Lonza ICM Technical Bulletin	Model
Subject: Pulsar ORP Interface with ChemTrol Controllers	PS-45, PS-140, PS-500 Pulsar Control Panels Gen1

Personal Protective Equipment and Tools needed	
SAFETY: Gloves (leather) Safety Glasses 	TOOLS: Wire cutter 

Background

The Pulsar Control Panel ORP interface relay is an electro-mechanical relay which has a very low amperage requirement for holding in the coil once energized. Some ORP controllers use solid state relays which have an inherent leakage current when not actively energized. This leakage current may keep the ORP relay inside of the Pulsar Control Panel active, and thus continually feeding, even when the ORP is not calling for chlorine. To date, there have been two specific brands of controllers that have caused this type of failure, based on feedback from the field: ChemTrol brand programmable controllers, and BECSys controllers.

Chemtrol Programmable Controllers

The PC3000/ PC2000 leak voltage as you know and have seen. The voltage leak comes through the RF network across the points on either side of the relays.

You will want to clip either side of all the 100 ohm resistors for each relay that activates a valve. So, on the OXY relay it will be R86, R87, R88, and R89. For the Sanitizer, it will be R92, R93, R94, and R95. Again you will clip one leg from each side and pull it away from the board so you could re solder it if you needed to. For further information, please contact Chemtrol directly at www.sbcontrol.com, or toll Free at 800-621-2279.

BECSys Controllers

See copy of technical bulletin published by BECSys on following page.

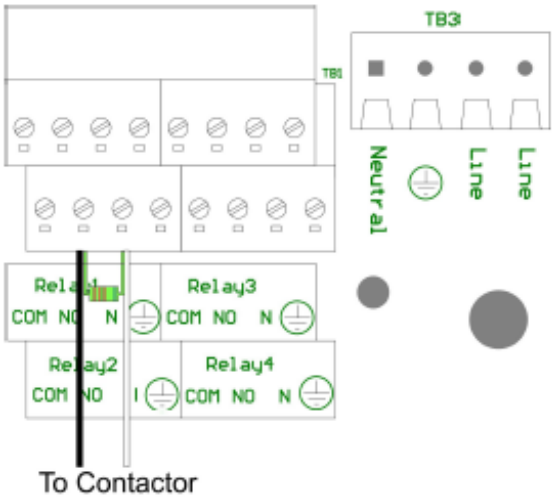
BECSys TECHNICAL SERVICE BULLETIN

Operating a Contactor using a Solid State Relay

There have been applications where Contactors (relays used to switch a large amount of electrical power through their contacts) connected to a solid state relay in a BECSys controller will not turn off when the controller indicates that the relay should de-energize. A Contactor requires more current to start up than it does to maintain its "On" state (drop-out current). Solid state relays have some leakage current associated with them which may be enough to continue operating the Contactor even after the controller has signaled the relay to turn off.

Using a 33k-ohm, 2 Watt resistor (8120621) will bleed approximately 3.6 milliamps of current from the relay output (assuming the load is operated at 120VAC). Adding this resistor in parallel with the Contactor should take enough of the leakage current to allow the Contactor to shut off. This bleed resistor can be installed either at the Contactor or inside the controller, whichever is most convenient. If the resistor is being installed inside the controller, then connect one lead of the resistor to the solid state relay's normally open (NO) terminal, and the other lead to the corresponding neutral (N) terminal. The example below shows a bleed resistor installed for a Contactor connected to Relay1 in a BECSys7 controller.

Warning: All power must be removed from the System before installation of the bleed resistor.



Part Number	Description
8120621	33K ohm Carbon Film 2W Resistor 5%