

April 2012

TROUBLESHOOTING THE COMPACT PROVER AUTO PLENUM ADJUST PANEL**Forward:**

Compact Prover Plenum Adjustment Panels can have either AC or DC powered solenoids. When put into service or during repairs, sometimes these solenoids will not work correctly or at all. The problem lies in the control circuits for the solenoid relays. These circuits for the relays are DC powered directly from the operating computer.

The Prover solenoid relays must be wired to match the computer output configuration.

Signal Determination:

Prover flow computers use one of the following output signal types for Charge and Vent:

- Driving current
- Sinking current

NOTICE

- Measure the voltage levels at TB1 with a typical DMM (Digital Multi Meter) set for DC voltage in the Prover interface enclosure or at the relay itself. TB1 is the most common place to take these measurements because all conductors and signals should be present.
- If the signal does not change state (with high or low voltage) at TB1 or at the relay, trace back to the operating computer for accurate measurements. There should be no loose or corroded connections.

Driving Current Signal

The operating computer will output a +24V DC signal when active and the DC negative will be common to both relays. When not active, the signal will go to 0V DC.

- Use a negative reference (-) for the DMM at a convenient point where the computer and Prover DC negative is common between the two.
- If necessary, disconnect the signal conductor at the computer to take accurate measurements.

Sinking Current Signal

The operating computer will output a DC negative signal when active and the +24V DC will be common to both relays. When not active, the signal will go to +24V DC.

- Use a positive reference (+) for the DMM at the main DC power source for the system or at TB1.
- If necessary, disconnect the signal conductor at the computer to take accurate measurements.

Procedure:

Determine which type of computer output is being used and compare this to the wiring at the relays.

1. If necessary, refer to the Provers' wiring diagram.
2. If +24V DC is common to both relays and the negative (-) from the coil of each relay goes back to TB1, they are wired for sinking current.
3. If the DC negative (-) is common to both relays, and the positive (+) wire from the coil of each relay goes back to TB1, they are wired for driving current.
4. Correct the wiring as needed for the type of computer signal being used.
5. See Figures 1 and 2 for simplified diagrams.

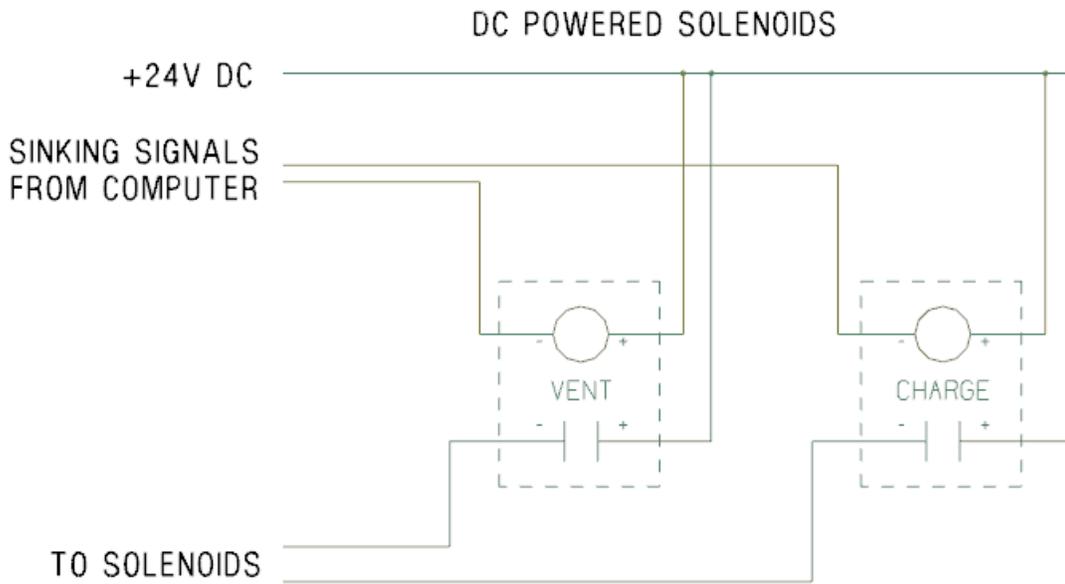
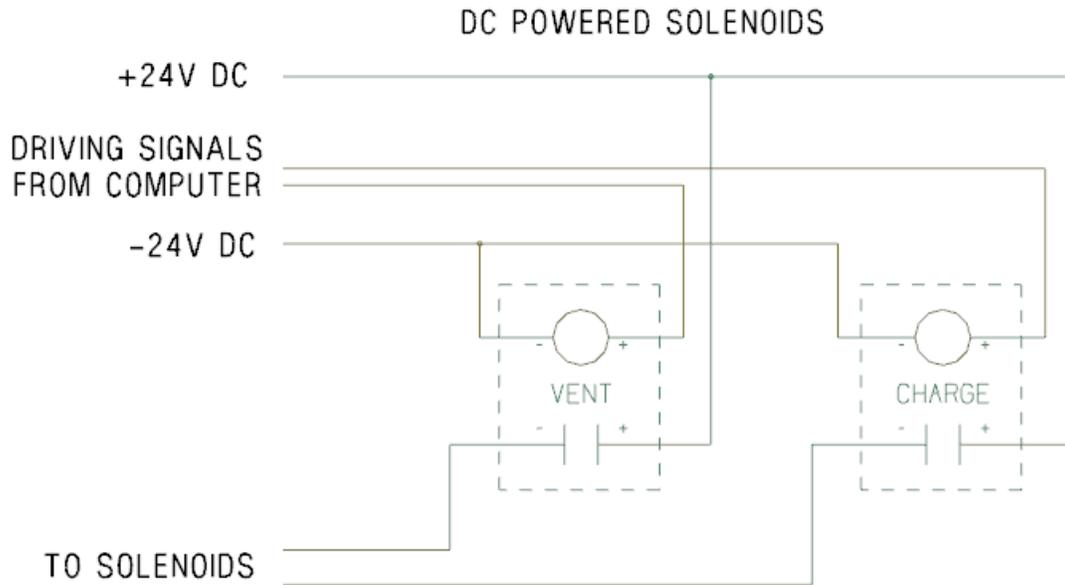


Figure 1. DC Powered Solenoids

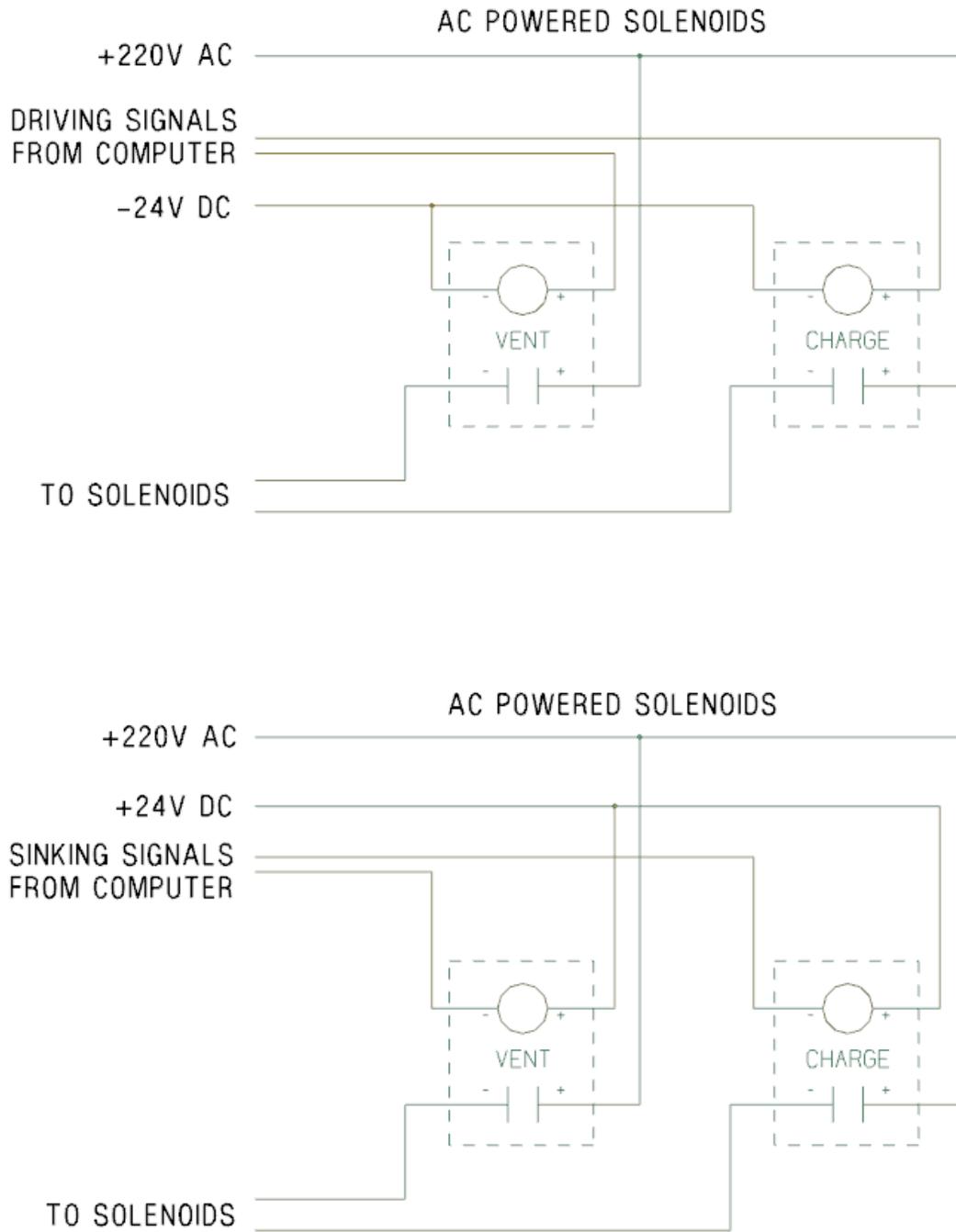


Figure 2. AC Powered Solenoids