**Intrinsically Safe Duplex Controller Specification**

The Controller shall be an Intrinsically Safe Duplexer, ISD, built for intrinsically safe duplex pump control operation. The controller’s intrinsically safe float switch inputs shall be designed to allow safe handling of float switches by lift station personnel. The ISD Controller is to be labeled UL913, as an Intrinsically Safe device.

The controller is to be designed to simplify control panel construction by incorporating four intrinsically safe relays, an alternator, a lag pump delay timer, two HOA switches, a push-to-test switch, and a lead/lag/auto select switch into the unit.

**The ISD controller must have the following features:**

- Level indicators
- HOA switches
- Power-on indicator
- Push-to-test switch
- Lead/lag/auto switch
- Output indicators
- High-level alarm indicator
- Float out-of-sequence indicator
- Internal alternator
- Lag pump time delay.

The Push-to Test push-button (which internally closes the Off and the Lead float inputs), allows the operator to test the automatic pump call function of the unit, as well as the related pump control circuitry.

The Float Switch out-of-sequence logic float switches not opening or closing as they should. This logic also compensates for float switch failure conditions, and allows for continued pump operation. The float out-of-sequence indicator is to be turned off by either a return to normal float sequencing, or by resetting the control power.

The controller must provide a delay for the lead pump immediately following a power interruption.

**ISD Part Number Information:**

- ISD-P  Deadfront, or panel mount unit
- ISD-D  Din-rail mounted unit
- ISD-S  Surface mount, or back-panel mounted unit.

The ISD Controller is to be manufactured by Motor Protection Electronics of Apopka, Florida, (407) 299-3825.