

GRUNDFOS INSTRUCTIONS Installation and Operation

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Maintenance-free Timer and Thermostatic Control Accessories



**New Style Terminal Box
Single Speed UP-15 Only
with Date Code 0528 or higher.**

1. Application

Grundfos timer and thermostatic control accessories are designed only for use with specified Grundfos Series UP circulators installed in indoor hot water service systems. Applicable Series UP models include all single speed UP 10-15, 1-phase, 15 volt, 60 hertz pumps with date codes of 0528 and higher.

The **timer control** is designed to turn the circulator on and off at preset times, allowing the user to select operation of the circulator during high use periods of the day.

The **thermostatic control** automatically turns the circulator off when the temperature in the hot water line exceeds approximately 130°F (as the case of periods with no demand) and back on when the temperature falls below approximately 110°F (as in the case of periods with high demand). When the timer and thermostatic controls are installed together, in series, the circulator operates **ONLY** at the preset clock times specified by the user **AND ONLY** when the temperature conditions of the thermostat are met. That is, if either the timer control or the thermostatic control switch is open (off), the circulator will not operate.

2. Technical Data

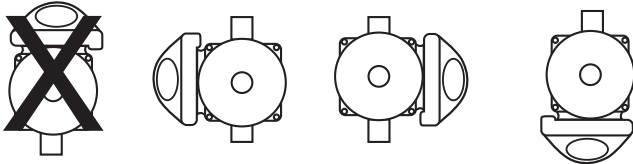
TIMER CONTROL
Supply Voltage: 15-120 VAC, 60 hertz
Contact Rating: 16 amps
Ambient Temperature: -4°F to 175°F
Shortest Switching Interval: 15 minute increment
Timer Modes: "Timer", "ON" Override, "OFF" Override
Protection: Clear plastic cover for dust and moisture protection of the clock face
THERMOSTATIC CONTROL
Supply Voltage: 15-120 VAC, 60 hertz
Contact Rating (resistive): 5.8 amps
Type: Surface sensing, snap acting bimetallic disc
Enclosure: Environmentally sealed
Switch Modes:
Low Temp Model
105 ± 5°F (40 ± 2°C) pump switches OFF
85 ± 6°F (29 ± 3°C) pump switches ON
High Temp Model
115 ± 5°F (46 ± 2°C) pump switches OFF
105 ± 5°F (40 ± 2°C) pump switches ON

2.

NOTE: If the pump is installed in a system, disconnect the power supply and either drain the system of liquid or close the isolation valves on either side of the circulator before removing the motor housing.

1. Remove the (4) allen screws while supporting the motor.
2. Carefully separate the motor from the pump chamber and rotate it to the desired terminal box position.
3. Replace the allen screws and tighten diagonally and evenly (7 ft-lb torque). Check that the motor shaft turns freely. Remove the large screw in the middle of the name plate, insert a small flat blade screwdriver into the slot at the end of the shaft, and turn gently.
5. (Note: Not applicable to UP15-42F & UP15-58FC models.) If the shaft does not turn freely, repeat the disassembly/reassembly process.

CAUTION: Do not locate the terminal box below the motor housing.



POSITION OF PUMP MOTOR SHAFT AND TERMINAL BOX
All Series UP circulators **MUST** be installed with the motor shaft in horizontal position. The pump terminal box **MUST** be located on top or to either side of the motor housing.

3. Installing the Timer Control

Contact Position: Normally closed
Mounting: (1/2") Clip-on type for 5/8" O.D. system piping size (1.1"), (1/2") I.D. copper tubing or 3/8" steel pipe (3/4") Clip-on type for 7/8" O.D. system piping size (1.1"), (1/2") I.D. copper tubing or 3/8" steel pipe (1.1")
May be mounted on either the inlet or outlet piping of the circulator.

INSTALLATION PROCEDURE

The timer control accessory is electrically connected and mounted to the circulator terminal box. Install as follows:

1. Remove the retaining screws in the existing terminal box cover and remove the cover. The timer control unit replaces this cover.
2. See "5. Electrical Hookup", for specific wiring instructions for hookup as an individual component or in series with the thermostatic control.
3. After wiring is completed and checked, install the timer control unit onto the terminal box bracket and reinsert the terminal box screws. Be careful not to bind or leave exposed any terminal box wires.

4. Installing the Thermostatic Control INSTALLATION PROCEDURE

1. The thermostatic control is a surface temperature sensing device that must be in contact with the system piping to operate properly. Separate models include clip-on mounts for 3/4" (7/8" O.D.) and 1/2" (5/8" O.D.) copper tubing. These models are also suitable for use with 12" and 3/8" schedule 40 steel pipe, respectively.



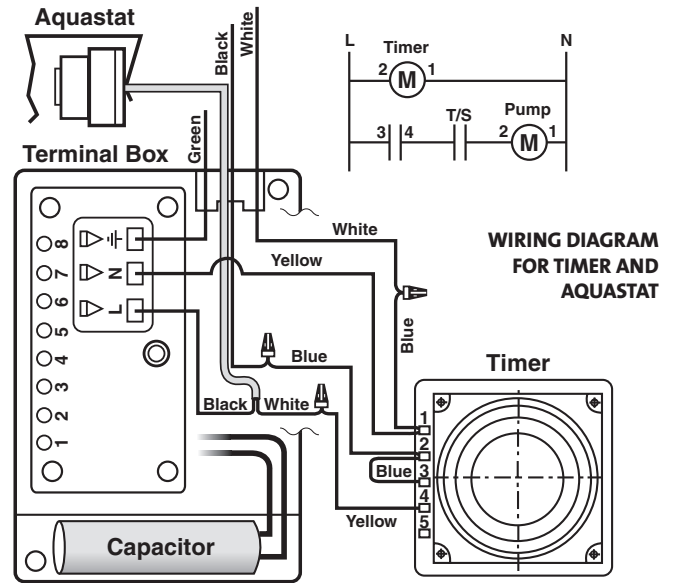
2. See "5 Electrical Hook-up", for specific wiring instructions for hook-up as an individual component or in series with the timer control.
3. Use a common strain relief for the power and aquastat cords.

5. Electrical Hook-up

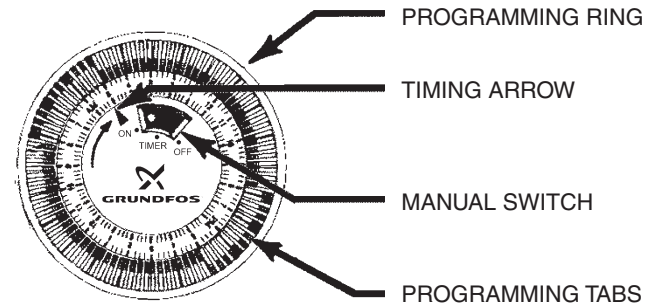
All electrical work should be performed by a qualified electrician in accordance with the latest edition of the National Electric Code and local codes and regulations.

Verify the electrical supply to be certain the voltage, phase and frequency match that of the circulator and accessory components.

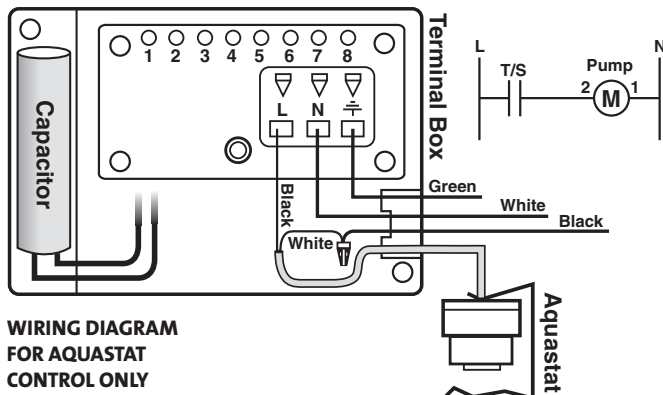
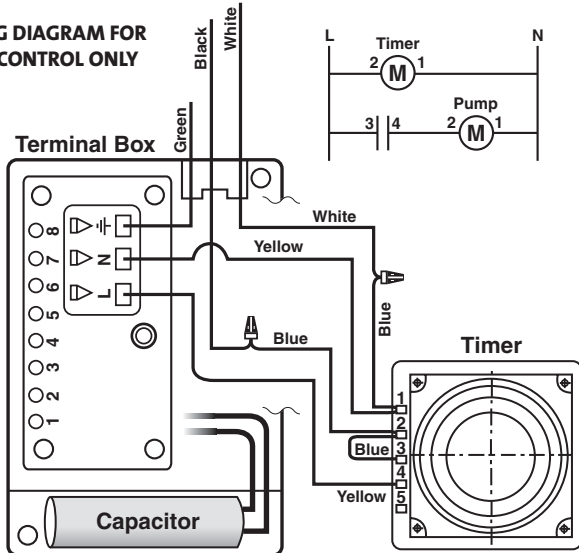
WARNING: Terminal Block Connections 1-8; Factory connections only, NO field wiring required



6. Setting and Operating the Timer Control and Starting the Pump

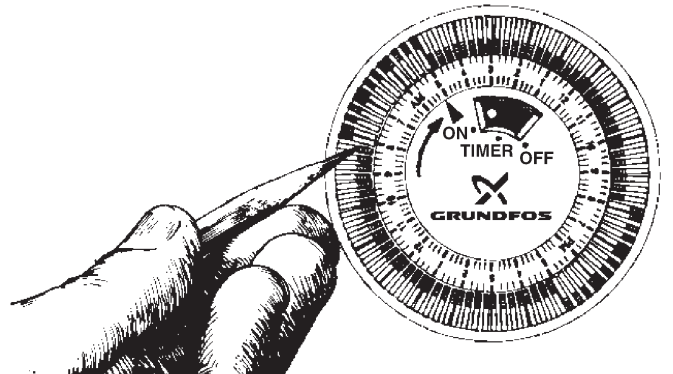


WIRING DIAGRAM FOR TIMER CONTROL ONLY



NOTE: Before the circulator is started, the system must be filled with liquid and vented.

1. Set the timer switch to the actual time by turning the programming ring in the direction of the arrow until the timing arrow points to the actual time on the ring.
2. Switch on the power supply to the circulator and set the manual switch to the "ON" position. The circulator will now start.
3. Set the required "ON"/"OFF" times on the programming ring by pushing the programming tabs either away from or toward the center of the ring. Tabs pushed away from the center indicate circulator switched "ON" while tabs pushed toward the center indicate circulator switched "OFF".



4. Set the manual switch to the "TIMER" position. The circulator will now start/stop according to the settings of the programming tabs.
5. For continuous operation, set the manual switch to the "ON" position. To switch the circulator off, set the manual switch to the "OFF" position. The "ON"/"OFF" modes may be used without affecting the function of either the programming ring or the timer switch.
6. In case of power outage the timer will not keep time. After power has been restored, the correct time of day must be reset by rotating the programming ring in the direction of the arrow until the timing arrow points to the actual time on the ring.