

ES520 Module Installation Instructions (with standard software Version 1.10.04)

Electronic Solutions Inc.

1.1 Wiring

Refer to supplied diagram 998-3053-2 to wire the module. When less than four doors are present, merely omit the unused switches and contacts on the wiring diagram.

The ES520 module is equipped with four sets of output contacts. These contacts are used to trigger the actuating inputs of the associated automatic door operators.

The power requirement for the ES520 (CN2 pins 9 and 10) is 24 volts AC or DC at 350mA maximum. Power may be obtained from many compatible door controls without the need for an extra transformer.



NOTES:

- A single “unlock and open” contact output is provided for each automatic door. *If locks are used, any necessary lock release timing for autolocks, electrified strikes, or Von Duprin panic devices, if present, must be provided within the door operator package.*
- Door position switches may either *close* when the associated door are open, or *open* when the associated door is open. However, the same polarity must be utilized for all switches in the system. If the switches *close* when the doors open, leave the **dP** parameter *off* (factory default setting) and connect all switches in parallel. If, instead, the switches *open* when the doors open, set the **dP** parameter to *on* and connect all switches in series. Refer to Section 1.2 below for instructions on locating and modifying the parameter.

When power is first applied, the display on the ES520 module will flash the installed software version number, as in **1.** then **10.** then **04** (Version 1.10.04). After a brief delay, the display will switch to **Id** (**Idle**).

1.2 Adjustments & Operation

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 ES520 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 **Id**). Press and hold the SET button until the display winks **dS** (**data Saved**). Your changes are now saved in permanent memory.

With the factory standard software, the ES520 module has four operating modes as described below.

Function 0 is an interlock with optional memory (see below) for up to four doors. No two doors may be open concurrently. Any door which is currently active may be recycled as necessary until it completes its closing cycle, at which time the interlock moves to the next door requested, or returns to idle if no other requests are in memory.

If the **St** (Store Requests) parameter is *on*, requests for unavailable doors will be stored in the order received. Duplicate requests for the same door are combined into a single request. If the **St** parameter is *off*, requests for unavailable doors are ignored. The factory default for **St** is *on* (store requests).

Function 1 is also an interlock for up to four doors which includes a latch relay function for each door input. No two doors may be open concurrently. Any door which is currently active may be recycled as necessary until it completes its closing cycle. No memory is provided for Function 1.

If the **LC** (Latch Cancel) parameter is *off*, a door will remain open indefinitely once it is latched open. If **LC** is *on*, the latch automatically times out and the door closes after a delay set by the **Lt** (Latch timeout) parameter. When the **Lt** timer expires, the latch is automatically canceled. The factory default for **Lt** is 1 minute.

Function 2 is identical to Function 1, with the addition of an “auto cancel feature.” When Function 2 is in use, if a door is latched open and a different door is requested, the first door is automatically closed, then the new request is serviced. No two doors may be open concurrently. No memory is provided for Function 2. The latch timeout feature may also be used in Function 2 if desired.

Function 3 is a sequencing interlock with memory for two doors. When Door 1 is requested, it is opened, and a request for Door 2 is stored automatically. After Door 1 has completed its cycle, Door 2 cycles automatically. This sequence is mirror imaged for Door 2.

Additional sequencing is implemented such that if Door 2 is actuated while Door 1 is busy, Door 2 will be opened (allowing first person out and second person in), then Door 1 will be opened again to allow the second person to exit. This possibility is also mirror-imaged.

For all functions, an override is provided to temporarily defeat the interlocking if desired. The feature may be enabled by closing a contact as shown on the wiring diagram. In Functions 0 and 3, when the override is in used, each actuating switch contact is passed directly through to its respective door output relay, with no delay provided. In Functions 1 and 2, the module will perform as four isolated latch relays.

1.3 Display and Parameters

During normal operation, the display shows what the module is doing. The possible codes are as follows:

F0..F3	Module is idle, chosen Function 0-3 active
d1	door 1 actuated
d2	door 2 actuated
d3	door 3 actuated
d4	door 4 actuated
Ou	O verride mode active
CL	Automatic door released to C lose, module waiting for door to close
CF	Automatic door finished closing, C lose F ollow delay running
dS	d ata (parameters) S aved to permanent memory
dF	d ata F ailure detected (replace module)
Su	S etup (all factory settings restored)

The **Fn** parameter determines the function of the module.

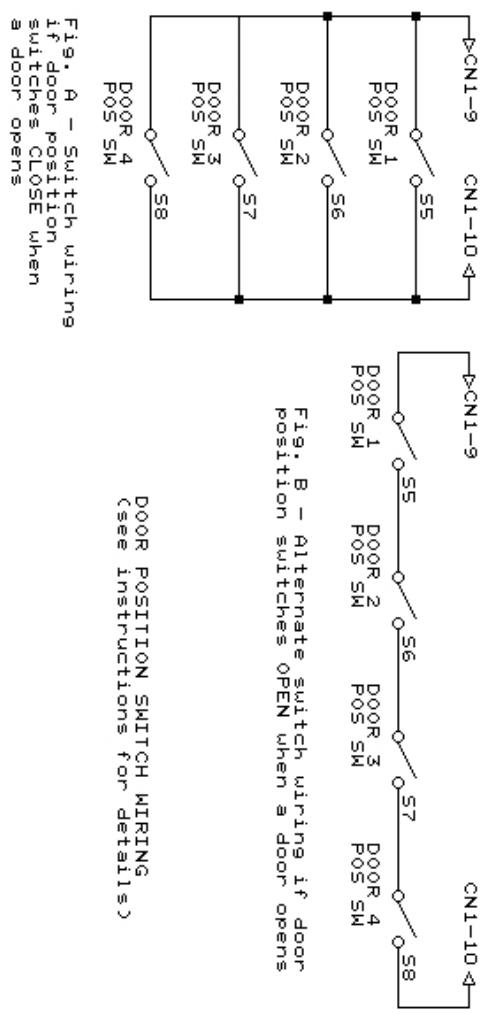
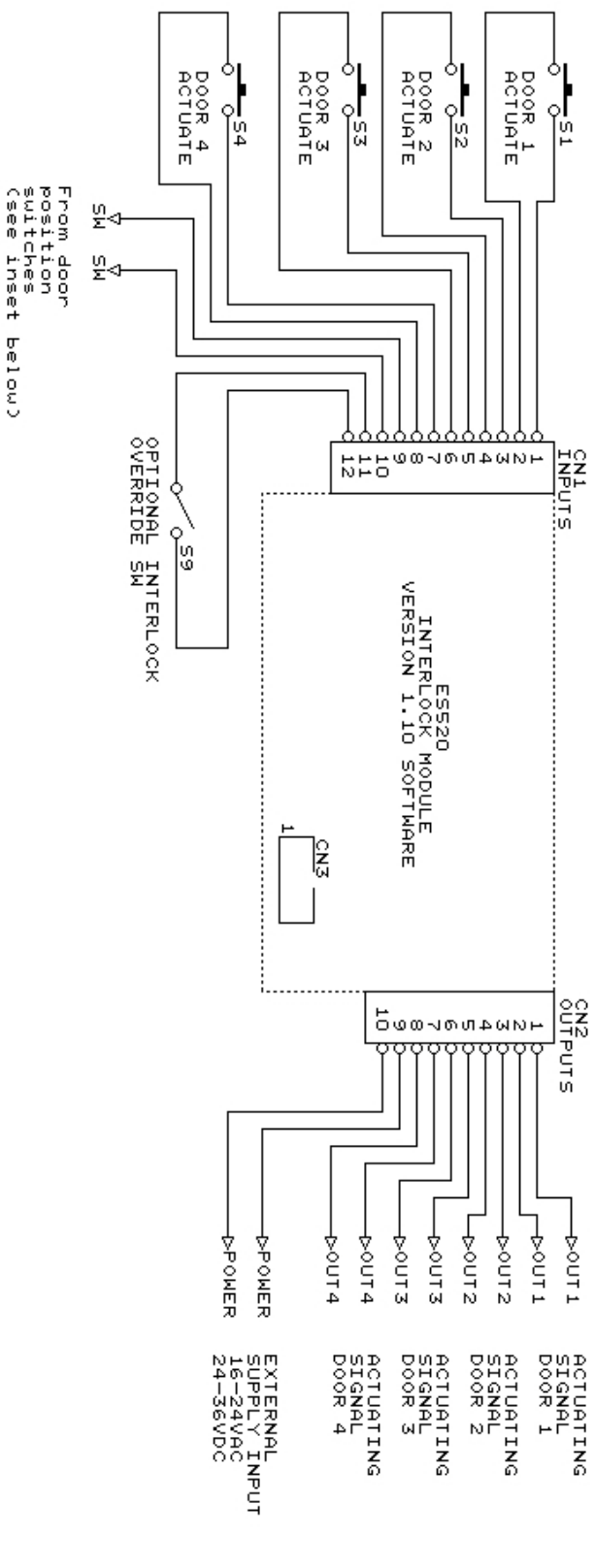
The **OP** parameter may be used to adjust the duration of the actuate delay for each door output relay when Function 0 or Function 3 is in use. The factory default for **OP** is 1 second.

The **CF** parameter is provided in case the door position switches release early. Set the close follow delay to a value that will allow sufficient extra time for the current door in the sequence to fully close once its close monitor switch trips. The factory default for **CF** is 1 second.

The **dP** parameter establishes the polarity the ES520 is expecting for the close monitor switches as explained above in Section 1.1, Wiring. The factory default for **dP** is *off* (closed contact indicates a door is open).

The **LC** and **Lt** parameters operate as described above when the module is set for Function 1 or Function 2 operation.

The **St** parameter determines whether requests for unavailable doors are stored for later servicing (**St on**) or are ignored (**St off**). The factory default for **St** is *on* (store requests).



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<p>NOTES: Delete references to Door 3 and Door 4 if not present in system. All output contacts rated 1A, 30VDC maximum.</p>	
<p>ES520 STANDARD WIRING</p>	
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