Fermentation Control Panel Customer Wiring Guide

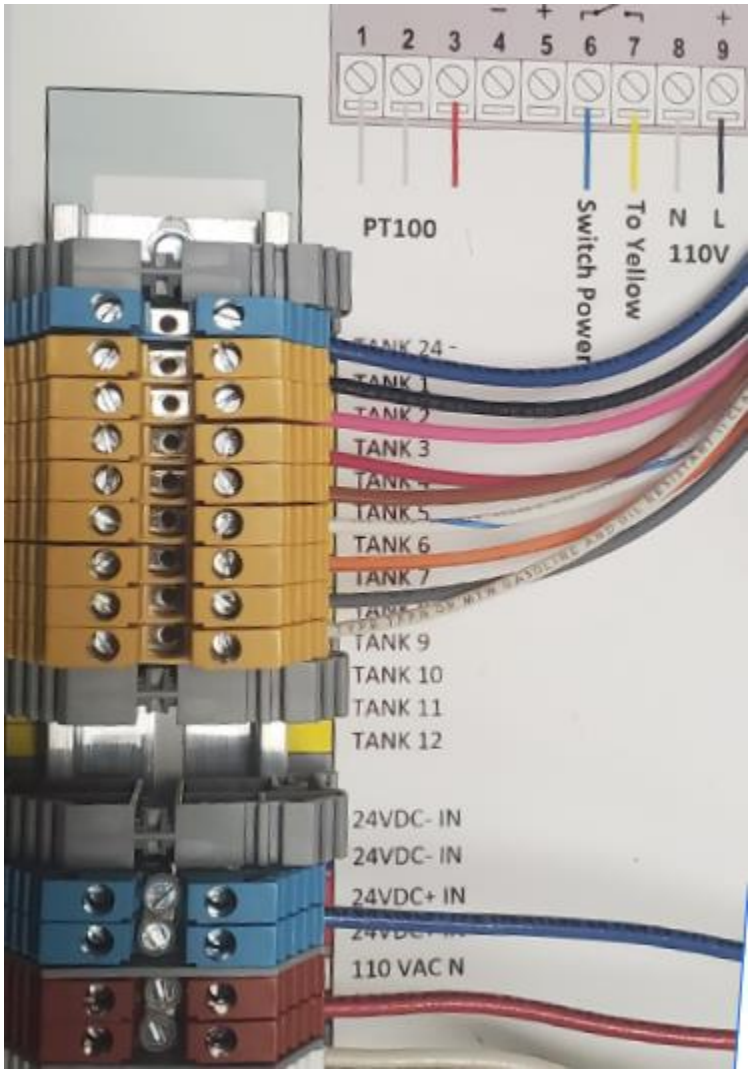
For Novus brand PIDs

Please read from start to finish before beginning the installation

Solenoid Valve Wiring

A conduit for the solenoids needs to be installed to the control panel and continue to each tank within the series. Plan and install this system for the full growth of your brewery. Next, pull the wire harness completely through the conduit. Wire harness purchased through ABS will be either 9 or 13 wires – a single 14awg blue wire & remaining are 18awg in various colors to aid in identifying. Wire harness example on page 3.

Connections for solenoids in the control panel

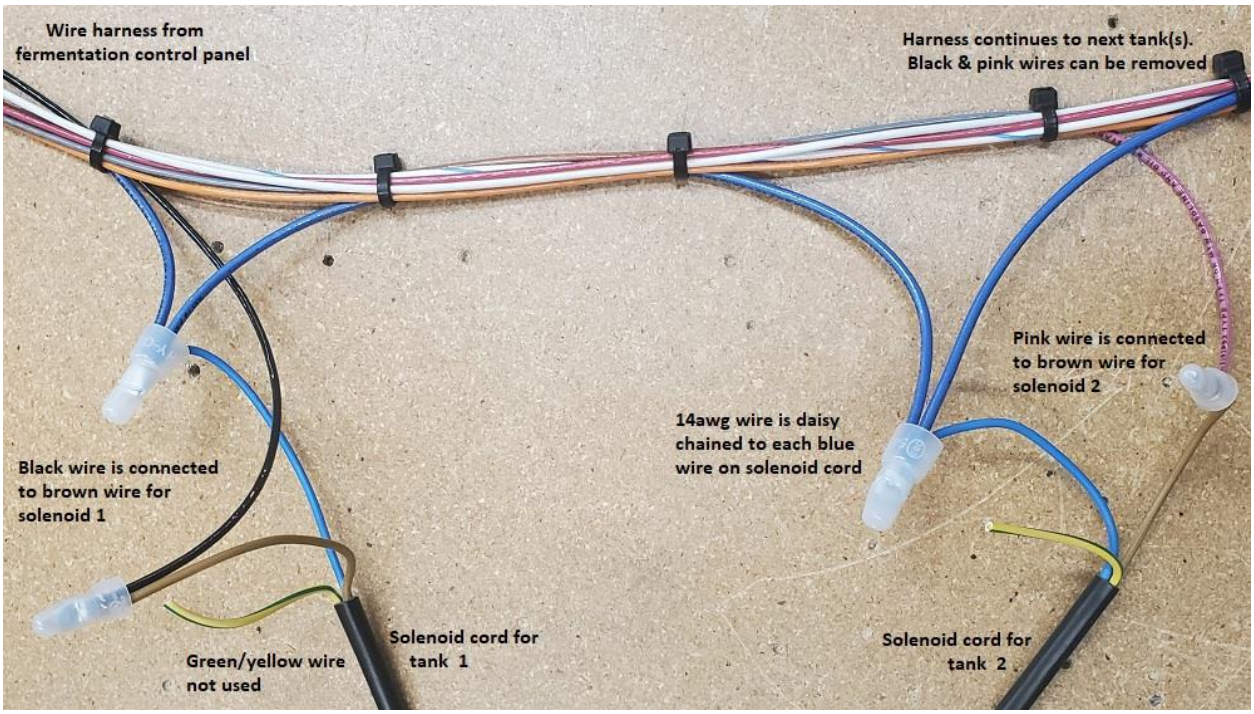


- 14awg blue wire connects in top blue terminal block labeled '-TANK 24-', supplies 24VDC- to all solenoids
- Remaining 18awg wires are 24VDC+ to each individual solenoid, wired into yellow terminal blocks labeled 'TANK 1' - 'TANK 12'.

Connections for solenoid at the conduit junction

Below is an example of the wiring to the solenoids using the ABS wiring harness. The example is shown without conduit to easily view the wires. Solenoid comes with a 10’ 3 wire cord with a blue, brown & yellow/green wire. The cord is entered into the conduit through a cable clamp or cable gland. The connections are made inside conduit boxes. The green/yellow wire is not used (this cable is used for many applications by the

manufacturer). We have designated the blue solenoid wire as 24VDC- and have connected it to the 14awg wire. The brown wire in this example is connected to the black wire for solenoid 1 and the pink wire for solenoid 2, corresponding to the photo on page 2 for tanks 1 and 2 respectively. The excess section of these wires used for each tank can be removed, they serve no purpose.

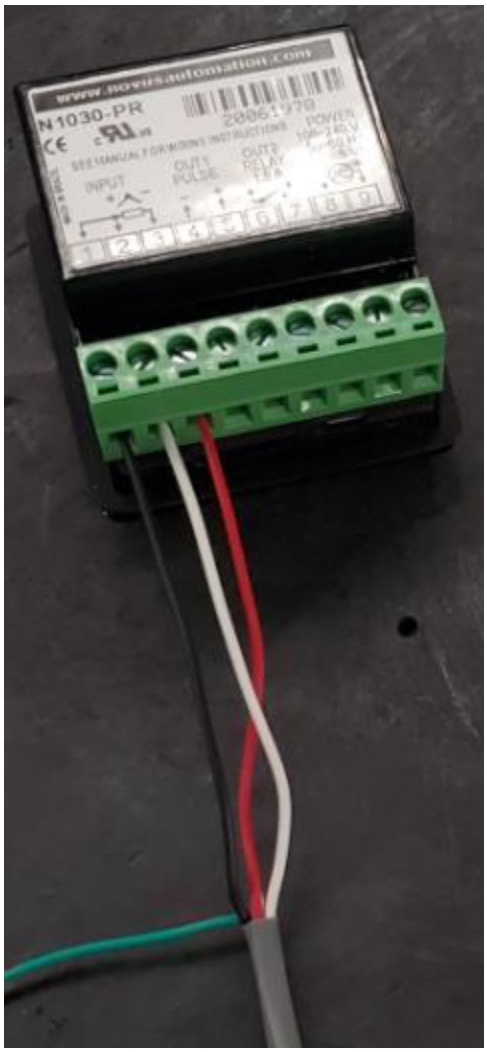


Thermocouple Wiring

A second conduit for the thermocouples needs to be installed to the control panel and continue to each tank within the series. Plan and install this system for the full growth of your brewery. ABS sells the PT100 type thermocouples and 500 or 100 foot wiring spools. PID parameters are preconfigured for a PT100 thermocouple. Pull enough thermocouple wire for each tank to allow for the thermocouple to reach the ground. This will aid in calibrating the system.

Connections for thermocouple wiring in the control panel

Wiring diagram can be seen below; red wire from inside the PT100 thermocouple head must lead to pin 3. Using the available wiring spool, connect the red wire in the wiring bundle to pin 3. Other 2 wires must lead to pins 1 & 2, doesn't matter which order. Be sure to wire thermocouples to the corresponding PID, same with solenoid 24VDC+ wires. Labeling for the corresponding PID is next to each PID.



Connections for thermocouple wiring in the thermocouple

Open the thermocouple head. Feed wire into the head to wire to the terminals. Identify the terminal with the red wire coming from it, this must lead to pin 3. Other 2 wires must lead to pins 1 & 2, doesn't matter which order. Using the available wiring spool, match the red wire to the red terminal in the thermocouple head. The other two terminals can use the other two wires. They are both white.

PID Programming Instructions

To start, hold the P key for 5 seconds to enter setup. Press P again to set or skip a parameter.

Pb – 0

Act – Dlr for Cooling

Out2 – Ctrl

Hold P key for 5 more seconds to enter different parameter group

TyPE – PT (if using pt thermocouples)

Unit – C or F as desired

Troubleshooting

PID cycles on & off:

- Possible overload condition. If only when outputting voltage to solenoid, is a short down stream.

PID not outputting voltage, valve not turning on:

- Make sure parameters are correct. Is relay light on?

Valve cycles:

- Make sure autotuning is turned off. Could be loose wire.

Temperature Way Off:

-Make sure PID is reading correct input type, ex PT

PID is reading ‘U’ instead of temperature:

- PID not sensing the thermocouple, check wiring at the thermocouple and PID. Try different thermocouple.