

Series 75 Controller



Installation *Maintenance* *Repair* *Manual*

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Series 100 Controller Manual

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I. Introduction

The Advantage Controls Series 75 RO controller is designed for the small commercial Reverse Osmosis system. This controller incorporates relay outputs and dry contact inputs to either run or shutdown as necessary for proper operation. The S75 Controller has up to three relay outputs: inlet solenoid valve, RO pump motor, and an optional flush solenoid valve.

II. Model Building and General Specifications

Build a Model

Model _ - _ -

Base Control Selection _____

S75 = Basic control of inlet solenoid and auto flush
S76 = S75 with wiring harness kit

Controller Supply Voltage _____

1 = 120 VAC
2 = 220 VAC
3 = 120 VAC with UL labeling
4 = 220 VAC with UL labeling

Enclosure _____

A = 7.6"×4.6"×2.2" poly
B = 6"×6"×4" poly
X = No enclosure

Specifications

Power

120-240 VAC, 50/60 Hz, +10/-15%, 2.5 watts. Input power is auto-selected.

Inputs


3 switch inputs, selectable normally open or normally closed.

Outputs

RO pump 1PH max., Inlet solenoid 5A, 20 maximum total load.


II. Installation

1. The RO pump motor or motor starter and the solenoid valves must be of the same voltage 120 or 240 volt.
2. Confirm that the (3) input signals - pressure switch, tank level switch and pretreat switch are all of the same configuration, normally open or normally closed.
3. Confirm the desired switch settings for your operation. The switches are factory set to the OFF Position: Auto Reset (disabled), Pressure Fault Retry (disabled), Tank Full restart time delay (2 seconds), Input contact type (NC, open to operate). If you desire to change any switch functions, move that switch to the ON Position. [See table below].
4. Wire to the controller as follows:
 - Remove the enclosure cover.
 - Mark and drill necessary electrical entry holes in the empty enclosure.
 - Terminate necessary wiring to the Quick Connect terminals as required (See diagram on page 4). Each terminal is labeled for the proper connection. Terminals P1-P9 are high voltage for power, motor, inlet and flush solenoid. Utilize proper 3 conductor wire size for the appliance.

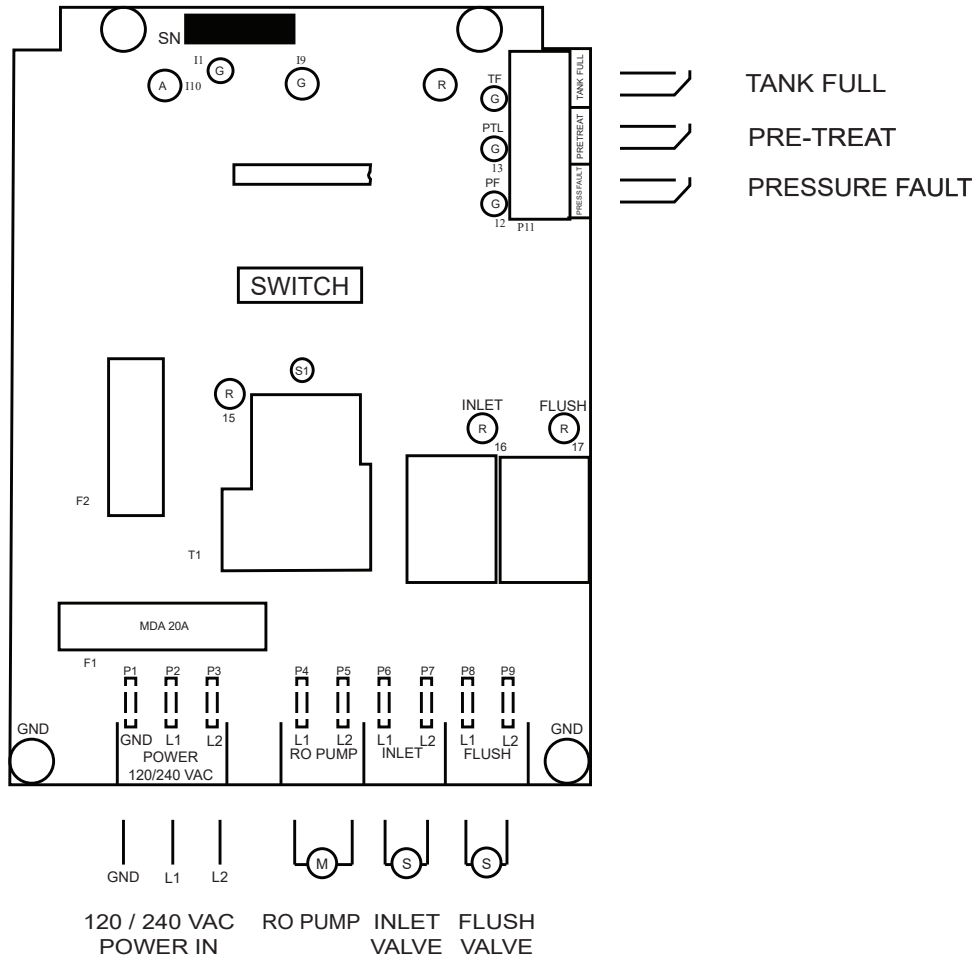
 **WARNING:** The controller is rated for maximum 20 amp total load. Terminal strip P11 is dry contact for input signals from tank full, pressure fault and pretreat lockout. Use small gauge 2 conductor cable for these wire connections.

5. Position and mount the enclosure in the desired location.
6. Connect all wiring to the appropriate appliances (**Do not connect to the power source at this time**).
7. Reassemble the enclosure, be sure to coil and leave some slack wire inside the enclosure.
8. Connect the power wire 120- 240 volt to its source.
9. Proceed to push the power switch ON and test the completed unit as necessary.
10. Notice the status LED to confirm system status.

| SWITCH | Off Position | On Position |
|--------|---------------------|--------------------|
| 1 | AUTO RESET DISABLED | AUTO RESET ENABLED |
| 2 | RETRIES DISABLED | RETRIES ENABLED |
| 3 | 2 SEC RESTART | 15 MIN. RESTART |
| 4 | N.O. SWITCHES | N.C. SWITCHES |
| 5 | FLUSH OFF | FLUSH ON |
| 6 | FLUSH TF | FLUSH ET |

 **WARNING:** All switch inputs must be dry contact only. If voltage is applied to these inputs, damage to the controller will result. For power with neutral and hot leads, L1 is hot and L2 is neutral.

Quick Connect Terminal Wiring



- | |
|--|
| CAUTION |
| <p>1. There are live circuits inside the controller even when the power switch on the front panel is in the OFF position. Never open the front panel without first disconnecting power from the outlet. Prewired controllers are supplied with an 8 foot, 18 AWG power cord with USA style plug. A #1 Phillips driver is required to open the front panel.</p> |
| <p>2. Low voltage signal wires (probes, flow switch, water meter, etc.) should never be run in conduit with high voltage (like 115VAC) wires.</p> |
| <p>3. Never attempt to land connections to the controller without first disconnecting power from the outlet.</p> |
| <p>4. Do not block access to disconnect power during mounting and installation.</p> |
| <p>5. The controller should be connected to its own isolated circuit breaker, and for best results, the ground should be a true earth ground, not shared. Any attempt to bypass the grounding will compromise the safety of users and property.</p> |
| <p>6. The electrical installation of the controller must be performed by trained personnel only and conform to all applicable National, State and Local codes.</p> |
| <p>7. Operation of this product in a manner not specified by the manufacturer may result in damage to equipment or persons.</p> |
| <p>8. Avoid mounting in locations that expose the controller to direct sunlight, vapors, vibration, liquid spills or extreme temperatures; less than 0°F (-17.8°C) or greater than 120°F (50°C). EMI(electromagnetic interference) from radio transmissions and electric motors can also cause damage or interference and should be avoided.</p> |

III. System Operation

When the power switch is turned ON, the center status LED will flash Green, the inlet valve will OPEN and the RO pump will START. The center LED will be solid Green for normal run.

Under normal operation the RO unit will run until: (A) the storage tank is full (left status LED Amber) or (B) Pretreat lockout has occurred (center status LED Flashing Green). When A or B has cleared, after a time delay, the RO unit will restart, and the status LED will return to Green. Switch setting 3 selects a 2 second or 15 minute tank full restart time delay.

Upon an alarm signal for Pressure Fault, the left status LED will flash Red, the RO pump will stop and the inlet valve will close and the RO pump will turn OFF.

If switch 1 and 2 are in the OFF Position (disabled), the left status LED will be a steady RED and the RO will not restart until the Power Switch has been manually cycled OFF then ON to reset the unit.

If switch 1 is in the ON Position (auto reset), every 60 minutes the RO will start and stop again if a pressure fault continues.

If switch 2 is in the ON Position (pressure fault retry), the RO will attempt to restart after 30 seconds, then 5 minutes, then 30 minutes. If the pressure alarm has not cleared after the third try, the RO unit will remain off until manually reset.

If switch 1 and 2 are in the ON Position, after a pressure fault condition, the RO unit will continually attempt to restart after each 60 minute cycle, until the pressure switch input has cleared.

If switch 5 is in the OFF position, Flush is disabled; in the ON position, Flush is enabled.

If switch 6 is in the OFF position, the unit will flush on Tank Full. In the ON position, flush is every 24 hours elapsed time.

Flush time is 5 minutes. The Amber Flush LED will flash.

Switch 4 is for switch inputs. OFF is for N.O. contacts. ON is for N.C. contacts.

IV. Advantage Controls Limited Warranty

What the warranty covers:

Advantage Controls warrants the controllers to be free from defects in materials and workmanship during the warranty period. If a product proves to be defective during the warranty period, Advantage controls will repair the unit.

How long the warranty is effective:

The warranty is for one year, and starts the day the product leaves our facility

What the warranty does not cover:

1. Damage, deterioration, or malfunction resulting from:
 - a. Accident misuse, neglect, fire, water lightning or other acts of nature, unauthorized product modification or failure to follow instructions supplied with the product.
 - b. Repair or attempted repair by anyone not authorized by Advantage Controls.
 - c. Any damage of the product due to shipment.
 - d. Causes external to the product such as electric power fluctuations.
 - e. Use of supplies or parts not meeting Advantage Controls' specifications.
 - f. Normal wear and tear.
 - g. Any other cause which does not relate to a product defect.
2. Transportation costs necessary to obtain service under this warranty.
3. Labor other than factory labor.

How to get service:

1. To obtain warranty service, contact Advantage Controls for a Return Material Authorization (RMA).
2. You will be required to provide:
 - a. Your name and address
 - b. A description of the problem
3. Package the controller carefully for shipment and return it to Advantage Controls

Limitation of implied warranties:

There are no warranties, expressed or implied, which extend beyond the description contained herein including the implied warranty of merchantability and fitness for a particular purpose.

Exclusion of damages:

Advantage Controls' liability is limited to the cost of repair or replacement of the product. Advantage Controls shall not be liable for:

1. Damage to other property caused by any defects in the product, damages based upon inconvenience, loss of use of the product, loss of time, loss of profits, loss of business opportunity, loss of goodwill, interference with business relationships or other commercial loss, even if advised of the possibility or such damages.
2. Any other damages, whether incidental, consequential, or otherwise.
3. Any claim against the customer by any other party.

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- Bypass Feeders
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- Pre-Fabricated Systems

