R A D I O N I C S

Easikey 198 Key System Addendum

Description

Two Easikey EK10 Door Controllers can be connected together to control two readers with up to 198 users, including up to three master keys. Each key can be assigned up to three access levels (to open Door 1, Door 2, or both doors). Hold door open time can be set for up to 48 seconds. Lock modes (fail-safe and fail-secure) are selectable.

Three types of readers can be used with the 198 key system: the EK15 Mullion Reader, the EK20 Vandal Resistant Reader, and the EK25 Door Panel Reader. Two readers can be connected to the controller pair (see Figure 1). Reader 1 can be used as an on/off switch for lights or other devices.
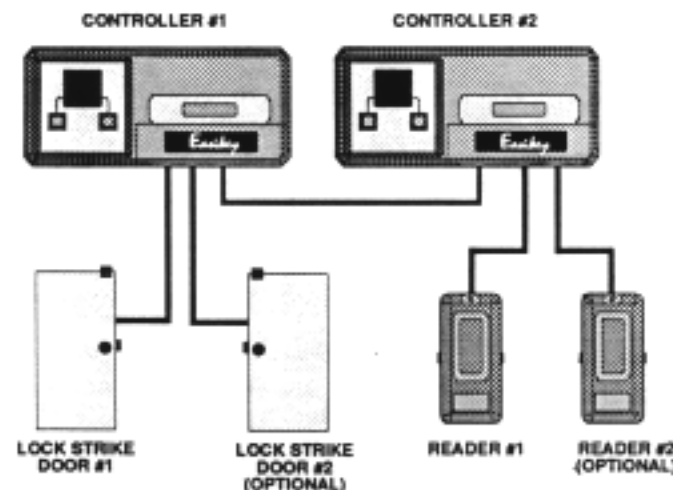

Figure 1: Easikey 198 Key System

Installing the Controllers and Readers

Instructions for mounting the controller are included in the *Easikey Installation and Operation Instructions* provided with the EK10 controller. Installation instructions for the EK15 and EK20 Readers are also included with the EK10 controller. Installation instructions for the EK25 Door Panel Reader are included with the reader.

Connect the reader(s) to the Controller #2 terminals as shown in Table 1. See Figure 2, 3, 4, or 5 as applicable to the system you are installing. The Controller #2 terminals used for the readers should be connected to the *same* terminals on Controller #1 (-V1, S1, R1, A1, +V1, etc.). Terminals R1 (Reader #1) and R2 (Reader #2) are used for installing a Request-to-Exit (R.T.E.) device if applicable.

Controller #2 Reader #1 Connections	Controller #2 Reader #2 Connections	Reader Terminal	Wire Color
+V1	+V2	+V	RED
S1	S2	SIG	YELLOW
A1	A2	VCA	GREEN
-V1	-V2	-V	BLACK
R1	R2	-V	BROWN

Table 1: Reader to Controller #2 Wiring Configuration

Connecting Power

The Easikey controllers operate on 12V nominal AC or DC. The controller can also be used to provide power to either an AC or DC lock release or the lock can be powered separately. Connect the controllers using one of the following power supply options:

Option 1:
A single 12VAC, (@16VA) supply and 1 Amp AC lock release provides for the lowest cost system.

Option 2 (Figures 2 and 3):
12VDC, 1.3 Amp power supply for the controllers, reader(s) and the DC lock release. Many power supplies are available which simply plug into a standard 110V socket outlet. Follow the wiring shown in Figure 2 for a lock release which operates in fail safe mode (power needed to keep door closed). Use Figure 3 for a lock release which operates in fail secure mode (power needed to open door).

Option 3 (Figures 4 and 5):
12VDC, 1.3 Amp power supply for the controller reader(s) with a separate power supply for the lock. Follow the wiring shown in Figure 4 for a lock release which operates in fail safe mode (power needed to keep door closed). Use Figure 5 for a lock release which operates in fail secure mode (power needed to open door).

For additional requirements when installing more than one lock, refer to the *Easikey Installation and Operation Instructions* included with the EK10 controller.

Battery Backup
If you are installing a battery back-up, you can calculate the size of battery you need from this formula:

$$Ah = [0.28 + (NR \times 0.06) + LC1 + LC2] \times HR, \text{ where}$$

Ah= Battery capacity required (in amp hours)
NR=Number of Readers.
HR=Hours of backup time required.
LC1=Lock 1 current (in mA)
LC2=Lock 2 current (in mA)

CONTROLLER #1   **CONTROLLER #2**

Figure 2: Fail Safe DC Lock Release Using Controller Power Supply
(Power needed to keep door closed.)

CONTROLLER #1   **CONTROLLER #2**

Figure 3: Fail Secure DC Lock Release Using Controller Power Supply
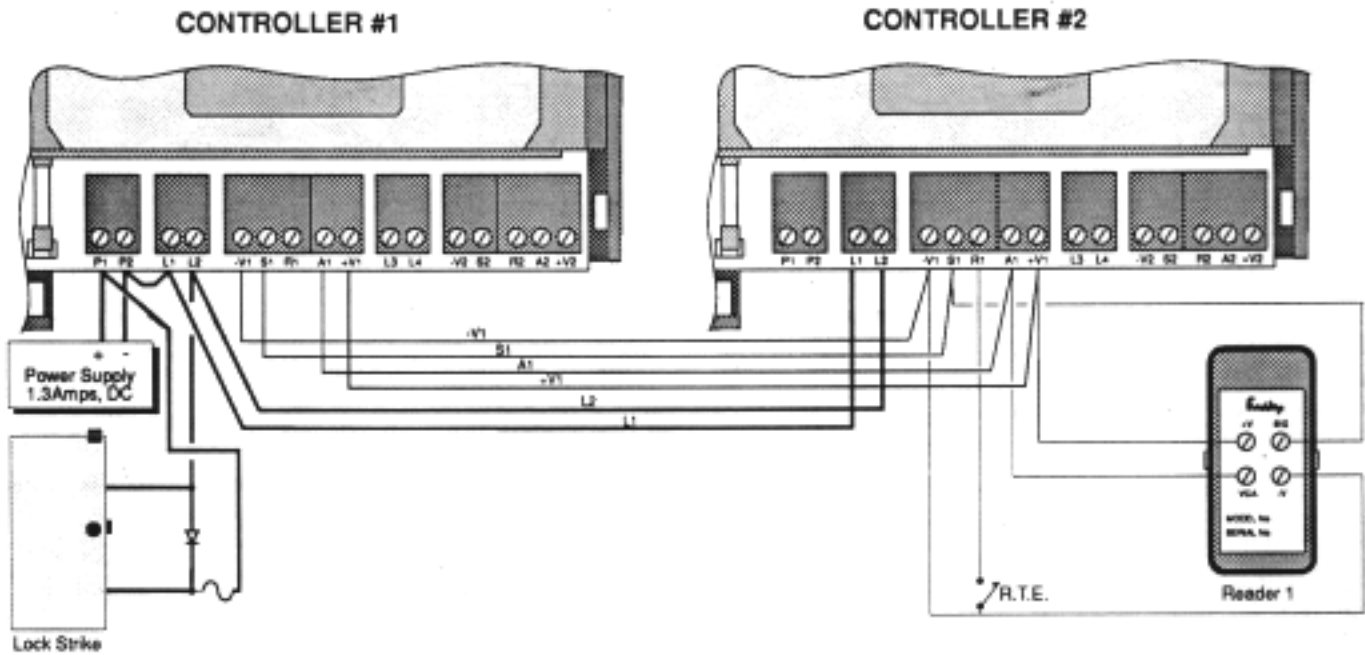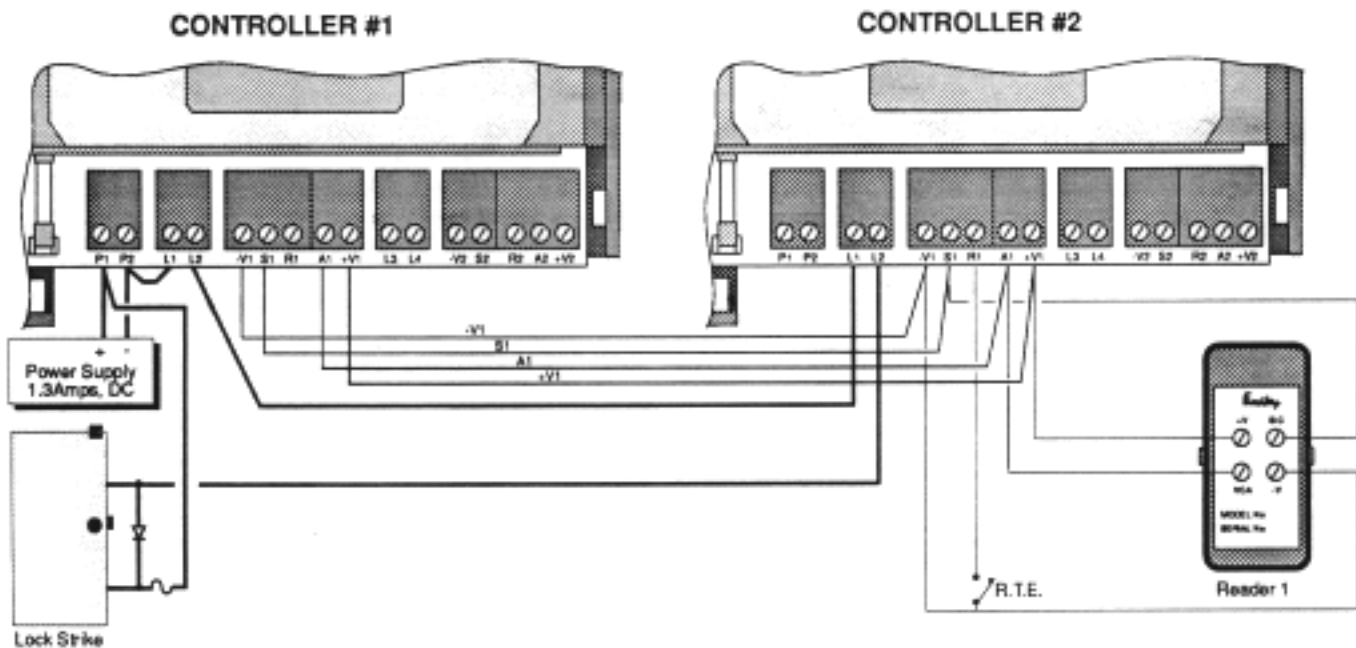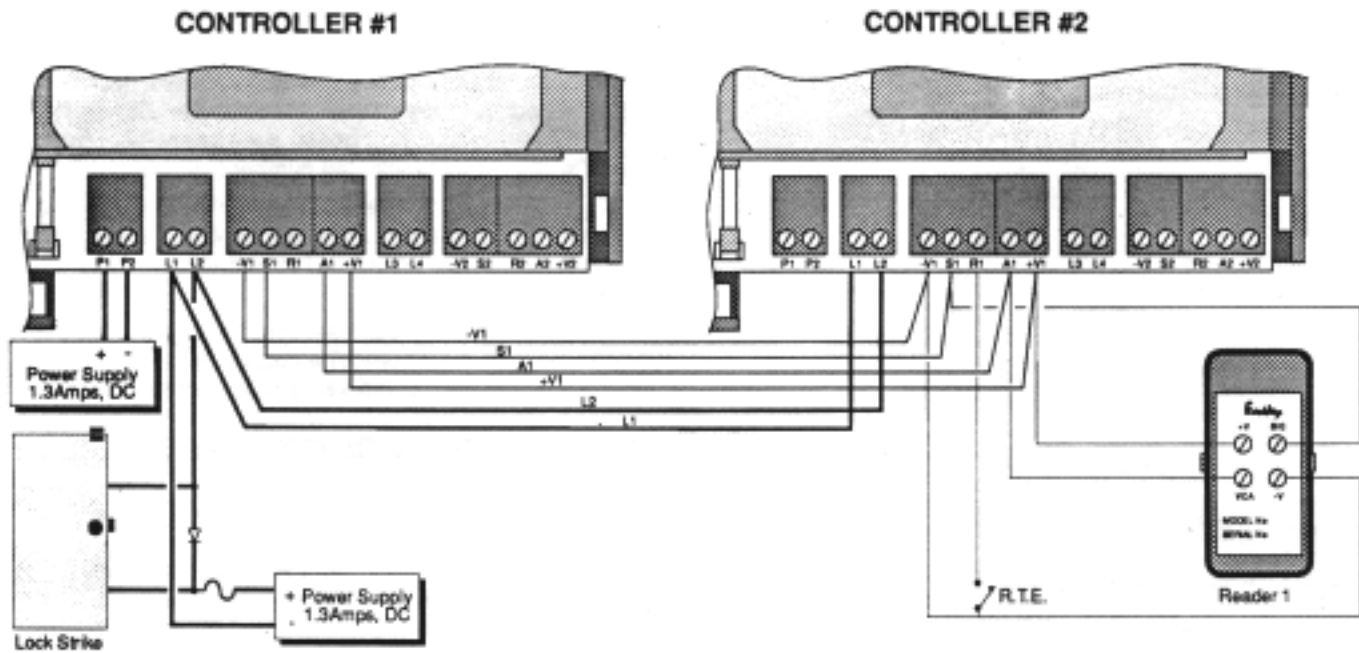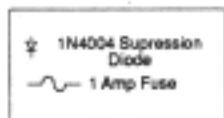(Power needed to open door.)

Figure 4: Fail Safe DC Lock Release Using Separate Power Supply
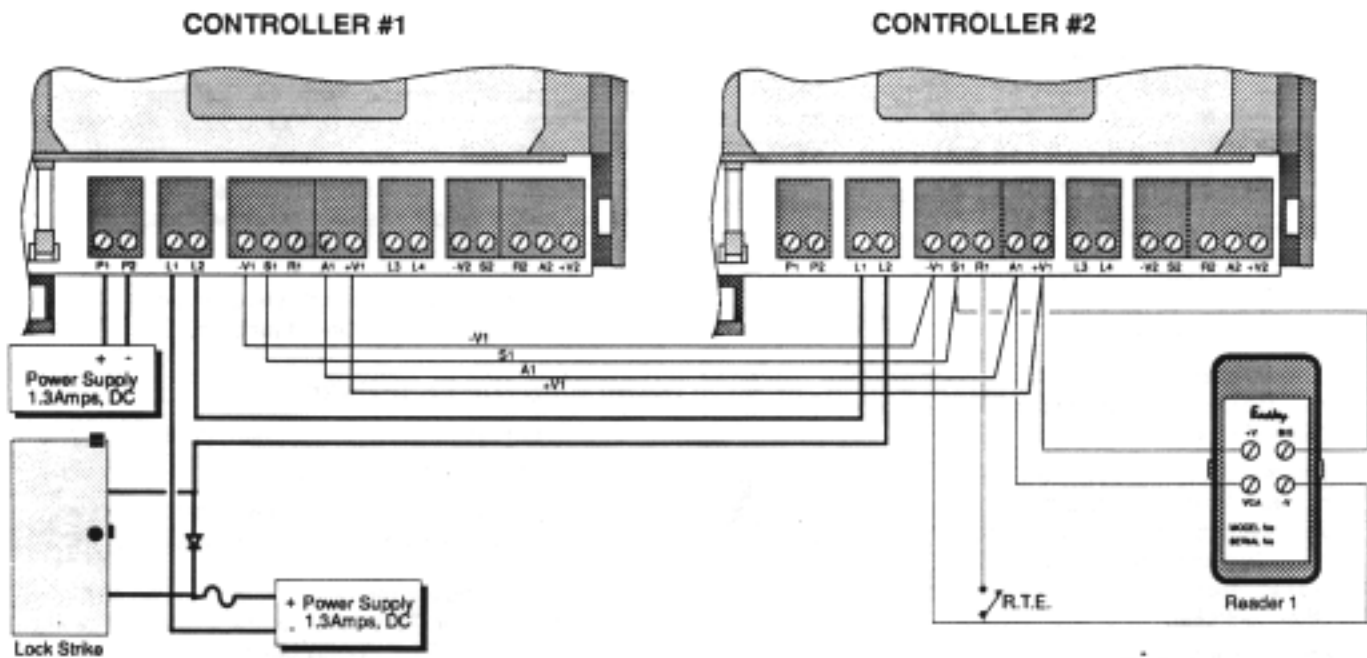(Power needed to keep door closed.)

Figure 5: Fail Secure DC Lock Release Using Separate Power Supply
(Power needed to open door.)

Assigning Master Keys

Follow the steps provided in *Assigning Master Keys* in the *Easikey Installation and Operation Instructions,* assigning the *same* electronic keys as masters in each controller. The keys will be presented in order first to Controller #1 and then to Controller #2. The first master key entered into Controller #1 and Controller #2 will have access to both doors. If controller memory needs to be cleared, it must be cleared for both Controller #1 *and* Controller #2.
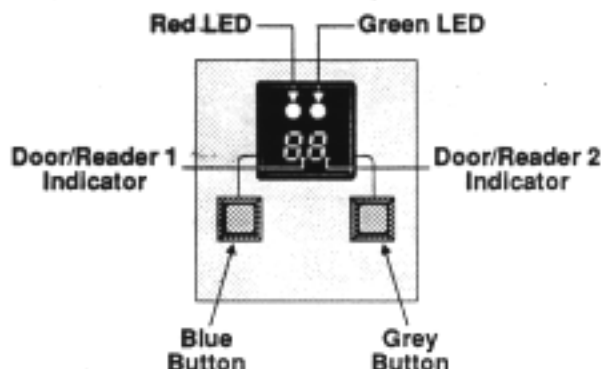

Figure 6: EK10 Door Controller Display and Controls

Entering the Lock Release Time

Lock release time is used to determine how long the door will remain unlocked after a key has been presented. The release time can be set for up to 48 seconds, in intervals of one second. The lock release time must be the *same* for both controllers. Follow the steps provided in *Entering the Lock Release Time* in the *Easikey Installation and Operation Instructions,* assigning a lock release time of up to 48 seconds in each controller.

Adding Keys

Keys are added to Controller #1 using a master key for Controller #1. When all 99 keys of Controller #1 have been assigned, add keys to Controller #2 using a master key for Controller #2. Record the key number, keyholder, and the *number of the controller* that the key is assigned to in a key register. Follow the steps provided in *Adding Keys* in the *Easikey Installation and Operation Instructions.*

Deleting Keys

When You Have the Key

1. Determine which controller the key is assigned to (Controller #1 or Controller #2 – refer to your key register). Present the key to the assigned controller reader.

   The key ID number is displayed, the red LED comes on, and one or both decimals light depending on which door(s) the key can open. The key is ready to be deleted. If the red LED does *not* light, present the key to the other controller.

2. Present a master key to the assigned controller reader to confirm deletion. (If you do not put the master key up within 15 seconds the system "times out." If this happens start again). The display flashes for two (2) seconds then clears. The key is now deleted.

When You Do Not Have the Key

1. Determine which controller the key is assigned to (Controller #1 or Controller #2 – refer to your key register). Press the grey button of the assigned controller. The red LED lights.

2. Press the blue button (tens) and the gray button (single digits) to select the required key ID number. The red LED remains lit.

   If the red LED does not remain lit or the number flashes, the key has not been assigned to that controller. Repeat steps 1 and 2 with the other controller. If the key number flashes on the second controller, the number is unassigned.

   When the key ID number is entered, one or both of the decimals light depending on which door(s) the key can open. The key is ready to be deleted.

3. Present a master key to the reader of the controller assigned to the key to be deleted. The display flashes for two (2) seconds then clears. The key is now deleted.

Initiating the Relay On/Off Function

This feature allows Reader 1 to be used as a switch which is toggled on and off by presenting a key to the reader.

1. Present a master key to the Controller #1 reader. The key number appears and the red LED is lit.

2. Press the blue button once. The current Lock Release time is displayed, the decimal points disappear, and the red LED flashes.

3. Enter the number 99 by pressing the blue (tens) and grey (ones) buttons.

4. Present the same master key to the Controller #1 reader again to enable the Relay On/Off function. The light on Reader 1 comes on.

5. Repeat steps 1 through 4 using Controller #2. To initiate the Relay On/Off function, a "99" must be entered in both controllers.

Refer to the *Easikey Installation and Operation Instructions* for using and removing the Relay On/Off function.

Displaying the Last Users

To see the last 5 keys which have been used on each controller:

1. Press the blue button on Controller #1.

   The last key used on Controller #1 is displayed. The decimal indicates which door was used.

2. Press the blue button repeatedly to display the last keys used on either door. To exit the feature, let the display time out or continue until the display goes blank.

3. Repeat steps 1 and 2 for Controller #2. Each controller shows the last five key numbers used for that controller, for a total of 10 key numbers. The exact order in which the 10 keys were used is not indicated.

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