

# e-ASK

electronic **A**ccess **S**ecurity **K**eyless-entry

## **CAN Multiplex System** **Installation & Instructions** (UM27 ~ 24324-03)



500 Bailey Avenue  
P.O. Box 350  
New Hampton, Iowa 50659 U.S.A.  
Tel: 641-394-3188  
Fax: 641-394-2392  
[www.trimarkcorp.com](http://www.trimarkcorp.com)

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## **Introduction**

This manual provides the necessary information for the proper installation and use of TriMark's CAN **e-ASK** system. The **e-ASK** system comes with the following components:

- **e-FOB** keyless entry radio frequency [RF] FOB transmitter and receiver
- **e-PAD** keypad user interface

## **e-PAD Operation and Features**

The **e-PAD** is shipped with default authority and access codes. Unless the OEM or dealer has changed default codes, the authority and access codes are as follows:

### **Access code:**

| Digit 1 | Digit 2 | Digit 3 | Digit 4 | Digit 5 |
|---------|---------|---------|---------|---------|
| 1 / 2   | 3 / 4   | 5 / 6   | 7 / 8   | 9 / 0   |

### **Authority code:**

| Digit 1 | Digit 2 | Digit 3 | Digit 4 | Digit 5 |
|---------|---------|---------|---------|---------|
| 7 / 8   | 7 / 8   | 7 / 8   | 7 / 8   | 7 / 8   |

## **Locking Doors With Keypad**

Press and hold down the 1 / 2 button for 1-2 seconds. An access code is not needed to lock the doors.

## **Unlocking Doors With Keypad**

Entering a valid 5-digit access code enables a secure operation. After entering an access code, the keypad is enabled for 5 seconds and an additional button press initiates a secure operation, such as unlocking the doors.

1. Enter access code.
2. Press and release:
  - 1 / 2 button to unlock driver door, or
  - 3 / 4 button to unlock driver and passenger doors

### **Note:**

- The authority code does not allow for secure operations. It is only used to assign access codes (see page 3 for information on setting codes).
- The secure keypad operations are set depending on the system configuration.

## **e-FOB Operation and Features**

| Button | Function          |
|--------|-------------------|
| Lock   | Locks all doors   |
| Unlock | Unlocks all doors |

### **Note:**

- The RF features are an option that may not be available on your vehicle.
- The CAN module and transmitters are shipped programmed. After making all necessary wiring connections, (see page 6 for wiring information), the **e-FOB** system will function as shown.

## **Additional Features**

### **Dome/Porch Light Activation**

The dome light is activated for a timed duration (20 seconds) whenever the system is unlocked from keypad or FOB transmitter. This is an optional feature that the OEM may not have installed.

### **e-PAD Anti-tamper Deactivating Feature**

After repeated attempts to enter code (20 button presses without enabling), the keypad enters an inactive mode that disables button for 1 minute. This helps prevent access by entering random codes. The keypad does not beep while the system is disabled.

## **Teaching Keypad New Authority / Access Codes**

When a new authority code is assigned, all existing authority and access codes are erased.

**Note:** The authority code assigned following these instructions is also an access code saved to the (1 / 2) button.

1. Touch the yellow wire of keypad to ground. There will be a three-second beep. When the beep starts, remove the GND.
2. Enter a five-digit code.
3. Enter the new code again.

**Notes:**

- The authority code is to be controlled by individuals (owners of vehicle, fleet manager, etc.) who manage the distribution of access codes to vehicle users.
- The authority code should be changed when the vehicle is sold.
- The authority code does not enable secure functions (lock/unlock doors, etc.). It is only used to assign access codes.

The following area can be used to document the authority code:

Authority code:

| Digit 1 | Digit 2 | Digit 3 | Digit 4 | Digit 5 |
|---------|---------|---------|---------|---------|
|         |         |         |         |         |

**Assign New Access Codes**

With a valid authority code (see page 2), an access code can be programmed with the following instructions.

1. Press the (5 / 6) button for 5 seconds, the keypad will beep. (Backlight LEDs of the keypad flash indicating the learn mode.)
2. Enter the 5-digit authority code (see page above). Keypad will provide a long beep that will stop after you have defined an access number.
3. Press and release any button. This button corresponds to the access number being programmed. For example, press (1 / 2) button for access code #1 and press (3 / 4) button for access code #2.
4. Enter in your new 5-digit access code. The keypad will provide 3 beeps.
5. Re-enter new access code. The keypad will provide 3 beeps.

Repeat process to assign additional access codes.

- Up to 5 different access codes can be assigned at one time. As additional access codes are defined, pre-existing access codes are overwritten. For example, if a new access code is assigned for access #3, the previous access #3 code is no longer valid.
- A one second beep means that an error was made and no code was programmed.

The following area can be used to document the access code assignments.

Access code:

| Access # | Digit 1 | Digit 2 | Digit 3 | Digit 4 | Digit 5 |
|----------|---------|---------|---------|---------|---------|
| 1        |         |         |         |         |         |
| 2        |         |         |         |         |         |
| 3        |         |         |         |         |         |
| 4        |         |         |         |         |         |
| 5        |         |         |         |         |         |

**Teaching Additional Transmitter FOBs**

This applies only to the **e-ASK** system that includes the RF receiver door module.

There are 2 ways that the receiver can be put into learn mode. The first requires that a CAN keypad be connected to the network. This option allows the receiver to be put into train mode without accessing the module. The 2nd option requires access to the RF receiver door module.

**Option 1 (if CAN keypad is connected to network):**

1. Hold middle (5 / 6) button of keypad for 5 seconds. The keypad will beep and the LEDs will flash.
2. Enter authority code. Keypad will provide a sustained beep.
3. Press and hold (9 / 0) for 5 seconds. A double beep plays.
  - a. The receiver module is now in FOB Learn Mode. (The LED under the receiver enclosure will be blinking rapidly—this will not be visible unless the enclosure cover is removed.)
4. Press lock button of the first FOB to be trained for 2 seconds. Wait 3 seconds and press the lock button on each subsequent FOB. Up to 4 FOBs can work with the module at one time.
5. Press any button on the key pad to exit FOB learn mode. Four short beeps will sound and the door module will return to normal operation.
6. Verify function and range of the FOBs that were trained.

### **Option 2 (if no CAN keypad is connected to network)**

1. Remove power from door module.
2. Open up door module enclosure.
3. Move DIP switches 4-6 to the "ON" position.
4. Connect door module to CAN network.
5. Connect power to door module.
6. Wait 5 seconds. The LED will come on solid and then continue to flash.
7. Press lock button of the first FOB for 2 seconds until LED pattern changes (fast flash), then release. This synchs the first FOB transmitter.
8. Press lock FOB button of 2nd FOB for 1 second, until fast LED flash. This synchs the 2nd FOB transmitter.
9. Repeat step 8 until all FOBs are synchs (up to 4 FOBs).
10. Remove power and CAN from door module.
11. Move DIP switches 4-6 to original position and verify DIP switches 1-3 are in proper position.
12. Reassemble enclosure.
13. Reconnect power and CAN to module.
14. Verify that FOBs are synchs to the door module and that range of RF transmission is acceptable.

### **e-ASK CAN DIP Switch Configurations**

#### **DIP Switches 1-3:**

The settings of DIP switches 1-3 define the CAN address of the module. Each door module must have a unique address.

| Dipswitch | Driver Door | Front Right | Rear Left | Rear Right |
|-----------|-------------|-------------|-----------|------------|
| 1         | Off         | Off         | Off       | Off        |
| 2         | Off         | Off         | On        | On         |
| 3         | Off         | On          | Off       | On         |

### **DIP Switches 4-6:**

The setting of DIP switches 4-6 define configuration of the I/O RF receiver module. Different configurations provide different functionality for keypad and interior switches. The following configuration allows for door lock and window control:

DIP Switch 4: Off

DIP Switch 5: Off

DIP Switch 6: Off

### **DIP Switch 7:**

The setting of DIP switch 7 defines the type of remote FOB transmitter, either standard FOB or cargo FOB.

On: Cargo FOB

Off: Standard FOB (2-button)

### **DIP Switch 8:**

The setting of DIP switch 8 defines the type of CAN protocol, either RV-C or SAE J1939. Fire truck and ambulance applications would have this DIP switch on.

On: SAE J1939

## **Miscellaneous I/O Module Features**

### **Door Locking and Unlocking**

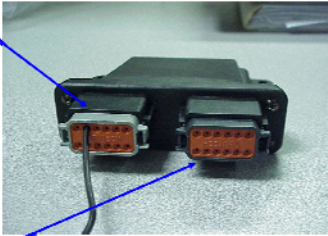
Locking and unlocking operations are activated via vehicle switch inputs or according to **e-PAD** and **e-FOB** instructions.

### **Status LED**

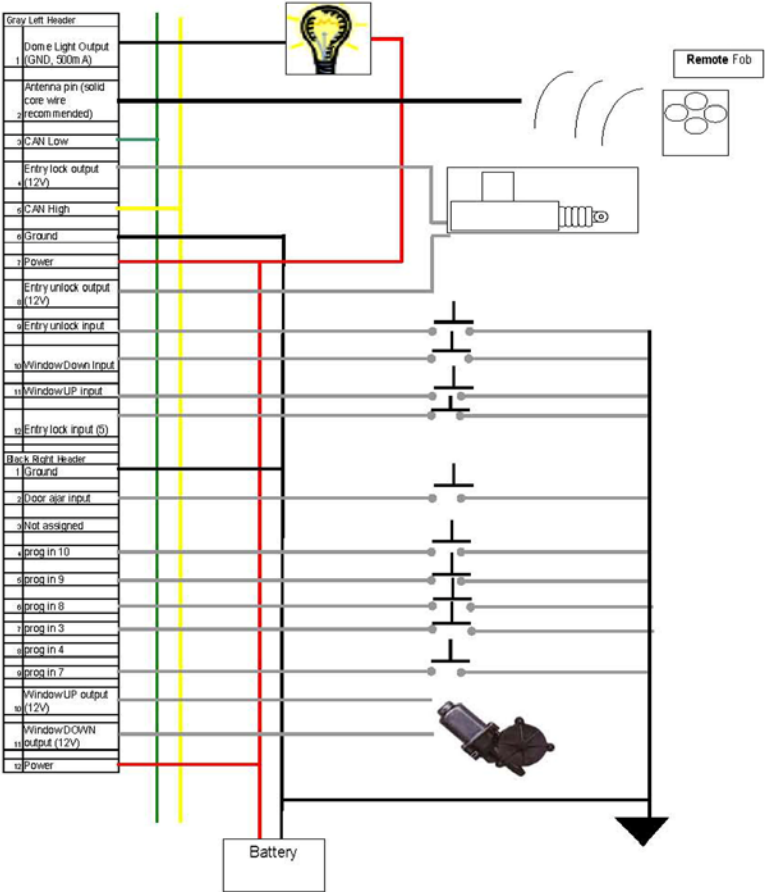
LED flashes at power-up and can provide other troubleshooting diagnostics codes. Status LED is on PCB of I/O module so enclosure needs to be removed to clearly see LED.

# Wiring Assignments

| Gray Left Header |                   | Connector: Deutsch DT06-12SA (currently 128A) |                   | Terminal: Deutsch 1062-16-1122 |                    | Wedgelock: W12S (currently 128) |                  |
|------------------|-------------------|-----------------------------------------------|-------------------|--------------------------------|--------------------|---------------------------------|------------------|
| 1                | Dome Light output | 2                                             | Antennae pin      | 3                              | CAN Low            | 4                               | Door Lock output |
| 5                | CAN High          | 6                                             | Ground            | 12                             | Door Lock input    | 11                              | Window UP input  |
| 10               | Window Down input | 9                                             | Door Unlock input | 8                              | Door Unlock Output | 7                               | Power            |



| Black Right Header |                            | Connector: Deutsch DT06-12SB (currently 128B) |                             | Terminal: Deutsch 1062-16-1122 |                               | Wedgelock: W128 (currently 128) |                              |
|--------------------|----------------------------|-----------------------------------------------|-----------------------------|--------------------------------|-------------------------------|---------------------------------|------------------------------|
| 1                  | Ground                     | 2                                             | Door ajar input             | 3                              | Not Assigned                  | 4                               | Right Rear window down input |
| 5                  | Right Rear window up input | 6                                             | Left Rear window down input | 12                             | Power                         | 11                              | Window DOWN output           |
| 10                 | Window UP output           | 9                                             | Left Rear window up input   | 8                              | Front Right window down input | 7                               | Front Right window up input  |



## Troubleshooting

| Problem Description                                  | Possible Solution                                                                                                                                                                                                 |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>e-FOB Hints</b>                                   |                                                                                                                                                                                                                   |
| Button press does not provide correct operation      | Verify power to the I/O module and RF receiver.                                                                                                                                                                   |
|                                                      | Re-teach the FOB transmitter to the receiver.                                                                                                                                                                     |
| No operation or intermittent operation               | Mount RF receiver away from enclosed metal areas and fully extend antennae.                                                                                                                                       |
|                                                      | Check FOB transmitter battery voltage. Batteries may need to be changed every 1-2 years depending on usage.                                                                                                       |
| Check particular <b>e-FOB</b> function does not work | Check wire connection of affected function at RF module, wiring harness, and I/O module.                                                                                                                          |
| <b>e-PAD Hints</b>                                   |                                                                                                                                                                                                                   |
| No response with button press                        | Verify power to the I/O module.                                                                                                                                                                                   |
|                                                      | Verify that keypad cable is connected. (rest of system will function)                                                                                                                                             |
| Access code is not recognized                        | Verify that code has not been changed. Reassign keypad access code with instructions on page 3.                                                                                                                   |
|                                                      | Confirm use of an access code, not the authority code.                                                                                                                                                            |
| Key FOB works correctly, keypad beeps, but no output | Cycle power to I/O module. Check power connections.                                                                                                                                                               |
| Keypad beeps continually                             | Problem is detected on the communication network (CAN). Check that network is valid by confirming that other modules are plugged into network and that terminating resistors are correct value and are installed. |
| Unexpected operation occurs                          | Verify DIP switches on I/O module are set to correct configuration setting.                                                                                                                                       |
|                                                      | Verify keypad configuration is correct.                                                                                                                                                                           |

| Problem Description                                                             | Possible Solution                                                                                                                                                                                                                   |
|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>e-ASK I/O Module Hints</b>                                                   |                                                                                                                                                                                                                                     |
| No response in any system element. No LED flash (LED is under enclosure cover). | Verify power to the I/O module.                                                                                                                                                                                                     |
| Unexpected operations occurs                                                    | Verify DIP switches are set to correct configuration setting.                                                                                                                                                                       |
| No response in any system element. LED flashing (LED is under enclosure cover). | I/O module is detecting problem with communication network (CAN). Check that network is valid by confirming that other modules are plugged into network and that network terminating resistors are correct value and are installed. |



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Follow proper safety practices. If in doubt, consult a professional RV technician.