

DEZURIK ECB PUMP & CONTROL VALVE INTERFACE

Design & Construction

The DeZURIK ECB Pump & Control Valve Interface is designed to provide control between the pump and pump control valve to minimize pressure surges in the system when the pump starts and stops. The pre-programmed controller properly sequences and controls the pump and pump control valve start-up and shut-down procedure, thereby protecting the pumping system from damage due to mechanical, hydraulic or power failure. The ECB Pump & Control Valve Interface is available for either solenoid controlled or motor operated DeZURIK, APCO or Willamette pump control valves, and is suitable for booster pump and deep well applications.

Local Control Buttons

Local control buttons are mounted on the door of the electrical control box interface: LOR (Local-Off-Remote) switch for remote or local operation; pump start & pump stop buttons; and an emergency stop button. Normal pump start-up can be initiated by turning the LOR switch to "Local" and pressing the "Start Pump" button, or by a remote contact closure when the LOR switch is in the "Remote" position. Normal pump shutdown can be initiated by pressing the Pump Stop button when in "Local" mode, or by remotely breaking the contacts with the LOR switch in the "Remote" position.

The Emergency Stop button can be activated at any time to initiate an emergency pump shut-down sequence.

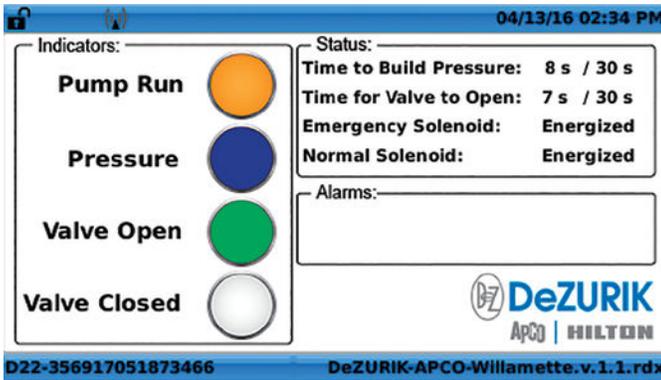
Visual Indication of System Status

Throughout all modes of operation, the controller



provides visual indication of system status. The colored lights indicate normal operation and alarm conditions of the pump and control valve. Pump run/off, pressure switch and valve open/closed status are displayed with colored indicator lights. The Time for System to Build Pressure and the Time for Valve to Open are displayed as time in seconds, while on solenoid controlled valves the emergency and normal solenoid status indicates if the solenoid valves are energized or de-energized.

Normal Pump and Control Valve Sequencing



Solenoid Version Shown

The ECB Pump & Control Valve Interface provides both visual and electronic status outputs for operating personnel. When a pump start-up command is initiated, either locally or remotely, the “Pump Run” indicator will display a steady amber colored light. Simultaneously, the Pressure Timer is activated and Status window shows the time in seconds to build pressure compared to the allowable time setting. A flashing blue “Pressure” indicator light indicates the pump is building pressure. When sufficient pressure is established, a steady blue indicator light is displayed and the valve opening sequence starts. The “Valve Open” indicator light flashes green and the Valve Open Timer in the Status window counts the time it takes to open compared to the allowable time setting. When the valve is open, the indicator light changes to a steady green. With the valve open, pump running and producing sufficient pressure, the system is operating normally and the display screen appears like the illustration above.

Configurable Timers Control



Sequence Time

The ECB Interface includes three sequence timers: Build Pressure Timer, Valve Open Timer and Power Failure Delay Timer. After the pump has been started, the system has the configurable amount of time to build pressure. If the system does not build

sufficient pressure in the allotted time, the ECB Interface will display a failure message and shut down the pump to prevent system damage.

Likewise, the valve can be set to open in a configurable amount of time. If the valve does not open within the set time, the pump is shut off and a failure message indicates that “Valve Did Not Open On Start-Up.”

The Power Failure Delay Timer controls the delay time for automatic pump re-start following a power failure. The delay allows surge pressure to subside and the pump control valve to move to the closed position before restarting. The pump cannot be restarted until the timer expires.

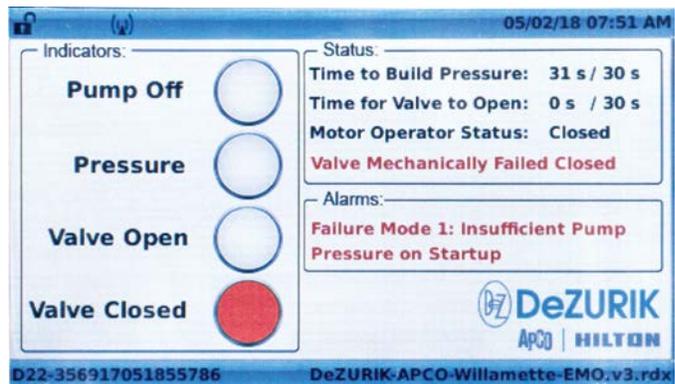
Automatic Pump Shutdown in Emergency Situations

If the pump or valve should malfunction any time during the pumping operation, the ECB Interface will automatically shut down the pump. If this happens, the “Pressure” indicator light will turn white, the pump will turn off. The valve closes and one of five pre-programmed Alarm Condition messages is displayed.

Five Pre-Programmed Alarm Conditions

If power, pump or valve failure occur, the controller will display the appropriate alarm flag

1. Failure Mode 1 = Insufficient Pump Pressure
2. Failure Mode 2 = Valve Did Not Open on Start-Up
3. Failure Mode 3 = Loss of Pressure to Pressure Switch
4. Failure Mode 4 = Valve Closed Without Command (Illustrated below)
5. Failure Mode 5 = Power Failure Delay



Motor Operator Version Shown



Solenoid Version Shown

Minimum Field Wiring Required

The ECB Pump & Control Valve Interface is manufactured to insure a minimum amount of field wiring. Easy-to-access terminal block includes connections for solenoid valve or motor operator controls, valve limit switch, pump starter relay, remote automatic contact and pressure switch.

Heavy-Duty Enclosure

The controller is housed in a NEMA 4X rated, molded fiberglass polyester enclosure with enhanced UV inhibitors to protect it from ultraviolet (UV) light. The enclosure features a polycarbonate window, gasketed door, continuous stainless steel hinge, stainless steel twist/latch door fasteners with lockable door hasps. Stainless steel mounting brackets and hardware are provided for mounting to the rear of the enclosure.

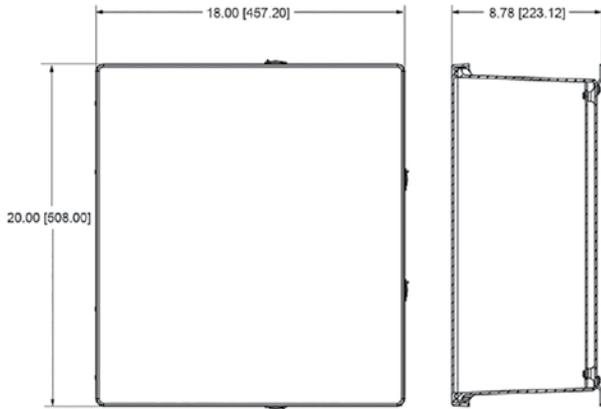
Ordering

To order, enter order code as a separate line item on the order.

Control Interface for:	Order Code
Solenoid Operated Valves	ACC*ECB-CP
Motor Operated Valves	ACC*ECB-CEM

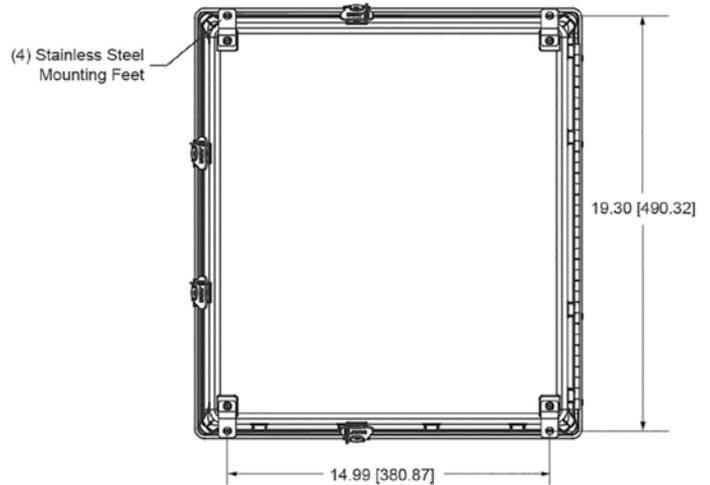
Dimensions

ECB Enclosure Physical Dimensions

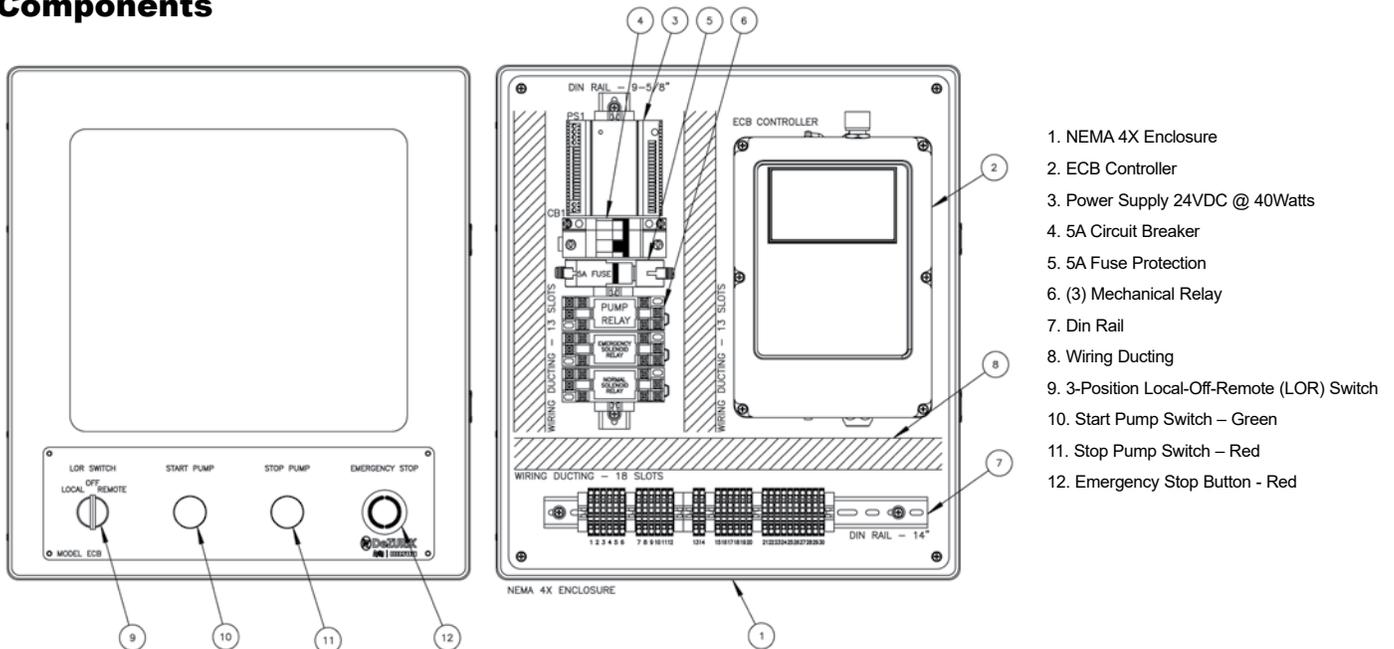


Inches [MM]

ECB Enclosure Mounting Dimensions:



Components



Sales and Service

For information about our worldwide locations, approvals, certifications and local representative:

Web Site: DeZURIK.com E-Mail: info@DeZURIK.com



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