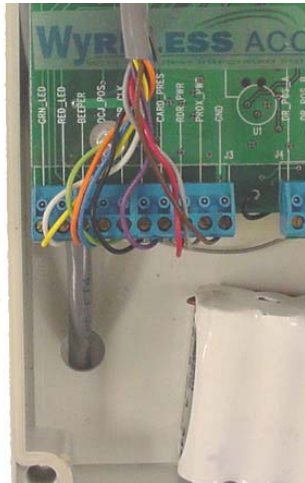*NOTE: Do not run wires across the printed circuit board.*
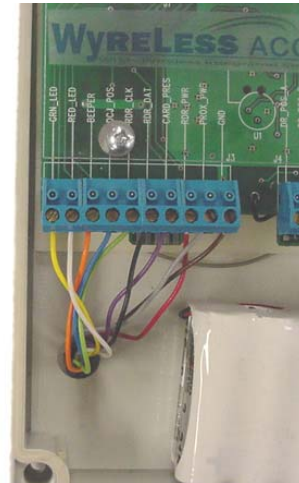

Figure 2-1 – Improper Wire Routing **Figure 2-2 – Proper Wire Routing**

2.3.1.1 Remove the Transceiver Control Box cover.

2.3.1.2 Place the Transceiver Control Box (cover removed) against the wall in the position it was successfully "link" tested.

2.3.1.3 Using Transceiver Control Box as a template, mark the four corner mounting holes and the ½" wire hole (if used) with a pencil.

2.3.1.4 Drill a 9/32" hole at each mounting mark, 1 ¾" deep, and a ½" hole at the wire hole mark (if used).

2.3.1.5 Insert the four anchors provided firmly into the holes so they are flush with the wall.

2.3.1.6 Depending on the installation, you may want to screw the Transceiver Control Box to the wall now or wait until the rest of the components are installed to facilitate wire routing.

2.3.2 **CARD READER** – Using the Card Reader Hole Drilling Template (**Error! Reference source not found.**), mark the wall for the 9/32" mounting holes, and the 3/4 " wiring hole. The WISI package contains screws for drywall mounting. If you have a different mounting surface than drywall, you will need to provide suitable mounting hardware, and determine the proper hole size. Route the Card Reader wires into the Transceiver Control Box.

2.3.3 **BATTERY OPERATED STRIKE** - If the installation uses a strike, mount the strike assembly into the door jamb. Follow the directions packaged with the strike assembly (also refer to section 4, page15). Route the strike wires into the Transceiver Control Box.

2.3.4 **DOOR POSITION SWITCH** – If the installation uses a door position switch, mount it using the manufacturer's installation instructions. Route the door position switch wires into the Transceiver Control Box.

2.3.5 **REQUEST TO EXIT DEVICE** – If the installation uses a separate request to exit device, mount it using the manufacturer's installation instructions. Route the request to exit device wires into the Transceiver Control Box.

NOTE: The only recommended Request To Exit Device to use with a WISI is a momentary switch. Unless powered from a separate source using a powered device like a PIR will result in a very short battery life.

2.3.6 **REQUEST TO ENTER DEVICE** – If the installation uses a request to enter device, mount it using the manufacturer's installation instructions. Route the request to enter device wires into the Transceiver Control Box.

NOTE: The only recommended Request To Enter Device to use with a WISI is a momentary switch. Unless powered from a separate source using a powered device like a PIR will result in a very short battery life.

2.4 Connecting the Access Control Peripherals

The access control peripherals for the WISI are connected to the Transceiver Control PCB via two 10 terminal connectors, J3 & J4 (Figure 2-3 & Figure 2-4).
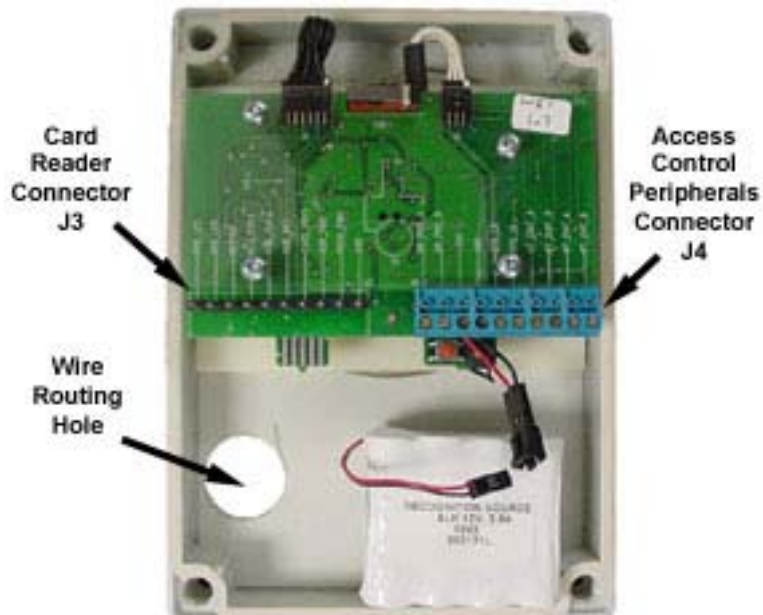

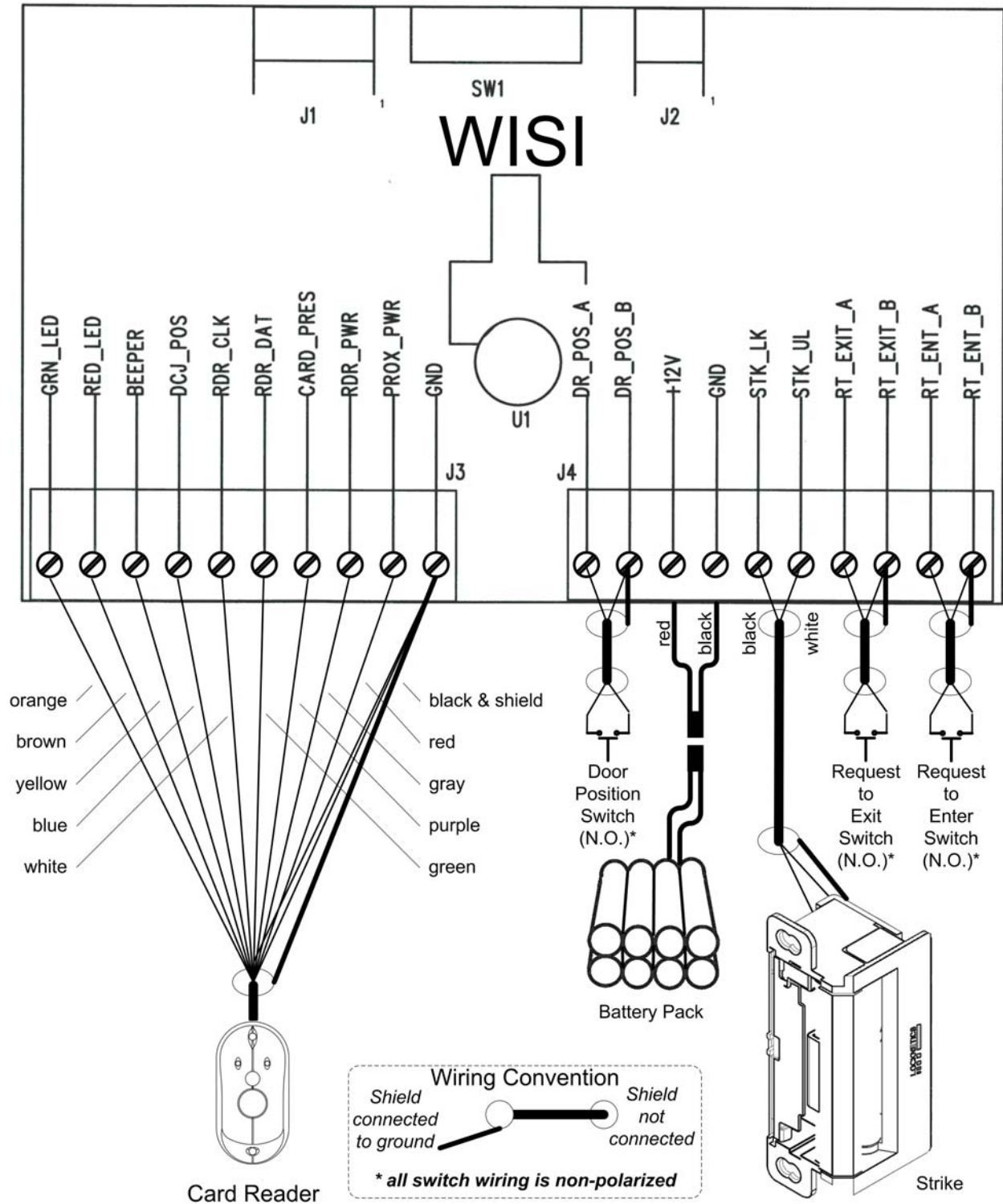**Figure 2-3 – WISI Transceiver Control Box with Cover Removed**

Figure 2-4 – WISI Typical Wiring Diagram

2.4.1 CARD READER

NOTE: Use only the supplied Card Reader. If the WISI is to be used without a Card Reader, please refer to section 3, page 14, below.

The Card Reader connects to the Transceiver Control Module through J3 using 10 wires. The Card Reader Assembly is shipped with the mating J3 connector already installed on the end of a 6' cable. If this cable length is acceptable for the installation, then just plug the mating connector into J3. If the cable needs to be shortened, remove the mating connector, shorten the cable to the desired length, strip the wires, tin the wires, and reconnect the wires to the mating connector following the information in Table 2-1.

WISI Terminal		Card Reader Cable Wire	Description
J3	GRN_LED	ORANGE	Card Reader's green LED control
	RED_LED	BROWN	Card Reader's red LED control
	BEEPER	YELLOW	Card Reader's beeper control
	DCJ_POS	BLUE	Card Reader's positive DC jack terminal
	RDR_CLK	WHITE	Card Reader's clock or data1 signal
	RDR_DAT	GREEN	Card Reader's data or data0 signal
	CARD_PRES	PURPLE	Card Reader's card present signal
	RDR_PWR	GRAY	Card Reader's positive DC power (switched)
	PROX_PWR	RED	Card Reader's positive DC power for proximity reader (non-switched)
	GND	BLACK	Card Reader's DC ground

Table 2-1 – Card Reader Connector (J3)

2.4.2 BATTERY OPERATED STRIKE

If used, the Battery Operated Strike connects to the Transceiver Control Module through J4 using 2 wires. The Battery Operated Strike is shipped with a 15' cable. Trim the cable to the desired length, strip the wires, tin the wires, and connect the wires to the mating connector following the information in Table 2-2. The color of the wires provided with the strike can not be guaranteed to be black and white. If this is the case, take your best guess (a 50/50 chance), connect the two wires from the strike in any order. If the strike unlocks when it should lock or locks when it should unlock, then switch the wires. No damage will be done, you just won't get the proper lock/unlock operation.

WISI Terminal		Battery Operated Strike Wire	Description
J4	STK_LK	BLACK	If the Battery Operated Strike wires are not black and white, see text above.
	STK_UL	WHITE	

Table 2-2 – Battery Operated Strike Connections (J4)

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2.4.3 DOOR POSITION SWITCH

If used, a Door Position Switch connects to the Transceiver Control Module through J4 using 2 wires. Trim the cable to the desired length, strip the wires, tin the wires, and connect the wires to the mating connector following the information in Table 2-3. Either wire can go to either connection, i.e. the connection is non-polar.

WISI Terminal		Description
J4	DR_POS_A	A dry contact closure across these terminals indicates to the ACP that the access point portal is closed.
	DR_POS_B	An open circuit indicates to the ACP that the access point portal is open.

Table 2-3 – Door Position Switch Connections (J4)

2.4.4 REQUEST TO EXIT DEVICE

NOTE: The only recommended Request To Exit Device to use with a WISI is a momentary switch. Unless powered from a separate source using a powered device like a PIR will result in a very short battery life.

If used, a Request To Exit Device connects to the Transceiver Control Module through J4 using 2 wires. Trim the cable to the desired length, strip the wires, tin the wires, and connect the wires to the mating connector following the information in Table 2-4. Either wire can go to either connection, i.e. the connection is non-polar.

WISI Terminal		Description
J4	RT_EXIT_A	A dry contact closure across these terminals initiates a request to exit.
	RT_EXIT_B	

Table 2-4 – Request To Exit Device Connections (J4)

2.4.5 REQUEST TO ENTER DEVICE

NOTE: The only recommended Request To Enter Device to use with a WISI is a momentary switch. Unless powered from a separate source using a powered device like a PIR will result in a very short battery life.

If used, a Request To Enter Device connects to the Transceiver Control Module through J4 using 2 wires. Trim the cable to the desired length, strip the wires, tin the wires, and connect the wires to the mating connector following the information in Table 2-5. Either wire can go to either connection, i.e. the connection is non-polar.

WISI Terminal		Description
J4	RT_ENT_A	A dry contact closure across these terminals initiates a request to enter.
	RT_ENT_B	

Table 2-5 – Request To Enter Device Connections (J4)

2.4.6 **BATTERY PACK INSTALLATION**

The Transceiver Control Module is shipped with a Battery Pack with a connector attached but maybe unconnected (Figure 1-3 & Figure 2-3).

2.4.6.1 If the WISI enclosure cover is on, use the Phillips screwdriver to remove WISI cover. There are 4 cover screws, one in each corner (Figure 1-2).

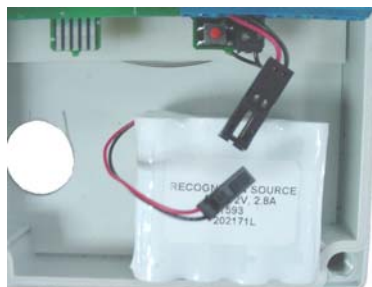2.4.6.2 Install the Battery Pack into the Transceiver Control Module enclosure using the Velcro provided (Figure 2-5).

Figure 2-5 – Positioning the Battery Pack to Connect the Wires

2.4.6.3 Connect the Battery Pack Connector to its mating connector that is factory connected to J4 (Figure 2-6).

Figure 2-6 – Battery Pack Installed

2.4.6.4 **Do not install the WISI cover at this time.** The WISI needs to be linked before installing the WISI cover, follow the instructions in the "Configuring & Operating a Wyreless Access System" manual.

WISI Terminal		Battery Connector Wire	Description
J4	+12V	RED	Positive battery pack wire to this terminal
	GND	BLACK	Negative battery pack wire to this terminal

Table 2-6 – Battery Pack Connections (J4)

This completes the installation of the WISI. Do not install the WISI cover yet, this will be done after the Panel Interface Module (PIM) is installed and during system configuration.

If the Wireless Panel Interface Module (WPIM) that will control this WISI is not installed, now is the time to install it, please refer to the "PIM Installation Instruction" manual.

If the WPIM is installed, then you are ready to configure your Wyreless Access System, please refer to the "Configuring & Operating a Wyreless Access System" manual.

3. Using the WISI Without a Card Reader

The WISI is usually installed with the Card Reader that is supplied with the WISI. Some applications may not require the Card Reader, such as an access point that only needs a strike or an access point that just needs a Request to Exit or Door Position switches.

When the WISI application does not require a card reader, two jumpers need to be added to the Card Reader Connector (J3) to insure that the WISI's DC current draw is minimized to maximize the battery life.

The two reader signal connections, RDR_CLK & RDR_DAT, need to be grounded by jumping them to the GND connection (Table 3-1 & Figure 3-1).

WCM Terminal		Description
	RDR_CLK	Card Reader's clock or data1 signal
J3	RDR_DAT	Card Reader's data or data0 signal
	GND	Card Reader's DC ground

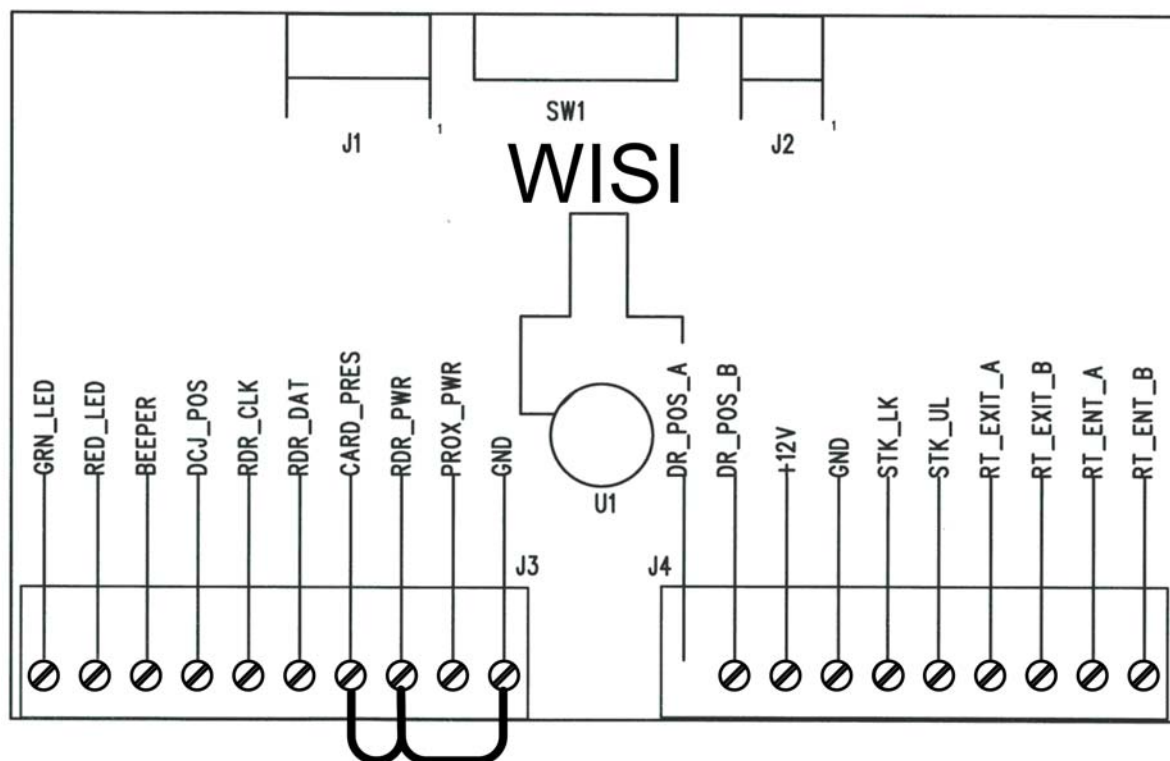**Table 3-1 – WISI Card Reader Connector**

Figure 3-1 – WISI Without Card Reader Jumpers

4. Battery Operated Strike Mechanical Specifications

Figure 4-1, Figure 4-2, and Figure 4-3 show the mechanical dimensions of the battery operated strike (BOS-100). These figures are provided for convenience only and the documentation provided with the strike should be used for actual installation dimensions.
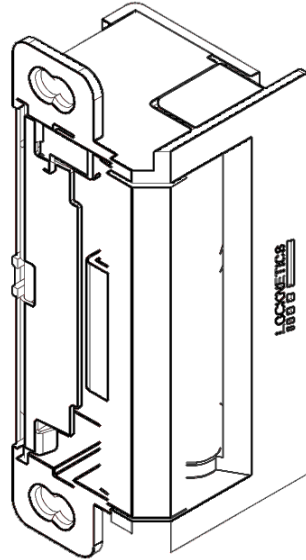

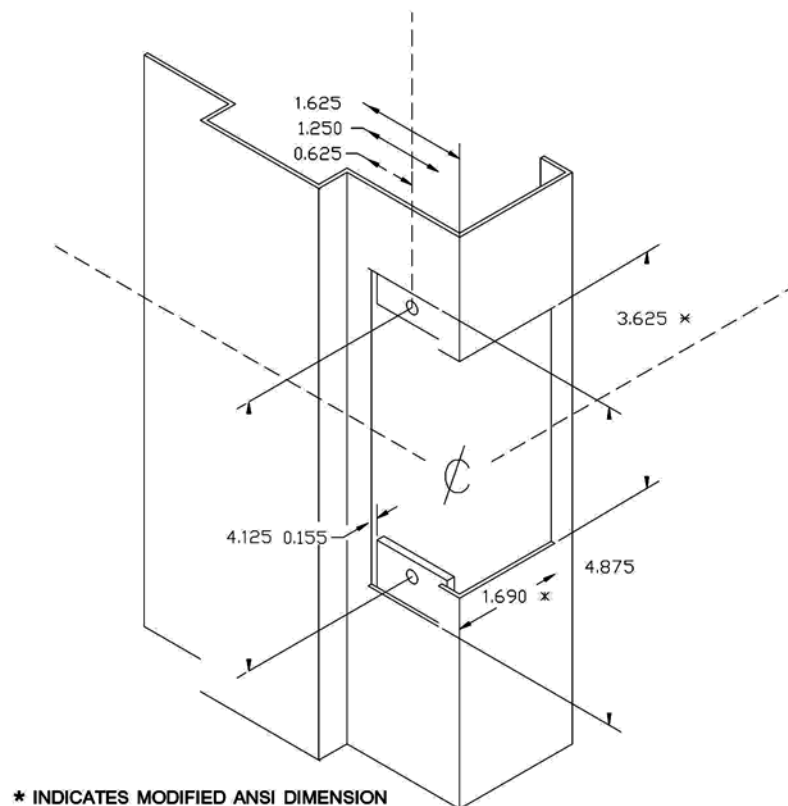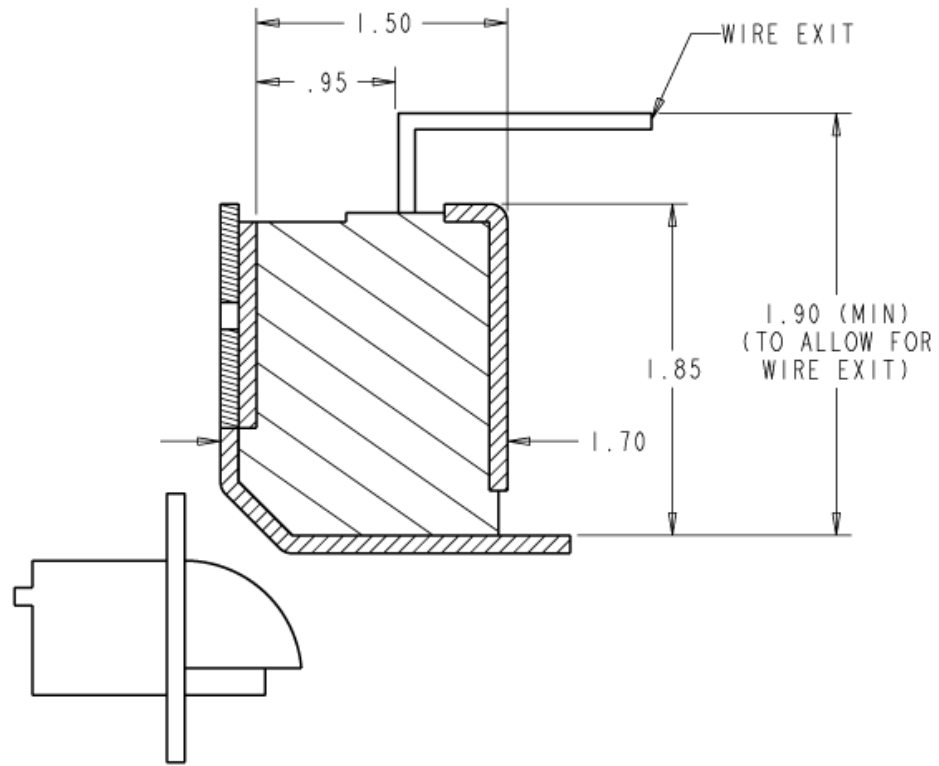**Figure 4-1 – BOS-100 Perspective View**

Figure 4-2 – BOS-100 Door Jamb Preparation Dimensions

TOP VIEW - CROSS SECTION

Figure 4-3 – BOS-100 Top View Dimensions

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5. FCC/UL Compliance & Warnings

5.1 FCC Compliance

- This device has been authorized by the FCC Rules and Industry Canada.

- This device complies with the limits for a Class B digital device and a Class B intentional radiator, pursuant to Part 15 of the FCC Rules and with RSS-210 of Industry Canada. Operation is subject to the following two conditions: (1) This device may cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

- The Wyreless Access System Component must be installed by qualified professionals or contractors in accordance with FCC part 15.203, Antenna Requirements.

- Do not use any antenna other than the one provided with the unit.

5.2 UL Compliance

- The Wireless Integrated Strike Interface (WISI) listing under UL294 as an access control system accessory.

- Access equipment manufactured and/or sold by Recognition Source, LLC, is not rated for, or intended for use in life safety installations.

- The Wireless Integrated Strike Interface (WISI) shall not be installed in the fail-secure mode unless permitted by the local authority having jurisdiction and shall not interfere with the operation of panic hardware.

- The Wireless Integrated Strike Interface (WISI) shall only be installed where free egress is always allowed.

5.3 Warnings

- RF Exposure - To comply with FCC RF exposure requirements for mobile transmitting devices this transmitter should only be used or installed at locations where there is normally at least a 20 cm separation between the antenna and all persons.

- Do not co-locate and operate in conjunction with any other antenna or transmitter.

- Use only the Battery Pack specified in this instruction manual.

- Do not subject Battery Pack to fire or high temperatures.

- Do not attempt to recharge, short out or disassemble Battery Pack.

- Follow local regulations for alkaline battery disposal.

- Immediately remove the batteries and discontinue use if:

    - the product is impacted after which the interior is exposed, or

    - the product emits a strange smell, heat, or smoke.

- Changes or modifications not expressly approved by Recognition Source could void the users authority to operate the equipment.

6. Contacting Recognition Source

For questions regarding Wyreless Access™:

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7. Revision History

Version	Date	Changes
x001	11/26/03	preliminary in house release for comments