

# Design Series XTreme Keypad

## Specifications:

### Case Dimensions:

5 1/8" x 3 3/8" x 5/8"

### Electrical:

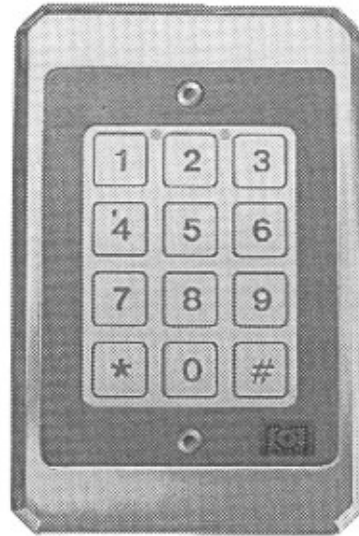
5-12VDC Only

### Current Draw:

15ma

### Temperature Tolerance:

-20°F to 130°F



## Features:

- Vandal Resistant Metal Case
- Sealed For Indoor or Outdoor Applications
- No Moving Parts
- Touch Sensitive Flat Keys
- 2 LED's For Status Indication

## Use It:

- From light to extreme duty applications

## Applications:

- High Traffic Use
- Rough Service Environments
- Low Profile

## For use with the following:

- Any 26 bit Wiegand electronic access control panel.
- Any IEI Secured Series Hub Control.
- IEI Stand Alone Access Control.

## Functionality:

Combining elegant looks and flush mount design in a ruggedized vandal resistant case, IEI's new Design Series Xtreme keypad can be utilized for most any application. Designed to perform in high traffic and rough duty environments, the IEI Design Series XTreme has a solid state, touch sensitive Piezo keypad surrounded by an aestically appealing protective metal case. Encapsulated electronics makes the Design Series Xtreme keypad suitable for indoor or outdoor installations. The keypad is activated by entering any 1-6 digit programmed code followed by the star \* key. IEI offers the Design Series XTreme keypad in its 232 series as model 232FX and as model SS-WFX, a keypad only version for use with IEI Secured Series or 26 Bit Wiegand applications.

## Packing List: (SS-WFX)

IEI Design Series FX keypad	(1)
Six conductor wire harness	(1)
Machine screws	(2)
Phillips wood/sheet metal screws	(2)
11/64" Allen wrench	(1)

## Wire Requirements:

Maximum distance with 6 conductor *shielded* :

18 AWG - 1000'

20 AWG - 500'

22 AWG - 250'

## Before You Begin:

1. Be sure that you have the correct Design Series XTreme "package" for your installation.
2. Use the explanation below to verify the correct Design Series XTreme "package" for your installation needs.

## part # SS-WFX Keypad Only System Structure:

Design Series XTreme for PIN input: Installed at the door

- Connects to either an IEI Hub or a 26 Bit Wiegand Panel

## IEI DoorGard 232 Series Stand Alone System Structure:

### part # 232FX

Two part Structure:

### Part 1: Design Series XTreme Keypad Functions: (at door)

- Communicating User PIN (code) to the Controller for Access Control Decisions.

### Part 2: IEI DoorGard 232 Controller Functions: Installed inside the protected area.

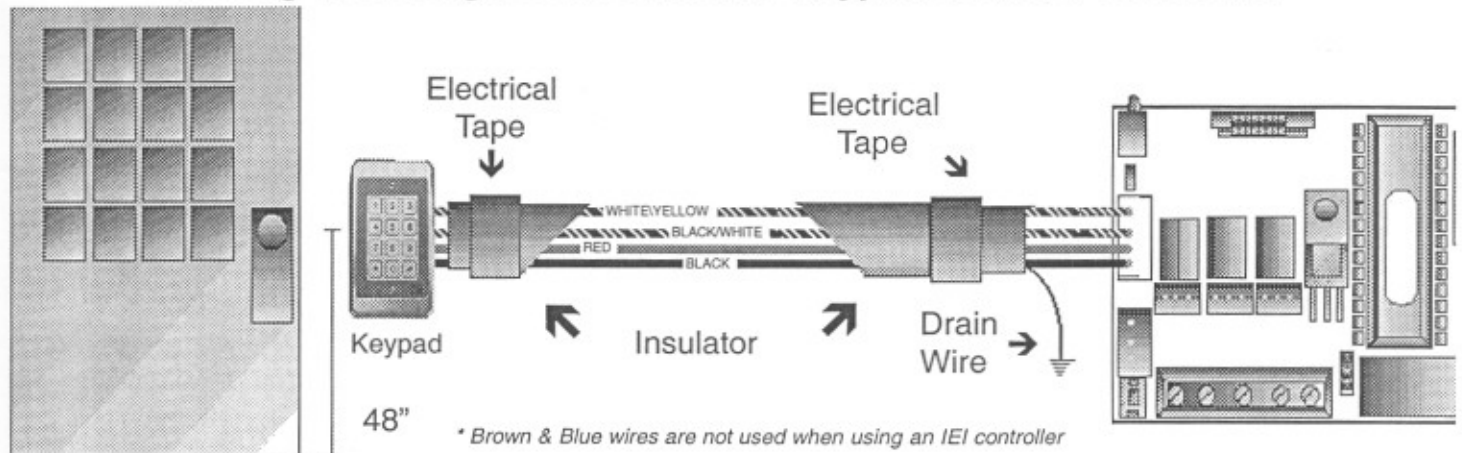
(The controller will operate with 12-24VDC or VAC)

- Programming Users.
- Receives PIN entry from the Design Series XTreme.
- Makes the access control decision based on PIN and Request to Exit.
- Monitors Normally Closed Door Position Contacts.
- Controls on-board Lock, Door Propped, Forced door and Alarm Shunt Relays, and other door inputs.

### To Install:

- Step 1: • Use a 3/4" drill bit to make a hole in the surface that the keypad will be mounted to. This allows the connector and the sounder on the keypad to recess into the opening which will fit the keypad flat on the surface.
- Step 2: • Be sure to strip back the insulator from the wire run, and tape the shield to the jacket.  
• Connect the six conductor harness supplied with the Design Series Keypad to the six conductor wire run for Wiegand connection or four conductor for an IEI controller as shown in the diagrams below.
- Step 3: • Place the Design Series Keypad on the wall or back box, and secure with the provided screws. **DO NOT OVER TIGHTEN.** (Damage may occur)

## Wiring the Design Series XTreme Keypad to an IEI Controller

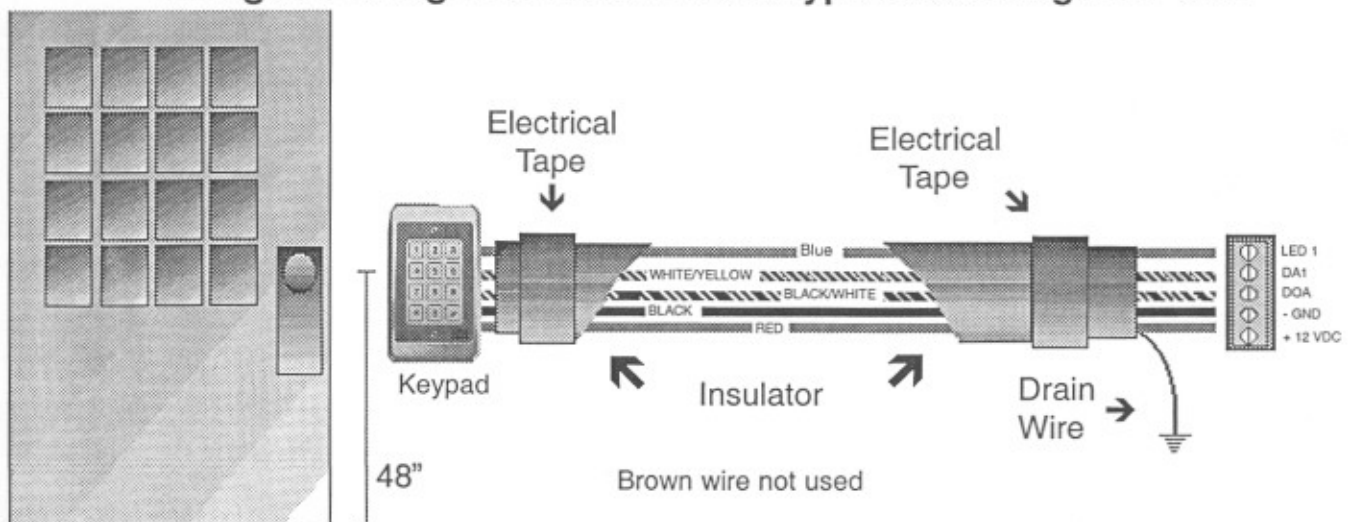


Wiring the Design Series to an IEI Control unit requires a four conductor, stranded and **shielded** cable to be wired between two units. Maximum lengths are as follows:

- 22 AWG stranded : 250 feet
- 20 AWG stranded : 500 feet
- 18 AWG stranded : 1000 feet

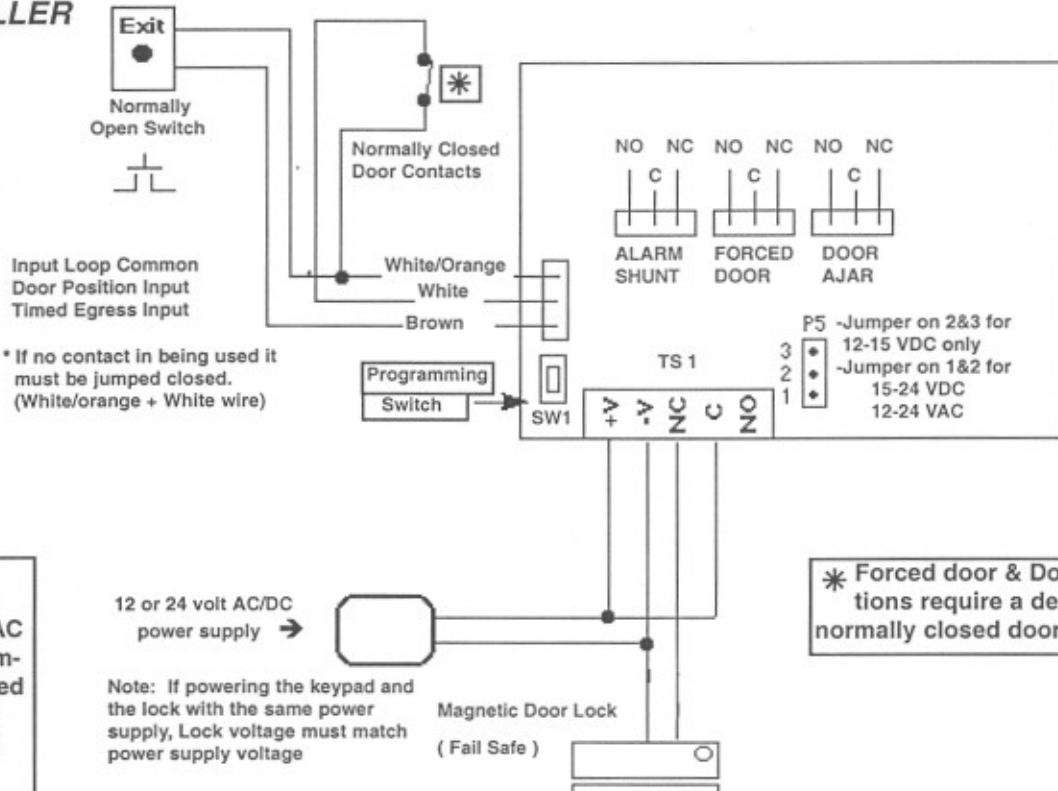
At the Controller, connect the four conductor cable to the four pin connector on the Controller's relay board, as shown in the diagram above. The drain wire at the Controller must be attached to ground. Ground is the V- terminal on TS1 if the power supply is grounded. At the Design Series, the drain wire and foil shield should be cut back with the insulator and taped with electrical tape. The six conductor harness connects into the six pin connector on the Design Series keypad. Both wire harnesses are connected to each other color to color as shown above. **You may use two Design Series readers on one Hub Control for in/out operation. Parallel both readers on the same wire run from the Hub Control.** Note: The 232FX is shipped with only one FX keypad. If two keypads are desired the extra keypad # is SS-WFX

## Wiring the Design Series XTreme Keypad to a Wiegand Panel



## Basic Access Control with an Electromagnetic Lock

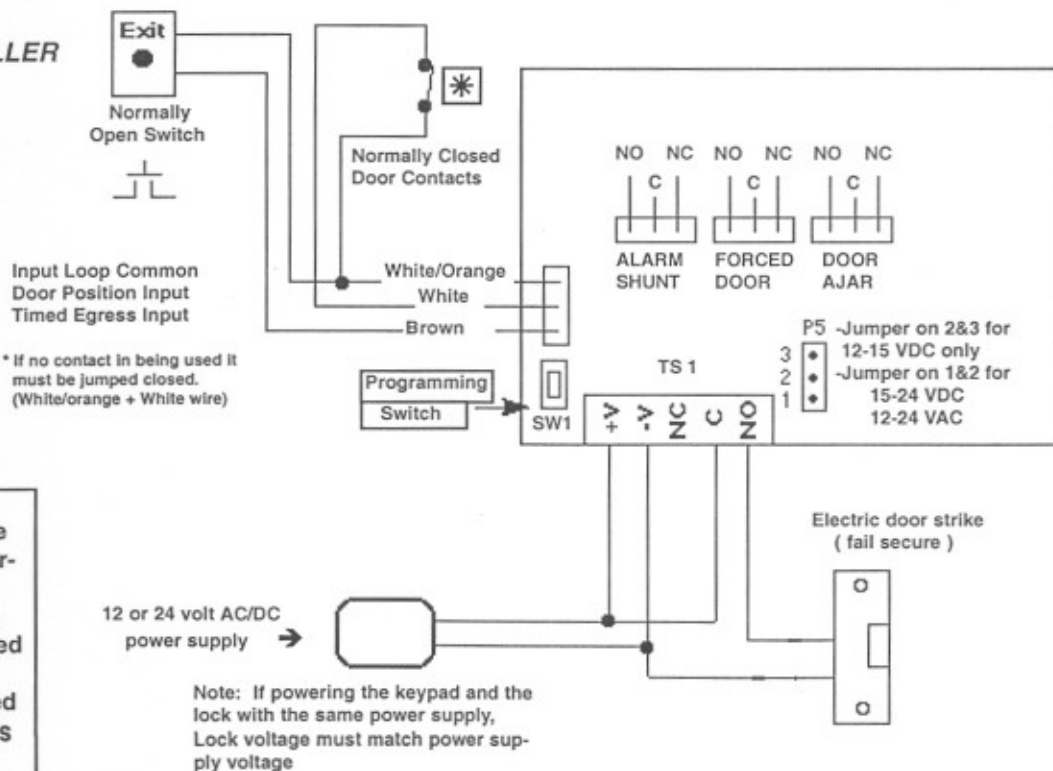
### IEI CONTROLLER



**TECH TIP:**  
Although the unit will operate with AC voltage, it is recommended that filtered and regulated DC voltage is used to increase system reliability.

## Basic Access Control with an Electric Door Strike

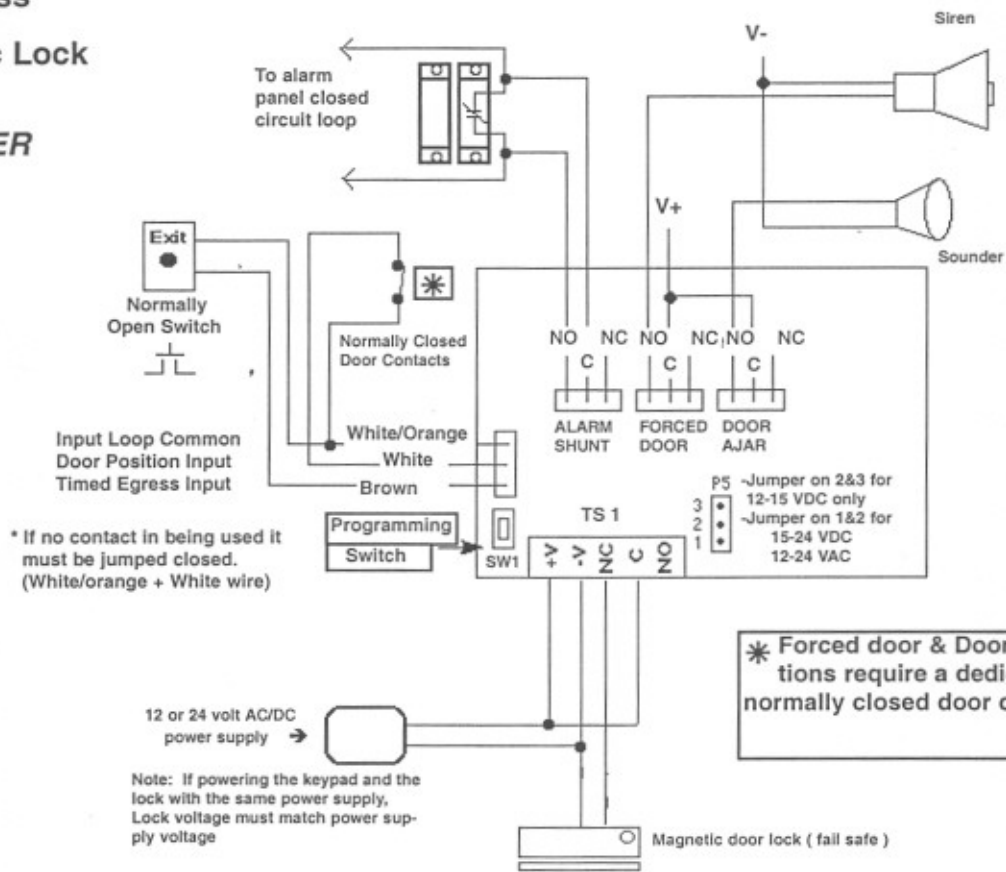
### IEI CONTROLLER



**TECH TIP:**  
Although the unit will operate with AC voltage, it is recommended that filtered and regulated DC voltage is used to increase system reliability.

# Integrated Access Control with an Electromagnetic Lock

## IEI CONTROLLER

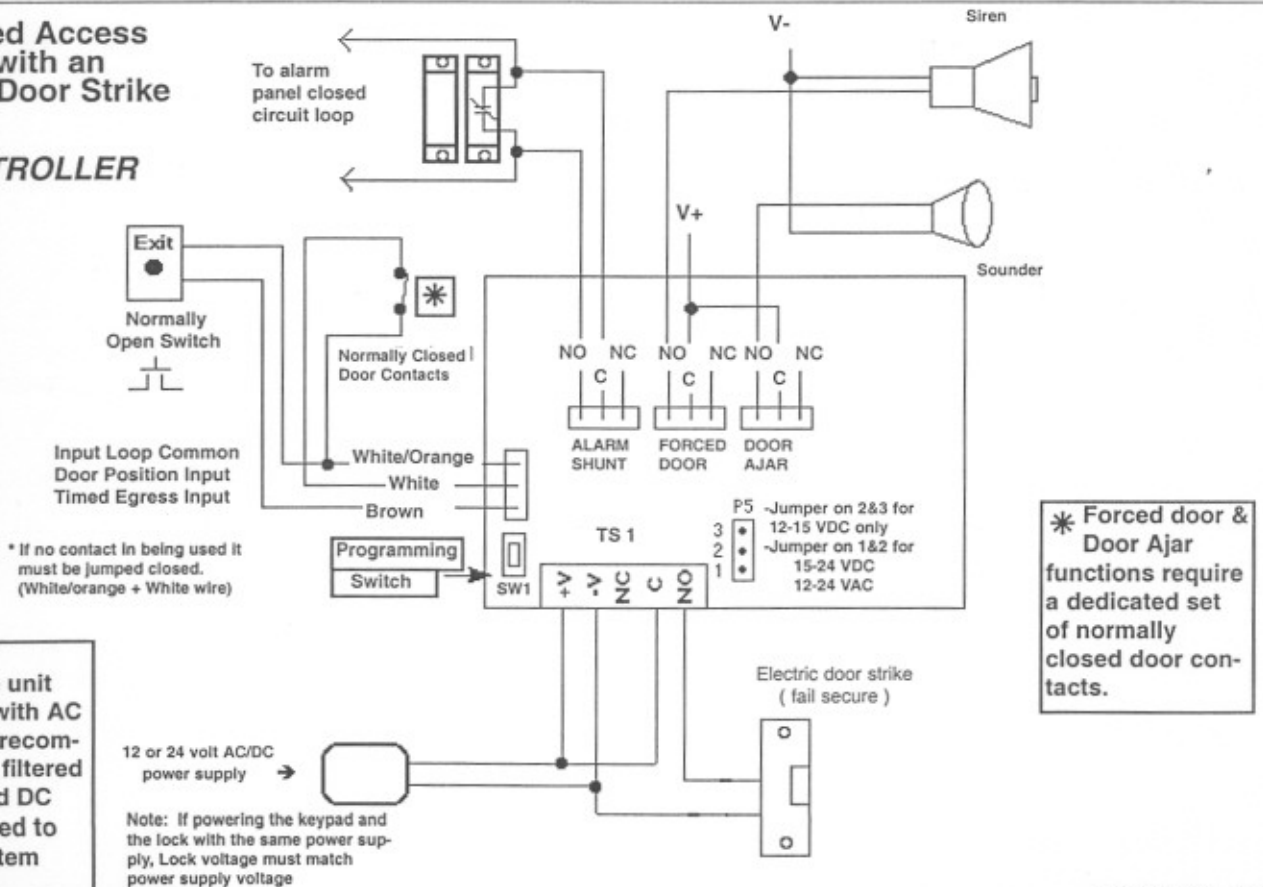


**TECH TIP:**  
Although the unit will operate with AC voltage, it is recommended that filtered and regulated DC voltage is used to increase system reliability.

\* Forced door & Door Ajar functions require a dedicated set of normally closed door contacts.

# Integrated Access Control with an Electric Door Strike

## IEI CONTROLLER



**TECH TIP:**  
Although the unit will operate with AC voltage, it is recommended that filtered and regulated DC voltage is used to increase system reliability.

\* Forced door & Door Ajar functions require a dedicated set of normally closed door contacts.

**Self Test:** While the unit is powered up, enter the following on the WFX keypad: **7890#123456\***. If all 12 keypresses have been verified, the keypad will enter self test mode. The LED's will alternate three times and the sounder will beep three times followed by a flickering yellow LED. Press any key to return to normal operation.

**System Defaults:**

The Design Series Keypad is designed for easy installation in a minimum amount of time. The following default values have been factory programmed.

Front End Designation	<b>HFE</b> (Hub Front End)
Design Keypad Program Code	<b>6789</b>
Audible Key Press Feedback	<b>On</b>
Visual Key Press Feedback	<b>On</b>
Log Event Recording	<b>IN</b>

If it is necessary to change any of these defaults, please refer to the Programming Options Chart after you have familiarized yourself with the programming section.

**Programming The Design Series XTreme Keypad**

*All programming is controlled by a unique Master Programming Code.*

Components Requiring Programming:

- **Design Series Keypad (default Design Series Keypad program code- 6789):** IEI or Wiegand format, Design Series Keypad Programming Code.
- **IEI Stand Alone Controller or IEI Hub Controller (default Master Code 1234):** All PIN number additions, deletions, access to control functions.
- **26 BIT Wiegand Panel/Controller:** Program as if card number (up to 6 digits in length) into the Vendors panel via the Vendors software.

**Design Series XTreme Program Options Chart**

To Enter Design Series Keypad program mode:		099 # "program code" * <i>The keypads yellow LED will flash twice rapidly indicating that you are in program mode.</i>
<i>(Default program code 6789)</i>		
Change Program Code	Press	90 # 0 # 0 # "new code" * "repeat code" *
<i>below for 232FX and SS-WFX</i>		
Visual Key-press feedback on	Press	91 # 0 # 1 # **
Visual Key-press feedback off	Press	91 # 0 # 0 # **
Audible Key-press feedback on	Press	91 # 1 # 1 # **
Audible key-press feedback off	Press	91 # 1 # 0 # **
<i>below for SS-WFX only</i>		
Output Selection - Wiegand	Press	91 # 3 # 1 # **
Output Selection IEI Secured Series	Press	91 # 3 # 0 # **
Secured Series Recording status OUT	Press	91 # 4 # 1 # **
Secured Series Recording Status IN	Press	91 # 4 # 0 # **
<i>below for SS-WFX only</i>		
Wiegand Red led enable	Press	91 # 5 # 1 # **
Wiegand Red led disable	Press	91 # 5 # 0 # **
Wiegand Red led state High	Press	91 # 6 # 1 # **
Wiegand Red led state Low	Press	91 # 6 # 0 # **
Wiegand Green led enable	Press	91 # 7 # 1 # **
Wiegand Green led disable	Press	91 # 7 # 0 # **
Wiegand Green led state High	Press	91 # 8 # 1 # **
Wiegand Green led state Low	Press	91 # 8 # 0 # **
Default WFX keypad to IEI Controller mode		96 # 0 # 0 # **
Default WFX keypad to 26 bit Wiegand mode		96 # 1 # 1 # **

If there is a need to change your Wiegand format from 26 Bit, use the chart below

92 #	(Option number) #	(Value number) # **
	1 -Wiegand Format 2 -Inter-pulse spacing 3 -Pulse Width	1 thru 8 (defaults to 1 = 26 bit) <i>-(Format see below)</i> 1 thru 255 (defaults to 32 = 640usecs) 1 thru 255 (defaults to 8 = 160 usecs)
93 #	(ID number) #	(Site ID Value) # **
	0 -Site ID 1 -Group ID	0 thru 999 (defaults to 0) 0 thru 999 (defaults to 0)

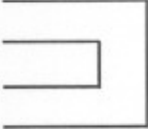
### Wiegand Formats

Format	Frame Size	PIN's	Sites	Groups
1	26 bits	65536	256	N/A
2	28 bits	32768	256	N/A
3	29 bits	524288	256	N/A
4	30 bits	65536	256	16
5	31 bits	65536	256	32
6	32 bits	65536	2048	64
7	36 bits	1048576	256	N/A
8	29 bit	524288	256	N/A

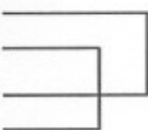
## System Defaulting the Design Xtreme via wiring

If the four data wires are shorted in one of the two configurations shown below on power up, the option will be set. Remove power after you hear the 3 beeps then reconnect the data lines to their proper working configuration.

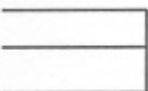
Defaults Design Series and sets it in Hub Front End mode

Red - +12VDC  
Black - GND  
Wht/Blk   
Wht/Yel  
Blue  
Brown

Defaults Design Series and sets it in Wiegand 26 bit mode

Red +12VDC  
Black - GND  
Wht/Blk (DAO)  
Wht/Yel (DA1)  
Blue (LED 1)  
Brown (Not Used)  


If the local program code is lost or forgotten, power down the system, connect the wire harness as shown below then power the system up. Change your local program code then power down the system and restore the wire harness to its original configuration and power back up.

Red - +12VDC  
Black - GND  
Wht/Blk - No connection  
Wht/Yel   
Blue  
Brown

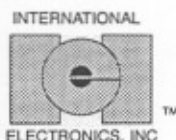
If this product does not seem to operate properly, please call our Technical Department toll free at 1-800-343- 9502 (781-821-5566) Monday -Friday 8:00 am-7:00 pm EST.

We understand your time is valuable, and we know that calling our Technical Support Department will ensure that you'll make the most profit possible with your IEI product. Thank you for your purchase. We appreciate your business.

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