The MPE Simplexer Controller shall be designed for simplex pump control operation. The controller's inputs shall be designed to accept either float switches or a conductance level probe input. The Simplexer Controller shall be UL508 Listed, SCADA ready, and be able to perform either pump-up or pump down control.

The Controller shall be designed to simplify control panel construction by incorporating the following features:

> Three Float and/or Conductance Probe Inputs
> Level Simulation Pushbutton
> HOA Switch
> Pump Call and High Level Alarm Relays
> Surge Protected Level Inputs
> 10 Second Power Up Delay
> Power On Indicator
> Input Level Indicators
> Pump Run Indicator
> High-Level Alarm Indicator
> Latched High-Level Alarm Indicator

The Controller shall have a 12 pin base to mate with a SD12-PC socket, and have an RS232 Serial Port its MODBUS SCADA connection.

The Push-to-Test push-button shall allow the operator to test the automatic pump call function of the unit, as well as reset the high level alarm. By depressing and holding the Alarm / Push-to-Test Push-button, the unit shall automatically step through the level indications and the pump run and alarm functions. A Push-to-Test feature that only tests the Off and Lead inputs shall not be considered equal.

The level input out-of-sequence logic shall compensate for float switch failure, or skipped level probe input conditions, and allow for continued pump operation. Internal registers shall allow SCADA to monitor Simplexer Controller inputs for an out-of-sequence condition, and shall also allow for the ability to store and reset this information.

The controller shall contain the following setup features, available by accessing the serial port:

> Select Pump Up or Pump Down
> Select Floats or Level Probe Inputs
> Select Sensitivity for Level Probe

> Select Alarm Indication Reset (Manual or Automatic)
> Select Serial Communication Parameters

The Controller shall contain the following SCADA features:

> **Monitor:**
> Status of Level Inputs
> Status of Pump (On/Off)
> Status of Push-Button
> Run Time via Internal ETM register
> Pre-Regulator Power Supply Voltage
>
> **Control:**
> Remotely Reset ETM
> Remotely Force Pump On
> Remotely Disable Pump
> Remotely Reset Alarm
> Remotely Reset Fault Code Registers
>
> **Fault Codes:**
> Status of Current Fault Code (if applicable)
> Status of Last Fault Code
> Status of "Out of Sequence" Registers

The Simplexer Controller, part number 010-120-121P, shall be manufactured by Motor Protection Electronics of Apopka, Florida, (407) 299-3825.

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