

# HEAT-TIMER®

## PUMP LEAD LAG Submittal Manual

The Pump Lead Lag Control shall be pre-engineered to control either a 2 pump system with lead lag operation or a 2 pump system with an additional Auxiliary pump (3 pump system). The control shall be able to alternate the lead pump on a 2 pump system based on alternate call rotation, 4 hour, 12 hours, 24 hours, and 7 days using dip switch settings. A higher dip switch setting should take precedence over a lower dip switch setting. As a result, a 24 hour rotation (Dip Switch 5=On) will take precedence over alternate rotation (Dip Switch 2=On), 4 hour rotation (Dip Switch 3=On), or 12 hour rotation (Dip Switch 4=On).

The control shall be able to turn off a lead pump if no flow was established within 30 seconds. In that case, and on a 2 pump system, the Pump Alarm LED should blink. Also, the failing pump LED and relay should turn off, the Alarm LEDs and relays should turn On and the Lag Pump should become the Lead Pump with the relay and LED turned On. On the 2 pump system, after the Lag pump takes over and becomes the lead pump following a failure on the lead pump, if the second pump fails, both Alarm LED should blink and no pump should be running until the situation is rectified and the control is manually reset.

On a 3 pump system, a failure to establish flow for 30 seconds on a boiler pump will turn off that pump, blink the Alarm LED for that pump, turn on both Visual and Gold Alarm LEDs, turn on the Auxiliary Pump and its LED and the respective solenoid and its LED. In case that the second boiler pump does not establish flow within 30 seconds, its light shall go Off, its Alarm LED should blink, the respective solenoid valve relay and LED should turn On, and the Auxiliary Pump should supply both boilers. Until the situation has been rectified and the control has been manually reset, the system should not revert to its normal operation. Keep in mind that when the Auxiliary pump is On, no flow checking should take place.

Once a pump has failed, its LED should turn off and its Alarm LED should blink. The pump should not turn back on again until system is reset. A system can be reset by pushing the Reset button or by powering the control Off then On.

The control shall be able to exercise a pump for 10 seconds if that pump has not been run for 1 week by switching Dip Switch 7 to On. Exercise should take place when no other pumps are running. Also, exercise is terminated if there is a new flow demand.

