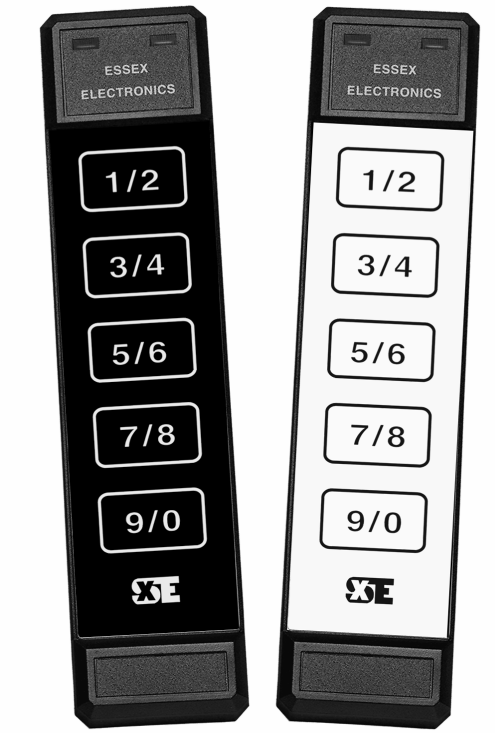
# SKE-6

## Self Contained Keyless Entry® System




## Installation and Operations Manual

ESSEX
ELECTRONICS
INCORPORATED
1-800-KEYLESS keyless.com

# ESSEX ELECTRONICS, INC.

*SKE-6 Series*



## Document Information

IOMSKE6.1006.RevH
Installation/Operations Manual for SKE-6, October 2006
Revision H
This documentation is applicable to any SKE-6 Keypad with Rev. D on the date code label. (Located on the back of the keypad)

## Trademarks



## Contact Information

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# Introduction

### *Overview*

The SKE-6 is an easy to program, easy to use, stand alone, self-contained Keyless Entry® system with features suitable for basic access control requirements. Providing either a voltage output or dry contact closure, the SKE-6 is designed to control any fail-safe or fail-secure electric locking device.

The SKE-6 features one master code and five user codes. One relay output is available to provide a variety of access control configurations including single door access control, Gate/Garage Door control or other electronic equipment control. The SKE-6 also provides two ¼A grounding outputs for a CCTV/Light Controller and Doorbell operation.

### *System Specifications*

| | |
|---|---|
| **Input Requirements:** | 12 to 24V AC/DC |
| **Standby Current Draw:** | < 10 mA |
| **Maximum Current Draw:** | 100 mA (Using keypad illumination) |
| **Main Output:** | One SPDT Relay (2 amps at 24V max)<br>➢ Voltage or Dry Contact<br>➢ Fail Safe or Fail Secure Lock |
| **CCTV/Light Output:**<br>**Doorbell Output:** | Two ¼A Grounding Outputs<br>➢ First key press: 10 sec Output<br>➢ Press the SKE: 1 sec Output |
| **Programmable Output (Door Open Time)** | 1 to 120 seconds<br>Default ➔ 5 seconds |
| **Latching:** | Manual (Toggle On/Off) |
| **# of User Codes:** | 6 Codes (1 Master, 5 User) |
| **Code Length:** | 3 to 8 Digits |
| **Default Master Code:** | 1-3-5-7-9 |
| **Tamper Alarm:** | 25 Incorrect Key Presses |
| **Code Protection:** | Non-Volatile Memory |
| **Keypad Operating Environment:** | -40° C to + 70° C (-40° F to + 160° F)<br>100 % Relative Humidity |
| **Keypad Dimensions:** | 7 1/8" x 1 ¾" x ¾" |

### *Input Requirements*

The SKE-6 accepts 12 to 24 volts AC/DC. System current draw (maximum):

Standby: 10mA at 12/24 volts
During Operation: .10 amps max

⊗**IMPORTANT:** The maximum output current allowed is ½ amp. Check the specifications of your locking device. Make sure that the locking device draws less than ½ amp. For locking devices that draw more current, a separate power supply is required. (See Appendix B)

🗐 Note: If connecting DC, make the connections to the Red and Black wires instead of the Gray and White wires (see Appendix A – Page 16). Make sure the polarity is correct.

### *Output Capabilities*

The SKE-6 provides one SPDT dry contact relay (rated at 2 amps at 24 VAC). The relay can be configured for one of the following options:

- Voltage Output – Fail Safe or Fail Secure Locking Device
- Dry Contact Output – Control a Gate Operator/Garage Door

Two auxiliary ¼A grounding outputs are available to drive external relays. These can be configured for:

- CCTV/Light Controller or other – First key press triggers a 10 second output.
- Doorbell or other – Press the ESE symbol to trigger a 1 second output.

### *Keypad Options*

All Essex Keypads are designed to perform reliably in even the most extreme environmental conditions. Operating temperatures can range from -40°C to +70°C (-40°F to 160°F). The SKE-6 is available in the following styles/configurations:

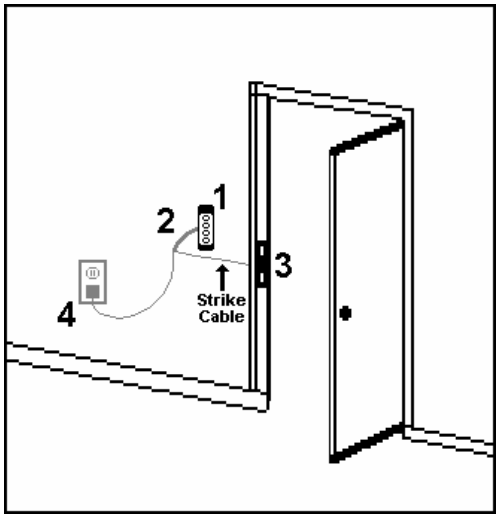
| Part No. * | Description |
|---|---|
| SKE-6SN | Self Contained w/Stainless Steel Overlay |
| SKE-6LI | Self Contained w/Black Lexan® Illuminated Overlay |

* Keypad Part Number is located on the back of the Keypad

# Preparing for Installation

### *System Components*

There are four primary components to be installed:




**Typical Installation**

1. The SKE-6 should be mounted on the wall adjacent to the door. It should be on the same side as the door strike and about 4 feet above the floor.

2. The Wiring Harness connects the keypad to a power supply, locking device and auxiliary relays. Included with the system is a 12-inch wiring harness. Splice additional wire to this harness to connect to the power supply, locking device, etc. (See Appendix A – Typical System Wiring.)

3. The Electric Strike/Other Locking Device(not included) connects to the SKE-6's Relay output via the strike wires. (See Appendix A - Typical System Wiring)

4. The Power Supply (not included) should meet the following specifications:
   - 12 to 24 Volts AC/DC
   - 100 mA min. (250 mA min. preferred)

# The Installation Procedure

## *Required Tools*

You will need the following tools:

- Medium Phillips screwdriver
- Drill
- 7/8” or 1” (25mm) drill bit
- 3/16” (6mm) drill bit

## *Prepare for Installation*

There are different procedures for mounting the SKE-6 depending on the type of composition of the mounting surface. A template is included to assist with installation.

Mounting Instructions

The SKE-6 is designed for mullion mount applications. It can also be mounted on a wall, pedestal or any flat surface of at least 1 ¾” by 7”. The composition of the mounting surface will determine the fastening method required:

1. Select a flat surface (1 ¾ ” by 7”) near the door where you wish to install the keypad.
2. Using the template, mark location of holes.
3. Drill the large hole using the 7/8” or 1” (25mm) drill bit.
4. Place the connector on the back of the keypad in the large hole to verify that the mounting holes are aligned. Make adjustments if necessary.
5. Drill mounting holes in accordance with fastening method used. If mounting to wood, drill small pilot holes and use #8 flat head wood screws provided. Do NOT mount the keypad at this time.
6. Proceed to Install the Wiring Cable.

## *Install the Wiring Cable*

1. Drill a hole in the inside wall or ceiling where you want the cable to come through.
2. Splice added cable length to the wires you will be using (Power, locking device, etc. - See Typical System Wiring). Then pull the cable through the hole so the connector end goes to the keypad. Route it so there is minimal cable at the keypad.

### *Connect the SKE-6*

1. Attach the wiring connector to the Keypad.
2. Do NOT mount the Keypad until the system is programmed and tested.

### *Prepare the Door for the Electric Strike*

Follow these instructions only if you are using an electric strike to unlock the door. If you are using the relay to activate a garage door, automatic gate, etc., skip this section. The new electric strike should be checked to verify compatibility with existing door hardware prior to installation.

1. Remove existing strike.
2. Follow directions included with the strike for preparing the doorjamb.
3. Do NOT mount the strike at this time.

### *Connecting the Locking Device*

Connect the electric locking device to the wire harness as outlined in the Typical System Wiring (Appendix A – Page 16) and Typical Output Wiring (Appendix B – Page 17). Any 2 conductor, 22 gauge wire can be used to connect the Keypad to the Locking Device. Included in the spare parts kit is a MOV (Metal Oxide Varistor). The function of the MOV is to absorb any inductive kickback from the locking device, protecting the Keypad circuit board.

**Install the MOV as close to the electric lock as possible.**

To provide proper grounding, connect a 3rd wire from the body of the locking device to “Earth” ground.

⊗**IMPORTANT:** If switching voltages higher than 24V, you must use an external relay. The SKE-6’s built-in relay is capable of switching up to 24V.

# System Hardware Setup

### *Remote By-Pass*

In some cases, it may be necessary to control the door from a remote area such as a security station or reception desk. The SKE-6 provides for a Remote By-Pass (Exit Switch) or Keypad override. This can be accomplished by connecting a normally open switch from the VIOLET "Remote Bypass" wire to the BLACK wire (See Appendix A – Page 16). When the Remote By-Pass switch is depressed, the contact bypasses the Keypad and activates the relay for the same time length as the programmed Door Open Time (See Programming Door Open Time – Page 9).

### *Anti-Tailgating*

Some security applications require stricter door monitoring. Anti-tailgating can be controlled by installing a normally closed door monitor switch to the BROWN "Door Monitor" wire and the BLACK wire on the wire harness (See Appendix A – Page 16). This switch may be the output of a latch monitor switch, a monitor maglock or an alarm switch that senses door movement. When this switch opens, it relocks the door immediately.

⊗**IMPORTANT:** If you wish to use door monitor switch, you must also cut the BROWN "Door Monitor" wire loop on the back of the Keypad. (See Appendix A – Page 16).

### *Keypad Illumination*

Designed for areas will low ambient lighting, the SKE-6LI provides nighttime illumination. Keypad illumination is "ON" by default. This option can be turned "OFF" by cutting the BLUE "Illum" wire loop on the back of the Keypad.
(See Appendix A – Page 16)

### *Setting Output Options*

The SKE-6 provides options for configuring the relay output as well as the ¼A grounding outputs. These options include Voltage vs. Dry Contact Output and Latching Authorization for the main output.

Voltage vs. Dry Contact – The SKE-6's relay can provide either a voltage or dry contact output. By default, the "DC+" Jumper on the back of the Keypad is configured for voltage output of up to 24V max. (See Appendix A – Page 16) This jumper feeds the +DC out directly to the relay COM contact. (This is the same as connecting the RED wire to the GREEN wire). For a dry contact output (garage door/gate operator), remove the DC+ jumper.

Latching – Latching provides manual control of the locking device. On the SKE-6, only User Codes 1 & 2 have the ability to latch. By default, latching is "ENABLED" for these users. To disable Latching, cut the "GREEN Latch" wire loop on the back of the Keypad. (Appendix A – Page 16). When Latching is ENABLED, User Code 1 or User Code 2 followed by "7" will latch the relay "ON". Either code followed by "7" will latch the relay back "OFF".

Note: The Master Code and User Codes 3,4 and 5 do NOT have the ability to Latch.

¼A Grounding Output Options:

1. CCTV/Light Output (10 sec. output): By connecting an external relay to the SKE-6's BLUE "CCTV" wire (See Appendix A – Page 16), any key press on the Keypad triggers a 10 second output.

2. Doorbell Operation (1 sec output): By connecting an external relay to the SKE-6's ¼A grounding output – "TAN Doorbell" wire (See Appendix A – Page 16), pressing SKE at the Keypad triggers a 1 second output.

Note: If using either option, an MOV (Metal Oxide Varistor) should be installed to prevent inductive kickback.

### *Tamper Alarm Lockout*

A person attempting to gain entry by guessing the code and pushing 25 wrong digits will cause the SKE-6 to go into tamper alarm mode. The Keypad will beep constantly for 30 seconds during which time the door will remain locked and no keypad functions can be performed.

# System Programming

## *Overview of System Code Programming*

There are TWO levels of codes for the SKE-6 system.

1. The Master Code (used by owner/management to open the door and to program User Codes)
2. User Codes (used by guests/personnel to open the door)

**IMPORTANT:** Notes to remember before programming:

1. All codes must be 3 to 8 digits.
2. All codes must be different from each other.
   Note: The SKE-6 has two digits on each pad. ➔ 1/2
   The system reads these numbers as the same.
   For example: 1-3-5-7-9 is the same as 2-4-6-8-0.
3. Do <u>not</u> program codes, which are part of other codes.
   Example: User Code 1 ➔1-2-3-4 and User Code 2 ➔1-2-3
4. During programming, the system resets after 5 seconds if a number is not entered. Do not let more than 5 seconds elapse between entries or the system will reset and you will have to start over.

## *Overview of the Master Code*

Knowledge of the Master Code is the highest priviledge granted to a user of the SKE-6 system. There is only <u>one</u> master code, which is used to program each of the 5 User Codes. The factory default Master Code, "1-3-5-7-9", can be used for initial programming but should be changed to a unique code.

Note: The Master Code does not have the ability to Latch.

## *Programming the Master Code*

<u>To Program/Change the Master Code:</u>

1. Select a 3 to 8 digit code that will be used for the Master Code. ___ ___ ___ ___ ___ ___ ___ ___
2. Enter the old Master Code (default is 1-3-5-7-9) followed by the * symbol on the keypad. (The Keypad will beep rapidly 4 times*) Proceed to step 5.
3. If you do <u>NOT</u> know the Master Code, locate the PINK Program wire on the harness. (As an alternative, you can momentarily short the two "PGM" pins on the back of the Keypad. This will take you to step 5)
4. Touch the PINK Program wire to the BLACK wire for one

second (The Keypad will beep rapidly 4 times)*

5. At the Keypad, enter 1-1-1-9 to open the memory (you will hear three rapid beeps) and immediately enter your new Master code.
   (Do NOT let more than five seconds elapse between entries or the system will reset and you will have to start over.)
6. After entering your new Master Code, wait five seconds for the 3 reset beeps.

* Once in Programming Mode, you have 2 minutes to begin programming. After 2 minutes, the system resets to Normal operation.

## *Overview of User Codes*

There are a total of 5 User codes that can be programmed into the SKE-6. User Codes can vary in length from 3 to 8 digits. Each User Code is programmed into one of 5 User Locations. These Locations are as follows:

| User # | User Location |
|---|---|
| User Code 1 | ➔ 1-1-1 |
| User Code 2 | ➔ 1-1-3 |
| User Code 3 | ➔ 1-1-5 |
| User Code 4 | ➔ 1-1-7 |
| User Code 5 | ➔ 1-1-9 |

Once a User Code has been programmed into a User Location, the User Code can be easily changed or deleted from the system (see Programming User Codes).

## *Programming User Codes*

To Program a New User Code/Change an Existing User Code:

1. Choose a new 3 to 8 digit code that will be used for this User Code. ___ ___ ___ ___ ___ ___ ___ ___
2. Decide which User Location to place this User Code (see Overview of User Codes)
3. Enter the Master Code, followed by the User Location (you will hear three rapid beeps) and immediately enter the new User Code. (Do not let more than five seconds elapse between entries or the system will reset!!!)

   Example: 1-3-5-7-9 1-1-1 1-3-3-5
   This programs the code 1-3-3-5 into User Location #1.
4. After entering your new code, wait five seconds for the 3 reset beeps.

To Delete a User Code

1. Enter the Master Code, followed by the User Location of the User Code you want to delete (you will hear three beeps).
   Example: 1-3-5-7-9 1-1-5
   This deletes the User Location #3 programmed code.
2. Wait five seconds for the 3 reset beeps (Do NOT enter any digits until you hear 3 reset beeps)

### *Programming Door Open Time*

Default is 5 seconds

1. First determine the length of time you wish to program as the Door Open Time. This is the length of time the door will remain open after a valid Code has been entered.

   Note: For controlling a garage door or electric gate, you will need to set the door open time to 1 second and remove the "DC +" Jumper on back of keypad.

2. Enter the Master Code (default is 1-3-5-7-9) followed by the symbol on the keypad. (The Keypad will beep rapidly 4 times*). Proceed to step 5.
3. If you do NOT know the Master Code, locate the PINK Program wire on the harness. (As an alternative, you can momentarily short the two "PGM" pins on the back of the Keypad. This will take you to step 5)
4. Touch the PINK Program wire to the BLACK wire for one second (The Keypad will beep rapidly 4 times)*
5. At the Keypad, enter 1-1-1-7 to open the memory (you will hear three rapid beeps) and enter a combination of "5's" (for every five second increment) and "1's" (for every one second increment) that equal your desired Door Open Time. Each valid key press (a "1" or a "5") will generate a double beep.
   Example: "1-1-1-7 5-5-5-1-1" ➔ 17 seconds
6. After entering your Door Open Time, wait five seconds for the 3 reset beeps.

   Notes: * Once in Programming Mode, you have 2 minutes to begin programming. You will hear a double beep with each valid key press. Once you begin entering the combination of 1's and 5's do not let more than five seconds elapse between entries or the system will reset. Maximum Door Open Time is **120 seconds**.

# Troubleshooting

These are a few troubleshooting suggestions to help assist with any problems you may experience. If the problem continues or is not answered here, please call Essex technical support at 1-800- KEYLESS ➔ (800) 539-5377. You may visit Essex on the web at keyless.com or send question via email: support@keyless.com.

### Changed or Deleted a code and the old code still works

Remember the SKE-6 has a total of 6 User Codes. Make sure you've changed the desired code. If you changed the Master Code, the other User Codes will still work. If in doubt, it is recommended you reprogram the master code and delete all 5 user codes. Then program any new user codes.

### Keypad beeps but the door does not unlock

If the Keypad beeps but an authorized code does not open/unlock the door, there is an easy test to check the wiring hookup to the locking device. Locate the VIOLET "Remote" wire and momentarily short to the BLACK wire. This will activate the output (same as if you enter a valid programmed code at the Keypad). If this test does not activate the lock, you may have wired the lock incorrectly to the SKE-6 (See Appendix A – Typical System Wiring.) If this test does activate the output (you should hear the relay click and the locking device should unlock), then the problem may be:

- Programming - If the unit has just been installed, the problem is most likely with programming the system codes. Review Overview and Programming of User Codes again remembering that all six codes have to be different from each. It is also important not to let more than 5 seconds elapse between button presses or the system will reset and you will have to start over.
- Code Loss - (Existing installations) There are typically two reasons for code loss: static or inductive kickback. There is no way to determine if the system has been affected by either of these, however, you can reprogram the system codes as described in User Code Programming. It is very important the system is properly grounded otherwise static and code loss may be an ongoing problem.

**Keypad is completely dead**

Interrupted Power - First check your power supply to see that power has not been cut off. Using a voltmeter, check the incoming voltage on the GRAY and WHITE wires (12-24V AC/DC IN). If the voltage reads low, the electric locking device may be drawing too much current. To test, remove the wires to the device and recheck the voltage. If the voltage now reads normal, check the current draw of the locking device and make sure it falls within the system specifications (see Input Requirements).

**Keypad beeps all by itself**

Random Beeping – Possible low voltage or bad power supply. Also check EARTH ground.

# Repairs and Warranty

### *Repair Policy*

Should it be necessary for a component or a system to be returned for repair, it must be accompanied with an RA# (Return Authorization Number) from the factory. All returns must be sent to the factory freight prepaid. Collect shipments will not be accepted at any time. Standard turnaround time is ten (10) working days from the date of receipt. All repairs will be returned UPS Ground or equivalent. Any other shipping requests or instructions will be at the customer's expense.

At the factory's discretion, warranty repairs will include repair or replacement, update and testing. Returns and repairs out of the warranty period or in warranty with damage not covered under warranty, shall be subject to a repair charge. All non-warranty repair freight charges are paid for by the customer. Non-warranty repair charges are returned COD. (Factory Authorized Distributors are subject to standard terms). A return authorization number may be obtained by calling Essex Electronics Inc. at 1-800- KEYLESS ➔ (800) 539-5377.

Returns should be sent freight prepaid to:
ESSEX ELECTRONICS, INC.
Attn.: RA# _____
1130 Mark Avenue
Carpinteria, CA 93013-2918

## *Limited Lifetime Warranty*

Effective Date 5/1/06

**Essex Electronics Inc.** warrants that at the time of original purchase from Essex Electronics Inc., the products specified below are free from defects in workmanship and material. Subject to the conditions and limitations set forth below, Essex Electronics Inc. will, at its option, either repair or replace any part of its products that prove defective by reason of improper workmanship or materials. Repaired parts or replacement products will be provided by Essex Electronics Inc. on an exchange basis, and will be either new or refurbished to be functionally equivalent to new. Essex Electronics Inc. reserves the right to discontinue a product for any reason, without notice, at any time. If a product that has been discontinued proves defective and if Essex Electronics Inc. is unable to repair or replace the product, within the terms expressed in this Limited Lifetime Warranty, a substitute product may be provided at the Essex Electronics Inc.'s election, as a replacement for the original discontinued product.

This Limited Lifetime Warranty extends only to the original retail or wholesale Buyer and the original site of installation. It does not cover any damage to this product or parts thereof, if the product is installed in violation of the applicable codes or ordinances, or is not installed in accordance with our installation instructions. This warranty will only include the normal operating life of the LED's which will be 10 years from the date of the original sale. It does not cover any damage that results from accident, abuse, misuse, natural disaster, insufficient or excessive electrical supply, abnormal mechanical or environmental conditions, or any unauthorized disassembly, repair, or modification. This Limited Lifetime Warranty also does not apply to any product on which the original identification or date of manufacture information has been altered, obliterated or removed. In no event shall Essex Electronics Inc. be liable for any damage to persons, property or area surrounding the installation site caused by any malfunction of the product manufactured by Essex Electronics Inc.

Essex Electronics Inc. will not pay, nor be responsible for, shipping, transportation or delivery charges, or other cost of removal of a defective product or installation of a replacement product. The original component replaced under this Limited Lifetime Warranty in any system shall become the property of Essex Electronics Inc., and as such will, at our request, be returned to our factory with transportation charges paid by the Buyer.

**Limited Lifetime Warranty:** The Essex Electronics Inc. products with a manufactured date of 5/1/06 to the present date that are covered by this

Limited Lifetime Warranty are Keypads, Keyless Entry Access Control Systems and accessories.

Essex Electronics, Inc.'s liability and Buyer's remedy under this warranty is limited to the repair or replacement at Seller's election of the product, or parts thereof, returned to Essex Electronics Inc. at Buyer's expense and shown to Essex Electronics Inc.'s reasonable satisfaction to have been defective.

Notice of any defect must be sent to Essex Electronics, Inc., 1130 Mark Avenue, Carpinteria, California, 93013, USA and must include the date code of the unit, description of the defect and factory assigned Return Authorization #. Upon receipt of such notification, Essex will determine whether to repair or replace. We also reserve the right to have our representative make any inspection or repairs, or furnish replacements.

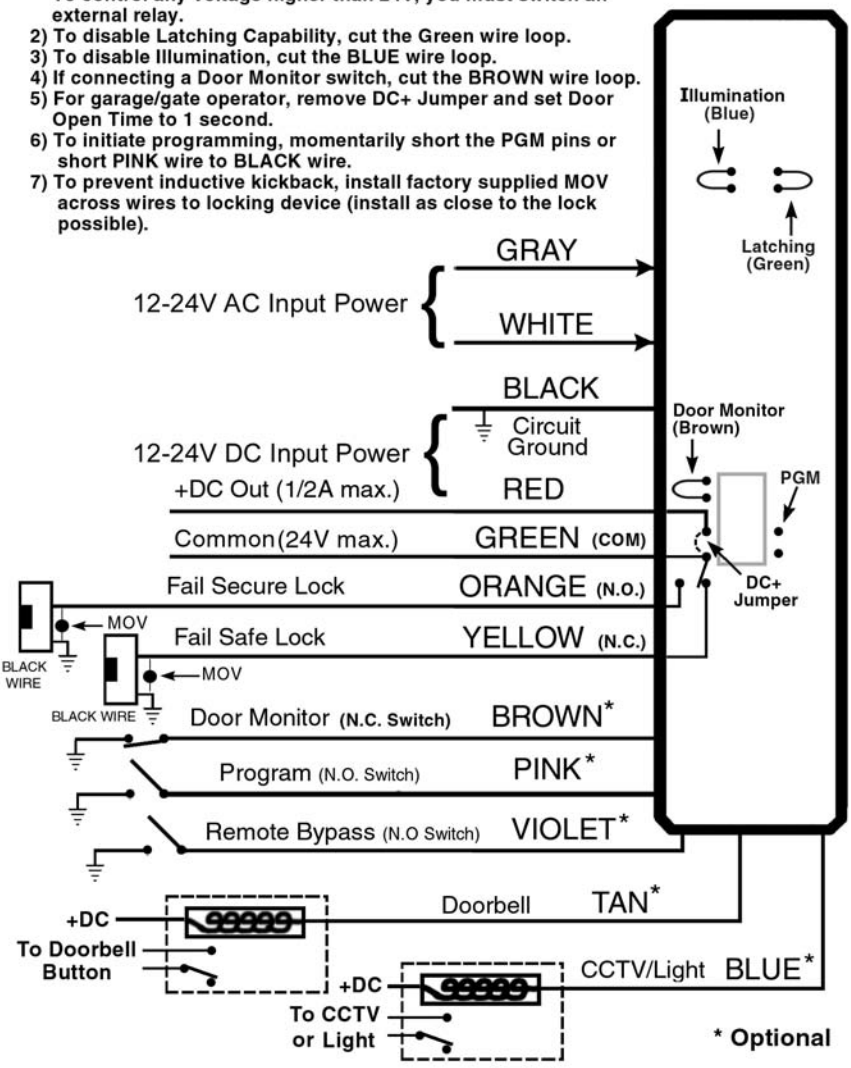
**DISCLAIMER OF WARRANTIES: LIMITATION OF BUYER'S REMEDIES**

Except for the repair or replacement at seller's option which is expressly set forth above, Essex Electronics Inc. extends no warranty of any kind, express or implied, and disclaims any implied warranty of merchantability or suitability for purpose for which sold, with respect to the keypads, keyless entry coded access system or accessories. Except for the limited repair or replacement specified above, under no circumstances will Essex Electronics Inc. be liable to buyer under or in connection with any manufacture or sale of any of the products set forth above under any tort, negligence, strict liability, contract or other legal or equitable theory, or for incidental or consequential damages, or buyer's cost of effecting insurance coverage. The foregoing limited lifetime warranty expressed herein constitutes the sole and entire warranty with respect to the products set forth above and is in place of any and all other warranties, express or implied. This warranty may not be expanded or extended by any oral representation, written sales information, advertising, drawings or otherwise. Essex Electronics Inc. is not responsible hereunder for incidental damage to person or property, or other incidental or consequential damages. The remedies of the buyer shall be limited to those provided in this limited lifetime warranty to the exclusion of any and all other remedies, including, without limitation, incidental or consequential damages. This Limited Lifetime Warranty shall be governed by and interpreted in accordance with the California Uniform Commercial Code and by the procedural laws of the State of California. Any lawsuit or other action which arises out of, relates to, or is in connection with the manufacture or sale of the products set forth above shall be governed by California law, and the venue for any such action shall be the Superior Court of the State of California in and for Santa Barbara County, California.

# Appendix A – Typical System Wiring

**Wiring Notes:**

1) The SKE is designed to control a 12 to 24V locking device. To control any voltage higher than 24V, you must switch an external relay.
2) To disable Latching Capability, cut the Green wire loop.
3) To disable Illumination, cut the BLUE wire loop.
4) If connecting a Door Monitor switch, cut the BROWN wire loop.
5) For garage/gate operator, remove DC+ Jumper and set Door Open Time to 1 second.
6) To initiate programming, momentarily short the PGM pins or short PINK wire to BLACK wire.
7) To prevent inductive kickback, install factory supplied MOV across wires to locking device (install as close to the lock possible).



# Appendix B – Typical Output Wiring