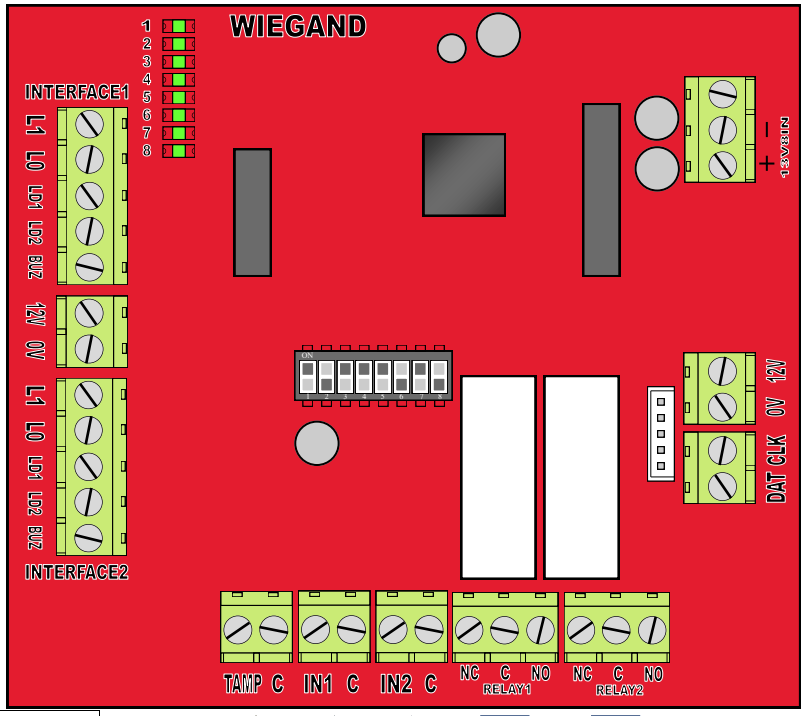
# WIEGAND-IF2 INSTRUCTIONS (Runner 4/8, 8/16 & Runner 864)

CROW Electronic Engineering Ltd




**Interface 1**
L1= Data Line 1
L0 = Data Line 0
LD1 = LED Output 1*
LD2 = LED Output 2*
BUZ = Buzzer Output*

Reader Power
12V 1.6A Fused

**Interface 2**
L1= Data Line 1
L0 = Data Line 0
LD1 = LED Output 1*
LD2 = LED Output 2*
BUZ = Buzzer Output*

**Power Input**
12 to 13.8VDC

Optional Power Input

Panel Clock and Data Connections

| LED | Function |
|---|---|
| 1 | Input 1 Unsealed |
| 2 | Interface 1, LED 1 Output |
| 3 | Interface 1, LED 2 Output |
| 4 | Interface 1, Buzzer Output |
| 5 | Input 2 Unsealed |
| 6 | Interface 2, LED 1 Output |
| 7 | Interface 2, LED 2 Output |
| 8 | Interface 2, Buzzer Output |

**Tamper**
Not Active on RUNNER S system

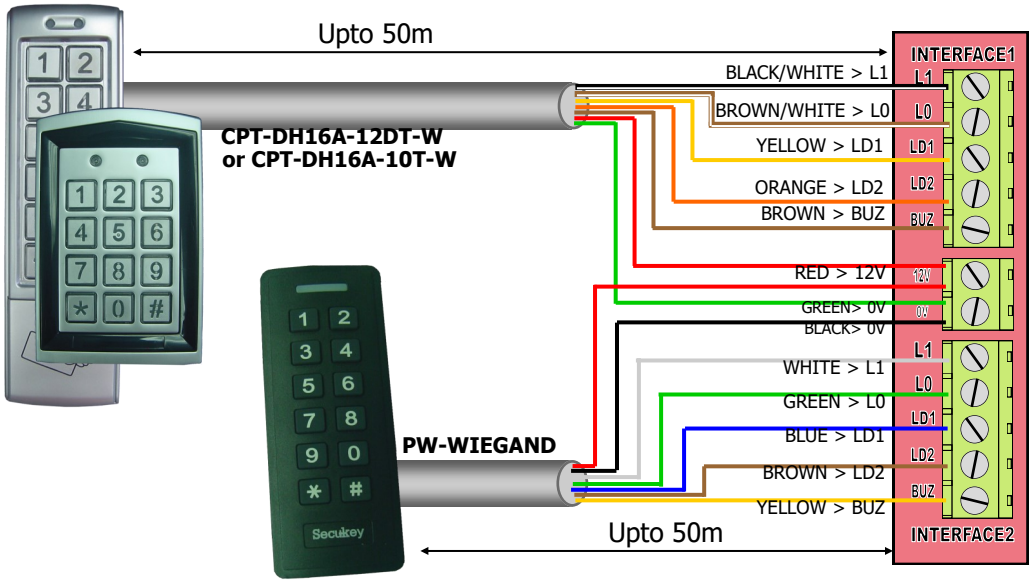
**Input 1**
Linked to Zone set on Dipswitch (2K2 EOL)

**Input 2**
Linked to Zone set on Dipswitch (2K2 EOL)

**Relay 1**
10Amp 250VAC
Linked to Output set on Dipswitch

**Relay 2**
10Amp 250VAC
Linked to Output set on Dipswitch

## INTERFACE CONNECTIONS:




| TERMINAL | FUNCTION |
|---|---|
| L1 | DATA LINE 1 (D1) |
| L0 | DATA LINE 0 (D0) |
| LD1 | LED 1 (Programmable under address P98E of Runner Manual) |
| LD2 | LED 2 (fixed to button response) |
| BUZ | BUZZER (programmable under keypad options of Runner Manual) |
| 12V | +12VDC 1.6A Outlet |
| 0V | -0VDC/Common Outlet |

Interface-1 (Keypad Address 1-8 set on Dipswitch 1, 2 & 3 see pg2)
Compatible Readers: CPT-DH16A or PW-WIEGAND

Interface-2 (Keypad Address 2-8 set on Dipswitch 4, 5 & 6 see pg2)
Compatible Readers: CPT-DH16A or PW-WIEGAND

NOTE: # & * = ENTER
On CPT Keypads both the * & # are used as enter buttons.

# DIPSWITCH SETTINGS FOR RUNNER 864 SYSTEM.

***Not Runner 4/8, 8/16***

| | DIP Switch # | | | | |
|---|---|---|---|---|---|
| **Wiegand Interface Address** | **1** | **2** | **3** | **4** | **5** |
| **Wiegand I/F # 1** | off | off | off | off | off |
| **Wiegand I/F # 2** | **ON** | off | off | off | off |
| **Wiegand I/F # 3** | off | **ON** | off | off | off |
| **Wiegand I/F # 4** | **ON** | **ON** | off | off | off |
| **Wiegand I/F # 5** | off | off | **ON** | off | off |
| **Wiegand I/F # 6** | **ON** | off | **ON** | off | off |
| **Wiegand I/F # 7** | off | **ON** | **ON** | off | off |
| **Wiegand I/F # 8** | **ON** | **ON** | **ON** | off | off |
| **Wiegand I/F # 9** | off | off | off | **ON** | off |
| **Wiegand I/F # 10** | **ON** | off | off | **ON** | off |
| **Wiegand I/F # 11** | off | **ON** | off | **ON** | off |
| **Wiegand I/F # 12** | **ON** | **ON** | off | **ON** | off |
| **Wiegand I/F # 13** | off | off | **ON** | **ON** | off |
| **Wiegand I/F # 14** | **ON** | off | **ON** | **ON** | off |
| **Wiegand I/F # 15** | off | **ON** | **ON** | **ON** | off |
| **Wiegand I/F # 16** | **ON** | **ON** | **ON** | **ON** | off |
| **Wiegand I/F # 17** | off | off | off | off | **ON** |
| **Wiegand I/F # 18** | **ON** | off | off | off | **ON** |
| **Wiegand I/F # 19** | off | **ON** | off | off | **ON** |
| **Wiegand I/F # 20** | **ON** | **ON** | off | off | **ON** |
| **Wiegand I/F # 21** | off | off | **ON** | off | **ON** |
| **Wiegand I/F # 22** | **ON** | off | **ON** | off | **ON** |
| **Wiegand I/F # 23** | off | **ON** | **ON** | off | **ON** |
| **Wiegand I/F # 24** | **ON** | **ON** | **ON** | off | **ON** |
| **Wiegand I/F # 25** | off | off | off | **ON** | **ON** |
| **Wiegand I/F # 26** | **ON** | off | off | **ON** | **ON** |
| **Wiegand I/F # 27** | off | **ON** | off | **ON** | **ON** |
| **Wiegand I/F # 28** | **ON** | **ON** | off | **ON** | **ON** |
| **Wiegand I/F # 29** | off | off | **ON** | **ON** | **ON** |
| **Wiegand I/F # 30** | **ON** | off | **ON** | **ON** | **ON** |
| **Wiegand I/F # 31** | off | **ON** | **ON** | **ON** | **ON** |
| **Wiegand I/F # 32** | **ON** | **ON** | **ON** | **ON** | **ON** |

| | DIP Switch # | | |
|---|---|---|---|
| **OPTION** | **6** | **7** | **8** |
| **1 Door Cntrl** | off | - | - |
| **2 Door Cntrl** | **ON** | - | - |
| **CPT-Wiegand** | - | off | off |
| **PW READER** | - | **ON** | off |
| **Spare** | - | off | **ON** |
| **Spare** | - | **ON** | **ON** |

# INSTALLING PROXIMITY READERS on RUNNER 864 System..
## *Not Runner 4/8, 8/16*

The Wiegand Interface board allows various access control readers/keypads to be connected to the RUNNER 864 keypad bus.

The Wiegand Interface has an 8 way DIP switch that allows the keypad address to be set to a value between 1-32.

It also has two inputs and a relay output that are linked to the keypad address, eg if the Wiegand Interface board is set to keypad address number 15 (Switches 2, 3 & 4 ON) then input 1 can become zone 15 on the control panel (provided option 4, “zone is a keypad zone”, is turned on at panel program address P122E15E) and relay 1 will follow output 15 from the control panel.

This allows the input to be used for door monitoring or as a REX (request to exit) input that is controlled by the main panel.

It also allows the door control relay (output 1 on the Wiegand Interface) to be controlled by the main panel.

There is also two LED outputs for each reader port labelled LD1 & LD2. LD1 is preset to follow the status of the associated relay on the board, eg LD1 on wiegand interface 1 will follow relay 1.
LD2 has two functions.
The first is it gives a single flash when any card is presented or a button on the keypad is pressed.
The second is LD2 can be programmed to follow an output on the panel at program address P98E so that when the output is on LD2 will also be on to drive the LED on the reader. This can be used to indicate an arm/disarm state, etc.

The Buzzer output on the Wiegand reader connections will follow the keypad beeps from the panel. If the Wiegand keypad has a built-in numeric keypad the Buzzer output (BUZ) will beep as a button is pressed as audible feedback that the button was received by the panel. The same Buzzer output can also follow other beeps from the panel such as entry or exit delay beeps, chime zone beeps, etc.

DIP switch 6 sets the Wiegand Interface to be a single door or two door controller. If DIP switch 6 is off the board is a single door controller and only Wiegand interface 1 is used for the reader input. Input 1 can be linked to the zone number that matches the keypad address of the board and output 1 is linked to the output number that matches the keypad address. Also when DIP switch 6 is off, input two is linked to relay 1. If input 2 is triggered the output reset time programmed for the output associated with relay 1 will operate relay 1 for that timed period. Input 2 can therefore be used as a request to exit button.
If DIP switch 6 is on then both reader interfaces are used and both inputs and outputs are active. The second reader will be the address set by switches 1-5 plus 1, eg if the board address is set to number 12 (DIP switches 1, 2 & 4 ON) then reader interface 1 will be keypad address 12 and reader interface 2 will be keypad address 13. In the same example input 1 on the Wiegand interface can be set to zone 12 and input 2 set to zone 13, output 1 on the Wiegand interface will follow output 12 and output 2 will follow output 13.
**NOTE**: **Always ensure DIP Switch 6 is OFF if the board is to only use one keypad address otherwise there could be a keypad address clash, eg if one Wiegand IF board is addressed as keypad # 10 and another as keypad address # 11 but DIP switch 6 was turned ON on the board set as keypad # 10 there will be a clash due to there being two keypad # 11’s, one will be the second reader input on the board set as address # 10 and the other will be the board set as keypad address # 11.**

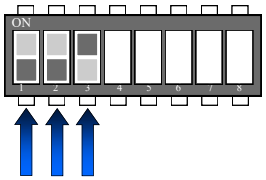
**NOTE 2: If there is an address clash (eg two Wiegand IF boards set to the same address number) the 8 LED’s will display the following pattern, LED’s 1 & 8 On, changing to LED’s 2 & 7 On, changing to LED’s 3 & 6 On, changing to LED’s 4 & 5 On, then all 8 LED’s will flash together twice then the pattern will repeat until the address clash is removed.**

DIP switches 7-8 allow the type of access control technology to be selected (see chart on page 8).There are two proximity readers that can be connected to the control panel. They are;

**1-CPT-Wiegand reader/keypad**
**2-PW READER Prox/PIN readers.**

Each Wiegand Interface board must have a unique keypad address number from 1-32 to avoid data conflicts and to allow assigned program options to be directed to the correct unit.

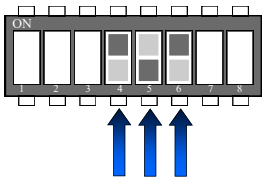
# DIPSWITCH OPTIONS: (RUNNER 4/8, 8/16 ONLY) *NOT FOR RUNNER 864 SYSTEM*



Interface 1 Can be set to Keypad Address 1 to 8 using Dipswitches 1, 2 & 3
These Dipswitches also Link Relay 1 to an Output and Input 1 to a Keypad Zone.

| Interface 1, Keypad Address Assignment | | | | | |
|---|---|---|---|---|---|
| IF-1 | DIP 1 | DIP 2 | DIP 3 | RELAY-1 Linked to | INPUT-1 Linked to |
| KP Address 1 | OFF | OFF | OFF | Output 1 | Zone 1 or 9 |
| KP Address 2 | ON | OFF | OFF | Output 2 | Zone 2 or 10 |
| KP Address 3 | OFF | ON | OFF | Output 3 | Zone 3 or 11 |
| KP Address 4 | ON | ON | OFF | Output 4 | Zone 4 or 12 |
| KP Address 5 | OFF | OFF | ON | Output 5 | Zone 5 or 13 |
| KP Address 6 | ON | OFF | ON | Output 6 | Zone 6 or14 |
| KP Address 7 | OFF | ON | ON | Output 7 | Zone 7 or 15 |
| KP Address 8 | ON | ON | ON | Output 8 | Zone 8 or 16 |

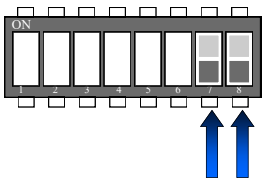
*Example:* If Dipswitches 1 & 2 are Off and 3 is On then the device wired to IF-1 will be on Keypad address 5.
Also Relay-1 will follow Output 5 and Input-1 can be programmed to be either Zone 5 or 13 in the Runner



Interface 2 Can be set to Keypad Address 2 to 8 using Dipswitches 4, 5 & 6
These Dipswitches also Link Relay 2 to an Output and Input 2 to a Keypad Zone.

| Interface 2, Keypad Address Assignment | | | | | |
|---|---|---|---|---|---|
| IF-2 | DIP 4 | DIP 5 | DIP 6 | RELAY-2 Linked to | INPUT-2 Linked to |
| Disabled | OFF | OFF | OFF | None | None |
| KP Address 2 | ON | OFF | OFF | Output 2 | Zone 2 or 10 |
| KP Address 3 | OFF | ON | OFF | Output 3 | Zone 3 or 11 |
| KP Address 4 | ON | ON | OFF | Output 4 | Zone 4 or 12 |
| KP Address 5 | OFF | OFF | ON | Output 5 | Zone 5 or 13 |
| KP Address 6 | ON | OFF | ON | Output 6 | Zone 6 or14 |
| KP Address 7 | OFF | ON | ON | Output 7 | Zone 7 or 15 |
| KP Address 8 | ON | ON | ON | Output 8 | Zone 8 or 16 |

*Example:* If Dipswitches 4 & 6 are On and 5 is Off then the device wired to IF-2 will be on Keypad address 6.
Also Relay-2 will follow Output 6 and Input-2 can be programmed to be either Zone 6 or 14 in the Runner

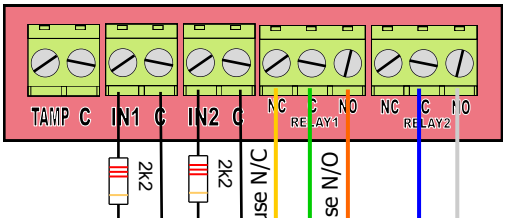


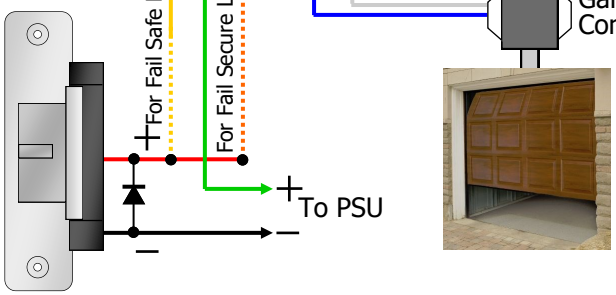
Choose the Interface Protocol to match your Wiegand devices

| Interface Protocol | | | |
|---|---|---|---|
| | DIP 7 | DIP 8 | |
| Competition | OFF | OFF | Runner Standard mode |
| AC-2 Mode | ON | OFF | Turns # key into Prog function, (for use on AC-2) |
| Spare | OFF | ON | |
| Spare | ON | ON | |

# INPUTS & OUTPUTS:

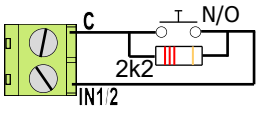
To activate Input-1 and 2 you must first set the Dip switches (see tables above) this will give you 2 optional Zones to for each Input to choose from.
Then you will need to program that zone to be a Keypad Zone, make it a Chime Zone and link it to an Output.
Please follow the programming on pg5.



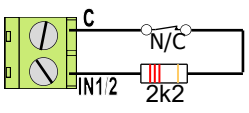




Both Relay-1 & 2 have clean volt free, normally open and normally closed contacts.
The Relays are linked to outputs on the panel using the Dipswitches (see tables above)
All Output functions are programmed from the Runner, please see pg4 for programming assignment.

Normal Open Contacts



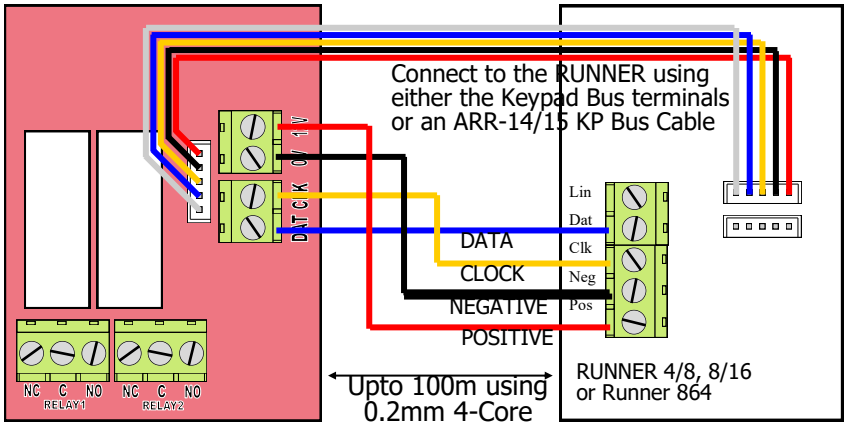

Normal Closed Contacts



# Panel Connection & Power Supply Options:

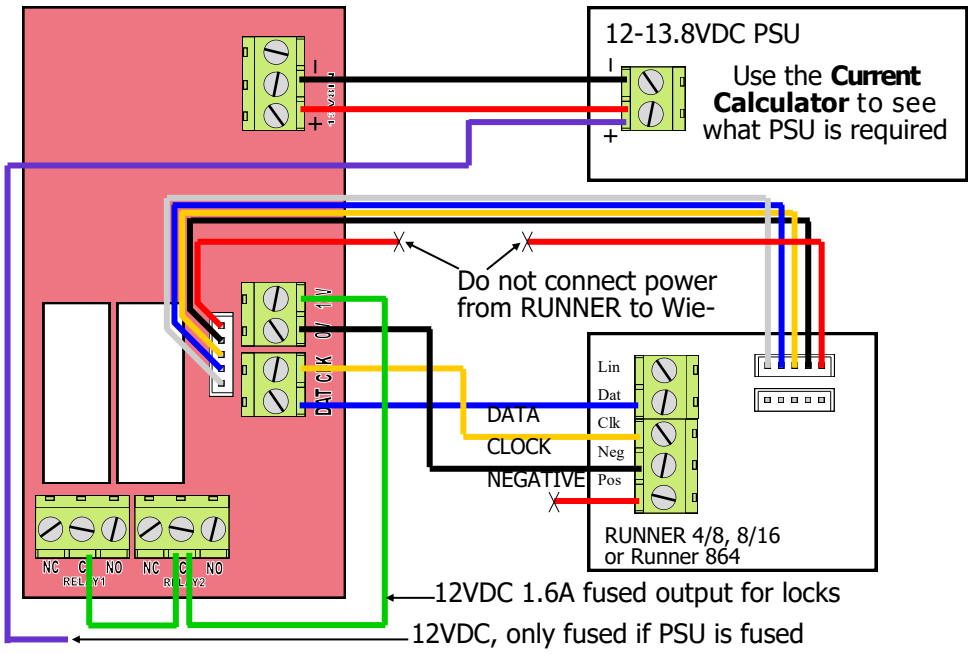
## Powered from RUNNER 4/8, 8/16 or Runner 864

Maximum current available down 1 cable from the keypad bus is 200mA. So no locks can be driven from this power source and only 1 Keypad Interface should be used.



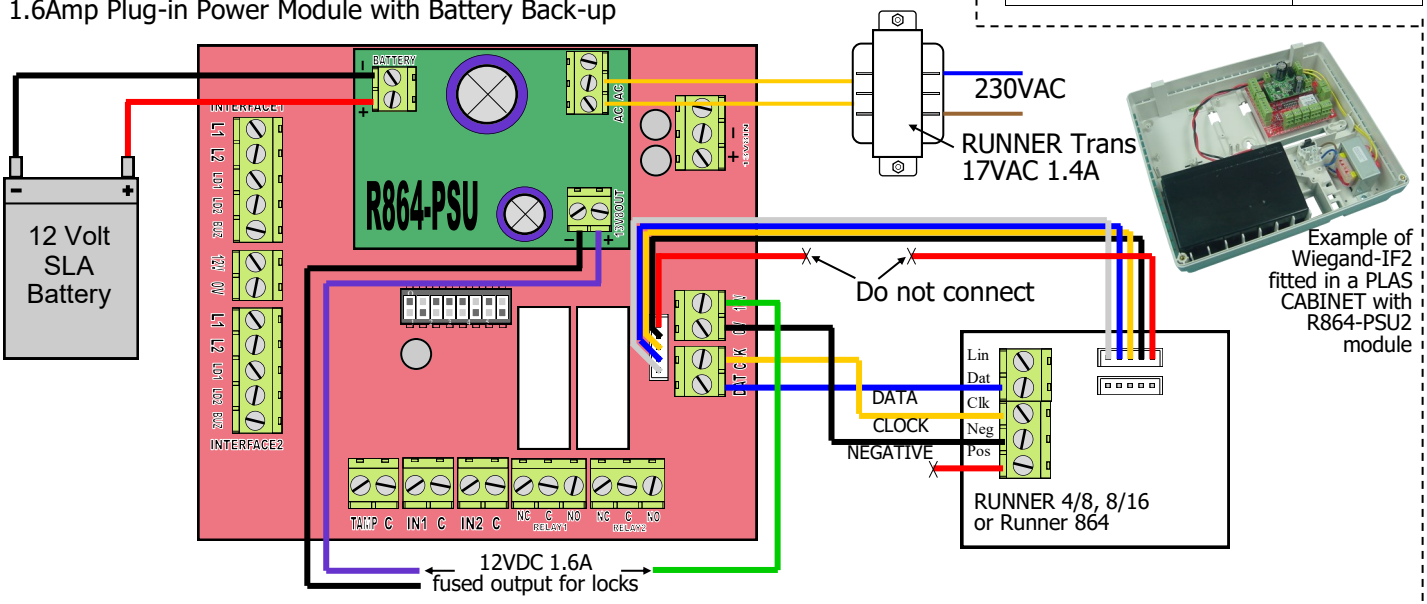

## Independent PSU

Output Voltage should be 12 to 13.8VDC, (Battery Back-up is recommended).




## R864-PSU2 Power Module

1.6Amp Plug-in Power Module with Battery Back-up



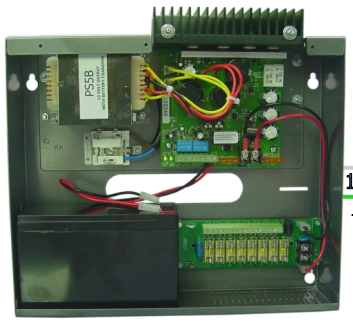

## Current Calculator

| Device | Max. Current |
|---|---|
| Wiegand-IF2 | 100mA |
| Reader-1 | |
| Reader-2 | |
| Lock-1 | |
| Lock-2 | |
| REX | |
| Subtotal | |
| +30% overhead | |
| Total Required | |

| Current Draw Table | |
|---|---|
| Wiegand-IF2 | 100mA |
| Competition Reader | 100mA |
| PW Wiegand | 100mA |
| Strike Lock | 250mA |
| Mag Lock | 500mA |
| Door Hold | 200mA |
| Drop Bolt | 1000mA |
| Prox REX | 50mA |

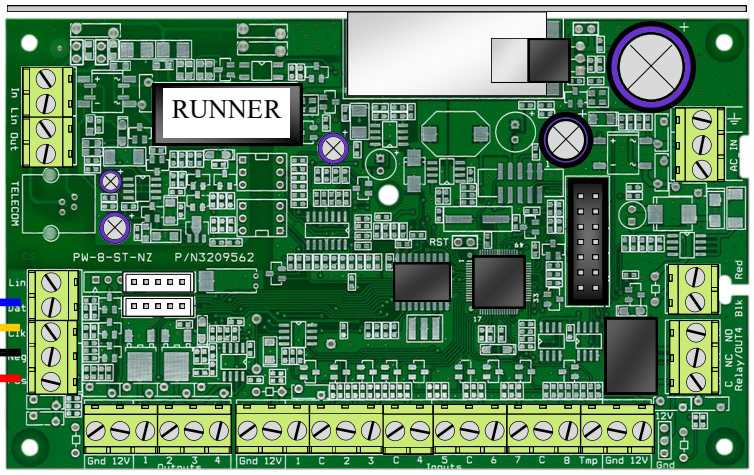
| **Example** | Current |
|---|---|
| Wiegand-IF2 | 100mA |
| Reader-1=Competition | 100mA |
| Reader-2= PW Wiegand | 100mA |
| Lock-1 = Mag Lock | 500mA |
| Lock-2 = Strike Lock | 250mA |
| REX = Prox REX | 50mA |
| Subtotal | 1100mA |
| +30% overhead | 330mA |
| Total Required | **1430mA** |

# RUNNER 4/8,8/16 ACCESS CONTROL WITH THE WIEGAND-IF2



R864-PSU OPTION-1
PS5B
BATTERY
BACKUP

12VDC

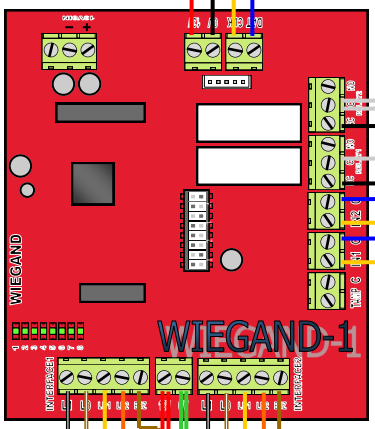



EMERGENCY DOOR RELEASE-1

EMERGENCY DOOR RELEASE-2

EMERGENCY DOOR RELEASE-3

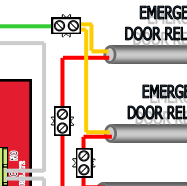
EMERGENCY DOOR RELEASE-4




WIEGAND-1

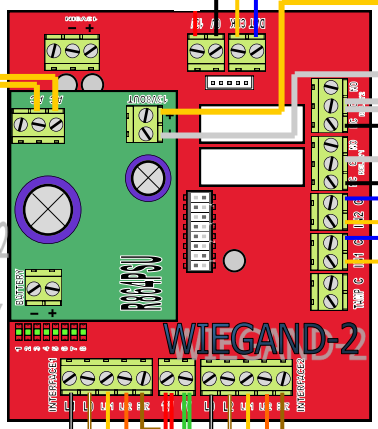
REX-1

REX-2



R864-PSU OPTION-2
PLUG-IN PSU
WITH BATTERY
BACKUP

X




WIEGAND-2

REX-3

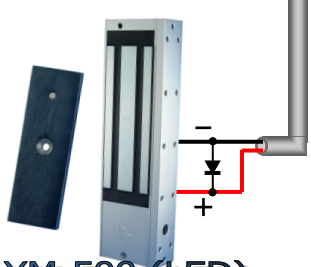
REX-4

ACCESS
KEYPAD-1

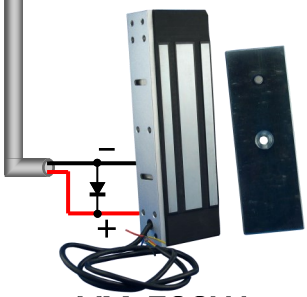
ACCESS
KEYPAD-2

ACCESS
KEYPAD-3

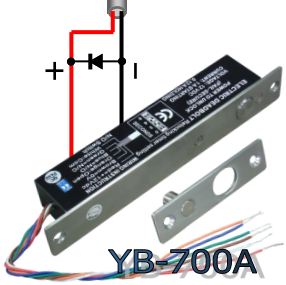
ACCESS
KEYPAD-4



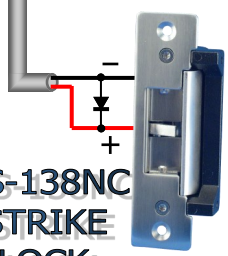
YM-500 (LED)
800Lb MAG LOCK
INDOOR



YM-500W
800Lb MAG LOCK
S/S OUTDOOR



YB-700A
DROP BOLT



YS-138NC
STRIKE
LOCK

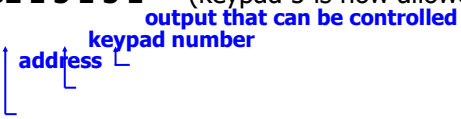
# Programming:

**Please note that programming can not be done from the Wiegand keypads attached to the Wiegand-IF2. It can only be done from the standard alarm keypads.**

## Keypad Mapping to Outputs

The Runner can support up to 8 Keypads, each Keypad can be told to control any of the 8 outputs.
By default outputs 1 & 2 are for Sirens, leaving outputs 3, 4, 5, 6, 7 & 8 free to be customized as you wish.
To map a keypad to an output, you must be in Installer mode, then press **<PROGRAM> <82> <ENTER>** then the Keypad you wish to Map **<1-8>** then **<ENTER>**, now select the Output or Outputs that are to be controlled **<1-8>** then **<ENTER>.**

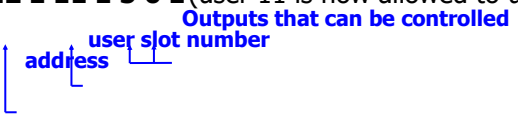
i.e. **P 82 E 5 E 5 E** (keypad 5 is now allowed to use output 5)




## User/Tag Mapping to Outputs

When setting up User to Output Control, you will need to map a User to an output. This is done under address 12, user slot 1-100, each user gets set up individually. To Map a user to an output, you must be in Installer mode, then press **<PROGRAM> <12> <ENTER>** then the user you wish to Map **<1-100>** then **<ENTER>**, now select the Output or Outputs that are to be controlled **<1-8>** then **<ENTER>.**

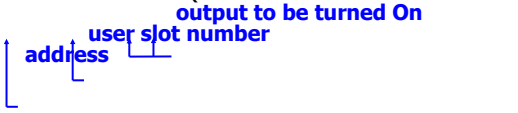
i.e. **P 12 E 10 E 5 E** (user 10 is now allowed to use output 5)
**P 12 E 11 E 5 6 E** (user 11 is now allowed to use output 5 and 6)




## User/Tag On Command to Outputs

Once users have been Mapped to an Output you then need to tell each user what they can do to that output. This is done under address 13, user slot 1-100, each user gets setup individually. To allow a user to turn On an Output, you must be in Installer mode then press **<PROGRAM> <13> <ENTER>** then a user you have Mapped **<1-100>** and **<ENTER>**, now select the Output/s that is to be controlled **<1-8>** and **<ENTER>.**

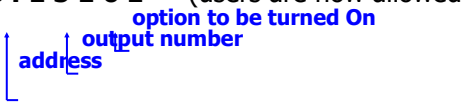
i.e. **P 13 E 10 E 5 E** (user 10 will now turn On Output 5)
**P 13 E 11 E 5 6 E** (user 11 will now turn On Output 5 and 6)




## Output Options

To complete the User to Output Control programming, you will need to tell the Output it is allowed to be controlled by Users. This is done at address 34. In Installer mode press **<PROGRAM> <34> <ENTER>** then choose the output **<1-8>** and **<ENTER>**, now turn ON option **<6>** and **<ENTER>**.

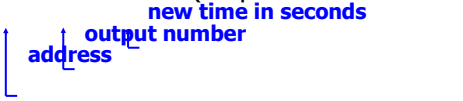
i.e. **P 34 E 5 E 6 E** (users are now allowed to control output 5).




## Output Reset Times

This is how long the Output will switch on for, before turning off automatically. The Time is in seconds.
In Installer Mode press **<PROGRAM> <40> <ENTER>** then the output you wish to change **<1-8>** and **<ENTER>** now put in the new reset time **<0-9999>** and **<ENTER>**.

i.e. **P 40 E 5 E 10 E** (output 5 will now automatically turn Off after 10 seconds).




## Other Useful Addresses

**P 1 E 1-100 E** Adding User Codes (for adding, changing and deleting user codes) *page 37*
**P 4 E 1-100 E** Changing User Access Options (can a user Arm/Disarm) *page 38*
**P 21 E 1-100 E** Adding Prox Tags/Cards (enrol a prox device to a user slot) *page 43*
**P 2 E 1-100 E** Changing User Type (user slot is a pin code, a prox device or both and/or) *page 37*
**P 71 E 1-8 E** Keypad Area Assignment (if a keypad is not in an area it can't arm or disarm) *page 57*
**P 134 E 1-16 E** Zone Alarm Beeps to Keypad (what keypad will beep when alarm activates) *page 73*
**Page numbers refer to Full Runner Manual*

## Input Assignment

Once the Dipswitches have been set (see pg2) the desired zone needs to be set to be a Keypad Zone. This is done at address 122. In Installer mode press **<PROGRAM> <122> <ENTER>** then choose the zone **<1-16>** and **<ENTER>**, now turn ON option **<4>** and **<ENTER>**.

i.e. **P 122 E 13 E 4 E** (zone 13 now looks to the keypad bus for activity).

**option to be turned On**
**zone number**
**address**

## Zone to Output Direct Control (REX Input)

If the zone is required to directly control an output, for use like a request to exit trigger, then the zone needs to be setup as a Chime Zone. This is done at address 123. In Installer mode press **<PROGRAM> <123> <ENTER>** then select the zone **<1-16>** and **<ENTER>**, now turn ON option **<7>** and **<ENTER>**.

i.e. **P 123 E 13 E 7 E** (zone 13 can directly control an output).

**option to be turned On**
**zone number**
**address**

## Mapping Chime Zone to an Output

Once you have set a zone to be a chime zone, you will then need to link it to an output. This is done at address 131. In Installer mode press **<PROGRAM> <131> <ENTER>** then select the zone **<1-16>** and **<ENTER>**, now choose the output **<1-8>** and **<ENTER>**.

i.e. **P 131 E 13 E 5 E** (zone 13 can is now linked to output 5).

**output you wish to link**
**zone number**
**address**

## Output Chime Reset Time

The direct control via chime zone feature, uses a separate reset timer to the normal output reset time. This timer is changed at address 41 and is set in 0.1second intervals. In Installer mode press **<PROGRAM> <41> <ENTER>** then select the output **<1-8>** and **<ENTER>**, now put in the new time **<0-255>** and **<ENTER>**.

i.e. **P 41 E 5 E 100 E** (output 5's chime reset time is now 10seconds).

**reset time**
**output number**
**address**

## LED 2 Assignment

You can program the second LED on both Interface 1 and 2 to follow an output. A good idea is to link it to the same Output that gets controlled by that keypad, so what the lock is released the LED turns on. In Installer mode press **<PROGRAM> <98> <ENTER>** then select the Keypad linked to the Interface **<1-8>** and **<ENTER>**. Now choose an output/s for LED 2 to follow **<1-8>** and **<ENTER>**.

i.e. **P 98 E 5 E 5 E** (LED 2 on linked to Keypad 5 now follows Output 5).
**P 98 E 6 E 6 E** (LED 2 on linked to Keypad 6 now follows Output 6).

**Output number**
**keypad number**
**address**


## PW WIEGAND SPECIAL BACKLIGHT FEATURE

The PW Wiegand device has the ability to automatically turn off its backlight after 20 seconds if no keys are pressed. *(feature not supported on CPT-DH16A models)*

To turn this feature Off press and hold the # key for 10 seconds. (the green led will flash to confirm)

To turn this feature On press and hold the # key for 10 seconds. (the green LED will flash 4 times)

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