**TECHNOLOGY BRIEF**

For information on the initial electrical connections that are required for this configuration, see the **Basic Setup** instructions at
www.sensing.net/asi-solutions

## Example 6a – Solenoid-locking door (auto locking)

In this example, a solenoid-locking door safety switch ("power to unlock" design) and one e-stop are used. The safe output OSSD1 turns ON when the door is closed and latched (i.e., no power to the solenoid) and the e-stop is released and reset. A non-safe input is used to unlock the door switch. Messaging outputs are used to indicate that the safe output OSSD1 is OFF, the door is closed and locked, the door is unlocked and can be opened, and when the e-stop is ready to be reset. In this example, once unlocked, the door auto-locks after five seconds.

OSSD 2 is used to control the solenoid; for this, a messaging output cannot be used as it does not provide enough current to supply the solenoid.
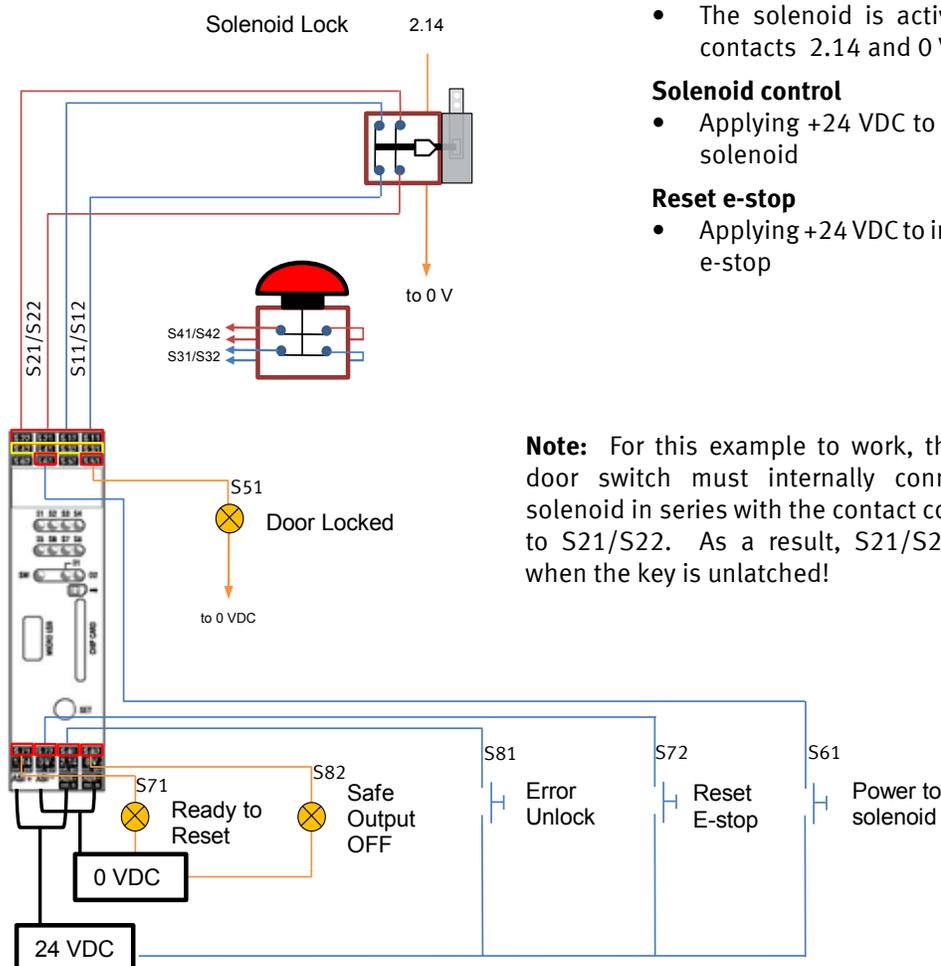
**One solenoid-locked safety door switch**
- Door switch connected to S11/S12 and S21/S22

**One safety e-stop**
- E-stop connected to S31/S32 and S41/S42

**Feedback output signaling that OSSD1 has been deactivated**
- Output S82 is ON when the safe output OSSD1 is OFF

**Feedback output signaling when e-stop is ready to be reset**
- Output S71 is ON when e-stop is released and ready to be reset

**Feedback output signaling when door is closed and locked**
- Output S51 is ON when door is closed and locked

**Door locking solenoid**
- The solenoid is activated using OSSD2 output contacts 2.14 and 0 V

**Solenoid control**
- Applying +24 VDC to input S61 applies power to solenoid

**Reset e-stop**
- Applying +24 VDC to input S72 resets the released e-stop



Solenoid Lock 2.14

to 0 V

S21/S22
S11/S12

S41/S42
S31/S32

S51 ⊗ Door Locked

to 0 VDC

**Note:** For this example to work, the safety door switch must internally connect the solenoid in series with the contact connected to S21/S22. As a result, S21/S22 opens when the key is unlatched!

S71 ⊗ Ready to Reset

S82 ⊗ Safe Output OFF

S81 ⊢ Error Unlock

S72 ⊢ Reset E-stop

S61 ⊢ Power to solenoid

0 VDC

24 VDC

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