

3200i Keypad Upgrade

Introduction

Thank you for purchasing the new **Sentinel Systems 3200i keypad**. This document explains how to upgrade an existing access control/alarm system with one or more 3200i keypads. Before beginning the upgrade, please read this entire document. If there are any questions, please call Sentinel Systems technical support at (800) 456-9955.

3200i Keypad Installation and Wiring

1. Review “Drawing 30 – Overview of USB System 3200i Keypad” on page 11.
NOTE THAT THE STANDARD SENTINEL SYSTEMS CIM CHAIN IS SEPARATE AND COMPLETELY ISOLATED FROM THE 3200i WIRING.
2. Note the address of the 314 keypad you are replacing.
3. Remove the old model 314 keypad from the pedestal. Note the number of cables at the pedestal site. Is there one cable of (RED,WHITE,GREEN,BLACK) or more than one.
4. If there is more than one cable at the pedestal then these cables will need to be spliced together. Jumper (splice) the CIM chain at the keypad location. This provides continuity from the CIM module to all other standard CIM devices. Make the connections and insulate the splices using 18 AWG squeeze connectors, wire nuts, or crimp-type splices. Connections are as follows:
 - Red to red.
 - White to white.
 - Green to green.
 - Black to black.
 - Shield to shield.
5. Pull new 18 AWG 4-conductor wire from office to 3200i keypad location(s). Mount the 3200i keypad using the supplied hardware.
6. Referring to “Drawing 9 – Gate/Door Control Wiring Details” on page 10, and “Drawing 31 – 3200i Keypad” on page 12, wire the 3200i keypad to the newly pulled cable.
7. Referring to the below table, set the keypad address on dip switch S2 to the same as the 314 keypad being replaced.

3200i Keypad Addressing (Dip Switch S2)				
Switch No.	Binary Value	Example Addr. 0	Example Addr. 3	Example Addr. 5
1	1	Off	On	Off
2	2	Off	On	On
3	4	Off	Off	On
4	8	Off	Off	Off
5	16	Off	Off	Off
6	32	Off	Off	Off

8. Close and lock the 3200i keypad.
9. Repeat steps 2 through 8 for each 3200i keypad.
10. In the rental office, unpack the **RS485 Interface** module and the power supply.
11. Locate the RS485 module at an inconspicuous location, preferably on a shelf below the countertop or desk where the PC is located. The RS485 module must be located within reach of the enclosed USB cable.
12. Connect the RS485 Interface to the power supply and the RS485 communications chain. See “Drawing 31 – 3200i Keypad” on page 12.
13. Referring to “Drawing 31 – 3200i Keypad” on page 12, connect TB1-6 of the RS485 Interface to a cold-water-pipe or structural steel earth ground using 12 AWG, stranded, copper wire. A ground clamp will be required to secure the lead to the ground electrode. Crimp a #6 stud, spade lug to the other end of the ground lead for connection to the RS485 Interface. The ground lead should be kept as short as possible (less than 20 ft.).

IMPORTANT NOTE: The installation of the ground lead to a proper ground electrode is absolutely imperative for the long-term and maintenance-free operation of WinSen Sentinel. The surge suppression networks employed in the system will not work properly without connection to a low resistance ground.

Facility grounding grids must conform to National Electrical Code standards. If there is any doubt concerning the integrity of your facility’s grounding scheme, contact a qualified, licensed electrician for an on-site evaluation. Also, the SSC Engineering Department can assist in matters concerning structural grounding, and proper grounding techniques for the system.

Software and Hardware Driver Installation

1. Ensure that the PC is powered on and booted up normally.
2. Install Winsen version 3.12 or later from the provided CD-ROM. Installation instructions for Winsen are found in the manual starting on page 3 in the Winsen Sentinel manual, page 5 in the Winsen Property Manager manual.
3. Connect the RS485 Interface to a USB port on the PC using the cable provided.
4. After a few moments, the “Found New Hardware Wizard” will be displayed.
5. Choose the “Install from a list or specific location (Advanced)” option. Then click **Next**.
6. Ensure that the “Search for the best driver in these locations” option is selected.
7. The drivers for the RS485 Interface can be installed from the Winsen 3.12 or later CD, or from the the \FTD2XXDrivers folder under the Winsen installation folder.
 - a. **Driver installation from the Winsen CD:** insert the Winsen version 3.12 or later CD into the CD-ROM drive. Then check the “Search Removable media (floppy, CD-ROM...)” option, and uncheck the “Include this location in the search:” option. Then click **Next**.

- b. **Driver installation from the Winsen folder:** uncheck the “Search Removable media (floppy, CD-ROM...)” option, and check the “Include this location in the search:” option. Then type in or browse to the \Winsen\FTD2XXDrivers folder and click **Next**.
8. You may see a dialog informing you that “The software you are installing has not passed Windows Logo testing, etc.” If so, click **Continue Anyway**.
9. The “Found New Hardware Wizard” will indicate that hardware installation is complete. Click **Finish**.

Software Configuration

1. Call Sentinel Systems at (800) 456-9955 for a new license key to enable the 3200i keypad functionality.
2. Run Winsen Sentinel.
3. Go to Maintenance|Keypads. The **Keypad Definitions** form will be displayed:

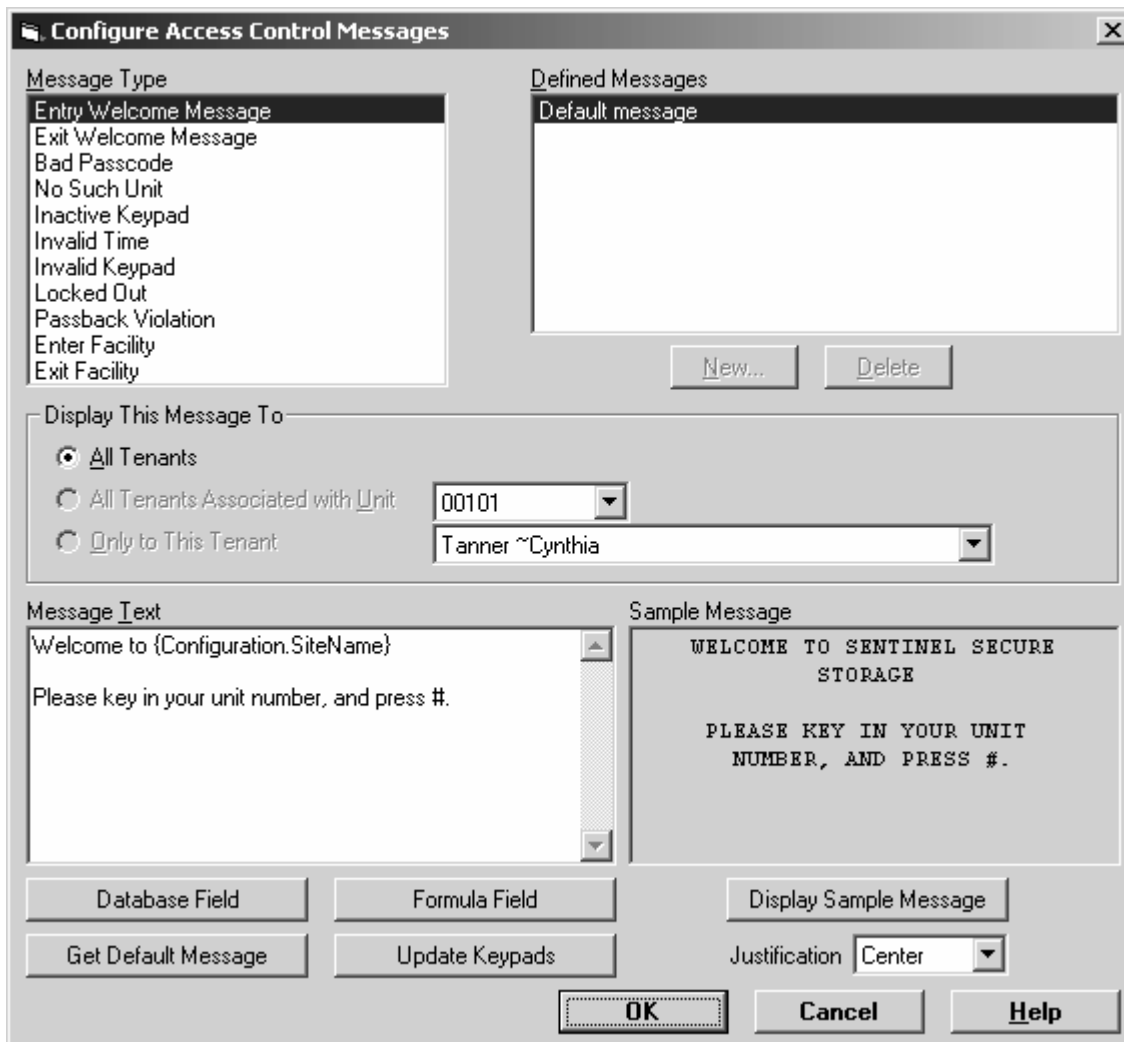
4. For each 314 keypad that was replaced by a 3200i, use the data control bar to go to the correct keypad record. Then in the **Keypad Model** dropdown, change the keypad model to **1- 3200i**. Then check the relay timeout settings. Normally, relay 0 is set to a 1 second timeout, relay 1 to 0 seconds.
5. Click Close to save your changes and close the **Keypad Definitions** form.
6. Go to Options|Workstation Settings. The **Workstation Settings** form will be displayed:



7. In the **3200i Keypad Port** section, click the **Use This Device Name** option, and ensure that the **RS485 Interface** is shown in the drop-down list.
8. If all devices were replaced with 3200i keypads, change the **Com Port** to **Not Active**.
9. Click **OK** to save your changes and close the **Workstation Settings** form.
10. Under the Options, menu, choose the **Start Communications** option. Winsen Sentinel should now be communicating with all devices, including the 3200i keypads.

Configure Access Control Messages

To review and/or change the messages displayed by the 3200i keypads, go to Maintenance|Configure Access Control Messages. The **Configure Access Control Messages** form will be displayed:



Default messages are defined for all tenants. You can also define custom messages for a specific tenant and/or unit, so that everyone else sees the default messages, but a specific tenant sees a custom message just for them when they enter the facility. For example if a shipment was received for a customer, you could define a custom message to ask them to come to the office. The custom message will then be displayed to that customer the next time they key in, while all other customers see the default message.

Message Type

The Message Type list shows the different types of messages that can be displayed by the 3200i keypads. Select the desired message type to configure it. The following message types are available:

- **Entry Welcome Message:** the “welcome” message displayed by entrance keypads.
- **Exit Welcome Message:** the “welcome” message displayed by exit keypads.
- **Bad Passcode:** the message displayed when an invalid passcode is entered.
- **No Such Unit:** the message displayed when an invalid unit number is entered.
- **Inactive Keypad:** the message displayed when a tenant tries to use an inactive keypad.
- **Invalid Time:** the message displayed when a tenant tries to enter/exit outside of their assigned time zone hours.
- **Invalid Keypad:** the message displayed when a tenant tries to use a keypad that is not included in their access level assignment.
- **Locked Out:** the message displayed when a tenant tries to enter/exit and access is denied because their unit is overllocked.

- **Passback Violation:** the message displayed when a passback violation occurs, e.g., the tenant did not key in to the facility and is now trying to key out, or vice versa.
- **Enter Facility:** the message displayed to a tenant when they key in.
- **Exit Facility:** the message displayed to a tenant when they key out.

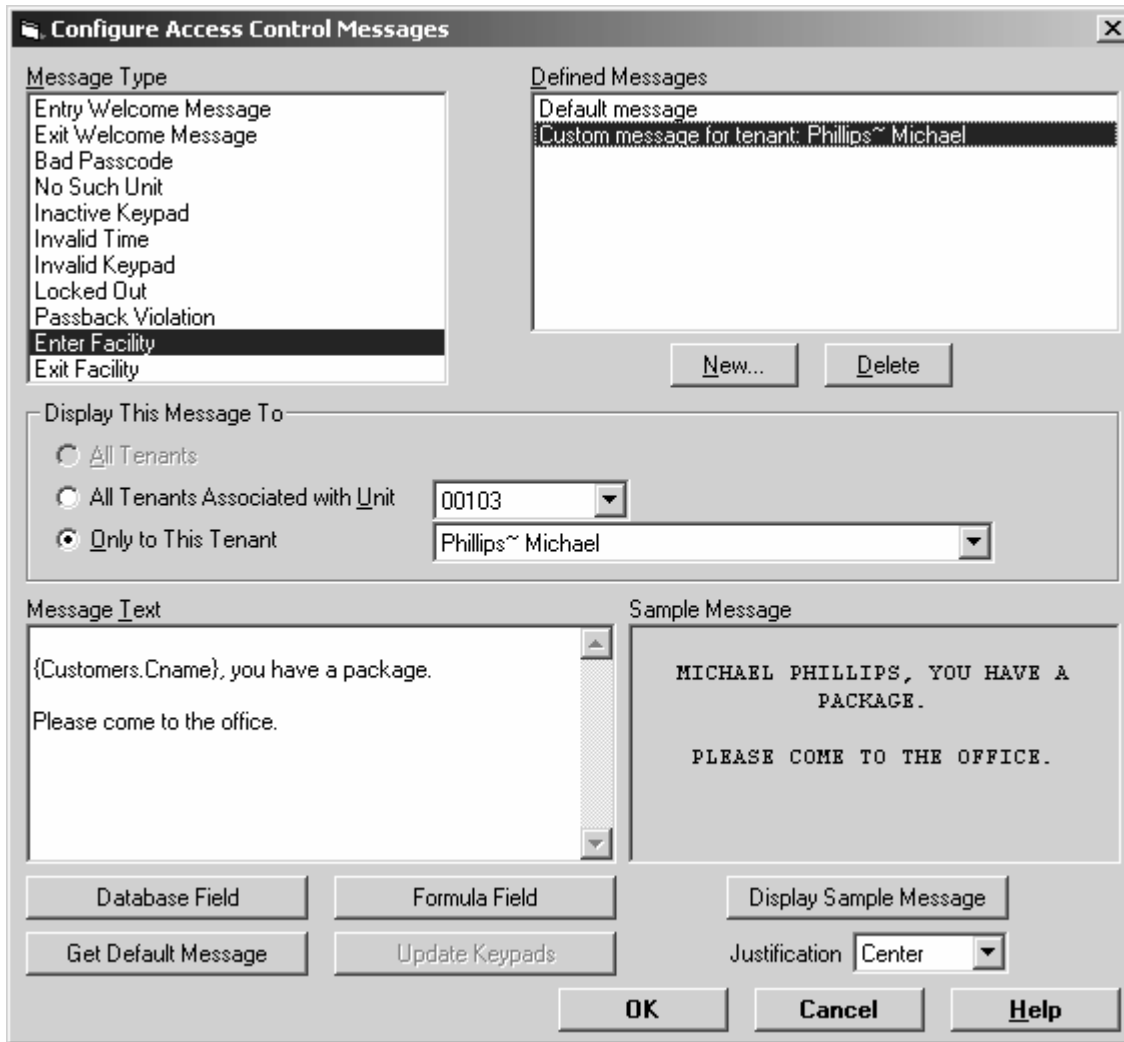
Defined Messages

The Defined Messages list shows the messages defined for the selected type. There will always be a **Default message**: the message shown to everyone unless a unit or customer specific message is defined for a given unit and/or tenant. There can also be one or more custom messages defined for a given message type. Note that custom messages can only be defined for messages where a valid unit number/passcode has been entered. For example, you cannot define a custom “bad passcode” message for unit 101; all users who enter an invalid passcode will get the default message.

Custom messages are normally defined for the **Enter Facility** message type, but can also be defined for the **Inactive Keypad, Invalid Time, Invalid Keypad, Locked Out, Passback Violation, and Exit Facility** message types.

To define a custom message for a specific tenant or unit number, select the appropriate message type, then click the **New** button. You can then select to have the message shown to **All Tenants Associated with Unit**, and choose the appropriate unit from the drop down list. Then all tenants associated with that unit will see the custom message. Or you can select to have the custom message shown to **Only this Tenant**, and select the desired tenant from the drop down list. In this case, that customer will see the message regardless of which unit number they use to key in.

Here is an example of a custom message that has been defined for the customer Michael Phillips:



In the above example, all tenants except Michael Phillips will see the default message when they key in, but Michael Phillips will see the custom “you have a package” message. If Michael has more than one unit he will see this message regardless of which unit number is used for entry.

To delete a custom message, select it in the “Defined Messages” list, then click the **Delete** button. The system will verify that you really want to delete it, then delete it if you answer **Yes**. Note that the default message can not be deleted.

Message Text

This is the text of the message to be shown. The messages can include fields from the database, or formula fields. A database or formula field will be “filled in” with the appropriate information from the database when the message is shown at the keypad or in the **Sample Message** box. A database or formula field is indicated by opening and closing curly braces “{}”; “@” immediately after the first curly brace indicates a formula. For example, {Configuration.SiteName} indicates a database field, while {@NextDueDate} indicates a formula. You can insert a database field or formula in the current insertion point by clicking the **Database Field** or **Formula Field** buttons, then selecting the desired field or formula from the displayed list.

Get Default Message

This button will put the preprogrammed default message text for the current **Message Type** into the **Message Text**.

Update Keypads

This button is only active when the **Entry Welcome Message** or **Exit Welcome Message** is selected. It will cause the system to update the 3200i keypads welcome message with the one shown in the **Message Text**. This would be useful if you have changed it and wish to update the keypads immediately. Note that if the entry or exit welcome message is changed, the keypads will be updated as soon as the **OK** button is clicked.

Display Sample Message

Click the **Display Sample Message** button to show a sample message as it will appear at the 3200i keypad, based on the **Message Text** and the current **Justification** setting.

Justification

The **Justification** drop down list designates how the access control messages should be justified. The following options are available:

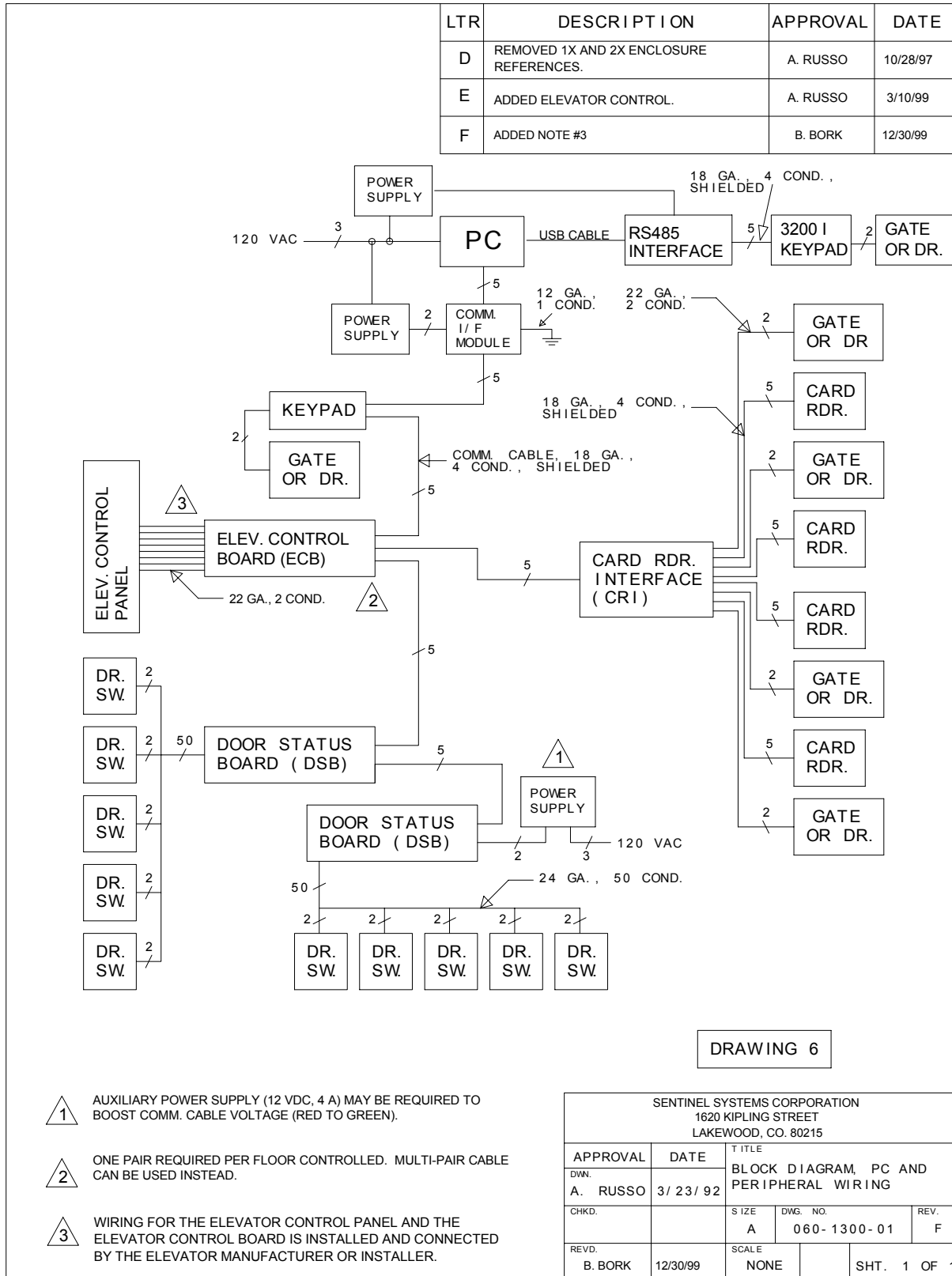
- **None**: the message will have no justification.
- **Left**: the message lines will be left justified.
- **Center**: the message lines will be centered in the display.
- **Right**: the message lines will be right justified.

OK / Cancel

Click the **OK** button to save your changes and close the form. Click the **Cancel** button to cancel your changes and close the form.

Selected Installation Drawings

Drawing 6 – PC and Peripheral Wiring Diagram



DRAWING 6

SENTINEL SYSTEMS CORPORATION 1620 KIPLING STREET LAKEWOOD, CO. 80215			
APPROVAL	DATE	TITLE	
DWN. A. RUSSO	3/ 23/ 92	BLOCK DIAGRAM, PC AND PERIPHERAL WIRING	
CHKD.		SIZE A	DWG. NO. 060-1300-01
REV. B. BORK	12/30/99	SCALE NONE	REV. F
		SHT. 1 OF 1	

Drawing 9 – Gate/Door Control Wiring Details

LTR	DESCRIPTION	APPROVAL	DATE
B	CHANGED MANUAL DWG. NO.	ALEX RUSSO	8/25/97
C	ADDED FIG. 5	BILL BORK	12/30/99
D	ADDED NOTES	BILL BORK	12/30/99

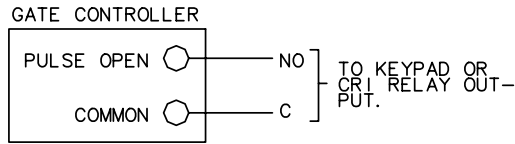


FIG. 1

GATE OPEN CONTROL

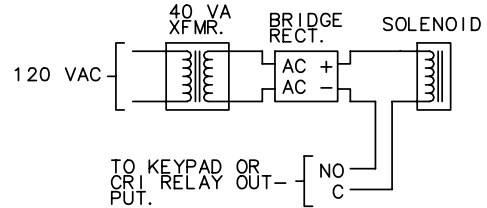


FIG. 2

ELECTRIC STRIKE: LOW VOLTAGE, DC, NORMALLY LOCKED

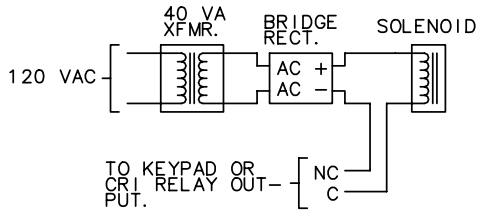


FIG. 3

ELECTRIC STRIKE: LOW VOLTAGE, DC, NORMALLY UNLOCKED

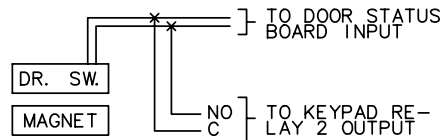


FIG. 4

DOOR SHUNT

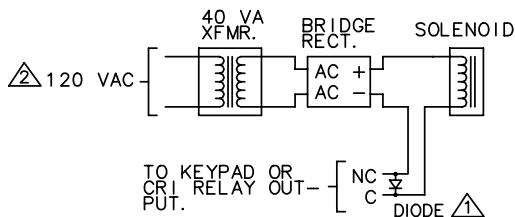


FIG. 5

ELECTRIC STRIKE: LOW VOLTAGE, DC, NORMALLY UNLOCKED, WITH DIODE FOR SUPPRESSION

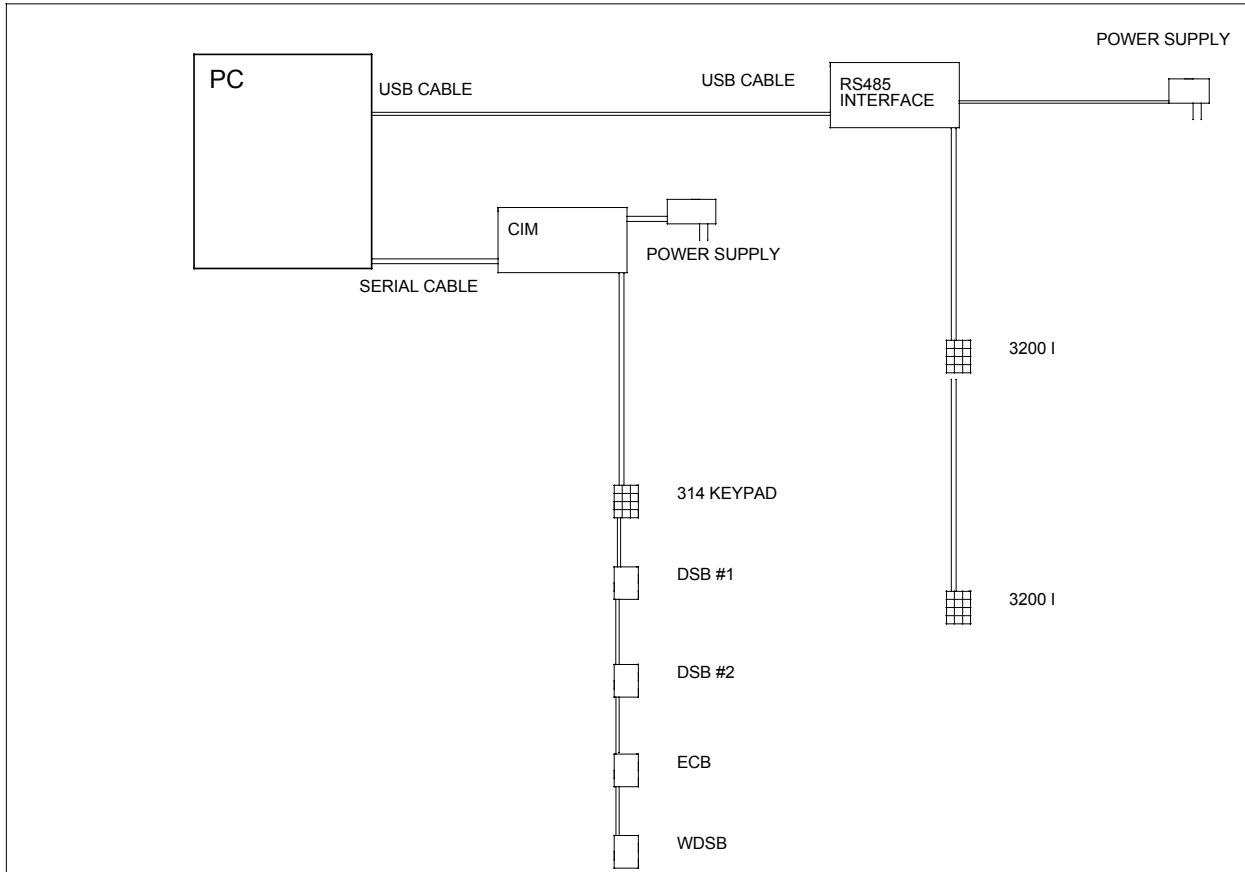
DRAWING 9

⚠️ INSTALL DIODE WHEN USING DC DOOR STRIKES OR SOLENOIDS TO AVOID "INDUCTIVE KICKBACK", WHICH COULD DAMAGE KEYPAD RELAYS.

⚠️ POWER FOR THE DOOR STRIKES IS NOT PROVIDED BY THE SYSTEM. IT MUST BE PROVIDED BY AN EXTERNAL POWER SUPPLY.

SENTINEL SYSTEMS CORPORATION 1620 KIPLING STREET LAKEWOOD, CO. 80215				
APPROVAL	DATE	TITLE		
DWN. A. RUSSO	2/27/91	GATE/DOOR CONTROL WIRING DETAILS		
CHKD.		SIZE	DWG. NO.	REV.
		A	050-1170-02	D
REVD.		SCALE		
B. BORK	12/30/99	NONE		SHT. 1 OF 1

Drawing 30 – Overview of USB System 3200i Keypad



THE IMPORTANT POINT IS TO NOTE THAT THE RS485 INTERFACE AND THE 3200I ARE SEPARATE AND COMPLETELY ISOLATED FROM THE STANDARD CIM CHAIN

DRAWING 30

SENTINEL SYSTEMS CORPORATION 1620 KIPLING STREET LAKEWOOD, CO. 80215				
APPROVAL	DATE	TITLE		
DWN. tjr	7/22/04	OVERVIEW OF USB SYSTEM 3200 I KEYPAD		
CHKD. tjr		SIZE A	DWG. NO. 0	REV.
REVD. tjr		SCALE		SHT. 1 OF 1

Drawing 31 – 3200i Keypad Wiring Diagram

