ADI 5856-D

Emergency Shut Off System & Pneumatic Switchover Controller

INSTALLATION AND OPERATING INSTRUCTIONS

Carefully Read These Instructions Before Operating

Controls Corporation of America
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www.concoa.com

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Revision D

SAFETY

⚠ CAUTION

BASIC SAFETY PRECAUTIONS MUST BE FOLLOWED TO REDUCE THE RISK OF FIRE, ELECTRICAL SHOCK OR INJURY.

- While the ESO/Switchover Controller is dust and moisture resistant, it is NOT water-proof or completely sealed. It should be installed where it will not be subjected to rain or high concentrations of dust. Never pour or spray liquids directly onto the product.
- Install the ESO where the ambient temperature range is between 0° F and 140° F.
- THIS PRODUCT IS NOT INTENDED FOR USE IN EXPLOSIVE ENVIRONMENTS.
- DO NOT INSTALL THIS PRODUCT IN ANY HAZARDOUS ENVIRONMENT.
- If product appears damaged in any way, do not use and request service from CONCOA.

USER RESPONSIBILITY

Service to this product should only be performed by CONCOA or an authorized CONCOA agent. Requests for service may be made through CONCOA CUSTOMER SERVICE at 1-800-225-0473. Written requests may be made using CONCOA's FAX number at 1-757-422-3125 or CONCOA's E-MAIL at info@concoa.com

CONCOA accepts no responsibility for damage or injury if this product is modified in any way.

CONCOA assumes/accepts no liability or responsibility for damage to individuals or equipment that may occur when using this product

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DEVICE REQUIREMENTS

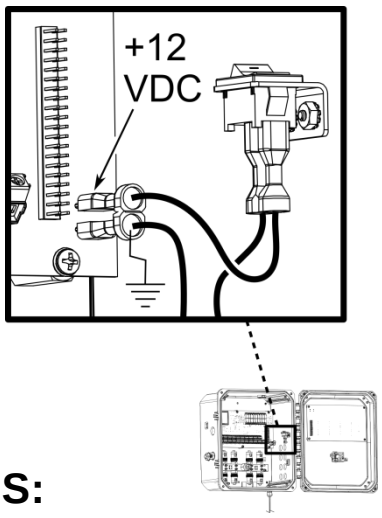
The 5851100 Series ESO/Pneumatic Switchover Controller does not require any other devices to function as an Emergency Shutoff (ESO) system. However, to function as a pneumatic switchover controller, it requires the 5751100-01-24V Altos 2 Electronic Switchover Controller, Refer to CONCOA document 99061100 (ADI 1100) for hookup and operating instructions for 5751100-01-24V.

POWER REQUIREMENTS

Input Voltage: External Power Supply

Universal input voltage 90 ~264 VAC 50/60 Hz providing 12 VDC 1.5 A to circuit boards.

Power Consumption: 18 watts



ALARM OUTPUT RELAY SPECIFICATIONS:

Contacts: Normally Open/ Normally Closed (selectable) Dry Contact

Contact Rating: 24 volts DC @.5 amps Max.

MOUNTING REQUIREMENTS

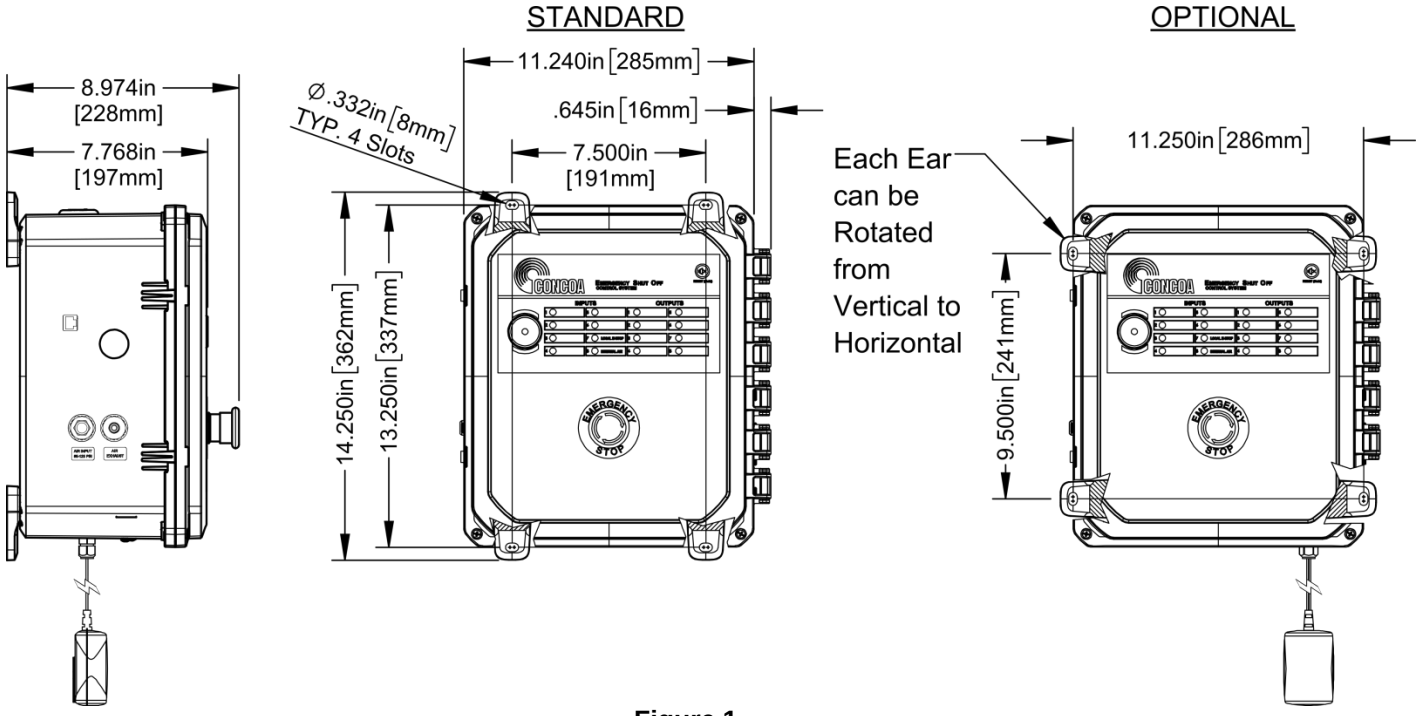


Figure 1

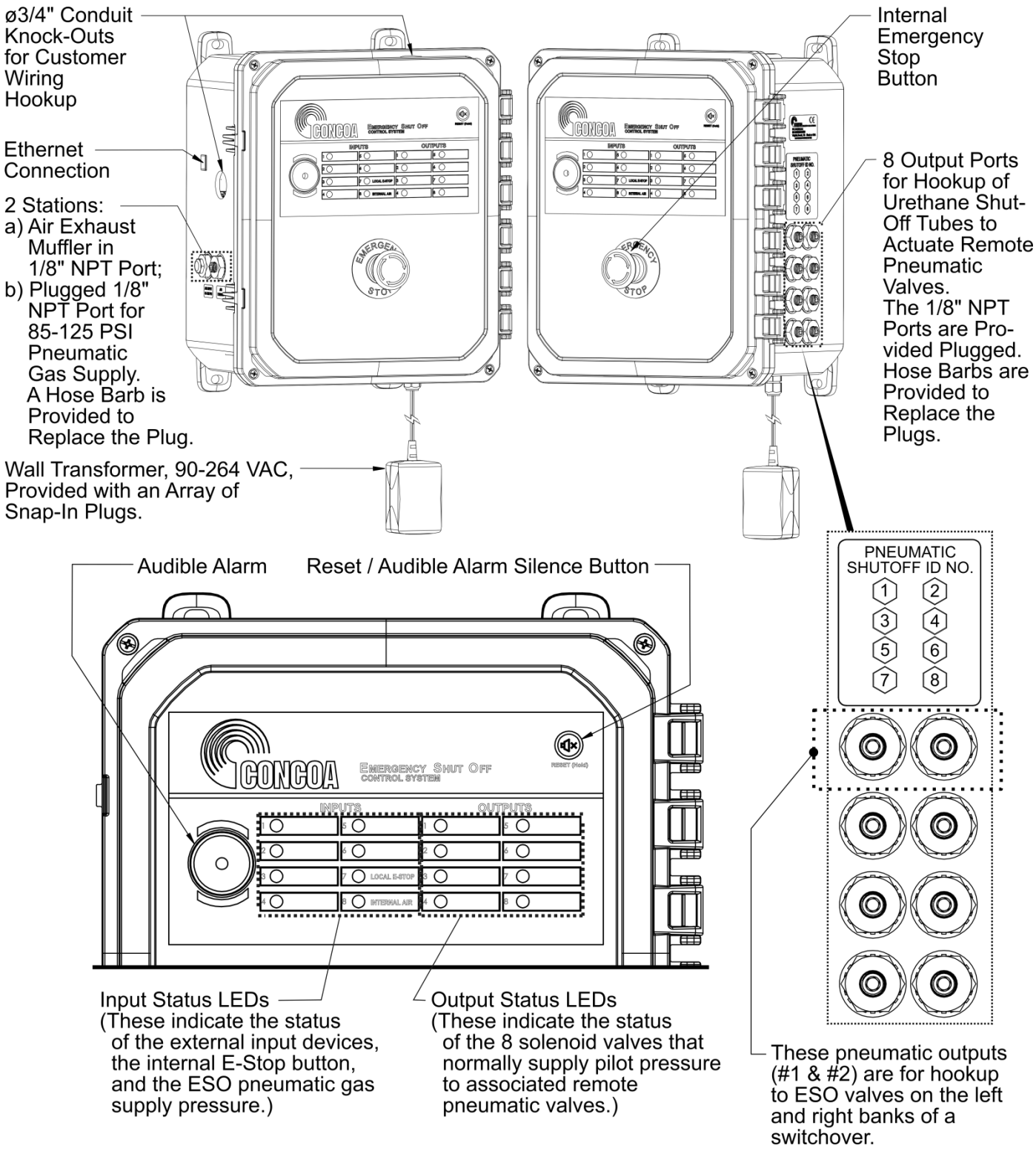

ø3/4" Conduit Knock-Outs for Customer Wiring Hookup
Ethernet Connection
2 Stations:
a) Air Exhaust Muffler in 1/8" NPT Port;
b) Plugged 1/8" NPT Port for 85-125 PSI Pneumatic Gas Supply. A Hose Barb is Provided to Replace the Plug.
Wall Transformer, 90-264 VAC, Provided with an Array of Snap-In Plugs.
Internal Emergency Stop Button
8 Output Ports for Hookup of Urethane Shut-Off Tubes to Actuate Remote Pneumatic Valves. The 1/8" NPT Ports are Provided Plugged. Hose Barbs are Provided to Replace the Plugs.
Audible Alarm
Reset / Audible Alarm Silence Button
CONCOA
EMERGENCY SHUT OFF CONTROL SYSTEM
INPUTS
OUTPUTS
LOCAL E-STOP
INTERNAL AIR
PNEUMATIC SHUTOFF ID NO.
1
2
3
4
5
6
7
8
Input Status LEDs (These indicate the status of the external input devices, the internal E-Stop button, and the ESO pneumatic gas supply pressure.)
Output Status LEDs (These indicate the status of the 8 solenoid valves that normally supply pilot pressure to associated remote pneumatic valves.)
These pneumatic outputs (#1 & #2) are for hookup to ESO valves on the left and right banks of a switchover.

Figure 2

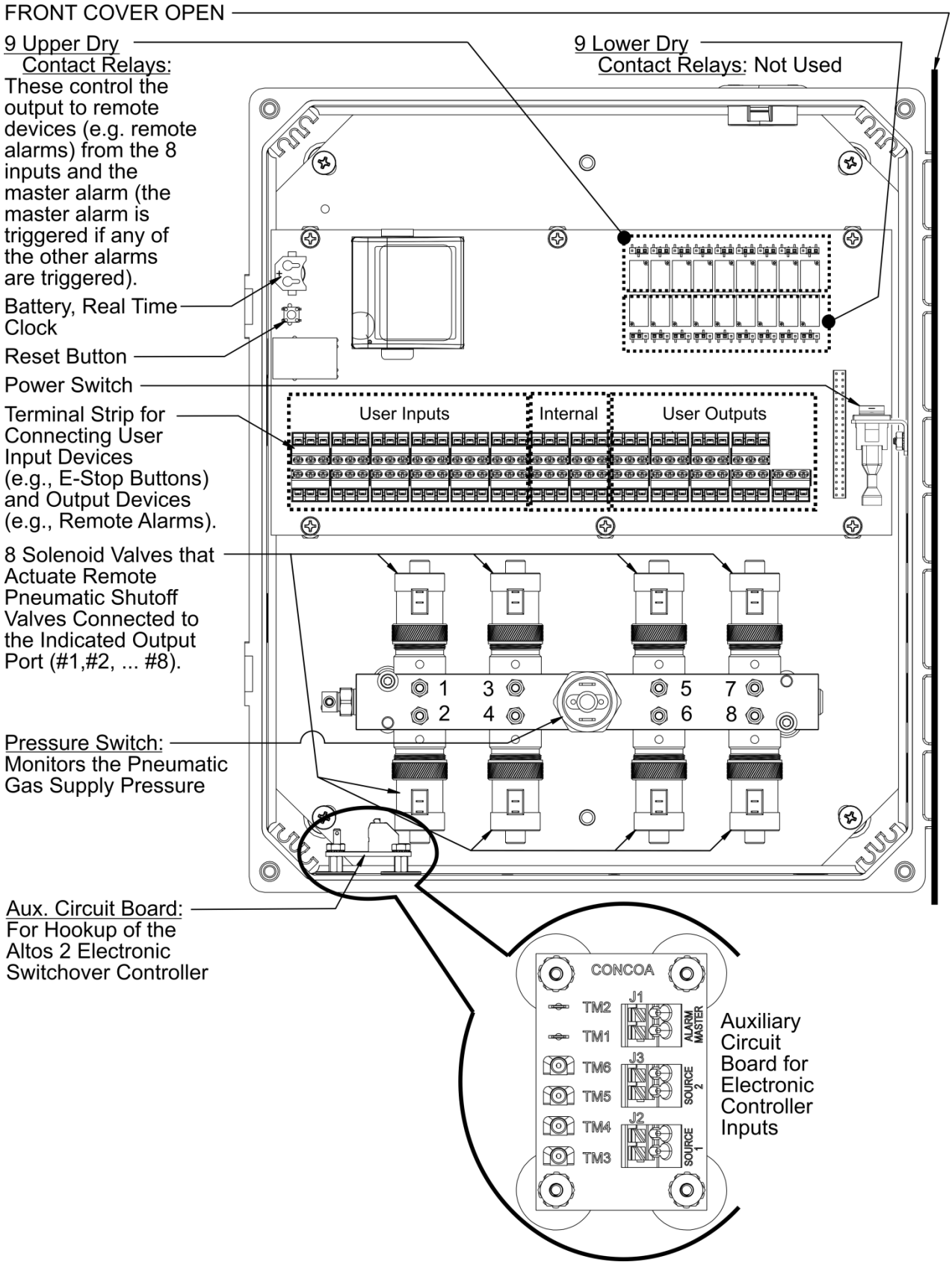
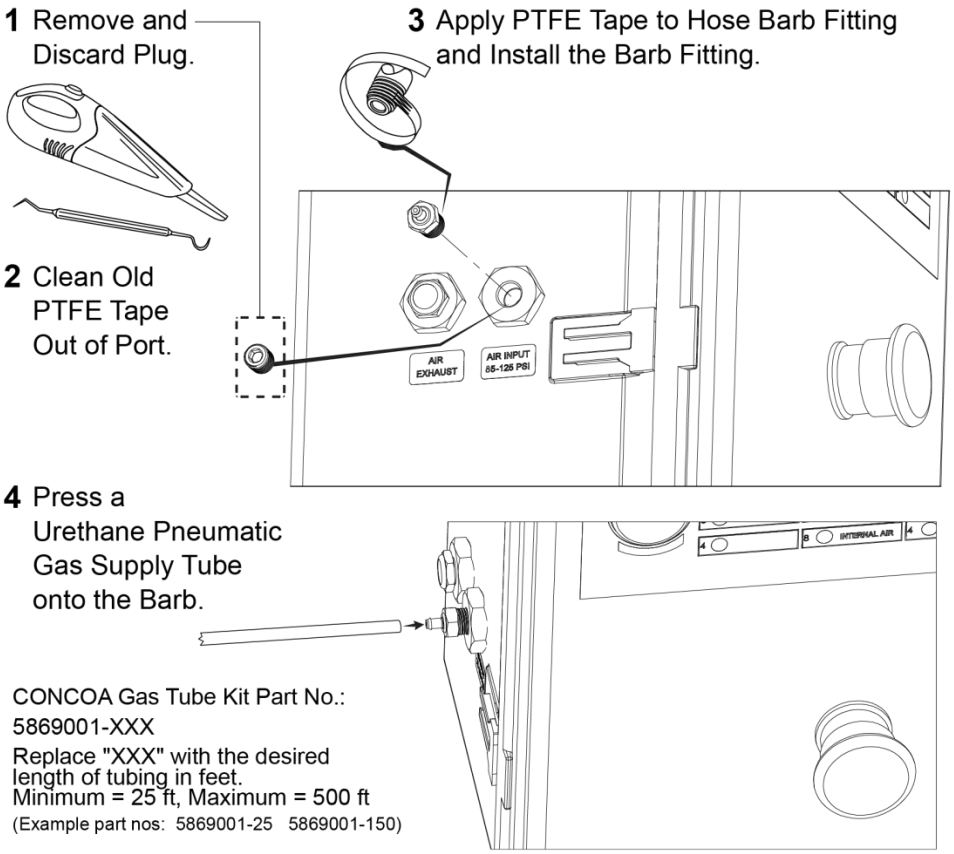

FRONT COVER OPEN
9 Upper Dry Contact Relays: These control the output to remote devices (e.g. remote alarms) from the 8 inputs and the master alarm (the master alarm is triggered if any of the other alarms are triggered).
9 Lower Dry Contact Relays: Not Used
Battery, Real Time Clock
Reset Button
Power Switch
Terminal Strip for Connecting User Input Devices (e.g., E-Stop Buttons) and Output Devices (e.g., Remote Alarms).
User Inputs
Internal
User Outputs
8 Solenoid Valves that Actuate Remote Pneumatic Shutoff Valves Connected to the Indicated Output Port (#1,#2, ... #8).
1 3 5 7
2 4 6 8
Pressure Switch: Monitors the Pneumatic Gas Supply Pressure
Aux. Circuit Board: For Hookup of the Altos 2 Electronic Switchover Controller
CONCOA
TM2
TM1
TM6
TM5
TM4
TM3
J1
ALARM MASTER
J3
SOURCE 2
J2
SOURCE 1
Auxiliary Circuit Board for Electronic Controller Inputs

Figure 3

Connecting Pneumatic Input Pressure to Enclosure



Directing Pneumatic Output Pressure (Typical Each Station to be Utilized):

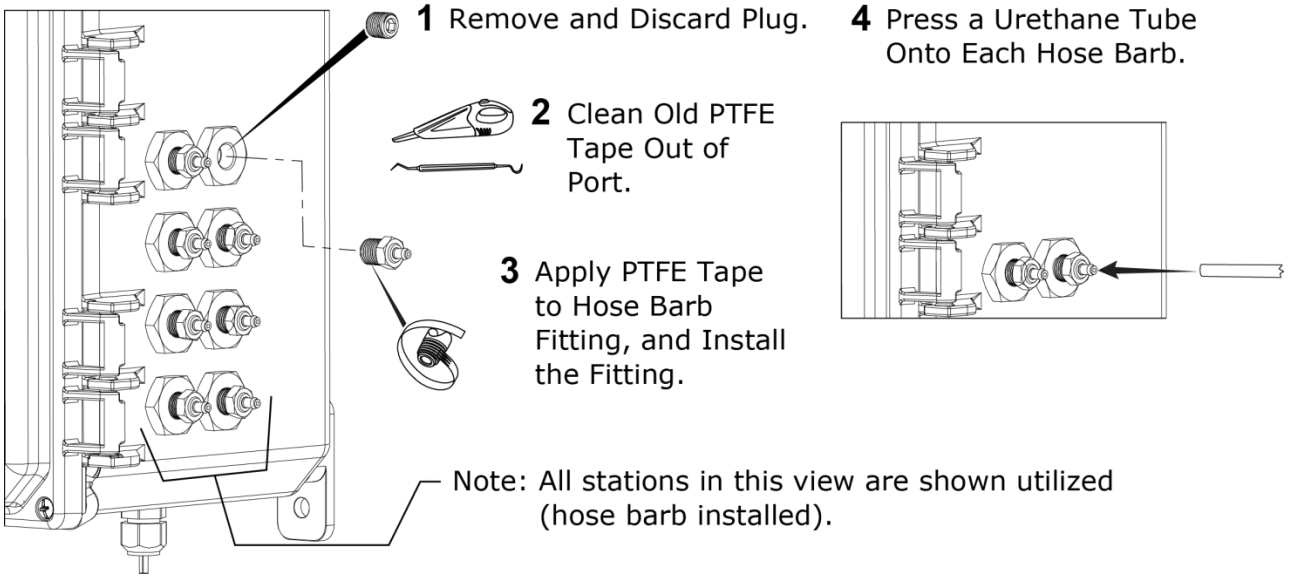


Figure 4

Typical User Inputs

(E-Stop Buttons are Shown as an Example. Other Devices [e.g., LEL Detectors] May Be Connected.)

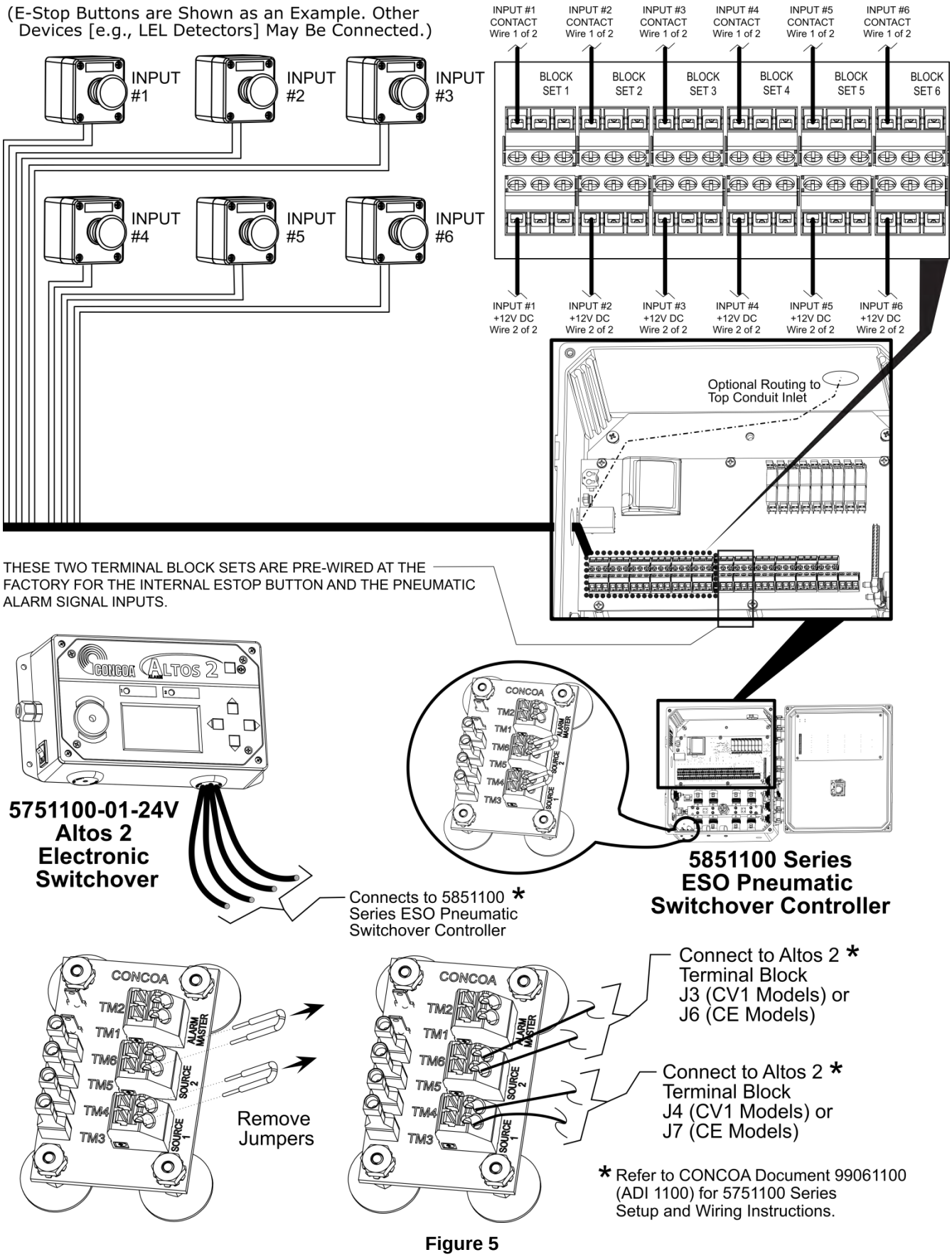


Figure 5

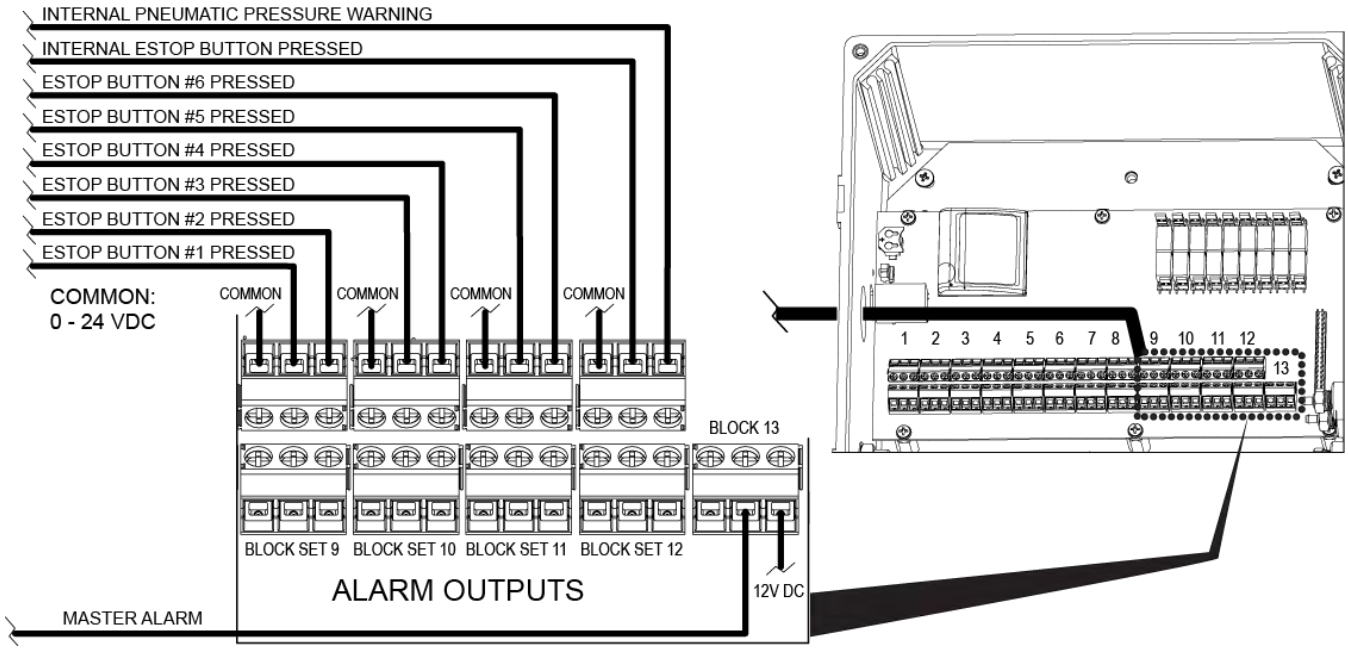
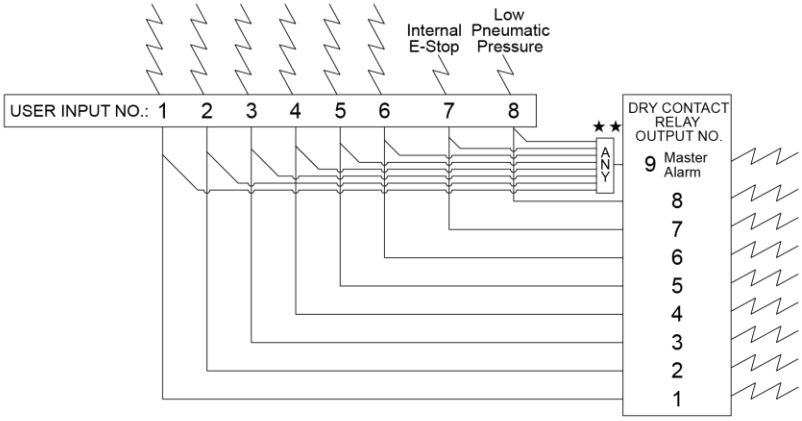
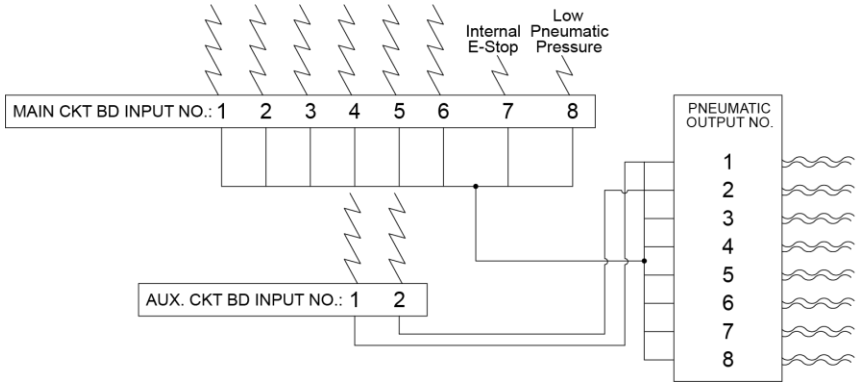


Figure 6

★ DEFAULT DRY CONTACT RELAY OUTPUTS SETUP



★ DEFAULT PNEUMATIC OUTPUTS SETUP



★ Except for the master alarm and the aux. circuit board electronic switchover controller inputs, all connections for both the pneumatic outputs and for the dry contact relay outputs are fully configurable via the web interface software.
This includes the ability to link multiple inputs to a single output and the ability to link a single input to multiple outputs.
There is no requirement for the output number to match the input number.

★★ Except for the master alarm dry contact relay output (which is permanently set to ANY), each dry contact relay output can be set via the web interface software to one of two settings:

(a) send signal if ANY of the linked inputs are in the alarm condition;

b) send signal if ALL of the linked inputs are in the alarm condition.

Figure 7

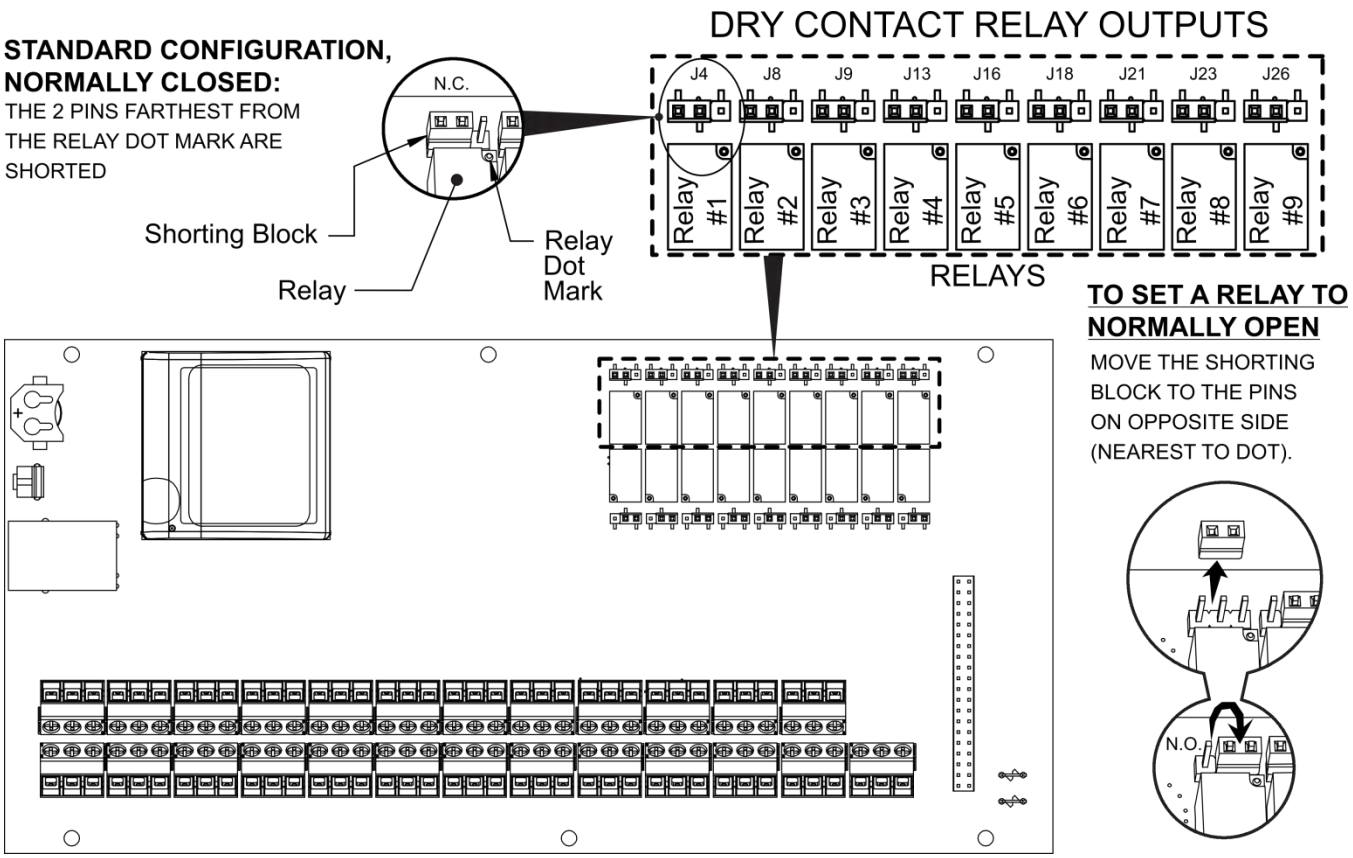


Figure 8

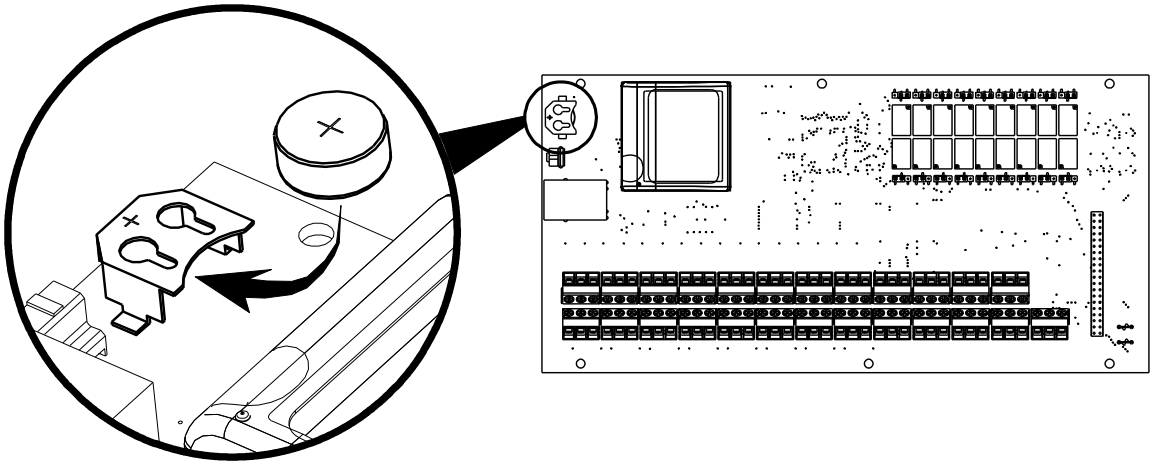


Figure 9

DESCRIPTION OF PRODUCT

The ESO/Pneumatic Switchover Controller system is designed to monitor 6 user Input Signals, 2 internal input signals, and 2 signals from the Altos 2 Electronic Switchover Controller. The 2 internal input signals monitor a local E-Stop button on the outside of the ESO system and an internal pneumatic alarm pressure switch. LEDs indicate the status of each of the inputs on the front panel of the ESO system.

When one of the inputs is triggered, the ESO system will depressurize the configured Pneumatic Valve Outputs and shut-off gas flow on pneumatic diaphragm valves. The ESO can control 8 different Pneumatic Valve Outputs from the bulkhead hose barb fittings on the right side of the system. Pneumatic pressure is supplied from an outside source to the hose barb fitting on the left side of the ESO system.

When one of the main circuit board inputs is triggered, (the inputs from the Altos 2 are not configurable) the ESO system can be configured to provide a Dry Contact Relay Output to an external alarm or other system that takes Dry Contact inputs. The ESO can control 8 different Dry Contact Relay Output signals. The system also comes with a Master Dry Contact Relay that will signal when any of the other Dry Contacts Relays are triggered. These Dry Contact Relay Outputs can be configured as normally open or normally closed using jumpers on the main control board.

The main circuit board Input Signals, Pneumatic Valve Outputs, and the Dry Contact Relay Output functions are controlled though an Ethernet Web-Server interface. The default settings for each are detailed in Table 1 below:

No.	Description	Default State (Units sold as a built-in component of a gas cabinet are provided preconfigured and will differ from the data below)	To Enable/ Disable	To Change Normally Open/Closed	To Configure Trigger Conditions
Input Signals - Figure 5 & Figure 13					
1	User Input 1	Disabled / Normally Closed	Webserver	Webserver	n/a
2	User Input 2	Disabled / Normally Closed	Webserver	Webserver	n/a
3	User Input 3	Disabled / Normally Closed	Webserver	Webserver	n/a
4	User Input 4	Disabled / Normally Closed	Webserver	Webserver	n/a
5	User Input 5	Disabled / Normally Closed	Webserver	Webserver	n/a
6	User Input 6	Disabled / Normally Closed	Webserver	Webserver	n/a
7	Internal E-Stop Button	Enabled / Normally Closed	n/a	n/a	n/a
8	Internal Pneumatic Alarm	Enabled / Normally Closed	n/a	n/a	n/a
Dry Contact Relay Outputs - Figure 6, Figure 8, Figure 15					
1	Dry Contact Relay 1	Enabled for ANY event that happens on Input 1	Webserver	Jumper J4	Webserver
2	Dry Contact Relay 2	Enabled for ANY event that happens on Input 2	Webserver	Jumper J8	Webserver
3	Dry Contact Relay 3	Enabled for ANY event that happens on Input 3	Webserver	Jumper J9	Webserver
4	Dry Contact Relay 4	Enabled for ANY event that happens on Input 4	Webserver	Jumper J13	Webserver
5	Dry Contact Relay 5	Enabled for ANY event that happens on Input 5	Webserver	Jumper J16	Webserver
6	Dry Contact Relay 6	Enabled for ANY event that happens on Input 6	Webserver	Jumper J18	Webserver
7	Dry Contact Relay 7	Enabled for ANY event that happens on Input 7	Webserver	Jumper J21	Webserver
8	Dry Contact Relay 8	Enabled for ANY event that happens on Input 8	Webserver	Jumper J23	Webserver
9	Dry Contact Relay Master	Enabled for ANY event that happens on ANY input	Webserver	Jumper J26	Webserver
Pneumatic Shutoff Output (solenoid valve controlled) - to output bulkheads - Figure 4 & Figure 14					
1	Pneumatic Shutoff 1	Will Shutoff when ANY of the 8 inputs are triggered	Webserver	Webserver	Webserver
2	Pneumatic Shutoff 2	Will Shutoff when ANY of the 8 inputs are triggered	Webserver	Webserver	Webserver
3	Pneumatic Shutoff 3	Will Shutoff when ANY of the 8 inputs are triggered	Webserver	Webserver	Webserver
4	Pneumatic Shutoff 4	Will Shutoff when ANY of the 8 inputs are triggered	Webserver	Webserver	Webserver
5	Pneumatic Shutoff 5	Will Shutoff when ANY of the 8 inputs are triggered	Webserver	Webserver	Webserver
6	Pneumatic Shutoff 6	Will Shutoff when ANY of the 8 inputs are triggered	Webserver	Webserver	Webserver
7	Pneumatic Shutoff 7	Will Shutoff when ANY of the 8 inputs are triggered	Webserver	Webserver	Webserver
8	Pneumatic Shutoff 8	Will Shutoff when ANY of the 8 inputs are triggered	Webserver	Webserver	Webserver

Table 1

Figure 2 shows the general arrangement of the system enclosure, the front graphic with LEDs and reset button. It shows the location of the various inputs, outputs and indicators for the ESO. The ESO includes a universal power supply (see page 2 for specifications).

Figure 3 shows the general internal system arrangement including:

- The main circuit board.
- The auxiliary circuit board.
- The terminal blocks on the main circuit board and on the auxiliary circuit board for user inputs.
- The terminal blocks on the main circuit board for user outputs.
- The internal power switch and the reset button.
- The location of the battery for the real time clock.
- The solenoid valves that direct pneumatic output pressure to emergency shutoff valves through the bulkhead hose barb fittings on the right side of the enclosure.
- The location of the dry contact relays.

INSTALLATION

Mounting, Input Signals, Dry Contact Relay Output, Pneumatic Input and Pneumatic Output

Mounting

1. Mount the ESO system to a wall, an ESO bracket or other structure (see figure 1).
2. With no power to the unit, remove the 4 corner screws, and open the ESO system (hinged door).
3. Ensure that a button cell battery is installed the 1.5V in the battery holder in the upper left corner of the main control board (see figure 9 and REAL TIME CLOCK section on page 16).
   For setting the time and date, see WEB SERVER CHANGE SETTINGS TAB: CONFIGURATION PAGE, page 19, figure 12.

Input Signals

4. Install the Altos2 Electronic Switchover controller and user required Input Signal devices in their designated locations.
   Examples of user input signal devices:
   E-Stop button, LEL Gas Detector, Excess Flow Switch, Oxygen Monitor, etc.
   These devices should operate with +12V DC power as a Dry Contact Relay Closure.
5. Run wires from the user Input Signal devices to the ESO system using 14-26 gauge wire (AWG). These wires can be run through conduit to the conduit holes (designed for a ¾" conduit connector) on the ESO enclosure. The wire length should be limited to 1500 ft max for each input.
6. Wire the Altos 2 and the user Input Signal devices to the ESO system main and auxiliary circuit boards as shown in figure 3 & figure 5. The ESO provides +12V signal voltage to the Input Signal devices.

7. Space has been provided next to each of the front panel LEDs for the user to label or mark the name of each input so that they can be readily identified when a trigger event is detected. Mark as necessary.

Dry Contact Relay Output

8. Install user required Dry Contact Relay Output devices in their designated locations, or locate them if already installed.
   Examples of user Dry Contact Relay Output devices include:
   Remote Alarms, Building Management Systems, etc.
   These devices must supply 0-24V DC to the ESO system and must operate as Dry Contact Relay devices.
9. Run wires from the user Dry Contact Relay Output devices to the ESO system using 14-26 gauge wire (AWG). These wires can be run through conduit to the conduit holes (designed for a ¾" conduit connector) on the ESO enclosure. The max wire length should be limited to 1500 ft max for each output.
10. Wire the user dry contact relay output devices to the user outputs on the main circuit board shown in figure 3 and figure 6.
11. Set the Dry Contact Relay Output to customer required Normally Open and/or Normally Closed using Jumpers outlined in Tables 1 and 2, and Figures 3 and 8.

Pneumatic Input

12. On the left side of the enclosure (see figure 4), replace the 1/8" NPT pipe plug in the "Air Input" port with one of the provided hose barbs. Use ø1/8" ID urethane tubing (available from CONCOA – see figure 4) to connect to an 85-125 PSI pneumatic gas input source (dry air or other inert gas).
    NOTE: CONCOA strongly recommends supplying pneumatic pressure with an in-line check valve from a continuous source (such as a house compressed air or dry nitrogen line). Due to the quantity and nature of internal connections, the unit may leak up to 25 cubic feet of pneumatic gas per year. If supplying pneumatic gas from a single cylinder, consider monitoring the outlet pressure of the cylinder regulator to prevent system failure outside the required pressure range. Under no circumstances should any process gas in a flammable gas installation (including inert purge gases) be used as a source of pneumatic supply for the device.

Pneumatic Output

13. On the output fittings on the right side of the enclosure (see figure 4), for each pneumatic output that will be utilized, replace the 1/8" NPT pipe plug(s) with one of the provided hose barbs and connect a ø1/8" ID urethane tube between the ESO and the associated pneumatically operated shut-off valve. Up to 8 independently controlled shut-off valve systems can be attached to the ESO system.
14. Ensure that all unused output ports remain plugged and that all open ports have been fitted with hose barbs and tubing.
15. Space has been provided next to each of the front panel LEDs for the user to label or mark the name of each pneumatic output so that they can be readily identified when a trigger event is detected. Mark as necessary.

Webserver

16. The ESO is equipped with an integral web server as a means for remote monitoring and configuration of the system. Connection to the webserver is achieved through an RJ45 connector located on the left hand side of the unit (see figure 2). Refer to the ESO Webserver Configuration Instructions for connection instructions, including factory default network and security settings. The internal reset button is used to restore factory network settings if necessary.
17. Connect the RJ45 connector into your network or use a crossover cable to connect to a laptop in order to configure the ESO settings as detailed in this document and table 1 above.

COMMISSIONING

NOTE: The Altos 2 Alarm/Electronic Switchover Controller may or may not be connected and powered on during commissioning.

Pneumatic Input

1. Pressurize the pneumatic gas input to 85-125 psi of dry air or other inert gas.
2. Leak check pneumatic gas input from its source to the side of ESO, to include the hose barb pipe thread and both ends of the urethane tubing.

Powering Up for the First Time

3. Ensure that all wiring is secured to the terminal strips and meets the wiring diagrams in this manual.
4. Plug in the ESO directly into the wall using the Universal Power Supply provided.
5. Turn on the power switch inside the ESO – see figure 3.
6. If audible alarm sounds, it can be silenced by pressing the alarm silence button on the outside of the ESO door.
7. Close the ESO enclosure, and tighten the 4 corner screws on the door.

Webserver Configuration

8. Refer to the section titled Webserver Configuration on page 19 of this manual.
9. Configure all necessary user Input Signals, user Dry Contact Relay Outputs, user Pneumatic Shut-offs, e-mail alerts and settings, date, time, network settings & security settings.

Initial Test

10. Press the alarm silence button and hold for 5 seconds – this serves as a system RESET.
11. If everything is configured correctly, all configured input LEDs will be green and all configured output LEDs will be green. If not, the system needs to be reconfigured.
12. If all LEDs are green, leak check the pneumatic output side of the ESO from the 1/8” NPT port all the way to each of the installed Pneumatic Diaphragm Valves.
13. Pressurize the systems attached to the ESO to ensure gas flow through each of the Pneumatic Diaphragm Valves is successful. Start a small flow on each of the connected devices - then continue to the next step.

FUNCTIONALITY TEST

NOTE: The Altos 2 Electronic Switchover Controller may or may not be connected and powered on during the functionality test.

1. Press the local e-stop button on the front of the ESO – the following should occur:
    a. The ESO will provide an audible indication of a trigger event – silence this with the alarm silence button.
    b. The ESO will depressurize the configured Pneumatic Diaphragm Valves and gas flow through each of the connected Pneumatic Diaphragm Valves should cease to flow.
    c. The LED indicating that the local e-stop button was pressed should now be red.
    d. The LED of the configured Pneumatic Output valve should also be red.
    e. If all of these conditions are not met, then the unit needs to be reconfigured.
    f. Do NOT continue until these are met.
2. Twist and release the local e-stop button on the front of the ESO – the following should occur:
    a. The LED indicating that the local e-stop button was pressed should change from red to blinking green.
    b. The blinking green indicator shows that this was the input that stopped all flow.
    c. The LED of the configured Pneumatic Output valve will still be red.
    d. If all of these conditions are not met, then the unit needs to be reconfigured.
    e. Do NOT continue until these are met.
3. Press the alarm silence button and hold for 5 seconds – this serves as a system RESET – the following should occur:
    a. The LED indicating that the local e-stop button was pressed should change from blinking green to solid green.
    b. The LED indicating that the configured Pneumatic Output valve should turn from red to green.
    c. Gas should resume flowing from the Pneumatic Diaphragm Valve attached to the Pneumatic Output.
    d. If all of these conditions are not met, then the unit needs to be reconfigured.
    e. Do NOT continue until these are met.
4. Functionality of EVERY input should be checked to ensure proper operation by triggering each of the inputs as appropriate and checking for the expected outcome as detailed for the e-stop button steps 1 - 3 above.

The 5851100 Series ESO.Pneumatic Switchover Controller does not require any other devices to function as an Emergency Shutoff (ESO) system. To function as a pneumatic switchover controller, it requires the 5751100-01-24V Altos 2 Electronic Switchover Controller. Refer to CONCOA document 99061100 (ADI 1100) for commissioning and testing for 5751100-01-24V.

Once all installation, commissioning, and testing is completed successfully, the ESO is ready for operation.

SETTING REMOTE ALARM OUTPUTS

The output signals from the ESO are brought out of the alarm through relay contacts. These contacts are set as Normally Closed (N.C.) FACTORY DEFAULT. The relay contacts can be reconfigured as Normally Open (N.O.). To change the relay configuration, perform the following steps:

1. Unplug the alarm from AC power.
2. Open the unit by loosening the 4 screws located on the front of the enclosure.
3. Figure 8 shows the location of the jumpers on the circuit board for setting the contacts.
4. Using Table 1 and Figure 8, set the jumpers to the desired contact arrangement.
5. Reattach the two sections of the enclosure with the screws previously removed.
6. Make the necessary connections to the alarm and plug the alarm cable into the alarm connector on the bottom of the cabinet.
7. Plug the alarm back into the AC power.

Jumper	N.C. / N.O. Setting for:
J4	Dry Contact Output #1
J8	Dry Contact Output #2
J9	Dry Contact Output #3
J13	Dry Contact Output #4
J16	Dry Contact Output #5
J18	Dry Contact Output #6
J21	Dry Contact Output #7
J23	Dry Contact Output #8
J26	Master Alarm

Table 2

MUTING AUDIBLE ALARM

Temporarily silence the alarm by pressing the alarm silence button on the top right hand side of the front graphic (see figure 2). In this mode, the audible alarm will automatically sound on the next asserted alarm.

RESETTING THE SYSTEM

By default, the ESO system shuts off all the pneumatically controlled devices connected to the pneumatic output ports when either the local estop button is pressed or when the pneumatic gas pressure becomes too low. Customer-installed and configured devices may shut off one or more pneumatic outputs when an alarm condition occurs. After the alarms have been cleared, the ESO system will keep the disabled pneumatic valves disabled until a manual reset has been performed. A manual reset is initiated by pressing and holding the "Reset (Hold)" button for 5 seconds. If all the input alarms are clear, all disabled pneumatic valves will re-enable and return their gas systems to service.

Note for AC Power Outages & Disconnections:
When a power outage or power disconnection to the ESO occurs, all pneumatic valves controlled by the ESO will shut off. To turn them back on and return connected systems to normal service after power is restored (provided no other alarm conditions exist):

Press and Hold the "Reset (Hold)" button on the front graphic for 5 seconds.

REAL TIME CLOCK

The ESO has a battery backed real-time clock (RTC) that requires a button cell battery with a nominal voltage of 1.55 V (see figure 3 and figure 9 – a silver oxide 357, SR44 or equivalent battery is shipped installed on the circuit board). Using typical current capacity, the RTC is expected to have 120,000 backup hours (over 13 years). The battery is mounted inside a holder attached to the main circuit board to allow battery replacement or remova1.

To set the date and time, see section WEB SERVER CHANGE SETTINGS TAB: CONFIGURATION PAGE, page 19, figure 12.

WEB SERVER - STATUS PAGE

The ESO webserver Status screen is essentially a copy of the front graphic on the ESO unit. Each of the front panel LED's and labels are represented and colored RED or GREEN based on alarm status. Also a copy of the last 20 events in the onboard event log are displayed at the bottom of the screen. An Export Log button at the bottom also allows for exporting of the entire event log in csv format.

The system event log has a maximum size of 500 Kb. When the event log reaches 90% of the maximum size, a warning email will be sent to all enabled email recipients. When the event log reaches capacity, no new items will be added to the log. New events will continue to be displayed in the "Recent Events" portion of the Status page, and every subsequent email sent from the ESO will have "(Event Log full)" appended to the subject line.

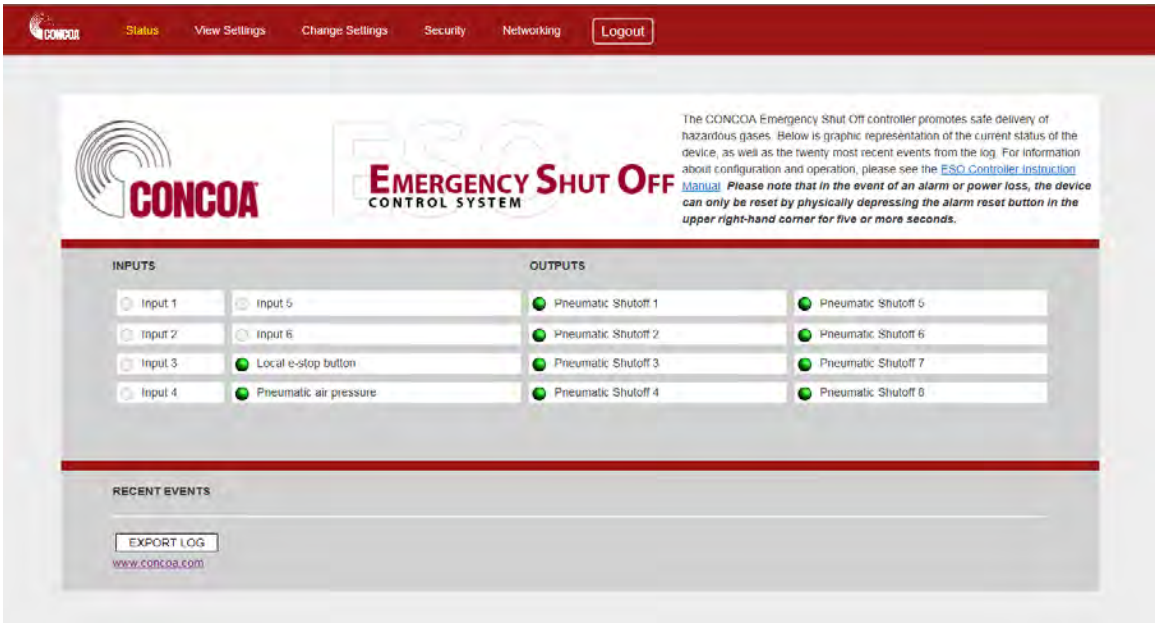


Figure 10

WEB SERVER - VIEW SETTINGS PAGE

The ESO webserver View Settings screen displays several system parameters: webserver software version; firmware version; and alarm silence status. An EXPORT SETTINGS button on the page allows for exporting data to a text file. This includes all of the ESO system parameters in addition to the information displayed on this page.

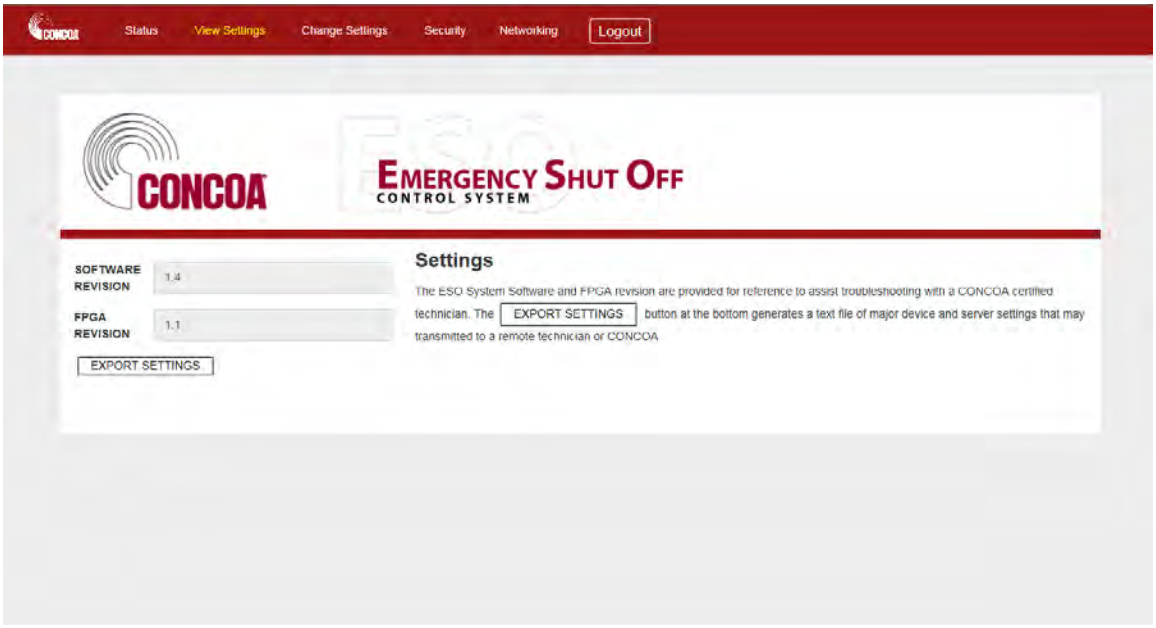


Figure 11

WEB SERVER - CHANGE SETTINGS TAB

The ESO Change Settings tab contains five pages comprising all the system I/O configuration information.

These five pages are:

- Configuration
- Inputs
- Pneumatic Shutoff
- Output Relays
- Email Alerts

See instructions for each page below.

WEB SERVER CHANGE SETTINGS TAB: CONFIGURATION PAGE

The ESO Configuration page shows the current settings for the date, time and system ID.

To set the date and time, enter the date in the format YYYY/MM/DD. The time should be entered as HH:MM, with a leading zero for the first nine hours. Click “SET” to submit.

When utilizing more than one ESO system, the System ID can be used to differentiate each ESO system in the email subject line. The settings are changed by entering the appropriate values in the text box and clicking the SET button. The CANCEL button will restore the current settings if any have been made in the browser but not committed. The CLEAR LOG button will permanently erase the event log.

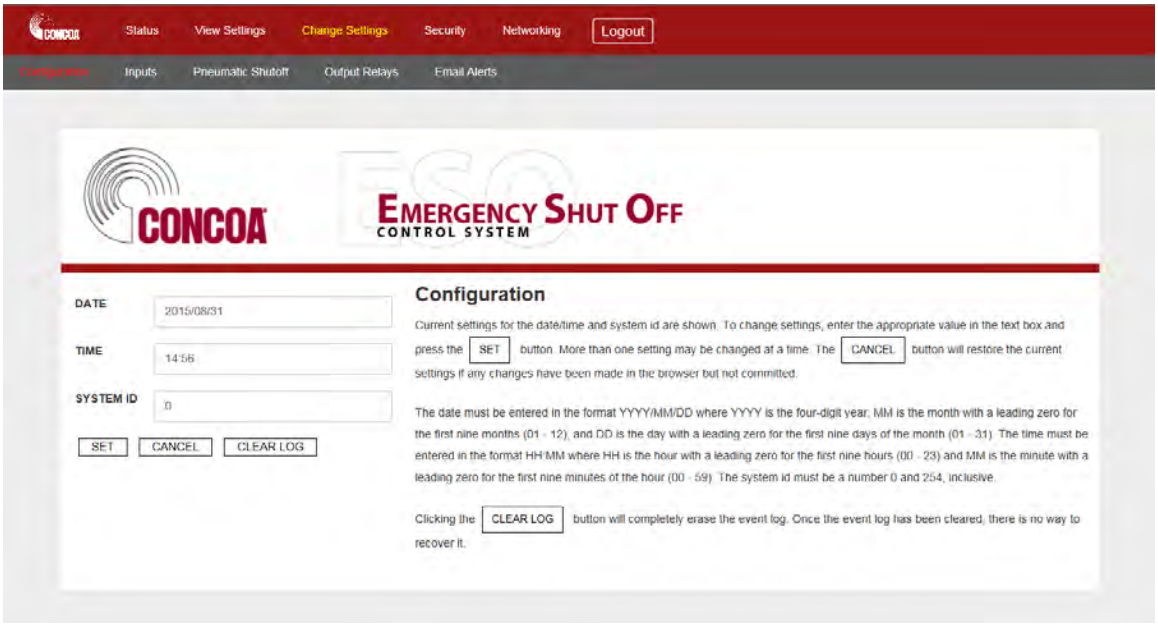


Figure 12

WEB SERVER CHANGE SETTINGS TAB: INPUTS PAGE

The ESO Inputs page shows the current settings for each of the eight system inputs. The settings may be changed by entering the appropriate value in the text box, selecting the appropriate value from the drop-down box, or by clicking the appropriate check box and clicking the SET button. The CANCEL button will restore the current settings if any have been made in the browser but not committed.

If an input is enabled, the status of that input will be shown on the alarm panel, reported on the status page, used in the pneumatic shutoff logic, used for output relays, and reported in email events. If an input is disabled, it will be ignored, and the LED will be turned off.

The name of the input is used on the status page and in any generated emails.

The normal condition of the input indicates the expected circuit continuity of the input (normally closed or normally open). When an input is in normal condition, its associated LED (on the front panel and status page) will show green. When the input exits its normal condition the indicator will show red. All inputs are configured at the factory for normally closed operation.

Input 7 is dedicated to the local E-STOP button. Input 8 is dedicated to the internal pressure switch for the pneumatic gas supply. If pneumatic gas pressure is too low, all connected valves will shut off.

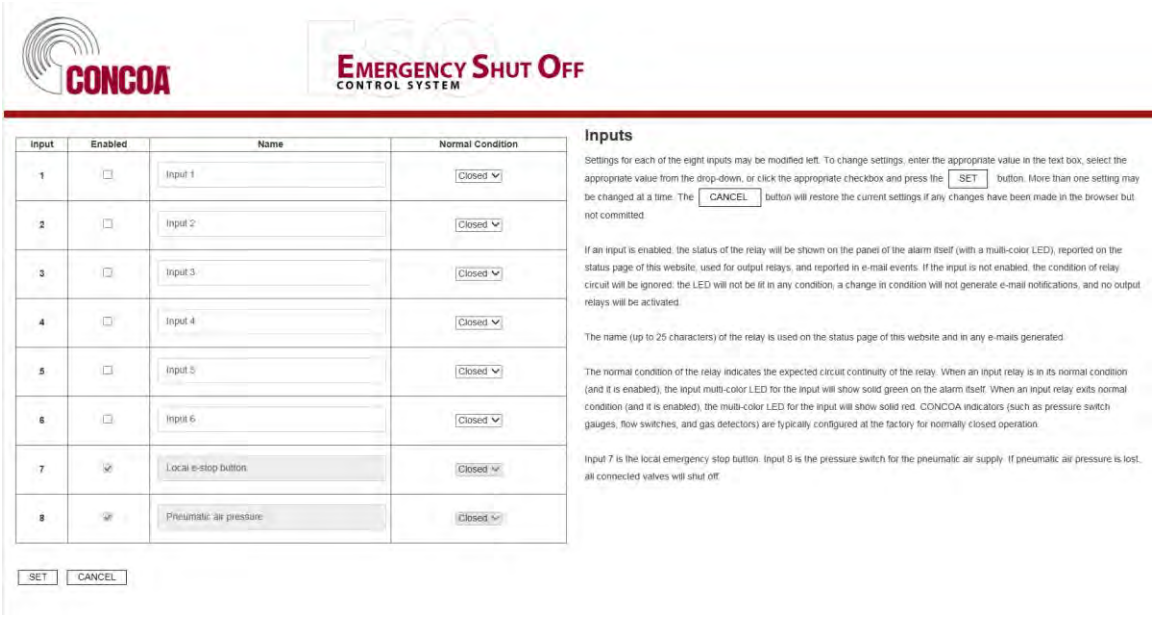


Figure 13

WEB SERVER CHANGE SETTINGS TAB: PNEUMATIC SHUT OFF PAGE

The ESO pneumatic shut off page shows the current configuration for each of the systems pneumatic shut off solenoid valves. Each row represents the configuration for the pneumatic shut off valve of that number. The settings may be changed by clicking the appropriate check box and clicking the SET button. The CANCEL button will restore the current settings if any have been made in the browser but not committed.

If an output is disabled, no pneumatic gas pressure will be supplied through the corresponding port.

For each enabled pneumatic shutoff, each checked (✓) input will be monitored, resulting in shut-off of the associated pneumatic valve upon an alarm condition. If input 8 (pneumatic gas pressure monitor) exits normal condition, all pneumatic shut-offs will be activated. This cannot be modified.

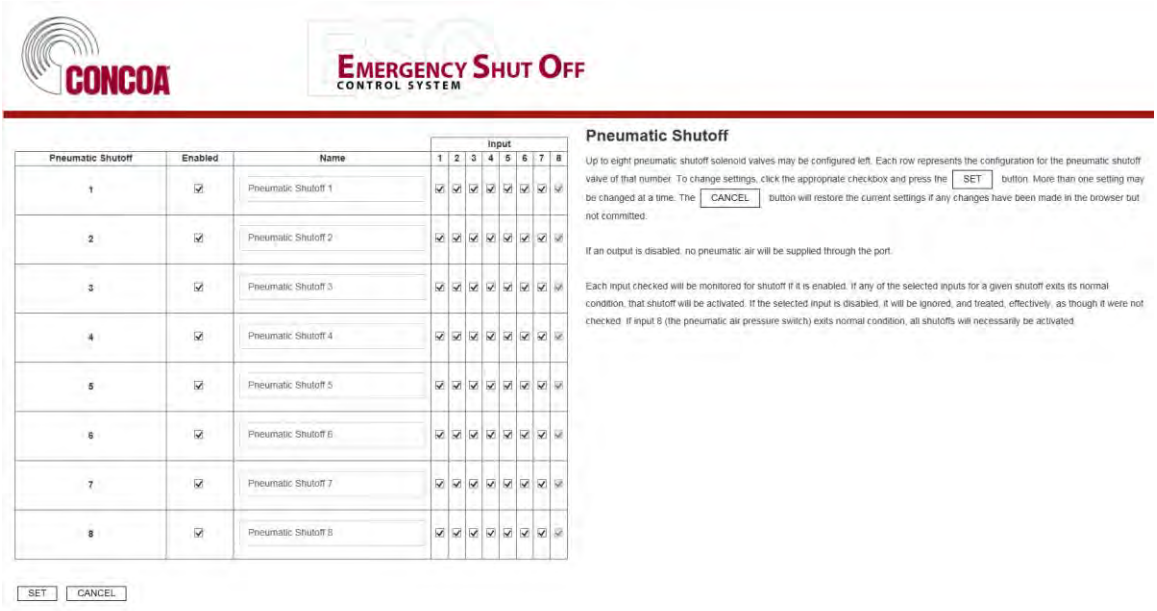


Figure 14

WEB SERVER CHANGE SETTINGS TAB: OUTPUT RELAYS PAGE

The ESO output relays page shows the current configuration for each of the electrical output relays. Each row represents the configuration for the dry contact output relay of that number. The settings may be changed by selecting the appropriate value from the drop-down box, or clicking the appropriate check box and clicking the SET button. The CANCEL button will restore the current settings if any have been made in the browser but not committed.

If a dry contact output is disabled, the circuit will be open or closed at all times depending on the jumper setting.

The EVENT setting indicates the input conditions for which the output will send an alarm to an external device. If “Any” is selected, then the output will send an alarm if any of the checked (✓) inputs enters an alarm condition. If “All” is selected, then the output will send an alarm only if all of the checked (✓) inputs enter an alarm condition.

Each checked (✓) input will be monitored for an alarm condition only if the checked (✓) input is enabled (see figure 13). If the checked (✓) input is disabled, it will be ignored.

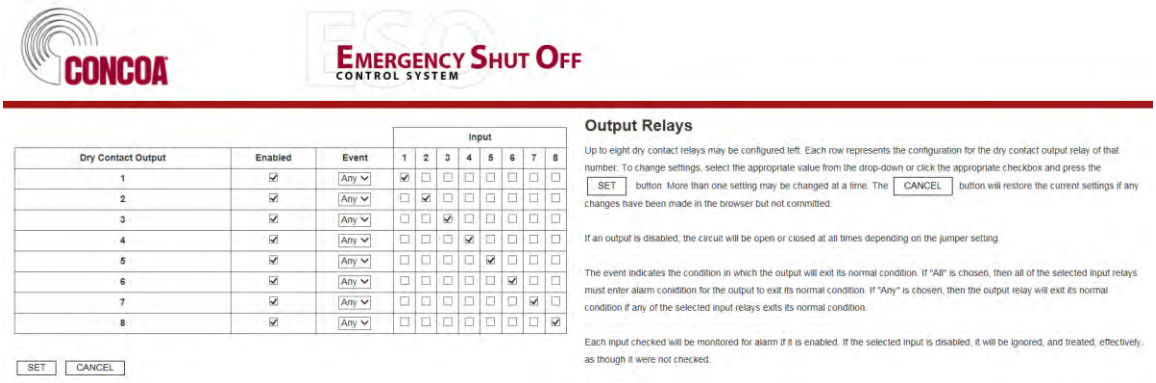


Figure 15

WEB SERVER CHANGE SETTINGS TAB: E-MAIL ALERTS PAGE

The ESO E-Mail Alerts page (see figure 16) shows the current configuration for the system email alerts. Each row represents the configuration for the email alert of that input number. The settings may be changed by entering the appropriate value in the text box, selecting the appropriate value from the drop-down box, or clicking the appropriate check box and clicking the SET button. The CANCEL button will restore the current settings if any have been made in the browser but not committed. Options common to all e-mail alerts (such as network settings, relay information, sender, and reply-to) may be configured in the Networking page.

If an alert is disabled, an email will not be sent regardless of the input conditions associated with the alert.

“Condition” indicates whether an email alert will be triggered when the described alarm condition occurs, when it is cleared, or both. Note that emails are sent only on the change of the entire state, not individual inputs.

The event indicates the condition in which the email alert will be triggered. If “All” is selected, then all of the selected inputs must enter alarm condition for the alert to be triggered. If “Any” is chosen, then any of the selected relays entering alarm condition will cause the alert to trigger.

Each checked (✓) input will be monitored for an alarm condition only if the checked (✓) input is enabled (see figure 13). If the checked (✓) input is disabled, it will be ignored.

If “Non-relay Events” is checked (✓), then the alert will also be triggered by any change in alarm condition unrelated to the selected inputs. These events include alarm silence and web based configuration changes.

The Subject text box adds a customizable subject to the email alert and the “To:” allows the user to assign recipients. Multiple email addresses are permissible in the “To” field and should be separated by a semicolon. There is a 256 string max.

				Input								E-mail options		
Alert	Enabled	Condition	Event	1	2	3	4	5	6	7	8	Non-relay Events	Subject	Recipients
1	☐	On alarm	All	☐	☐	☐	☐	☐	☐	☐	☐	☐		
2	☐	On alarm	All	☐	☐	☐	☐	☐	☐	☐	☐	☐		
3	☐	On alarm	All	☐	☐	☐	☐	☐	☐	☐	☐	☐		
4	☐	On alarm	All	☐	☐	☐	☐	☐	☐	☐	☐	☐		
5	☐	On alarm	All	☐	☐	☐	☐	☐	☐	☐	☐	☐		
6	☐	On alarm	All	☐	☐	☐	☐	☐	☐	☐	☐	☐		
7	☐	On alarm	All	☐	☐	☐	☐	☐	☐	☐	☐	☐		
8	☐	On alarm	All	☐	☐	☐	☐	☐	☐	☐	☐	☐		

SET CANCEL

Figure 16

WEB SERVER - NETWORKING PAGE

The ESO Networking page (see figure 17) shows the IP and SMTP settings for the system. The current IP and SMTP settings are displayed on the right. The settings may be changed by editing one or more of the options in the left box and clicking the SET button. The CANCEL button will restore the current settings if any have been made in the browser but not committed.

Any change to the IP settings will immediately cause the server to restart; therefore, please ensure access to the new network location prior to clicking the SET button. Note that if DHCP CLIENT is set to ON, then all IP text boxes will be ignored, and the ESO will seek IP settings from a DHCP server.

The ESO can send e-mail alerts in real time as certain events occur. Up to eight e-mail alerts can be configured on the E-Mail Alerts page described in the previous section. Email settings on this page apply to all e-mail alerts.

The ESO features an on-board SMTP server that will directly connect to recipient hosts without an intermediary relay. The FROM and REPLY TO data entered must be valid e-mail addresses. The SERVER PORT determines the TCP port on the recipient host to which the ESO server will connect to open a connection. LOCAL PORT sets the port on the ESO server from which this connection will attempt to originate. OVERRIDING DOMAIN indicates how the ESO server will identify itself to the target host. To force all mail to be sent via relay regardless of the recipient domain, enter the name or address of the relay server in RELAY ADRESS. If this setting is blank, the SMTP server on the ESO will attempt to open a connection directly to the recipient domain. RELAY PORT controls the port on the relay server to which the ESO will connect. The scroll box below these settings shows the SMTP log for troubleshooting purposes.

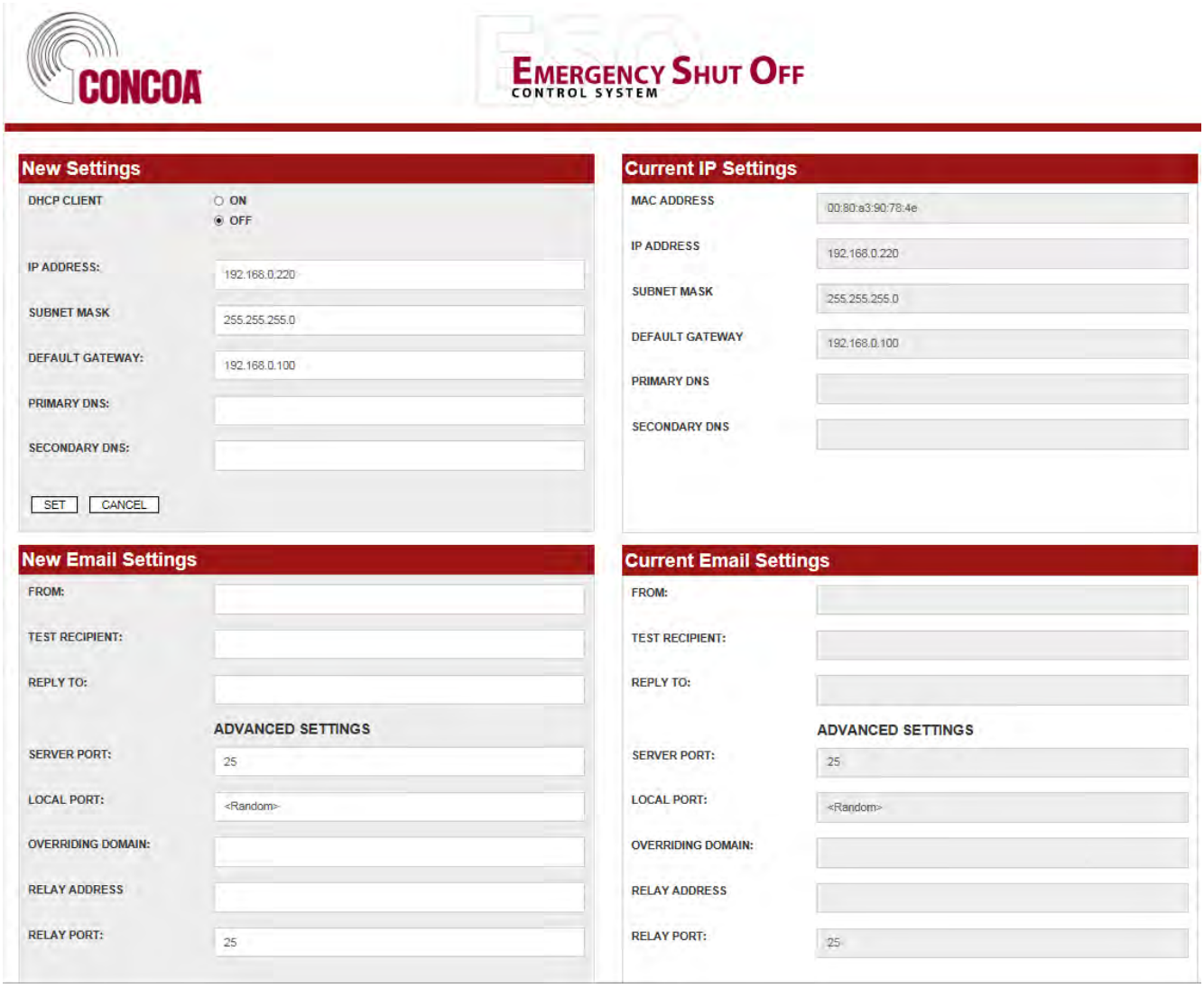

CONCOA
EMERGENCY SHUT OFF
CONTROL SYSTEM
New Settings
DHCP CLIENT
ON
OFF
IP ADDRESS:
192.168.0.220
SUBNET MASK
255.255.255.0
DEFAULT GATEWAY:
192.168.0.100
PRIMARY DNS:
SECONDARY DNS:
SET
CANCEL
Current IP Settings
MAC ADDRESS
00:80:a3:90:78:4e
IP ADDRESS
192.168.0.220
SUBNET MASK
255.255.255.0
DEFAULT GATEWAY
192.168.0.100
PRIMARY DNS
SECONDARY DNS
New Email Settings
FROM:
TEST RECIPIENT:
REPLY TO:
ADVANCED SETTINGS
SERVER PORT:
25
LOCAL PORT:
<Random>
OVERRIDING DOMAIN:
RELAY ADDRESS
RELAY PORT:
25
Current Email Settings
FROM:
TEST RECIPIENT:
REPLY TO:
ADVANCED SETTINGS
SERVER PORT:
25
LOCAL PORT:
<Random>
OVERRIDING DOMAIN:
RELAY ADDRESS
RELAY PORT:
25

Figure 17

WEB SERVER - SECURITY PAGE

The ESO Security page (see figure 18) shows the security settings for the system. If the Admin security is enabled, authentication for that user will be required to browse the Change Settings, Security, and Networking Pages of the ESO server. If Operator security is enabled, authentication for that user or as Admin will be required to browse Status and to View Settings. Refer to the ESO Webserver Configuration Instructions for factory default security settings.

To enable security, enter a password (twice), click the desired Security Enabled box, and click the SET button. The CANCEL button will restore the current settings if any have been made in the browser but not committed. Note that to enable Operator security, Admin security must also be enabled.

To disable security, clear the appropriate Security Enabled box and click the SET button. Note that Operator security must be disabled before Admin security can be disabled.

User names and passwords are case-sensitive, and the user names Admin and Operator may not be changed. Authentication requires cookies to be enabled on the browser. CONCOA strongly recommends that Admin security be enabled at all times to prevent inadvertent changes to settings that may affect the functionality of the product. For security purposes, be sure to click the LOGOUT button or close the browser. If you have been locked out of the ESO, contact CONCOA.

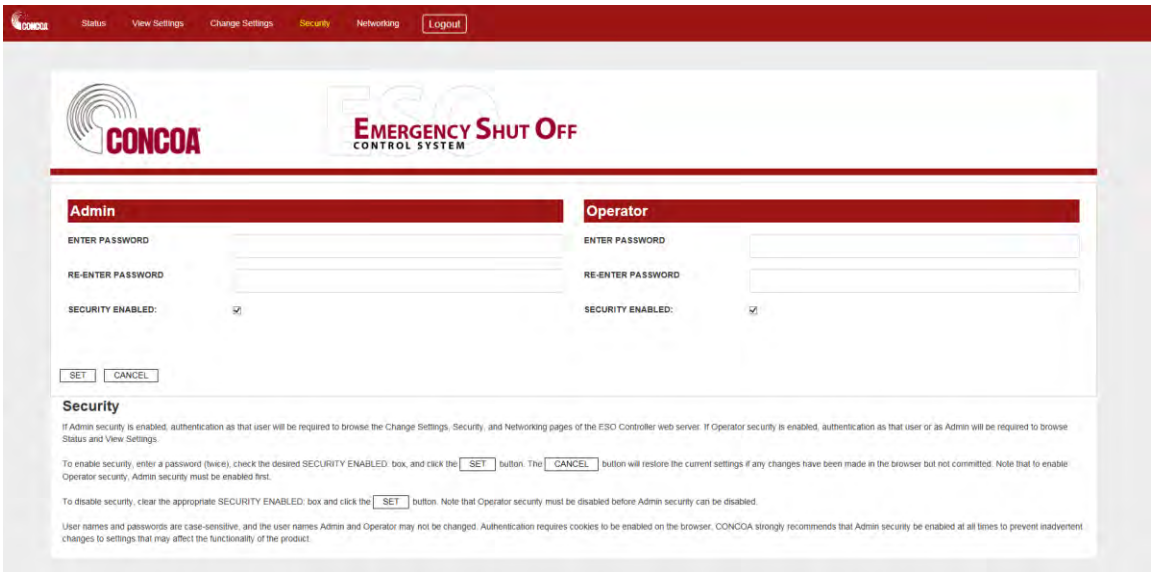


Figure 18

WARRANTY INFORMATION

This equipment is sold by CONTROLS CORPORATION OF AMERICA under the warranties set forth in the following paragraphs. Such warranties are extended only with respect to the purchase of this equipment directly from CONTROLS CORPORATION OF AMERICA or its Authorized Distributors as new merchandise and are extended to the first Buyer thereof other than for the purpose of resale.

For a period of one (1) year from the date of original delivery (90 days in corrosive service) to Buyer or to Buyer's order, this equipment is warrantied to be free from functional defects in materials and workmanship and to conform to the description of this equipment contained in this manual and any accompanying labels and/or inserts, provided that the same is properly operated under conditions of normal use and that regular periodic maintenance and service is performed or replacements made in accordance with the instructions provided. The foregoing warranties shall not apply if the equipment has been repaired: other than by CONTROLS CORPORATION OF AMERICA or a designated service facility in accordance with written instructions provided by CONTROLS CORPORATION OF AMERICA; or altered by anyone other than CONTROLS CORPORATION OF AMERICA; or if the equipment has been operated under improper conditions or outside published specifications; or if the equipment has been damaged or does not function due to improper installation, improper supply of required utilities, accident, abuse, misuse, natural disaster, insufficient or excessive electrical supply, abnormal mechanical or environmental conditions, or debris or particles in the gas or liquid source of supply.

CONTROLS CORPORATION OF AMERICA's sole and exclusive obligation and Buyer's sole and exclusive remedy under the above warranties is limited to repairing using new or reconditioned parts or replacing, free of charge except for labor if permanently installed for the continuous supply of gas by other than a technician certified by CONTROLS CORPORATION OF AMERICA specifically to do so, at CONTROLS CORPORATION OF AMERICA's option, the equipment or part, which is either (1) reported to its Authorized Distributor from whom purchased, and which if so advised, is returned with a statement of the observed deficiency, and proof of purchase of equipment or part not later than seven (7) days after the expiration date of the applicable warranty, to the nearest designated service facility during normal business hours, transportation charges prepaid, and which upon examination, is found not to comply with the above warranties with return trip transportation charges for the equipment or part paid by Buyer or (2) in the case of designated equipment permanently installed for the continuous supply of gas, reported to an Authorized Service Center with proof of initial installation no later than seven (7) days after the expiration date of the applicable warranty, and which is evaluated for compliance with the above warranties by technician certified by CONTROLS CORPORATION OF AMERICA, and which is determined by CONTROLS CORPORATION OF AMERICA based on said evaluation to be non-compliant.

CONTROLS CORPORATION OF AMERICA SHALL NOT BE OTHERWISE LIABLE FOR ANY DAMAGES INCLUDING BUT NOT LIMITED TO: INCIDENTAL DAMAGES, CONSEQUENTIAL DAMAGES, OR SPECIAL DAMAGES, WHETHER SUCH DAMAGES RESULT FROM NEGLIGENCE, BREACH OF WARRANTY OR OTHERWISE.

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