

Electronic Solutions Inc.

ES530 Module Installation Instructions

Wiring

Refer to supplied wiring diagrams 998-3006-1 and 998-3007-1 for typical applications. The ES530 module is equipped with two sets of high current contacts (“OUTPUT 1,” 5A at 28VDC), normally used for operating door locks, and two sets of low current contacts (“OUTPUT 2,” 2A at 28VDC), normally used for activating the door control. The supplied harness allows connection to one contact set on the high current (strike) relay and one contact set on the low current (door) relay. An optional harness may be purchased to allow access to the second set of contacts on each relay.

In the time delay and latch relay functions, *both* relays are switched. Choose the contact rating most appropriate for your application. It is recommended that the high current contacts *not* be used to trigger circuits with less than 12V and/or 25mA loading due to reliability considerations.

The power requirement is 24 volts AC or DC at 250mA maximum. Power may be obtained from many compatible door controls without the need for an extra transformer. It may also be obtained from the electric strike transformer, provided that the strike operates at 24 volts.

IMPORTANT: To prevent erratic operation, spike protection devices (varistors or MOVs) *must* be provided for all heavy loads controlled by the ES530. These protective devices are typically supplied with magnetic and mortise strikes and should be located as close to the lock as possible.

When power is first applied, the display on the ES530 module will flash the installed software version number, as in **1.** then **15.** then **00** (Version 1.15.00). After a brief delay, the display will switch to the current function. The factory default is **F0** (Function **0**), which is a strike interface.

Operation

Note: To save energy and prolong component life, the display on the ES530 will be blanked after approximately 60 seconds if no button is pushed. To reactivate it for another 60 seconds, simply press any of the buttons.

To change functions or settings, enter the setup mode by quickly pressing the SET button twice. The decimal point on the display will begin blinking. Use the UP and DOWN buttons to select the parameter you wish to change. When you’ve found it, press and hold the SET button. The display will change to the current value of the parameter. While holding the SET button, press UP or DOWN to adjust the value. When finished, release the SET button.

After all changes are entered, quickly press the SET button twice again. The decimal point will stop blinking and the ES530 module will return to normal operation.

Always remember to save any changes you make before leaving the jobsite! To save the information, the module must be idle (display is showing the function number, such as **F0**). Press and hold the SET button until the display winks **dS** (data Saved). Your changes are now saved in permanent memory.

The DOWN button simulates an “activate” signal for testing during normal operation, and the display shows what the module is doing. The possible codes are as follows:

| | |
|---------------------|--|
| F0...F3 | Module is idle, selected function F0 through F3 is displayed |
| UL | Un Lock timer running |
| OP | OP en timer running |
| LA | Module has L atched door open |
| Lt | Module has L atched door open with automatic latch timeout |
| dS (winking) | data (parameters) S aved to permanent memory |
| dF (winking) | data F ailure detected (replace module) |
| Su | S etup (all factory settings restored) |

Function 0 - Strike Interface

Set **Fn** (**F**unction) to 0 (Function 0, strike interface).

Set **UL** (**Un**Lock) to the length of time the lock should be held unlocked *after the door has started opening*. Timing does not start until the interval delay (**In**) has finished. The default for **UL** is 1 second.

Set **In** (**I**nterval) to the required delay between the unlock command and the door open command. This delay is measured in 0.1 second intervals – a setting of 8 corresponds to a delay of 0.8 second. A typical setting for magnetic locks is 0.8 second. If a mortise strike is used, this value may be reduced, possibly to as low as 0.2 second. If the value is set too low, the door will jam. The default for **In** is 0.8 second.

Set **OP** (**OP**en) to the desired open (dwell) time of the door. The default for **OP** is 1 second.

Set **HS** (**H**old **S**trike) to **oF** (off) if the lock drops out after its timer expires regardless of whether the door is still open or not, or to **on** if the lock is to remain unlocked through the door dwell time. The factory default setting of **oF** releases (re-locks) the lock after the unlock delay expires, which prevents buzzing or burn-out of inexpensive mortise strikes. The **on** setting is reserved for special situations.

Function 1 - Strike Interface with latch (ratchet) relay

NOTE: Leave the time delay adjustment on the door control itself at minimum in this application.

Set **Fn** (**F**unction) to 1 (Function 1, strike interface with latch relay). Set **UL**, **In**, and **HS** as shown above under Function 0 – Strike Interface. Also see “Automatic Latch Cancel” below.

Function 2 - Time Delay

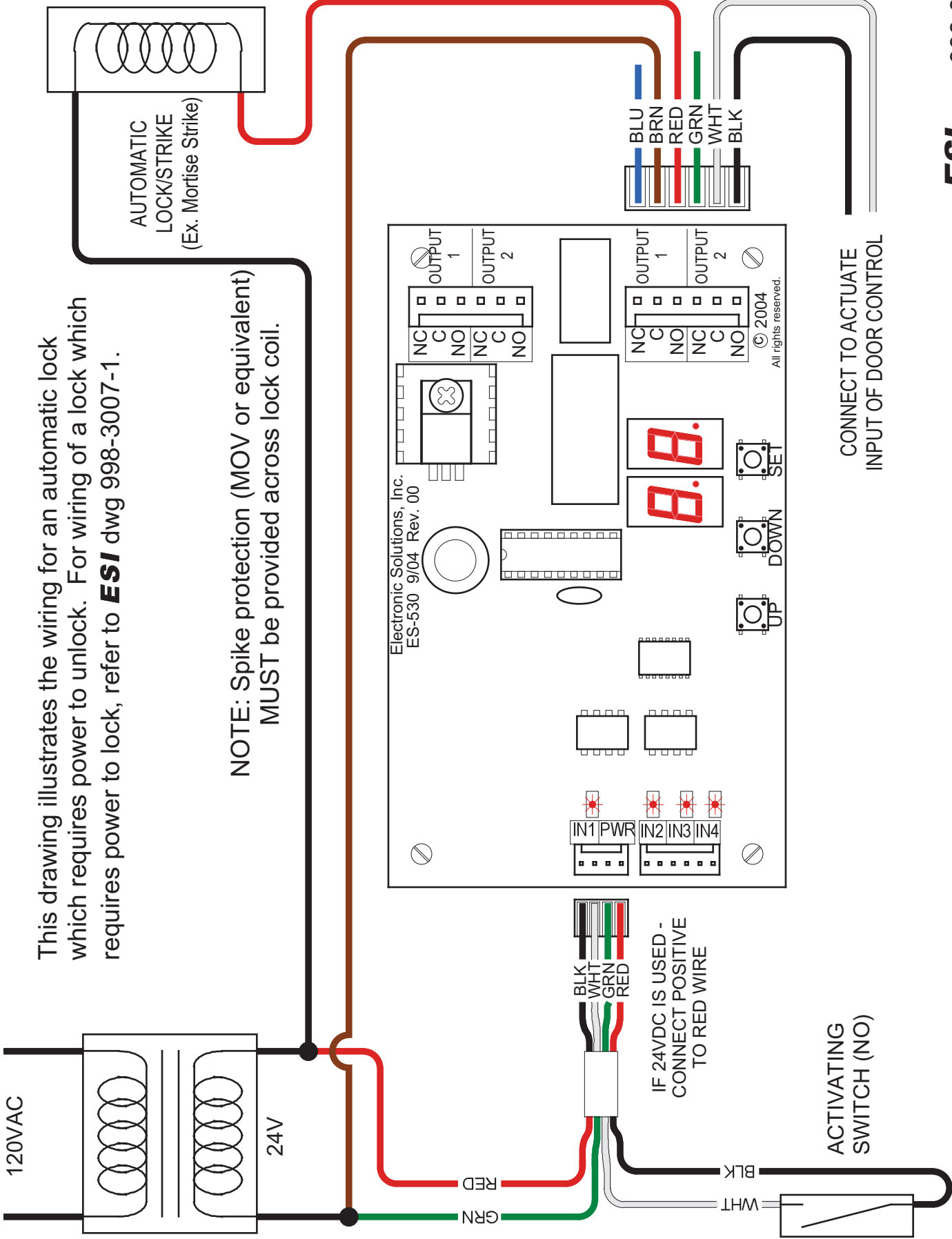
Set **Fn** (**F**unction) to 2 (Function 2, time delay relay). Set **OP** (**OP**en) to the desired dwell time. The factory default setting for **OP** is 1 second. If the timeout period is to be in minutes instead of seconds, set the **Ed** (**E**xtended **d**elays) parameter to **on**. *Examples:* 30 second delay: **OP** = 30, **Ed** = *off*. 45 minute delay: **OP** = 45, **Ed** = *on*.

Function 3 - Latch (ratchet) Relay

Set **Fn** (**F**unction) to 3 (Function 3, latch relay). Leave the time delay adjustment on the door control itself at minimum in this application. Also see “Automatic Latch Cancel” below.

Automatic Latch Cancel

The ES530 includes an optional automatic latch cancel. This is convenient if a door can be latched open and closed, but should not be allowed to remain open indefinitely. To time out the latch, set parameter **LC** (**L**atch **C**ancel) to **on**. Set **Lt** (**L**atch timeout) as desired maximum open time of the door. The default for **Lt** is 60 seconds. If the timeout is to be in minutes instead of seconds, also set **Ed** (**E**xtended **d**elays) to **on**. *Examples:* 60 second timeout: **LC** = *on*, **Lt** = 60, **Ed** = *off*. 15 minute timeout: **LC** = *on*, **Lt** = 15, **Ed** = *on*.

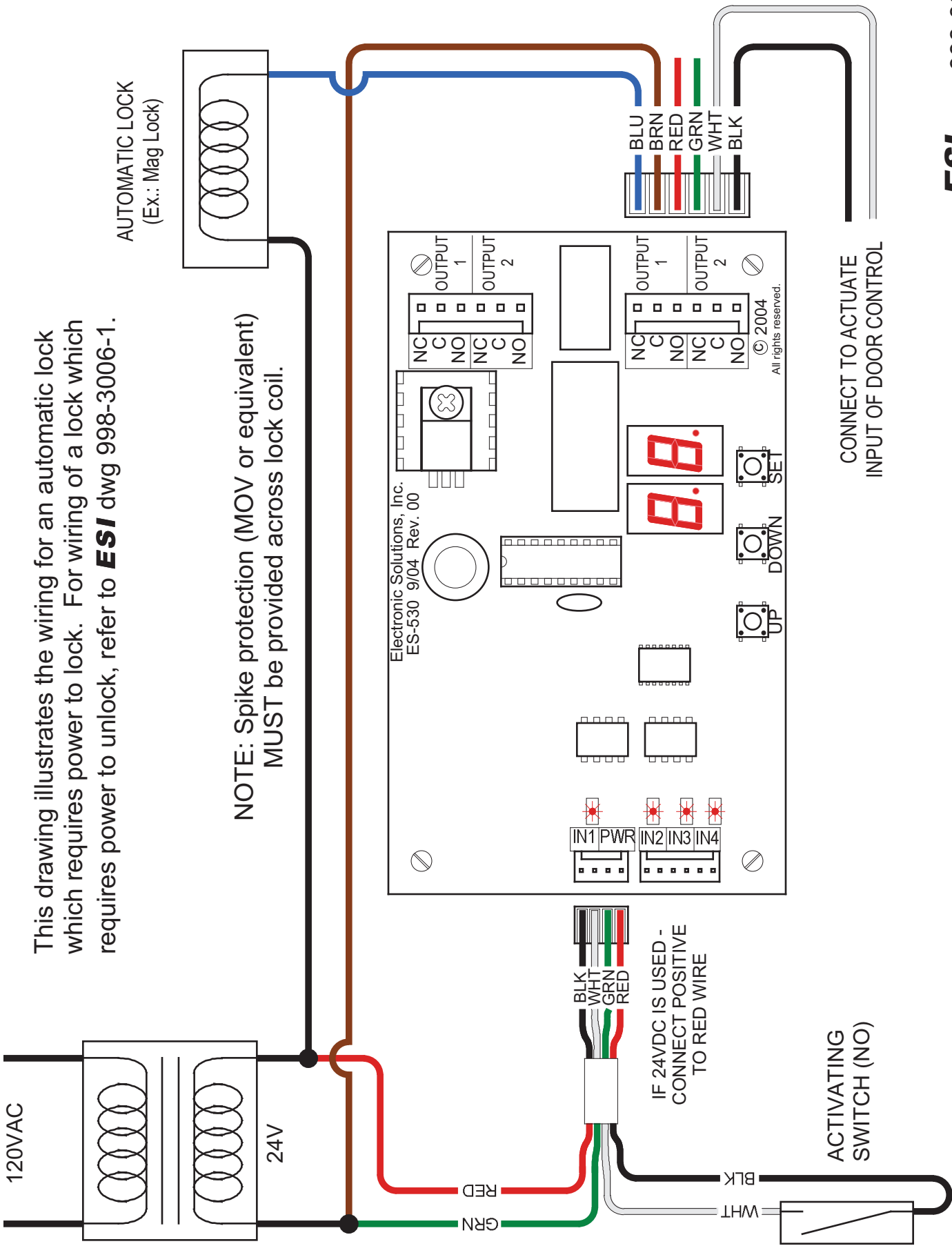


This drawing illustrates the wiring for an automatic lock which requires power to unlock. For wiring of a lock which requires power to lock, refer to **ESI** dwg 998-3007-1.

NOTE: Spike protection (MOV or equivalent) **MUST** be provided across lock coil.

CONNECT TO ACTUATE
INPUT OF DOOR CONTROL

IF 24VDC IS USED -
CONNECT POSITIVE
TO RED WIRE



This drawing illustrates the wiring for an automatic lock which requires power to lock. For wiring of a lock which requires power to unlock, refer to **ESI** dwg 998-3006-1.

NOTE: Spike protection (MOV or equivalent) MUST be provided across lock coil.

CONNECT TO ACTUATE INPUT OF DOOR CONTROL