

2 Door Access Control Module

The EC-A2 connects directly to the keypad bus of the ESX or ESL control panel using the ARR-14 quick connect loom provided or via the on board keypad bus terminals.

This allows access control keypads &/or readers to be connected to the ESL or ESX control panels for alarm & access control integration

Each EC-A2 supports:

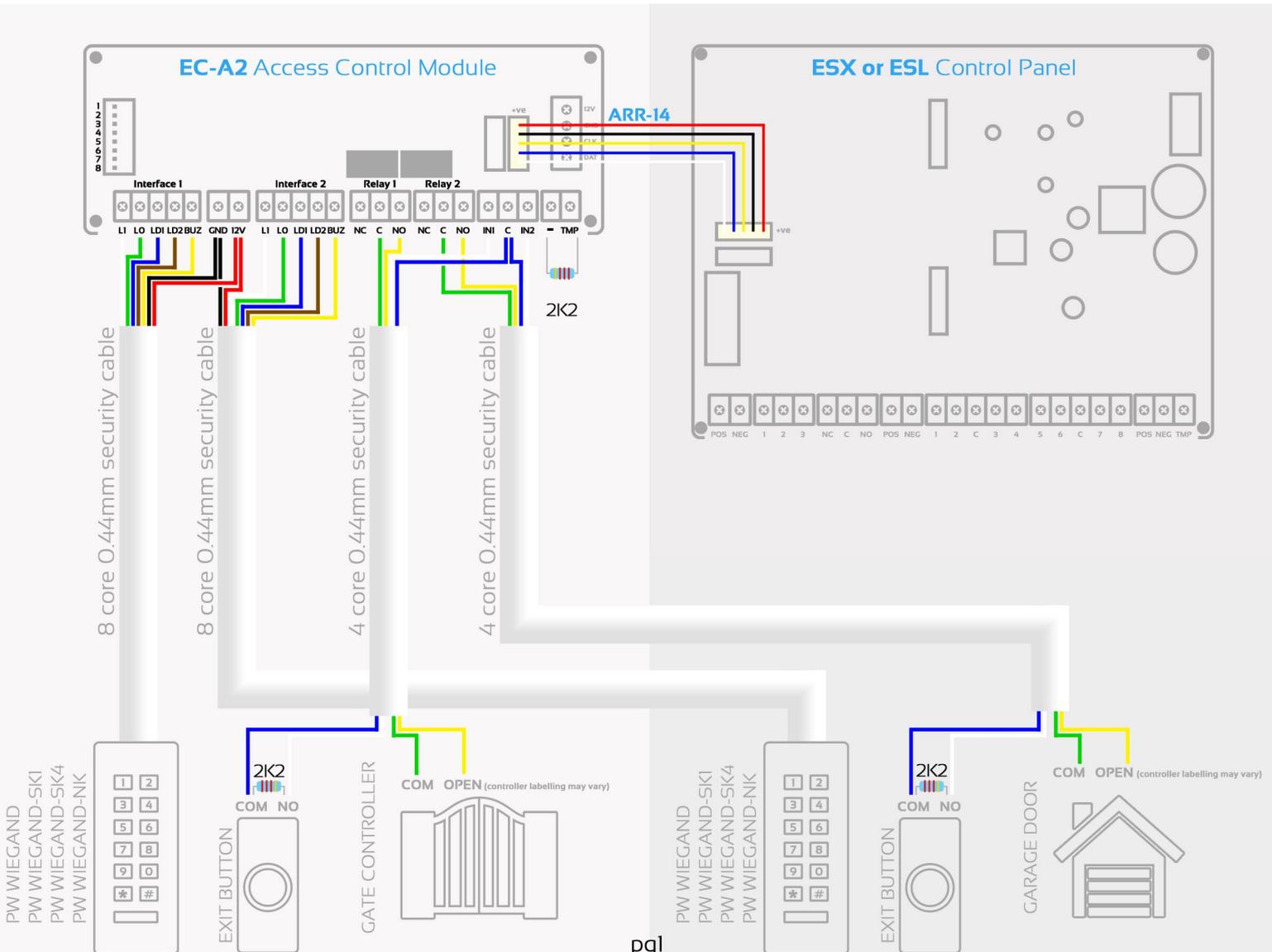
- **2 x Access keypad/readers** (proprietary wiegand)
- **2 x Outputs** for control of doors, garages, gates & more
- **2 x Inputs** for use with request to exit buttons (default) or for door, lock or exit button monitoring
- **1 x Keypad bus screw down terminals** - 12V - GND - CLK - DAT
- **Sockets** for EC-PSU plug in power supply module

Recommended Readers: PW WIEGAND-NK - PW WIEGAND - PW WIEGAND-SKI - PW WIEGAND-SK4

2 Door Wiring Schematic for Garage Doors & Gates

This example shows connection of 1 x ESX or ESL control panel, 1 x EC-A2, 2 x reader/keypads & 2 x exit buttons controlling 1 x garage door & 1 x gate.

Note: Locks are configured differently. See next page for electric lock configuration

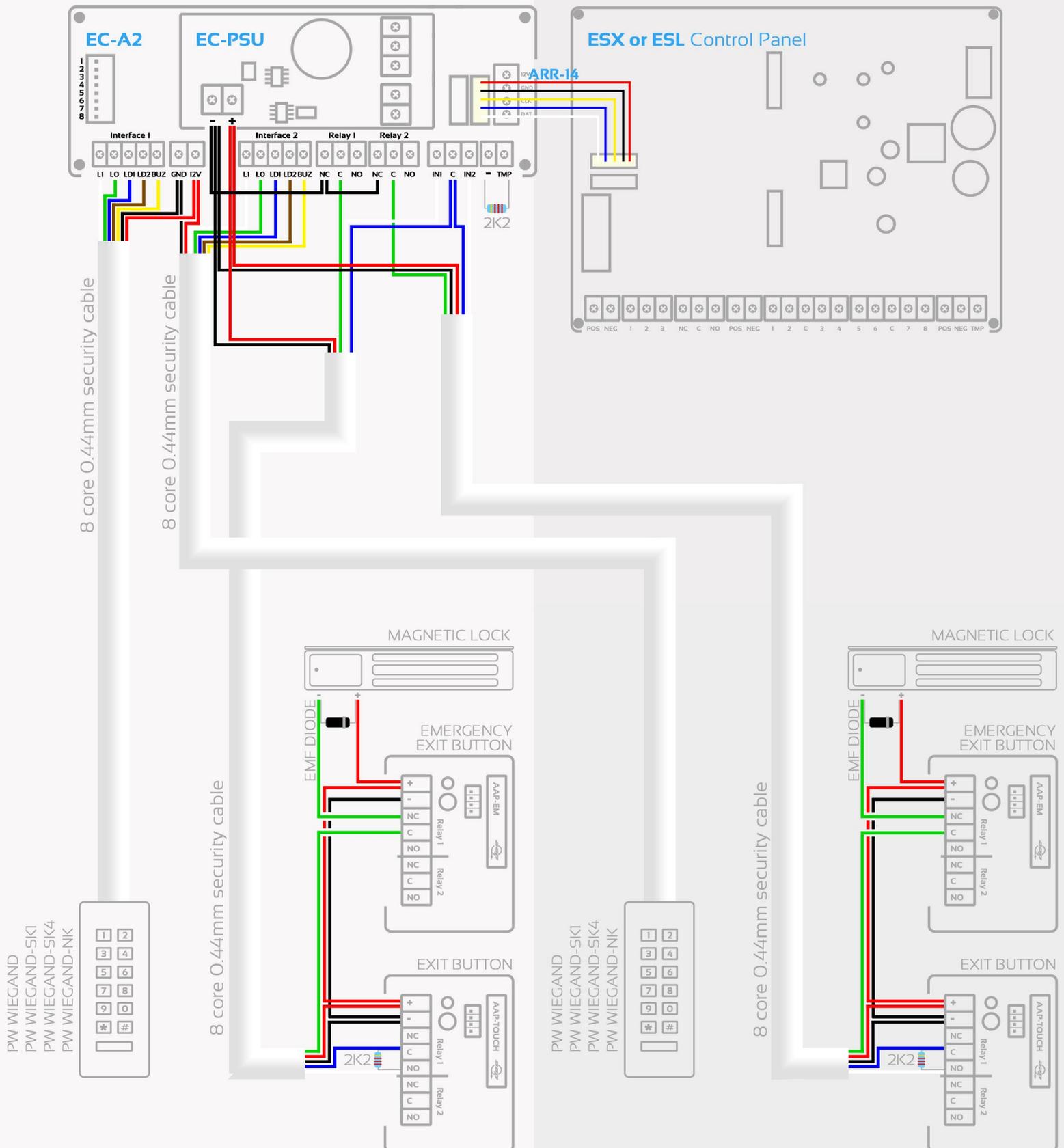


2 Door Wiring Schematic for Electronic Locks

This example shows connection of 1 x ESX or ESL control panel, 1 x EC-A2, 2 x reader/keypads, 2 x exit buttons, 2 x emergency exit buttons & 2 x magnetic locks (fail safe/power to lock)

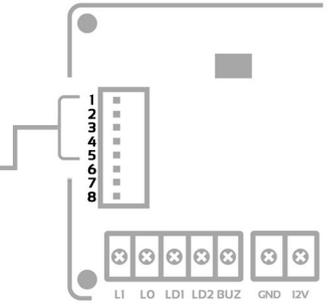
EC-PSU - Monitored battery back up power supply

This example uses the EC-PSU to power & back up the locks & exit buttons. The EC-PSU plugs into the EC-A2 module to save real estate & also provides battery & power supply monitoring to the control panel



Dipswitch Addressing

The ESL supports a maximum of 8 keypads & the ESX supports a maximum of 32 keypads. These can be alarm &/or access control keypads. Access control reader/keypads must be individually addressed using dipswitches 1 to 5 shown here



Use the chart below to set the address of each EC-A2 module:

Important:

Dipswitch 6 determines whether the EC-A2 is a 1 or 2 door controller.

Dipswitch 6 Off = 1 Door Controller

'KP Interface 1' becomes the address from the table below. In this scenario, 'KP Interface 2' becomes inactive

Dipswitch 6 On = 2 Door Controller

'KP Interface 1 & 2' both become active. This means that 'KP Interface 1' becomes the address from the table below & KP Interface 2 becomes the address following

- i.e. If 'KP Interface 1' is set to address 6 then 'KP Interface 2' becomes address 7 (ESL & ESX)
- If 'KP Interface 1' is set to address 24 then 'KP Interface 2' becomes address 25 (ESX only)

1 Door Example
(Dipswitch 6 OFF)

KP Interface 1 becomes keypad address 8 & KP Interface 2 becomes inactive

2 Door Example
(Dipswitch 6 ON)

KP Interface 1 becomes keypad address 25 & KP Interface 2 becomes keypad address 26

KP Address	DIP 1	DIP 2	DIP 3	DIP 4	DIP 5	Relay mapped to	ESX Only	ESL Only
							Input mapped to	Input mapped to
KP Address 1	OFF	OFF	OFF	OFF	OFF	Output 1	Input 1	Input 1 or 9
KP Address 2	ON	OFF	OFF	OFF	OFF	Output 2	Input 2	Input 2 or 10
KP Address 3	OFF	ON	OFF	OFF	OFF	Output 3	Input 3	Input 3 or 11
KP Address 4	ON	ON	OFF	OFF	OFF	Output 4	Input 4	Input 4 or 12
KP Address 5	OFF	OFF	ON	OFF	OFF	Output 5	Input 5	Input 5 or 13
KP Address 6	ON	OFF	ON	OFF	OFF	Output 6	Input 6	Input 6 or 14
KP Address 7	OFF	ON	ON	OFF	OFF	Output 7	Input 7	Input 7 or 15
KP Address 8	ON	ON	ON	OFF	OFF	Output 8	Input 8	Input 8 or 16
KP Address 9	OFF	OFF	OFF	ON	OFF	Output 9	Input 9	
KP Address 10	ON	OFF	OFF	ON	OFF	Output 10	Input 10	
KP Address 11	OFF	ON	OFF	ON	OFF	Output 11	Input 11	
KP Address 12	ON	ON	OFF	ON	OFF	Output 12	Input 12	
KP Address 13	OFF	OFF	ON	ON	OFF	Output 13	Input 13	
KP Address 14	ON	OFF	ON	ON	OFF	Output 14	Input 14	
KP Address 15	OFF	ON	ON	ON	OFF	Output 15	Input 15	
KP Address 16	ON	ON	ON	ON	OFF	Output 16	Input 16	
KP Address 17	OFF	OFF	OFF	OFF	ON	Output 17	Input 17	
KP Address 18	ON	OFF	OFF	OFF	ON	Output 18	Input 18	
KP Address 19	OFF	ON	OFF	OFF	ON	Output 19	Input 19	
KP Address 20	ON	ON	OFF	OFF	ON	Output 20	Input 20	
KP Address 21	OFF	OFF	ON	OFF	ON	Output 21	Input 21	
KP Address 22	ON	OFF	ON	OFF	ON	Output 22	Input 22	
KP Address 23	OFF	ON	ON	OFF	ON	Output 23	Input 23	
KP Address 24	ON	ON	ON	OFF	ON	Output 24	Input 24	
KP Address 25	OFF	OFF	OFF	ON	ON	Output 25	Input 25	
KP Address 26	ON	OFF	OFF	ON	ON	Output 26	Input 26	
KP Address 27	OFF	ON	OFF	ON	ON	Output 27	Input 27	
KP Address 28	ON	ON	OFF	ON	ON	Output 28	Input 28	
KP Address 29	OFF	OFF	ON	ON	ON	Output 29	Input 29	
KP Address 30	ON	OFF	ON	ON	ON	Output 30	Input 30	
KP Address 31	OFF	ON	ON	ON	ON	Output 31	Input 31	
KP Address 32	ON	ON	ON	ON	ON	Output 32	Input 32	

EC-A2 Dipswitch Functions

1 Door OR 2 Door Settings

The EC-A2 can be configured as a 1 door or 2 door controller using dipswitch 6. Dipswitch 6 off sets the module to a 1 door controller, meaning keypad 2, input 2 & output 2 are completely disabled. Dipswitch 6 on sets the module to a 2 door controller, meaning all functions are enabled for 2 doors

Dipswitch 6 Off = 1 Door Controller (disables KP2, input 2 & output 2)

Dipswitch 6 On = 2 Door Controller (enables all functions)

Input Functions

The EC-A2 inputs can perform multiple functions. These functions are not only dictated by addressing & control panel programming (see following page) but also by the position of dipswitch 7 detailed below:

Dipswitch 7 Off = REX (request to exit) function - No programming required

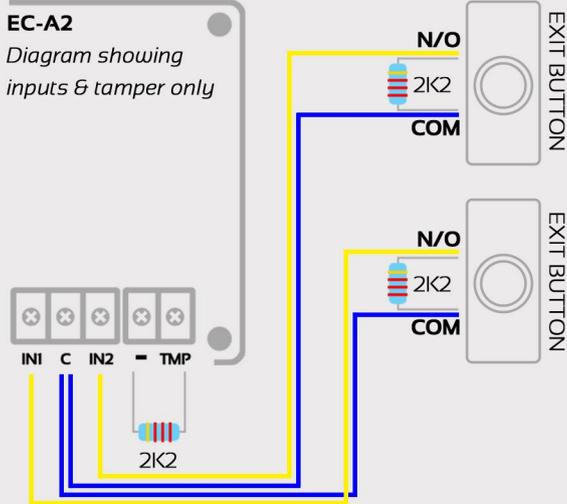
Dipswitch 7 On = Standard input function - Requires programming (see following page)

Note:

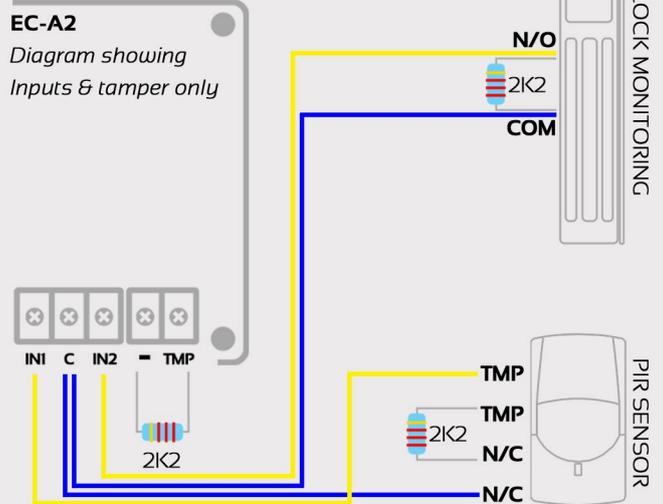
Dipswitch 7 affects both input 1 & 2 of the EC-A2 module. I.e. If dipswitch 7 is OFF, both input 1 & 2 will perform a REX function. If dipswitch 7 is ON, both inputs are standard inputs and require programming.

A 2K2 resistor is required for either configuration as detailed below:

Dipswitch 7 Off = REX function



Dipswitch 7 On = Standard input function



Tamper On/Off (ESX Only) Dipswitch 8 Off = Enables tamper

Dipswitch 8 On = Disables tamper

The tamper input can be enabled or disabled depending on whether the EC-A2 enclosure is installed in high or low security applications. If the tamper input is enabled then a 2K2 resistor must be used as shown below:

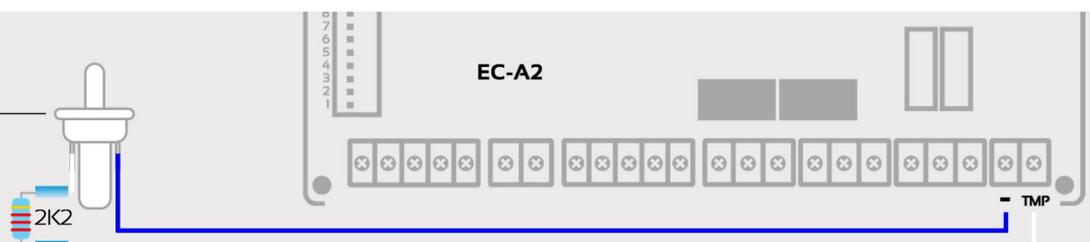
Note: Tamper function **DOES NOT** work on ESL-2. ESL-2 dipswitch 8 operates as follows:

Dipswitch 8 Off = 2 second REX

Dipswitch 8 On = 10 second REX

Cabinet Tamper

This wiring is for tamper switches with N/C contacts only



Input Programming

Dipswitch 7 Off = REX (request to exit) function (no programming required)

Dipswitch 7 On = Standard input function (requires programming, see below for more information)

Important:

- When dipswitch 7 is on, inputs 1 & 2 on the EC-A2 will follow the address set as per the table on page 3
- The EC-A2 will automatically use high inputs '9-16' (ESL only) if the low input is already in use. See the table on page 3 for more information
- A 2K2 resistor must be fitted across each input as shown on the diagram on page 4

Enabling EC-A2 Inputs (by default inputs 1 & 2 on the EC-A2 are inactive when **dipswitch 7 is on**)

To enable EC-A2 inputs, first address the EC-A2 as per the table on page 3, then follow programming below:

Press PROG 122 ENTER followed by the input number you wish to enable then press ENTER. Now press 4 (number 4 should appear on the screen) followed by the ENTER button to confirm.

Push the right arrow to go to the next input to program or continue to another programming address

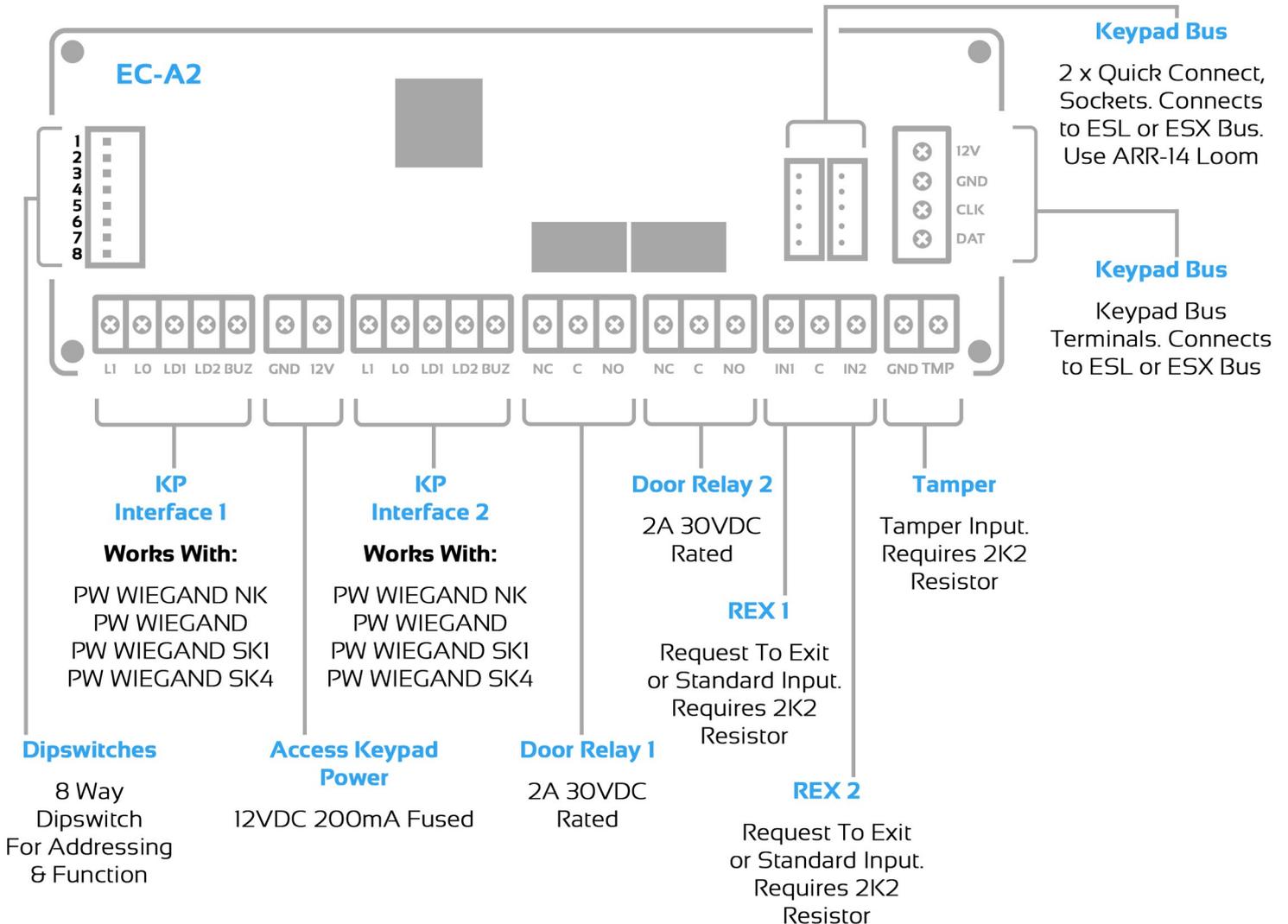
Overview



Hardware Overview

Below is an overview of the EC-A2 terminals & their purpose

Note: The EC-A2 is to be powered via the ESL or ESX keypad bus, or EC-PSU plug in power supply





Input Power Supply

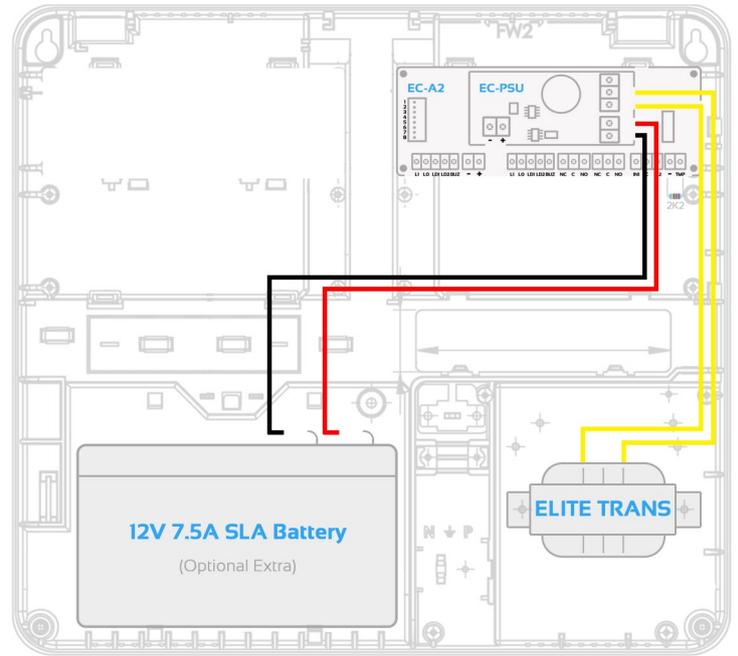
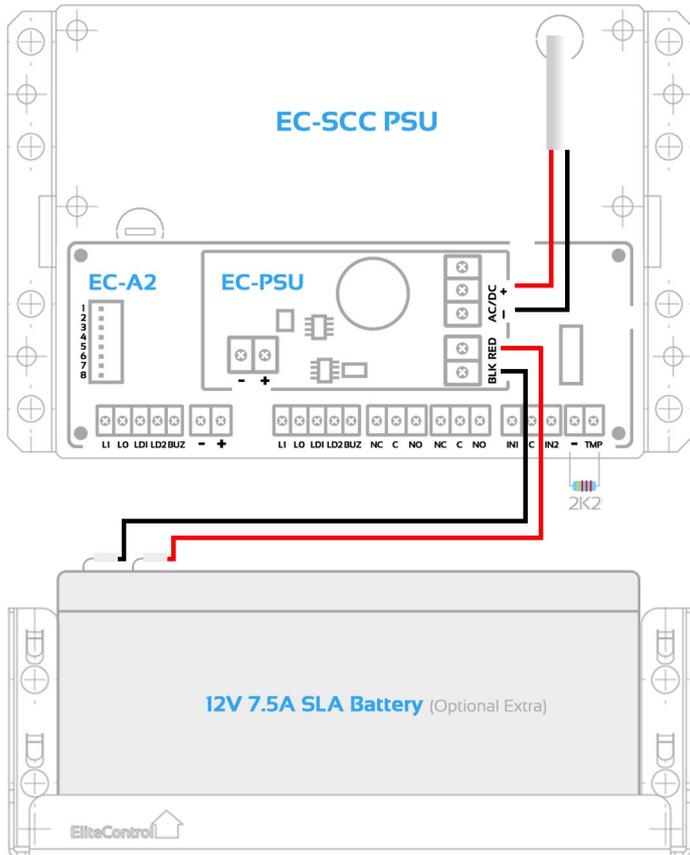
We recommend the following supplies to power the EC-A2 & EC-PSU modules

EC-SCC PSU

- Input: 240VAC
- Output: 24VDC 2.2A
- Ideal for structured cabling cabinets
- Powers up to 2 x EC-PSU modules

ELITE TRANS

- Input: 240VAC
- Output: 17VAC 1.4A
- Ideal for EC-PLAS CAB enclosure
- Powers up to 1 x EC-PSU module



EC-SCC BATT - Optional battery holder for structured cabling cabinets. Ideal for mounting SLA batteries directly above or below the power supply

Current Draw Reference Table

Use the following current draw table to determine the amount of power required for your specific system. Note: Electric lock power requirements will vary. Refer to the lock technical data relating to your specific lock for an accurate calculation. We also recommend allowing a 30% overhead to your calculation as a safeguard

Product	Current Draw	Quantity Used	Current
EC-A2	100mA		
PW WIEGAND (all models)	50mA		
AAP-EM	50mA		
AAP-TOUCH	50mA		
Magnetic Lock (estimate)	500mA		
Strike Lock (estimate)	250mA		
V-Lock (estimate)	1000mA		
EC-Z8	40mA		
EC-O4	140mA		
EC-LCD	100mA		
KP-TOUCH	250mA		