MVP-DAX CS Operation

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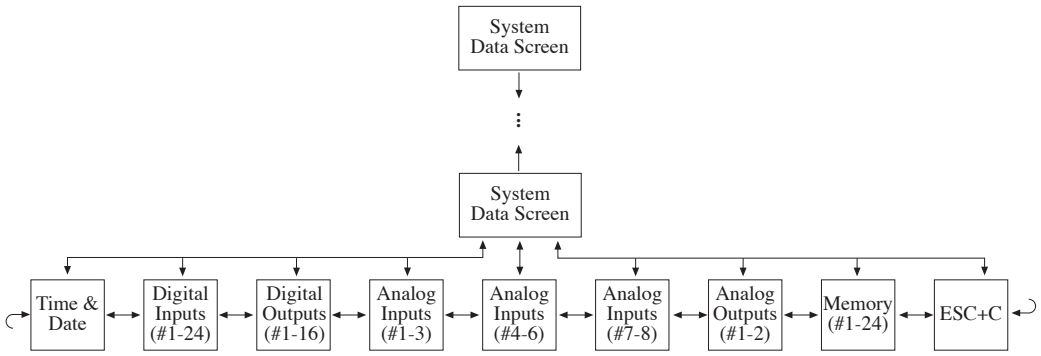
Orenco's Most Versatile Panel (MVP) line of control panels includes an easy-to-use programmable logic unit that incorporates many timing and logic functions. The units have built in screens which show the time and date, digital input status, digital output status, analog input status (3 screens), analog output status, memory flag status and an ESC + Cursor key status. (The analog input status, analog output status, memory flag status and ESC + Cursor key status screens are not used in this application.) Additionally, the following system data screens have been included in your panel:

System Data Screens:	Description:
1. Pump 1 CT & ETM	Pump 1 cycle counter at top of screen and pump run time in minutes beneath
2. Pump 2 CT & ETM	Pump 2 cycle counter at top of screen and pump run time in minutes beneath
3. Lag 1 CT & Lag 2 CT	Pump 1 lag counter at top and pump 2 lag counter beneath
4. High Lvl CT	High level alarm counter at top of screen
5. Power Faults & Operating Hr	Power fault counter at top of screen and operating hours beneath

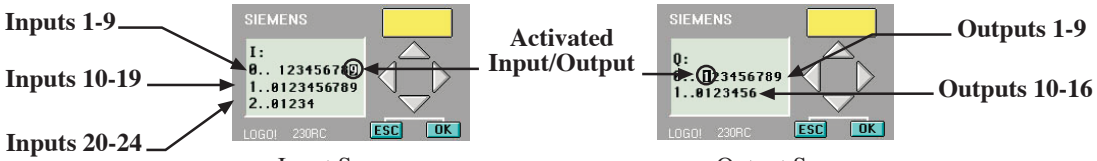
To move between screens, use the four arrow keys. The screens are accessed as shown below:



Digital Input and Digital Output Screens: The unit will activate various inputs and outputs as it operates (please refer to the Liquid Crystal Display screens shown below). Knowing what conditions cause the inputs and outputs to activate can be a helpful installation and troubleshooting tool. The following inputs and outputs have been used with your control panel:

Input Functions:	Activation Conditions:
1. Low Pressure Sensor/Redundant Off & Low Level Alarm	Float in up position
2. Pumps Off Sensor (Optional)	Float in up position
3. Lead Pump On Sensor	Float in up position
4. Lag Pump On Sensor (Optional)	Float in up position
5. High Level Alarm Sensor (Optional)	Float in up position
6. Current Sensor Pump1	Pump1 is activated
7. Current Sensor Pump2	Pump2 is activated
8. Push To Silence	Pushbutton is pressed
9. Push To Reset Pump1 Fail	Pushbutton is pressed
10. Push To Reset Pump2 Fail	Pushbutton is pressed
11. Phase/Voltage Monitor	Phase/Voltage is normal

Output Functions:	Activation Conditions:
1. Pump #1	Pump #1 is activated
2. Pump #2	Pump #2 is activated
3. Level Alarm Light	Level alarm condition exists
4. Audible Alarm	Audible Alarm is activated
5. Pump1 Fail Light	Pump1 fail condition exists
6. Pump2 Fail Light	Pump2 fail condition exists
7. Dialer	The Phone Dialer has been activated
8. Remote Alarm Dry Contacts	Contacts are closed.



Input Screen Output Screen

Your control panel can perform the float functions listed below. Depending on the number of floats for your application, some functions may be omitted or combined.

High Level Alarm (Optional): This input activates the alarm light (steady) and audible alarm when closed for longer than the high level alarm delay. The audible alarm may be silenced by pressing the illuminated PUSH TO SILENCE button on the front of the control panel. The alarm light (steady) will remain on until the input is opened, and the audible alarm will reactivate in 12 hours if condition is not corrected.

Lag Pump On (Optional): This input activates the lag pump when closed for more than 2 seconds. The pump will continue to run until the Pumps Off input is opened.

Lead Pump On: This input activates the pump when closed. The pump will run for the duration of the dose time as a minimum or until the input is opened or the optional pumps off input (if used) is opened.

Pumps Off (Optional): This input deactivates the pumps when opened. This input is ignored if no sensor or float is connected to it.

Low Pressure/Redundant Off & Low Level Alarm: This input turns off the pumps when opened for more than two seconds. This input is a secondary off input which will operate if the Lead/Lag Sensors or Pumps Off input fails. Pumping will be disabled in both the automatic and manual modes. This input also activates the alarm light (flashing) and audible alarm. The audible alarm may be silenced by pressing the illuminated PUSH TO SILENCE button on the front of the control panel. The alarm light will remain flashing until the input is closed, and the audible alarm will reactivate in 12 hours if condition is not corrected.

Current Sensors: The current sensors are activated when the pumps are called on to run. If a pump does not become activated in 2 seconds a pump failure will occur, which will activate the associated pump fail alarm light and the audible alarm. The audible alarm may be silenced by pressing the illuminated PUSH TO SILENCE button on the front of the control panel. The pump fail light may be reset by pushing the PUSH TO RESET button, on the front of the control panel, after the pump fail condition has been corrected. If the alarm condition is not corrected in 12 hours, the audible alarm will be reactivated.

Dialer: If an alarm condition occurs, both channels of the dialer are activated and will dial out. Both channels are deactivated when the Push to Silence Button is pushed.

Remote Alarm Dry Contacts: If an alarm condition occurs, the remote alarm dry contacts will close. The contacts will open when the Push to Silence Button is pushed.

External Alarm Panel: If an alarm condition occurs, The External Alarm Panel will activate the flashing beacon and sound the audible alarm. The alarm may be silenced by pushing the non-illuminated Push to Silence Button on the External Alarm Panel. Note: Silencing the audible alarm at the External Alarm Panel will not silence the audible alarm of the MVP-DAX panel.

Phase/Voltage Monitor: If an alarm condition occurs for longer than 30 seconds, the pumps will be disabled and the red alarm light on the phase/voltage monitor will be illuminated until the alarm condition is corrected. There is no audible alarm.

This panel supports four different modes of operation relating to the pump alternation which are based on selected parameter settings. Additionally, the panel can be set to alternate in the event of a pump failure. See the setting page for this panel for information on how to adjust these parameters.

Alternating (default): Parameters “Pmp1Lead” and “Pmp2Lead” set to “Off”
The lead and lag pumps will alternate and for each cycle. This mode provides equal wear on each pump and is recommended for most applications.

Pump 1 Lead: Parameter “Pmp1Lead” set to “On” and parameter “Pmp2Lead” set to “Off”
The lead pump is locked to pump #1 and the lag pump is locked to pump #2. No alternation will occur. Pump #1 will be the primary pump for the system. Pump #2 will only be used during high flow conditions.

Pump 2 Lead: Parameter “Pmp1Lead” set to “Off” and parameter “Pmp2Lead” set to “On”
The lead pump is locked to pump #2 and the lag pump is locked to pump #1. No alternation will occur. Pump #2 will be the primary pump for the system. Pump #1 will only be used during high flow conditions.

Both Pumps: Parameters “Pmp1Lead” and “Pmp2Lead” set to “On”
Both pumps will run together for every cycle.

Pump Failure Alternation: If the “PFailAlt” parameter in the logic unit is set to “On” (default is “Off”), the panel will immediately switch to the other pump, in the event of a pump failure.