Operating Instructions for the ESL20 Electronic Safe Lock

Your AMSEC ESL20 Electronic Safe Lock has a Master Combination of

C-1-2-3-4-5-6-#

To open the lock, simply press the "C" key to clear and wake up the electronics. Now press the keys of the combination one at a time and finish with the "#" key. If the combination keyed is correct, the lock will cycle open for three (3) seconds. During this 3-second period, turn the handle of the safe to the unlocked position and pull the door open.

Contents

1 ESL20 Lock Features

The ESL20 Electronic Safe lock has many advanced features used in commercial applications. These features offer the Supervisor, referred to as the *Master User*, the ability to manage access to the safe in many ways. The features are:

1.1 **Time Delay**: Time delay forces the user to wait a pre-determined time period before the safe can be opened. This feature is a robbery deterrent, whereby the user can cooperate with a robber in opening the safe, but forces the robber to wait before access is granted. The idea is that a robber is too impatient to wait that long and gives up. Time delay periods are typically set for 10 or 15 minutes. The ESL20 can be set for a Delay Period of 1 to 99 minutes. If a user keys in a valid combination, a flashing of the LED lamp approximately 2 times per second indicates the Delay Period. At the end of the Delay Period, a long warbling tone is sounded to indicate the completion of the delay. An Open Period begins timing after the completion of the Delay Period and is indicated by 4 beeps and LED flashes every five seconds. During this period, the user must key a combination and cause the lock to open. The open period can be set for 1 to 9 minutes long. Time Delay can be canceled during the delay period by pressing "C – (any number key) - #".

1.2 **Multiple Users**: Many cash handling methods require that several people have access to the safe. With an electronic lock in multi-user mode, there is no need for all users to share the same combination, as is the case with a mechanical combination lock. This feature also allows the supervisor the ability to control the subordinate users individually and makes employee turnover easier to manage because individual users can be added and deleted at will without affecting others. A *"Poor Man's Time Lock"* effect can be implemented daily where the Master User can disable the Multi-User Mode at the end of the day and then re-enable the mode at the beginning of the next business day. This causes the lock to reject all the Subordinate User Codes during off-business hours. The individual subordinate user codes are not lost, just disabled.

1.3 **Dual Control**: This feature provides for a higher level of security, where two different combinations are required to open the safe. When set, the lock requires that two users key their individual combinations, one after the other, before the lock will open. After the first user keys a valid combination, a short warbling tone is sounded, and the second user

is then required to key a valid code. If no second code is keyed within 10 seconds, the lock goes to the resting condition and the process must be started again.

1.4 **Armored Car Time Delay Bypass**: This feature allows Time Delay to be used under normal access situations, but provides a means to bypass time delay when cash handling methods require that an Armored Car courier can take deposits without waiting for the delayed access. It still requires that a valid resident User be present to open the safe. The Armored Car Code (User 9) can be keyed in first, followed by a valid user code or, the Armored Car Code can be used during the Delay Period to stop the delay and then the user can open the lock with a valid code.

1.5 **Duress Alarm**: This feature requires that one of the optional Expansion Modules (ESL20EXP1, ESL20EXP2 or ESL20EXP3) be attached to provide electrical connection to external systems like alarms and monitoring services. The feature allows a user to secretly signal that they are under duress, or being forced to open the safe in a robbery situation. When a user keys a combination, finishing with the last number of the combination 1 digit high *or* 1 digit low, a *one second* contact closure of the output relay is caused. This contact closure is the same as if someone had pushed a "panic" button to summon help. By signaling secretly at the safe, the user doesn't risk angering the robber and possible injury.

1.6 **External Control**: This feature allows the ESL20 to be disabled and enabled by an auxiliary device like an Access Manager, Key Switch, external Alarm System, etc. The Expansion Modules (ESLAC, ESL20EXP1 and ESL20EXP2) provide terminals for external device connection. When the External Control Mode is enabled and the Lock Enable input loop is open, the lock will not open when a combo is entered, it will indicate with a quick 4 beep/flash. The Factory Reset Code will clear this condition if it was set accidentally.

1.7 **Auxiliary AC Power**: The ESL20 can utilize an external power source to operate at optimum performance with the batteries acting as a backup system in the case of power failure. This feature requires one of the Expansion Modules, ESLAC (which includes a transformer) or an ESL20EXP1 or ESL20EXP2 with the ESLTFMR added.

1.8 **Subordinate User Control**: The Master User has the option of allowing or not allowing certain capabilities of the Subordinate Users as follows.
   a. The Subordinate User changing their own combination.
   b. Two Subordinate Users opening the safe in Dual Combo Mode.
   c. The Subordinate User authorizing Armored Car Time Delay Bypass.

1.9 **Reset All Functions**: A function has been provided to reset all the functions to what is considered "default" settings. It disables all the various modes, *deletes* all the users, their codes, and cleans up any unknown settings. This is useful to get a fresh start after programming has been lost track of or for personnel changes at the Master User level.

2 A few things to remember.

2.1 With each keystroke the red lamp on the keypad will flash and a chirp can be heard.

2.2 If 4 (four) incorrect combinations are entered, the lock will go into a "Penalty Lockout" for 15 minutes to prevent trial and error manipulation attempts at opening the lock. The red lamp will flash once every 5 seconds during the penalty period. If you press any key during the lockout period, the red lamp will flash with a chirp 8 times rapidly to indicate the lockout condition. Note that removing power during lockout will only re-start the penalty timing.

2.3 Before keying the combination, be sure that the handle of the safe is in the fully locked position to allow the lock to open freely.

2.4 If the lock fails to open or acts strange, replace the batteries with good quality fresh alkaline 9-volt batteries. To replace the batteries, simply turn the keypad housing counter-clockwise to the stop and pull it away from the base. Un-snap the old batteries and clip on the new ones. Position them in the pocket at the bottom of the housing and replace it, watching that the wires are not pinched. You should replace your batteries once a year to prevent corrosion damage from leaking batteries.

2.5 During any input sequence, if you make a mistake, you can press "C" to clear the previous input and start over again.

2.6 The ESL20 uses a *fixed length 6 (six) digit combination*.

2.7 Use only your fingers to key the combination. Sharp objects will result in damage, which is not covered by the warranty.

2.8 If at *any time* during opening or combination changing the unit is left without input for 10 seconds, it returns to a resting condition. If this occurs during a combination change, the Old Combination is retained.

2.9 At *any time* during opening or combination changing the unit will register the first 5 digits of the combination into the "buffer" that receives input. The 6th digit will be the last numeric key pressed. For example, if your press **C-1-2-3-4-5**-7-4-5-2-7-**6-#** the program recognizes only the C-1-2-3-4-5-6-# input. The last numeric key pressed continues to replace the one prior until the "#" key is pressed to indicate completion. This is a security feature that allows you to baffle an on-looker that may be trying to memorize your combination. This is the electronic equivalent to a Spy proof Dial.

3 Users

There are 10 User Combinations possible. The Master User (User 0) is the one and only code that is allowed to control all the other users, their access privileges and function setting. Users 1-8 are only active if Multi-User mode is *Enabled* and the individual User Number has been *Enabled* and a combination entered for that user by the Master User.

3.1 User 0: Designated the Master User. Has control over all Subordinate Users and setting of all functions.

3.2 Users 1 through 8: Referred to as Subordinate Users. They only have access and privileges as the Master User assigns them.

3.3 User 9: Armored Car Code. This is a special code used only for the purpose of bypassing the Time Delay. This code will not open the lock alone, only authorize an opening when Time Delay is active.

4 Combination Changing

One of the strengths of an electronic safe lock is the quick and easy changing of the combination(s). This adds to security because you can change it at will if you suspect your combination is known by others.

The combination change method for the Primary code (Master User) can be done two ways, with or without a User Number. All combination changes require and authorization code and two entries of the new combo as verification.

Note: In the event that Function 60 (Subordinate Combo Change) is set to Disable (F60=0), only the Master Code will authorize a change.

4.1 Master User Code change: At any time, the Master User combo can be changed by keying:

C - # - (Old Master Code) - # - (New Master Code) - # - (New Master Code) - #

4.2 Multiple User Mode Change and F60=1: Changing of any combination, including the Master User Code, can be changed by the following sequence:

C- # - (User No.) - # - (Old User Code) - # - (New User Code) - # - (New User Code) - #

4.3 In the event Function 60 is Disabled (F60=0) or you are adding a new User, then the combo change must be authorized with the Master User's code:

C- # - (User No.) - # - (Master Code) - # - (New User Code) - # - (New User Code) - #

Combination Change Examples

The Master Combo is 159260 and you wish to change it to 918273. Do the following:

C-#-0-#-159260-#-918273-#-918273-#   or   C-#-159260-#-918273-#-918273-#

User 5's combination is 342312 and you wish to change it to 768798

C-#-5-#-342312-#-768798-#-768798-#

User 5's combination is unknown and you wish to set it to 768798, the Master Combo is 159260

C-#-5-#-159260-#-768798-#-768798-#

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5 Lock Feature Setting and Function Codes.

The ESL20's advanced features are controlled *only* by the Master User, and are set using Function Codes. A function can be turned on and off, or set, using the Function Code with the Master User code as authorization for changing or setting the function. A Function Code is a 2-digit code that associates to a particular setting. Each Function Code has a default, or standard setting, which is in the lock when there have been no changes or after a Function Reset (F99) has been executed. They are as follows.

Function Code List   Enable=1, Disable=0

Function	Function Description	Setting Range	Default
01	**Time Delay Mode** Enable/Disable	1 or 0	0
02	Set Time Delay Period	1 to 99	10
03	Set Open Period	1 to 9	5
10	**Multiple User Mode** Enable/Disable	1 or 0	0
11	Add/Enable a User Combo	1 to 8	
12	Disable a User Combo	1 to 8	
13	Disable All Users	1	
20	**Duress Mode** Enable/Disable	1 or 0	0
30	**Dual Combo Mode** Enable/Disable	1 or 0	0
31	Enable/Disable Two Subordinate Combos Opening	1 or 0	0
40	**Armored Car Time Delay Bypass** Enable/Disable	1 or 0	0
41	Enable/Disable Subordinate Authorization of TDL Bypass	1 or 0	1
50	**External Control Port** Enable/Disable	1 or 0	0
60	**Subordinate User Combo Change** Enable/Disable	1 or 0	1
99	**Reset All** Functions to Default settings	1	

A function is set in the following standard format:

C - # - (2 Digit Function Code) - # - (Master User Code) - # - (Function Setting) - #
  ↑SGCT   ↑SGCT   ↑SGCT   ↑LGCT

After each "#", a Short Good Combo Tone (SGCT) will be given, until the last "#" of the sequence is pressed, at which time it gives a Long Good Combo Tone (LGCT) indicating the successful setting of a function. Any time during the sequence, if incorrect numbers are pressed, a Bad Combo Tone (4 short beeps) will sound and the lock will go to rest. A function that has an on/off condition rather than a numeric setting requires a **1** (on) or a **0** (off) as the Function Setting.

Note: If a default setting is what is desired, then the setting of that function is not necessary.

5.1 Time Delay Settings (Functions 01, 02 & 03)

5.1.1   To Enable Time Delay:

      C - # - 01 - # - (Master Code) - # - 1 - #

5.1.2   To Disable Time Delay:

      C - # - 01 - # - (Master Code) - # - 0 - #

5.1.3   To set the Delay Period:

      C - # - 02 - # - (Master Code) - # - (Delay Period, 1-99 minutes) - #

5.1.4   To set the Open Period:

      C - # - 03 - # - (Master Code) - # - (Open Period, 1-9 minutes) - #

Time Delay Setting Example. To set Time Delay for 12 minutes, Open Period to 4 minutes and the Master Combo is 159260, you must execute 3 function codes as follows:

1.   First, Enable the Time Delay with   C-#-01-#-159260-#-1-#
2.   Then, set the Delay Period with   C-#-02-#-159260-#-12-#
3.   And finally set the Open Period with   C-#-03-#-159260-#-4-#

5.2 Multiple User Settings (Functions 10, 11, 12 & 13)

5.2.1   To Enable Multiple User Mode:

      C - # - 10 - # - (Master Code) - # - 1 - #

5.2.2   To Disable Multiple User Mode:

      C - # - 10 - # - (Master Code) - # - 0 - #

5.2.3   To Add or Enable a Subordinate User:

      C - # - 11 - # - (Master Code) - # - (User Number, 1-8) - #

5.2.4   To Disable a Subordinate User:

      C - # - 12 - # - (Master Code) - # - (User Number, 1-8) - #

5.2.5   To Disable all Subordinate Users (1-8):

      C - # - 13 - # - (Master Code) - # - 1 - #

Note: Disabling a Subordinate User does not erase the combo associated to that user, so if you re-enable that User number it is not necessary to re-enter a combo for it unless you are treating it as a new user.

Enabling Multi-User Mode and Adding a New User Example. To add a User 3 and set a combination for that User, the Master Combo is 159260 and set User 3 combo to 121314:

1.   First, Enable Multiple User Mode with   C-#10-#-159260-#-1-#
2.   Then, Add User 3 with   C-#-11-#-159260-#-3-#
3.   And finally set a combo for User 3   C-#-3-#-159260-#-121314-#-121314-#

5.3 Duress Alarm (Function 20)

5.3.1   To Enable Duress Mode:

      C - # - 20 - # - (Master Code) - # - 1 - #

5.3.2   To Disable Duress Mode:

      C - # - 20 - # - (Master Code) - # - 0 - #

5.4 Dual Combo (Functions 30 & 31)

5.4.1   To Enable Dual Combo Mode:

      C - # - 30 - # - (Master Code) - # - 1 - #

Note: Enabling Dual Combo Mode turns on (enables) User 1 if a User 1 is not already active in Multi-User mode. *The User 1 combo must be set before this feature will function*. See Section 4 for changing instructions.

5.4.2   To Disable Dual Combo Mode:

      C - # - 30 - # - (Master Code) - # - 0 - #

5.4.3   To Enable 2 Subordinate User Opening in Dual Combo Mode:

      C - # - 31 - # - (Master Code) - # - 1 - #

5.4.4   To Disable 2 Subordinate User Opening in Dual Combo Mode:

      C - # - 31 - # - (Master Code) - # - 0 - #

5.5 Armored Car TDL Bypass (Functions 40 & 41)

5.5.1   To Enable Armored Car TDL Bypass:

      C - # - 40 - # - (Master Code) - # - 1 - #

Note: Enabling Armored Car Bypass turns on (enables) User 9, which is the Armored Car User. *The User 9 combo must be set before this feature will function*. See Section 4 for changing instructions.

5.5.2   To Disable Armored Car TDL Bypass:

C - # - 40 - # - (Master Code) - # - 0 - #

5.5.3   To Enable Subordinate Authorizing User Armored Car TDL Bypass:

C - # - 41 - # - (Master Code) - # - 1 - #

5.4.4   To Disable Subordinate Authorizing User Armored Car TDL Bypass:

C - # - 41 - # - (Master Code) - # - 0 - #

5.6   External Control (Function 50)

5.6.1   To Enable External Control:

C - # - 50 - # - (Master Code) - # - 1 - #

5.6.2   To Disable External Control:

C - # - 50 - # - (Master Code) - # - 0 - #

5.6   Subordinate User Combo Change (Function 60)

5.6.1   To Enable Subordinate User Combo Change:

C - # - 60 - # - (Master Code) - # - 1 - #

5.6.2   To Disable Subordinate User Combo Change:

C - # - 60 - # - (Master Code) - # - 0 - #

5.7   Reset All Functions (Function 99)

5.6.1   To Reset All Functions:

C - # - 99 - # - (Master Code) - # - 1 - #

6   Mixed Operating Modes

Any combination of modes can be active at the same time. Here are some situations that are possible and how they interact together.

6.1   Dual Combo and Time Delay: Any one valid combo can start the Time Delay, but after the Delay Period, two different valid combo's are necessary to cause lock opening.

6.2   Armored Car Code, Dual Combo and Time Delay: Armored Car TDL Bypass only allows the bypassing of Time Delay. Two valid User codes are still necessary to open the lock even the when Armored Car Code is used to bypass Time Delay.

6.3   Duress Alarm output will be caused any time the Duress code is entered by any User during opening or starting of Time Delay. Requires Expansion Module.

6.4   Enabling Dual Combo Mode automatically adds a User 1, even if Multi-User Mode is disabled. Don't forget to set a Code for User 1 or there will not be two codes to open the lock.

7   Record Keeping Aids

Use this table to track Function Settings

F	Function Description	Range	Date						
01	Time Delay Mode	1 or 0							
02	Time Delay Period	1-99							
03	Open Period	1-9							
10	Multiple User Mode	1 or 0							
20	Duress Mode	1 or 0							
30	Dual Combo Mode	1 or 0							
31	Two Subord. Combos Open	1 or 0							
40	Armored Car TDL Bypass	1 or 0							
41	Subord. Auth. of TDL Bypass	1 or 0							
50	External Control Port	1 or 0							
60	Subord. User Combo Change	1 or 0							

Use this table to track Users

User No	Assigned To	Date	Assigned To	Date	Assigned To	Date
0						
1						
2						
3						
4						
5						
6						
7						
8						
9						

User No	Assigned To	Date	Assigned To	Date	Assigned To	Date
0						
1						
2						
3						
4						
5						
6						
7						
8						
9						