

# INSTALLER GUIDE

## TEC1A SERIES

**Covers: T1A2LxxxBSK/DLX/PRM  
T1A4LxxxBSK/DLX/PRM**

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## **1 Installation – TEC1A Series Access Controllers**

### **1.1 Safety Warnings / Avertissements de Sécurité**

#### **1.1.1 English Language**

For your safety please observe the following recommendations when installing TEC1A series product enclosures:

- ❖ Never install equipment during a lightning storm or other hazardous event
- ❖ Do not bring mains voltage cabling into the product enclosure or attempt to connect mains voltage to any wires leading from the product, or the enclosure housing itself. Only the isolating transformer supplied with the product should be connected to the electrical mains supply by following the installation instructions below
- ❖ In wet locations, only install wiring and cabling rated for wet locations
- ❖ Never touch un-insulated telephone wires or terminals unless the telephone line has been disconnected at the telephone network interface
- ❖ Follow industry-recommended installation practices when installing cables and grounding wires
- ❖ Do not attempt to use the provided isolating transformer to supply other equipment - it is intended solely for the purpose of powering access controllers in the TEC1A series

#### **1.1.2 Sécurité Avertissements En français**

Pour votre sécurité, observez les recommandations suivantes lors de l'installation des boîtiers pour le produit de la série TEC1A :

- ❖ N'installez jamais l'équipement pendant un orage ou tout autre événement dangereux
- ❖ Ne connectez aucun câblage de courant du secteur au boîtier du produit. Ne tentez pas de connecter le courant du secteur aux fils sortant du produit ou au boîtier lui-même. Ne connectez au courant du secteur que le transformateur de séparation fourni avec le produit, en suivant les instructions d'installation ci-dessous
- ❖ Dans les emplacements mouillés, installez uniquement des fils et câbles homologués pour les emplacements mouillés
- ❖ Ne touchez jamais des fils ou des bornes de téléphone non isolés, sauf si la ligne téléphonique a été déconnectée au niveau de l'interface réseau téléphonique
- ❖ Suivez les pratiques d'installation recommandée par l'industrie lors de l'installation des câbles et des fils de mise à la terre
- ❖ Ne tentez pas d'utiliser le transformateur de séparation à l'alimentation électrique d'autres équipements. Il est destiné uniquement à l'alimentation électrique des contrôleurs d'accès de la série TEC1A

## **1.2 Coordination with Telephone Company**

Installation of TEC1A requires coordination with your telephone company.

A Touch-Tone™ line **is required** for dialing out purposes – legacy pulse dialing is not available.

The phone company may require the following information:

- The ringer equivalence number (see label inside TEC1A enclosure).
- The FCC registration number (see label inside TEC1A enclosure).
- The desired location of the telephone jack (must be given to the phone company at the time the phone line is ordered).

### 1.3 Mechanical Mounting

#### 1.3.1 Installation Heights

Figure 1 shows the recommended installation heights for TEC1A series access controllers.

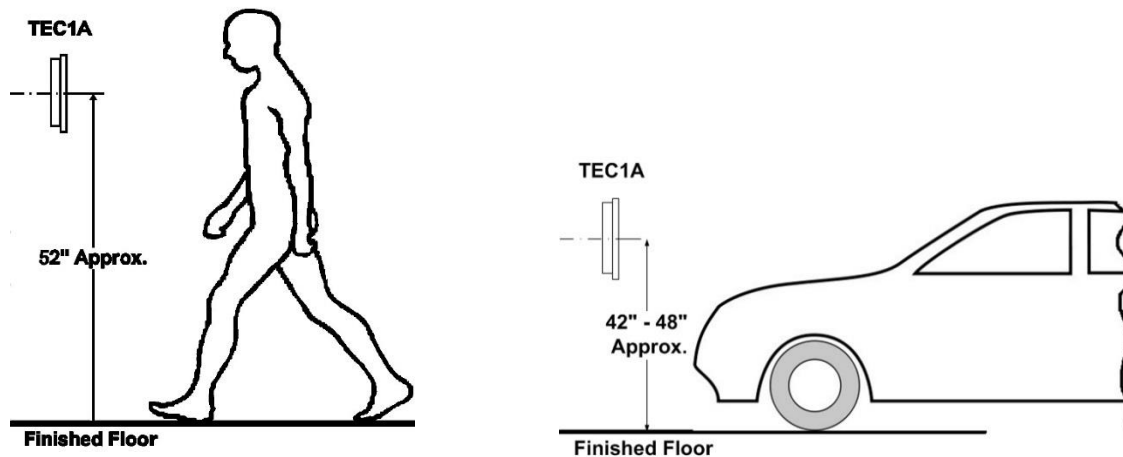


Figure 1: Installation Height for Pedestrian and Drive-Up Applications

#### 1.3.2 Surface Mount

Mount the back-box using the holes provided.

#### 1.3.3 Flush Mount

Cut a hole the size of the back box  $8 \frac{1}{2}$ " (w) x  $11 \frac{3}{4}$ " (h) in the wall, then mount the TEC1A in the hole.

#### 1.3.4 Optional Weather Hood Recommendation

It is recommended that an optional weather hood be used when mounting a TEC1A in a stand-alone application to protect it from direct exposure to rain and snow. Please call Factory for availability.

#### 1.3.5 Sealing

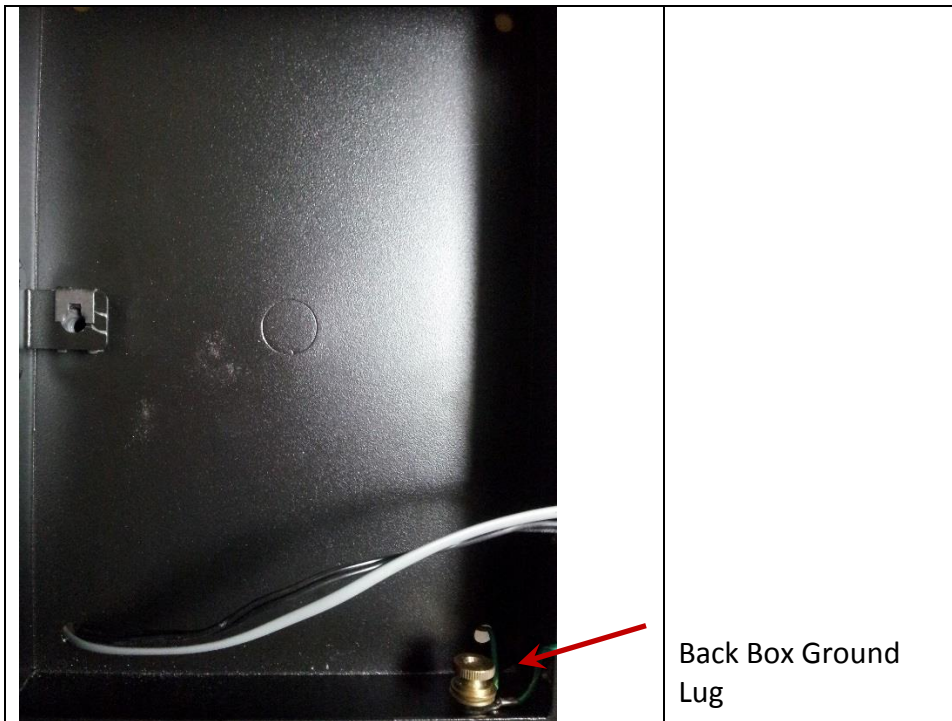
All openings and penetrations of the TEC1A enclosure should be sealed with suitable RTV silicon sealant.

## 1.4 Electrical

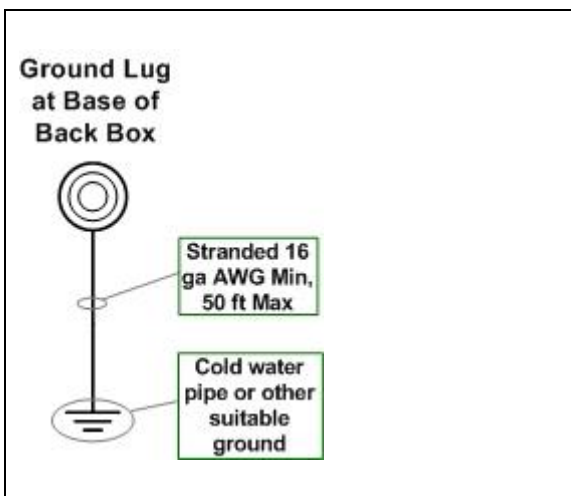
### 1.4.1 Grounding

The TEC1A **MUST BE AT EARTH GROUND POTENTIAL.**

Connect a #16 stranded or larger wire from the ground lug in the base of the back box of the TEC1A to a cold water pipe or other suitable ground. This wire should be less than 50 feet in length. See Figure 2 for the location of the back box ground lug.



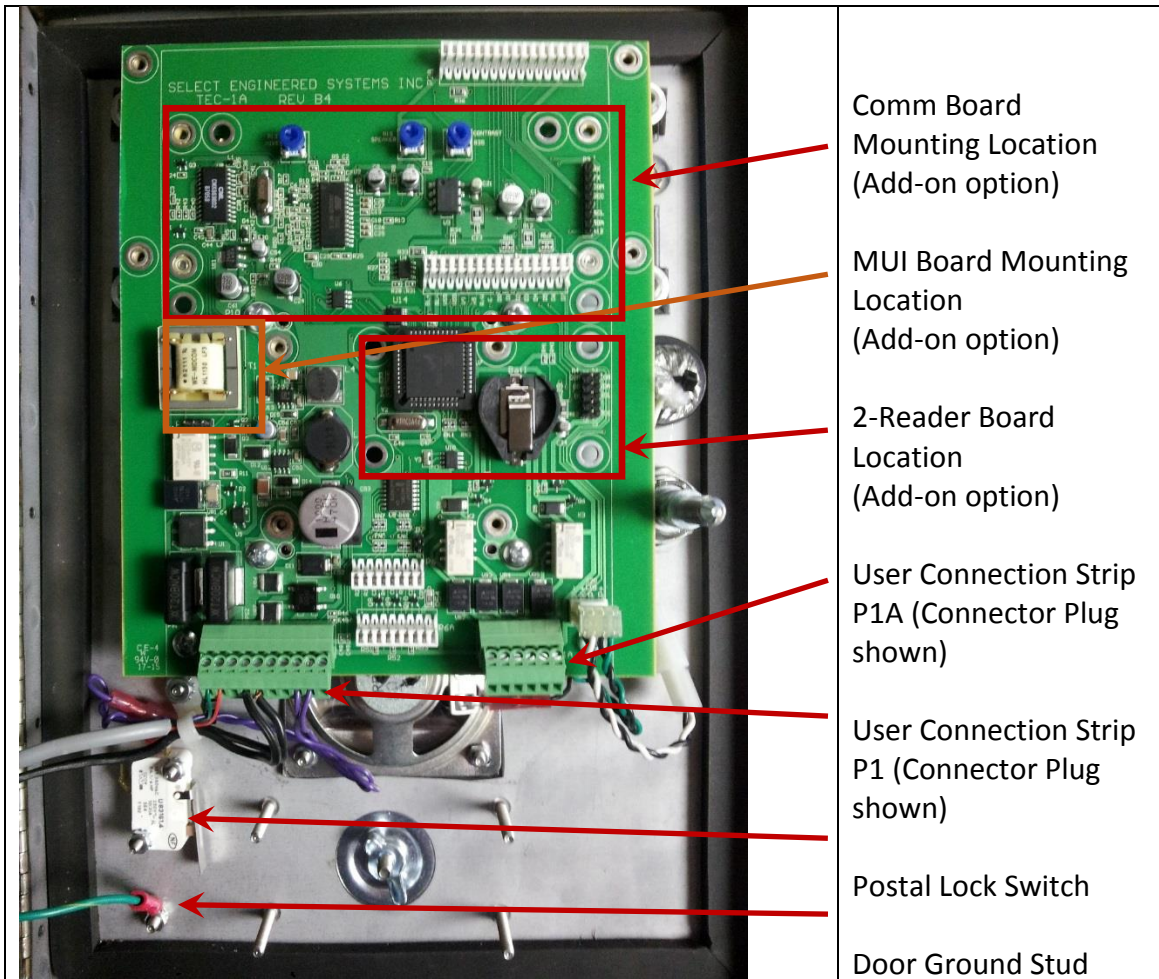
**Figure 2: TEC1A Location of Back Box Ground Lug**



**Figure 3: TEC1A Ground Lug Connection**

**1.4.2 Overall Main Board Layout**

See Figure 4 below for an image of the main board.



**Figure 4: Inside Door of TEC1A**



**1.4.3 User Connections**

Figure 5 shows the Terminal Strip connections P1 and P1A for user connections, along with the Door Ground Stud. No other connections are required.

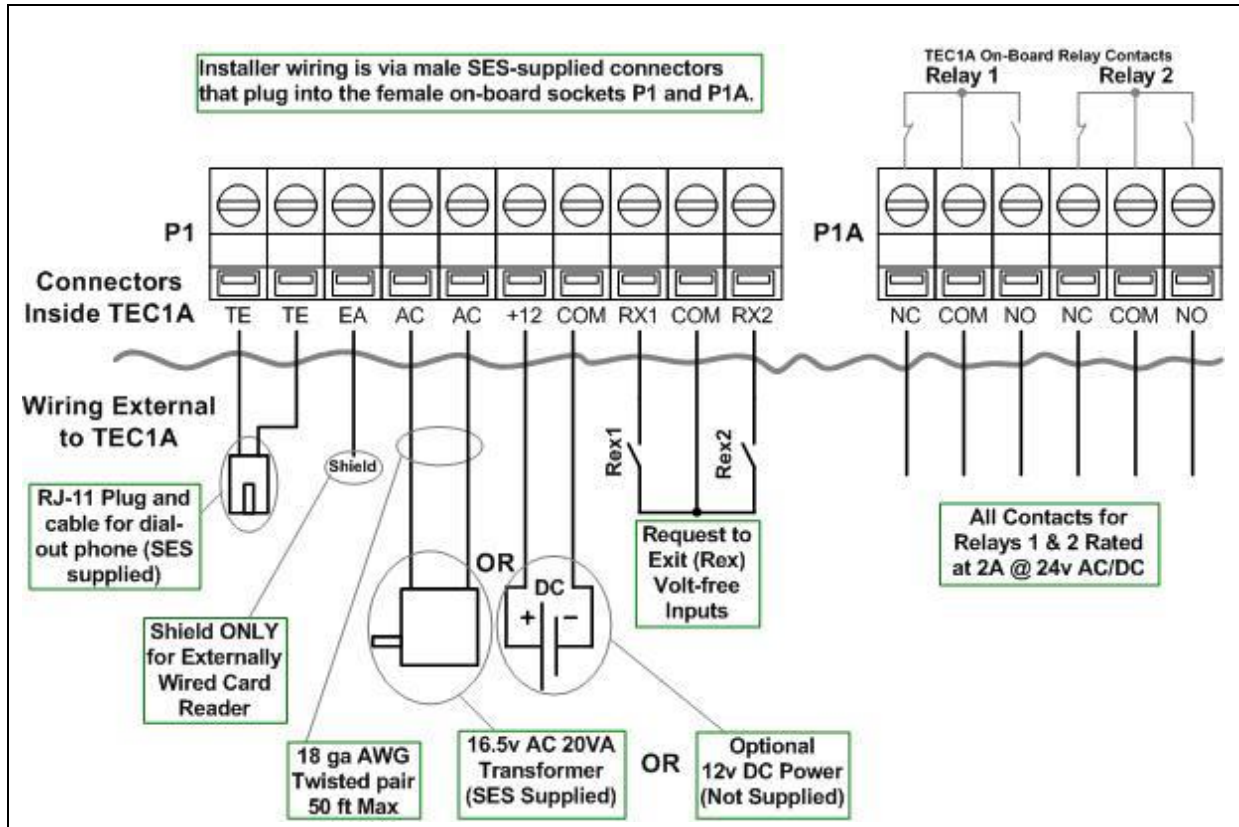


Figure 5: TEC1A User Connections

**1.4.3.1 Telephone Connection**

Use the RJ-11 supplied with the flying lead to connect the TEC1A to the telephone network provided.

**WARNING – FCC Regulations**

Failure to use the RJ-11 supplied may invalidate FCC regulatory compliance.

**CAUTION Do Not Connect Other Non-SES Equipment**

NO OTHER TELEPHONE DEVICES or NON-SES EQUIPMENT should be attached to this phone line.

The exception is when connecting additional SES access controllers. In this case, an optional MUI plug-in board must be used, allowing up to four SES Access Controllers to be connected on the same line.

#### 1.4.3.2 TEC1A Power

Power can be supplied in ONE of two ways. Either:

1. Using the SES-supplied 16.5 20 VA transformer OR
2. Connecting an external 12v DC source

**WARNING**

**Do not use both connections at the same time. Damage to the TEC1A may occur and void the warranty.**

The SES transformer wires should be connected into the terminal pair “AC” and “AC” on connector P1. Plug the transformer into a standard 110v ac mains socket.

***If used instead***, the external battery should be connected into the terminals “+12” and “COM” on connector P1 with **NO** connections on “AC” and “AC”. **Do not use “COM”** associated with either the REX inputs or Relays to supply battery power.

For an external 12V DC source, **idle** current consumption is as follows:

<b>12V DC IDLE Current Table</b>			
<b>LCD Display</b>	<b>Idle Current (mA) Per Model</b>		
	<b>Basic</b>	<b>Deluxe</b>	<b>Premium</b>
2-Line	55	79	139
4-Line	82.5	106.5	166.5

### 1.4.3.3 Rex (Request to Exit) Inputs

The request to exit inputs (RX1 and RX2) are VOLT-FREE (dry) contacts located on connector P1 as shown in Figure 5. No external voltage is either required or desired.

To use either Rex input, connect the COM (between RX1 and RX2 of connector P1) to one side of the external relay's **contact** being used to request exit, then connect either RX1 or RX2 to the other side of the relay contact as desired. Figure 5 refers.

#### **WARNING – Rex Inputs**

**Connecting an external voltage source to either Rex input will cause damage and void the warranty.**

### 1.4.3.4 Relays

Relays are connected to terminals on connector P1A. Both normally open (NO) and normally closed (NC) contacts are available for both relays without the need for board configuration.

#### **WARNING – Relay Contacts Maximum Ratings are 2A @ 24 Volts AC or DC**

**Failure to comply with the maximum ratings shown for relays will cause damage and void the warranty.**

### 1.4.4 Option Cards

Three separate option cards can be added to the TEC1A:

- Multiple Unit Interface (MUI) Card
- Comm Board
- 2-Reader Board

The instructions for installation of each of these can be found on the SES website [www.selectses.com](http://www.selectses.com) or with the individual card packages when ordered.

**1.5 Programming a Directory Record with a PIN into a TEC1A**

The following steps show how to set a directory record (Code, Name, Phone # and PIN for entrance 1 with 24/7 access) using the keypad. It assumes the TEC1A is powered on and that the Welcome Page e.g. “Press # to View Directory” is displayed before starting. Note that Steps 4 and 5 are included to check if PINs are enabled. Once PINs are enabled, steps 4 and 5 can be skipped for future entries. For all other settings please refer to “TEC1A Series Menus”.

<b>Steps to Program a Directory Record with a PIN into a TEC1A using the Keypad</b>			
<b>#</b>	<b>Step Description</b>	<b>Keypad Action</b>	<b>Resulting Display</b>
1	Enter Programming Mode	Press * and 0 at same time	PASSWORD
2	Enter Password	Press 6 digit password (default is “777777”) <b>then *</b>	MAIN MENU 1 - 8
3	Select Codes & Names	Press 1	CODES & NAMES SELECT 1 - 9
4	Skip this step if you know PINs are enabled	Press 8	ENABLE PINS = 0 or ENABLE PINS = 1
5	Complete check of Enable PINs setting	If ENABLE PINS = 0, press 1 <b>then *</b> If ENABLE PINS = 1, press *	CODES & NAMES SELECT 1 - 9
6	Select Add New	Press 1	CODE =
7	Enter a code e.g. 100	Press “100” <b>then *</b>	NAME =
8	Enter a name e.g. JOHN.	<b>Note: #</b> moves cursor to next character Press J# O# H# N# <b>then *</b>	PHONE # =
9	Enter phone number	e.g. 3055551212 <b>then *</b>	PIN =
10	Enter 4-digit PIN	e.g. 1234 <b>then *</b>	ENTRANCE = 0
11	Set Entrance 1	Press 1 <b>then *</b>	TG GROUP = 0
12	Set Group 0 (24/7 access)	Press 0 <b>then *</b>	CODE =
13	Enter more records <b>OR</b>	Repeat as needed from end of step 6 with new data. <b>Note that no two codes and no two pins can be identical.</b>	
14	Exit Programming Mode	Press *0 together	Welcome Page