

# ***norweco***® SERVICE PRO®

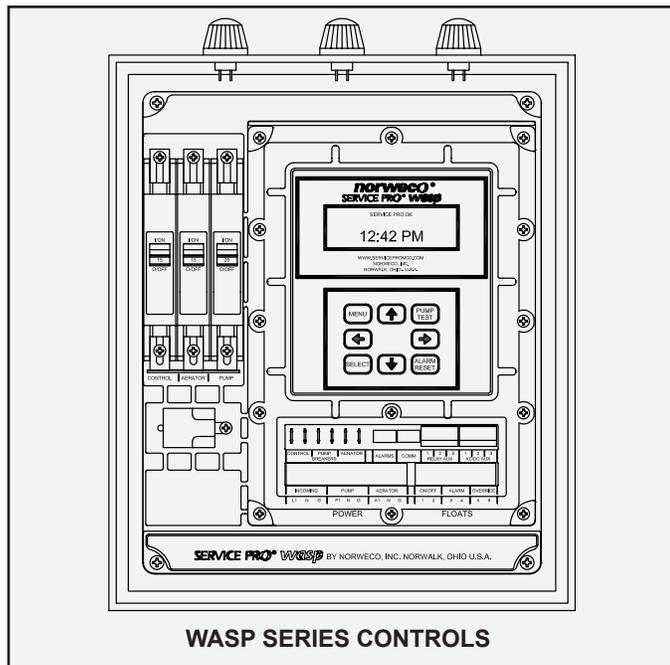
## WASP SERIES INTEGRATED SYSTEM CONTROLS

### ELECTRICAL WIRING AND CONTROL CENTER INSTALLATION

The information contained in these instructions is not intended to be a complete electrical installation reference, as code requirements vary according to geographic area. These instructions focus only on the specific requirements for the Service Pro WASP controls. They do not cover all installation aspects of the underground electrical cable and control center, preliminary inspection, testing and service of the control center or troubleshooting. More instructions are contained in the Bio-Kinetic Wastewater Treatment System Electrical Wiring and Control Center Installation yellow sheet. All electrical work must be performed in accordance with the latest edition of the National Electrical Code and all applicable local codes.

#### UNDERGROUND ELECTRICAL CABLE INSTALLATION

1. A separate underground electrical service cable must be installed from the main electrical panel in the home to the Service Pro WASP control center. The electrical service cable must be UL or CSA approved, type UF, #12/2 AWG minimum and must have a full-size center ground. Larger cable is required if the underground service needs to be run more than 80 feet.
2. A separate underground electrical service cable must be installed for each aerator within the Singularir system. The electrical service cable must be UL or CSA approved, type UF, #14/2 AWG minimum and must have a full-size center ground. Larger cable is required if the underground service needs to be run more than 80 feet.



WASP SERIES CONTROLS

3. A separate underground electrical service cable must also be installed for the effluent pump and each float switch. The electrical service cable supplying power to the pump must be UL or CSA approved, type UF, #12/2 AWG minimum and must have a full-size center ground. Larger cable is required if the underground service

needs to be run more than 80 feet. **NOTE:** The float switch cables carry low voltage for controls only and do not carry the full electrical load of the pump. Float switch cables should be #16 AWG minimum.

4. Each underground cable must be continuous and unspliced from the Service Pro WASP control center to the main electrical panel in the home, aerator, pump and float switches. Underground cable must be protected in conduit anytime the cable path passes directly across a tank or underground structure.
5. Uncoil the electrical service cables into the influent sewer line trench. Extend the aerator cable to the aerator mounting casting. Extend the pump and float switch electrical service cables to the pump station chamber. **NOTE:** Leave sufficient slack in the cables so they will not be stressed during backfilling or settling.
6. All underground cables should have at least two feet of earth cover to prevent damage from landscaping, trenches, etc. or be installed in an approved conduit.

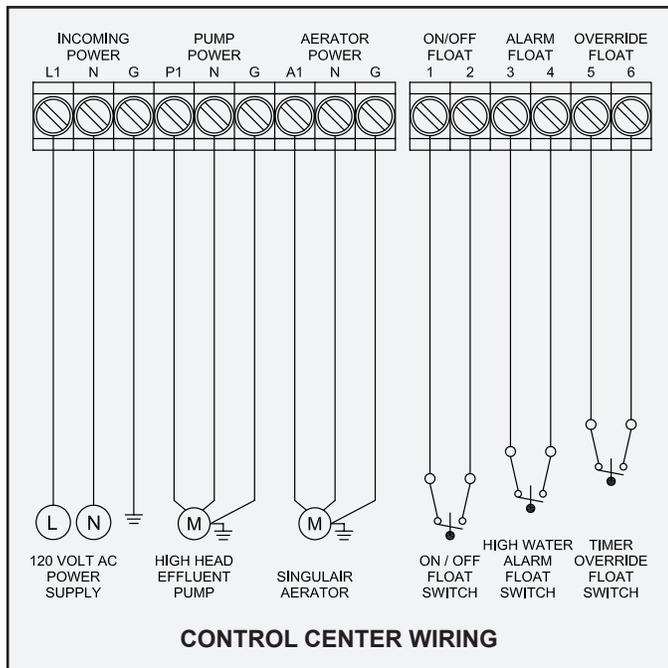
#### INSTALLATION OF ELECTRICAL CONTROL CENTER

The control center should be wired for operation when the tankage and underground electrical cables are installed. The Service Pro WASP controls should be located so that all warning lights can be readily seen and the audible alarm heard. The mounting location should minimize exposure to direct sunlight, freezing rain or conditions that might prevent routine inspection or access. The control center should always be mounted out of the reach of children.

Remove the control center insert and all packaging from the enclosure. Drill the appropriate openings in the bottom of the enclosure and install a conduit connector in each opening. Exposed wiring to or from the control center should always be encased in conduit. Mount the control center securely using masonry nails, wood screws or common nails as appropriate. Install the control center insert into the enclosure and secure with the four screws provided. The alarm light wires on the insert must now be connected to the alarm lights. Connect the yellow wires to the yellow light, the blue wires to the blue light, and the red wires to the red light.

## SERVICE PRO® WASP WIRING AND INSTALLATION (Cont.)

1. Use a dedicated 120 volt AC, 20 amp, single-phase circuit breaker in the main electrical panel for service to the Service Pro WASP control center. **CAUTION: Make sure the breaker is de-energized. Check it with an electrical multi-meter before proceeding with installation of the control center. Remember that other circuits in the service panel may remain energized as you are working. Use only tools with insulated handles, stand in a dry location and work with extreme care.**
2. Wire from a dedicated breaker in the main service panel to the "INCOMING" power terminal marked "L1" in the control center using copper wire with black insulation.
3. Wire from the neutral in the main service panel to the "INCOMING" power terminal marked "N" in the control center using copper wire with white insulation.
4. Connect the ground conductor from the main service panel to the "INCOMING" power terminal marked "G" in the control center using bare copper wire. **IMPORTANT:** Never allow the white neutral leads and ground leads to be spliced together or connected to common terminals.
5. Connect the power wire from the pump to the "PUMP" power terminal marked "P1" in the control center using copper wire with black insulation.
6. Connect the neutral wire from the pump to the "PUMP" power terminal marked "N" in the control center using copper wire with white insulation.
7. Connect the ground wire from the pump to the "PUMP POWER" terminal marked "G".



8. Connect the power wire from the aerator to the "AERATOR" power terminal marked "A1" in the control center using copper wire with black insulation.
9. Connect the neutral wire from the aerator to the "AERATOR" power terminal marked "N" in the control center using copper wire with white insulation.
10. Connect the ground wire from the aerator to the "AERATOR POWER" terminal marked "G".

11. Connect the wires from the float switches into the terminal block marked "FLOAT" in the Service Pro WASP control center.
12. Connect the wires from the on/off float switch to the two float terminals marked "ON/OFF".
13. Connect the wires from the high water alarm float switch to the two float terminals marked "ALARM".
14. If a timer override float switch is being installed, connect the wires from the timer override float switch to the float terminals marked "OVERRIDE".
15. If auxiliary inputs are being connected to the Service Pro WASP control center, push button style terminals are provided for the auxiliary input connections. Use #16 AWG or smaller wires in the push button terminals.
16. If the auxiliary device uses dry contact (no voltage supplied) to signal an alarm condition, connect the wires from the auxiliary device to the "AUX 1", "AUX 2" or "AUX 3" terminals marked "AUX RELAY CONTACTS" on the blue push button terminal block.
17. If the auxiliary device supplies a voltage (5 to 120 volts) to signal an alarm condition, connect the wires from the auxiliary device to the "AUX 1", "AUX 2" or "AUX 3" terminals marked "AUX AC/DC CONTACTS" on the red push button terminal block. **CAUTION: Do not connect devices to both the "AUX RELAY CONTACTS" and "AUX AC/DC CONTACTS" terminals for a single auxiliary input. Doing so may damage the circuit board.**
18. Inspect your work to make sure that there are no breaks in wiring insulation and that all connections are secure. Tighten all screws on the terminal board.
19. Carefully form all wiring neatly into the lower part of the Service Pro WASP control center. Do not allow the wires to make contact with other electrical components.
20. **IMPORTANT:** Seal all conduit openings with duct seal compound or similar appropriate material.
21. Clearly label the dedicated circuit breaker used for the Service Pro WASP control center inside the door of the main service panel.
22. Place all three circuit breakers in the Service Pro WASP control center in the "off" position. Close and secure the control center cover.

### BEFORE LEAVING

Complete all of the remaining steps outlined in the Bio-Kinetic Wastewater Treatment System Electrical Wiring and Control Center Installation yellow sheet. Check to insure that all electrical controls, circuits and wiring for the Singulair system are de-energized. Be sure the red warning tag and distributor identification label are attached to the control center.

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**NORWECO, INC.  
NORWALK, OHIO  
U.S.A. 44857**

**www.norweco.com**