Temperature Controller
0 – 10 Vdc Output

Description
Stand-alone, electronic temperature controller with P or PI response.

Features
- Two temperature inputs for LG-Ni 1000 ohm RTD temperature sensors.
- One digital input for summer/winter or day/night changeover.
- Two modulating outputs with 0 to 10 Vdc signal output.
- Auxiliary input for reset control.
- LCD display.
- Removable terminal connectors for ease of wiring.
- Data can be entered or changed using the controller’s programming buttons. No additional tools are required.

Product Numbers

<table>
<thead>
<tr>
<th>Product Number</th>
<th>Temperature Scale</th>
<th>Inputs</th>
<th>Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>RWC62</td>
<td>°C</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>RWC62U</td>
<td>°F</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Warning/Caution Notations

**WARNING:**
Personal injury, or loss of life may occur if you do not follow the procedures as specified.

**CAUTION:**
Equipment damage, or loss of data may occur if you do not follow the procedures as specified.
### Table 2. RWC Controller Sensors and Accessories.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>556-440</td>
<td>Duct point sensor, 18”</td>
</tr>
<tr>
<td>556-441</td>
<td>Duct point sensor, 8”</td>
</tr>
<tr>
<td>556-541</td>
<td>Immersion sensor</td>
</tr>
<tr>
<td>556-542</td>
<td>Outdoor air sensor</td>
</tr>
<tr>
<td>ARG62.101</td>
<td>Protective housing for wall mounting</td>
</tr>
<tr>
<td>QAA24U</td>
<td>Room temperature sensor</td>
</tr>
<tr>
<td>QAA25U</td>
<td>Room temperature sensor with remote set point adjustment</td>
</tr>
<tr>
<td>QAP22</td>
<td>Cable sensor RTD</td>
</tr>
</tbody>
</table>

### Specifications

#### General Data

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating voltage</td>
<td>24 Vac ±20%</td>
</tr>
<tr>
<td>Required voltage</td>
<td>Class 2</td>
</tr>
<tr>
<td>Frequency</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>Power consumption (controller only)</td>
<td>1.7 VA</td>
</tr>
<tr>
<td>Actual and nominal values</td>
<td>Three digits</td>
</tr>
<tr>
<td>Resolution of values</td>
<td>0.5°F (0.5°C)</td>
</tr>
</tbody>
</table>

#### Ambient Conditions

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage Temperature</td>
<td>–13°F to 140°F (–25°C to 60°C)</td>
</tr>
<tr>
<td>Storage Humidity</td>
<td>&lt;95% rh, non-condensing</td>
</tr>
<tr>
<td>Operation Temperature</td>
<td>23°F to 122°F (–5°C to 50°C)</td>
</tr>
<tr>
<td>Operation Humidity</td>
<td>&lt;95% rh, non-condensing</td>
</tr>
</tbody>
</table>

#### Regulatory Approvals

- Conforms to CE requirements

#### Weight Without Packaging

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RWC62/62U</td>
<td>0.7 lb. (0.300 kg)</td>
</tr>
<tr>
<td>ARG62.101</td>
<td>0.4 lb. (0.175 kg)</td>
</tr>
</tbody>
</table>

#### Terminals

- Screw terminals for cables with
- Minimum 20 AWG
- Maximum 2 × 16 AWG or 1 × 14 AWG

#### Analog Inputs B1 and B2

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>–31°F to 266°F (–35°C to 130°C)</td>
</tr>
<tr>
<td>Resolution</td>
<td>±0.5°F (±0.5°C)</td>
</tr>
<tr>
<td>Maximum cable length for 22 AWG</td>
<td>150 feet (50 m)</td>
</tr>
</tbody>
</table>

#### Remote Set Points B2

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>0 to 1000Ω</td>
</tr>
<tr>
<td>Resolution</td>
<td>32°F to 122°F or 32°F to 212°F (0°C to 50°C or 0°C to 100°C)</td>
</tr>
<tr>
<td>Maximum cable length for 22 AWG</td>
<td>150 feet (50 m)</td>
</tr>
</tbody>
</table>

#### Digital Input D1

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polling voltage</td>
<td>12 Vdc</td>
</tr>
<tr>
<td>Current consumption</td>
<td>&lt;6 mA</td>
</tr>
</tbody>
</table>

#### Analog Outputs Y1 and Y2

**CAUTION:** Only LG-Ni 1000 ohm sensors can be used with this controller.

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>0 to 10 Vdc</td>
</tr>
<tr>
<td>Resolution</td>
<td>39 mV</td>
</tr>
<tr>
<td>Maximum current</td>
<td>±1 mA</td>
</tr>
<tr>
<td>Proportional band adjustment</td>
<td>2°F to 180°F (1°C to 100°C)</td>
</tr>
</tbody>
</table>
Application
The RWC62/62U is used in HVAC installations. It can be mounted separately in a control panel or in the ARG62.101 housing in ducts, on walls and in mechanical equipment rooms.

Application Functions

CAUTION:
This is a temperature controller only. Other inputs cannot be accepted.

- Controller — Individual controller with two switchable, direct acting (D.A.) or reverse acting (R.A.) 0 to 10 Vdc outputs with independent adjustment for heating and/or cooling. Adjustable proportional band and common integral action time.
- Auxiliary controls — Analog input B2 for one of the following functions:
  - PI limitation
  - Remote set point input
  - Temperature differential control
  - Set point compensation
- Digital input D1 for one of the following functions:
  - Set point changeover day/night
  - Operating mode changeover summer/winter

Functions
This temperature controller can be used for primary temperature control functions with auxiliary reset or limit functions. Use the operating buttons to define the operating mode and modify control parameters.

Controller Type
The RWC62/62U Controller is used as a stand-alone controller with two analog outputs.

Controller Algorithm
The control loop can be configured with PI (Proportional + Integral) algorithm. Set integral time \( TN \) for proportional, or proportional and integral action.

- For proportional action only, set \( TN = 0 \).
- For proportional plus integral action, set \( TN = 16 \) to 4096 seconds.

Primary Functions

![Diagram of temperature controller functions]

Figure 1. Legend.

Controller Sequences
The loop may have up to two sequences: both working at a decrease of controlled variable below set point (that is, heating), both working at an increase of controlled variable above set point (that is, cooling), or one as heating and one as cooling.
Controller Sequences, Continued

The RWC62/62U Controller can be programmed as follows:

- One sequence: \( Y_1 = \text{heating (R.A.) or cooling (D.A.)} \)
- Two sequences: \( Y_1 = \text{heating (R.A.) and } Y_2 = \text{cooling (D.A.)} \)
  \( Y_1 = \text{heating (R.A.) and } Y_2 = \text{heating (R.A.) or } Y_1 = \text{cooling (D.A.) and } Y_2 = \text{cooling (D.A.)} \)

\[ \begin{align*}
\text{Figure 2. Heating and/or Cooling.} \\
\text{Figure 3. Heating, Heating or Cooling, or Cooling.}
\end{align*} \]

Set Point

The heating (day) set point is assigned to heating sequence \( Y_1 \).

The cooling (night) set point is the sum of heating (day) set point plus Zero Energy Band (XDZ).

Zero Energy Band

The dead zone between heating and cooling is defined by the XDZ setting.

Analog Input B1

The analog input B1 is used exclusively for the main temperature sensor (Ni 1000 Ω RTD).

**NOTE:** If MAIN HI is displayed, analog input B1 sensor is not connected.

Analog Input B2

The analog input B2 is used either as an auxiliary temperature input (LG-Ni 1000 Ω RTD) or for the remote set point transmitter.

**NOTE:** If 2ND HI is displayed, analog input B2 input is active, but the sensor is not connected.

Digital Input D1

The digital input D1 is used to select the set point or operating mode. Changeover occurs via dry contact closure between D1 and GND.

\[ \begin{align*}
\text{Figure 4. Frequently Used Symbols in Application Drawings.}
\end{align*} \]
Analog Outputs

Each output (Y1, Y2) can be configured for either heating (R.A.) or cooling (D.A.).

**NOTE:** When a direct acting (D.A.) output is required for a heating application, Cool must be selected during programming. If a reverse acting (R.A.) output is required for a cooling application, Heat must be selected during programming.

The modulating voltage output (Y1, Y2) serves to control actuators with a 0 to 10 Vdc signal input.

Example

B1 = Room temperature
Y1 = Heating, reverse action
Y2 = Cooling, direct action

![Figure 5. HVAC Installation with Temperature Control.](image)

Operating and Display Features

The RWC62/62U is operated by using the buttons on the controller front. No additional tools are necessary.

![Figure 6. RWC62/62U LCD and Programming Buttons.](image)

LCD

The LCD shows the following information for normal operation:

- Current temperature
- Current set point
- Function of the second analog input

The LCD shows the following information for test operation:

- DC voltage values of outputs Y1 and Y2
- Temperature at sensor B1
- Temperature at sensor B2
- Status for digital input D1

Programming Buttons

**SELECT •**

The controller has three programming buttons for the following functions:

The SELECT • button is used to select the next higher level in the configuration program. Pressing the SELECT button for five seconds opens the configuration mode. The SELECT button in this mode is used to change options.

**NOTE:** Press the SELECT • button after each programming option.
Programming Buttons, Continued

The setting values are changed via the ▲/▼ operating buttons.

Press both ▲/▼ buttons simultaneously to switch to the test mode.

Configuration

To configure the controller, see Set-up Procedure or follow the instructions supplied with the controller.

Programming Cooling Tower

Sensor B1 senses chilled water. On increase in temperature, Y1 output increases and opens the upper port to divert to the water tower.

To program for cooling tower:

1. Enter set up mode.
2. D I/P = Toggle to oFF.
3. 2 I/P = Toggle to (– – – –) to turn off auxiliary function (B2 and M).

**NOTE:** PI LIMITER, REMOTE, TEMP DIFF, or TEMP SHIFT should not appear in the display.

4. O/P 1 = Toggle to CooL for D.A.
5. O/P 2 = Toggle to oFF.
6. TN = Set integral time for proportional + integral (P + I) control action, 16 to 4096 seconds. For proportional (P) control only, set to (– – – –)
7. XP1 = Set proportional band in degrees.
8. Select set point temperature.

Auxiliary Functions

Only one of the following auxiliary functions can be configured:

- Limit function
- Remote set point
- Temperature differential control
- Set point compensation

Additionally, one of the following functions can be selected:

- Day/night operation
- Summer/winter operation
Limit Function

The limit function enables absolute maximum or minimum limitation of the supply air temperature.

When the value drops below or exceeds the limit set point, the limit function with limit control overrides the standard control function to maintain the limit set point.

Do not use the dead zone (XDZ) when the limiter set point TL is used.

To program Limit Function:
1. Select set up mode.
2. DI/P = Toggle to oFF.
3. 2 I/P = Toggle to PI LIMITER.
4. Min/Max = Toggle to min for limiting minimum temperature or max to limit maximum temperature.
5. TL = Set temperature limit in degrees.

Remote Set Point

A remote set point unit (QAA25U), connected to B2 and configured accordingly, assumes the function of the set point.

Range:
32°F to 122°F (0°C to 50°C)
32°F to 212°F (0°C to 100°C)

To assign a second output for Remote Set Point:
1. Enter set up mode.
2. DI/P = Toggle to oFF.
3. 2 I/P = Toggle to REMOTE.
4. Range = Toggle to select high temperature range set point adjustment 122°F (50°C) or 212°F (100°C).

Temperature Differential Control (Economizer)

The controller forms the temperature differential from the measured values of sensors B1 and B2. If the differential exceeds the set point, the controller sends a corresponding output signal to outputs Y1 or Y2. On positive deviation B2−B1, the signal is set to Y2. On negative deviation, the signal is set to Y1.
Temperature Differential Control (Economizer), Continued

To program controller for Temperature Differential control:
1. Enter set up mode.
2. D I/P = Toggle to oFF.
3. 2 I/P = Toggle to TEMP DIFF.
4. O/P 1 = Toggle to HEAt (R.A.) or CooL (D.A.).
5. O/P 2 = Toggle to HEAt, CooL or oFF.
6. TN = Set integral time in seconds (16, 32, 64 to 4096 seconds).
7. XP1 = Set proportional band for output Y1.
8. XP2 = Set proportional bands for Y2 output if used.

Set Point Reset (Outside Air Reset)

The temperature set point B1 is controlled by the temperature as measured at sensor B2.

Configuration of the RWC62/62U defines the influence on set point B1.
The example shows the supply air temperature set point reset by the outside temperature.

To program for set point reset:
1. Enter set up mode.
2. D I/P = Toggle to oFF.
3. 2 I/P = Toggle to TEMP SHIFT.
4. SF_ST = Set return air temperature shift set point start.
5. SF_ED = Set return air temperature shift set point end.

**NOTE:** If the start of temperature shift is greater than the end of temperature shift, winter (R.A.) compensation is automatically selected. Otherwise, summer (D.A.) compensation is selected.

6. TS = Selected set point prior to outside air influence.
7. SHIFT = Total temperature shift in return air temperature reset in degrees.
   (SHIFT = return air temperature set point at supply air high temperature minus return air temperature set point at supply air low temperature.)
8. O/P 1 = Toggle to heating (for an R.A. output) or cooling (for a D.A. output).
9. O/P 2 = Toggle to oFF.
10. TN = Set integral time in seconds: 16, 32, 64 to 4096 seconds.
11. XP1 = Set proportional band for output Q1 in degrees.
Boiler Set Point Reset

The temperature as measured at sensor B2, controls the hot water temperature set point B1.

Configuration of the RWC62/62U defines the influence on set point B1.

The example shows the hot water temperature set point reset by the outside temperature sensor B2.

If start of shift is greater than end of shift, winter (R.A.) compensation is selected automatically. Otherwise, summer (D.A.) compensation is selected.

To program for boiler reset:

1. Enter set up mode.
2. DI/P = Toggle to oFF.
3. 2 I/P = Toggle to TEMP SHIFT.
4. SF_ST = Set outside air temperature shift set point start (the warmest outside air temperature expected before set point is reset to a hotter water temperature).
5. SF_ED = Set outside air temperature shift set point end (the coldest outside air temperature expected before set point is reset to the hottest water temperature).
6. TS = Adjust hot water temperature set point prior to outside air influence. This is the desired water temperature at the hottest outside air temperature.
7. SHIFT = Total temperature shift of hot water reset in degrees. (SHIFT = Hot water temperature set point at outside air high temperature minus hot water set point at outside air low temperature.)
8. O/P1 = To operate a three-way valve, toggle to CooL for a D.A. output or HEAt for an R.A. output.
9. O/P2 = Toggle to oFF.
10. TN = Integral time/seconds for P + I control action. For proportional (P) control only, set to (– – – –).
11. XP1 = Set proportional band in degrees.

Example:
Output Y is set for cooling (D.A.) and TS = 140°F before considering the B2 shift action of TS; B1 is the hot water temperature and XP1 = 4°F, then:

B1 = 140, Y1 = 0 Vac
B1 = 142, Y1 = 5 Vac
B1 ≥ 144, Y1 = 10 Vac
Boiler Set Point Reset, Continued

Example:

Parameters:
Change hot water temperature from 140°F to 180°F over an outside temperature of 50°F to 0°F.

1. Enter set up mode.
2. DI/P = oFF.
3. 2 I/P = TEMP SHIFT.
4. SF_ST = 50°F.
5. SF_ED = 0°F.
6. TS = 140°F.
7. SHIFT = 40°F.
9. O/P2 = oFF.
10. TN = Integration times, as desired.
11. XP1 = Proportional band, as desired.

Day/Night Set Point Adjust

D1...GND dry contact closure (timer)

A timer contact between terminals D1 and GND can be used to implement set point changeover for day/night operation.

When the contact is open, the set point for day operation is selected.
When the contact is closed, the set point for night operation is selected.

Figure 13. Boiler Set Point Reset Graph.

Figure 14. Day/Night Set Point.
Day/Night Set Point
Adjust, Continued

To select day/night set point:
1. Enter set up mode.
2. D I/P = Toggle to on.
3. SW/DN = Toggle to DN.
4. TS_D = Day set point degrees.
5. TS_N = Night set point degrees.

Summer/Winter
Changeover

D1...GND dry contact closure (thermostat)
A thermostat contact between terminals D1 and
GND can be used to implement summer/winter
changeover.

When the contact is closed, summer operation is
selected. Output Y1 is set to direct action
(cooling).

When the contact is open, winter operation is
selected. Output Y1 is set to reverse action
(heating).

To select summer/winter changeover function:
1. Enter set up mode.
2. D I/P = Toggle to on.
3. SW/DW = Toggle to SW on.
4. TS_S = Set summer set point degrees.
5. TS_W = Set winter set point. Winter set point is the dead zone (XDZ) between summer
and winter, in degrees.

Analog, Direct Output
Control Mode

The input of B1 is direct to the output of O/P2 in the linear function. That is, 32°F to 212°F
(0°C to 100°C) in B1 will represent 0 to 10V in O/P2. If the temperature in B1 is lower than
32°F (0°C) or LO, O/P2 will be 0V. If the temperature in B1 is higher than 212°F (100°C),
O/P2 will be 10V. If B1 becomes HI, it is in error, and O/P2 will be 0V.

To program:
1. Enter set up mode.
2. D I/P = Toggle to off or on.
3. If D I/P is selected, choose DN for day/night changeover, or SW for summer/winter
changeover.
4. If D I/P is selected, program the set points.
5. O/P 2 = Toggle to B1. Y2 and G0 output is now a 0 to 10 Vac signal based on B2 input.
Protective Housing ARG62.101

The ARG62.101 accommodates RWC62 models. A housing protects the controller when mounted outside a control panel, such as in ducts, on walls and in mechanical equipment rooms. Furthermore, the protective housing prevents inadvertent contact with voltage supplying parts such as the connecting terminals.

Brackets attach the RWC62/62U in the protective housing.

Cable knockouts are located at the top and on the sides of the protective housing.

The front contains an opening to view the LCD display and the programming buttons.

Mounting Options

The RWC62/62U Temperature Controller can be mounted as follows:

- In a standard electrical control cabinet.
- Wall mounted in an ARG62.101 protective housing.
- Front mounted with standard installation hardware.

See Installation Notes.

Terminals

Plug-in screw terminals

Engineering Notes

Use this controller only for temperature control applications as stated in Description. Additionally, follow all conditions and restrictions contained in this section and in Specifications.

Installation Notes

- Follow all local installation regulations.
- The RWC62 controller can be mounted as follows:
  A  On a DIN rail (EN50 022-35 × 7.5) at least 4.75 inches (120 mm) long.
  B  Wall mounting using 2 or 4 screws No. 8-32 × 1-3/4.
  C  Flush panel mounting using the following standard elements:
      1 DIN rail five inches long
      2 Standoffs, two inches long
      2 screws No. 8-32 × 2-1/4
      2 nuts No. 8-32
      2 washers
  D  In the ARG62.101 protective housing.

Figure 17. Mounting Options.
### Electrical Installation

Standard cables can be used for the RWC 62/62U Controller.

**CAUTION:**

The RWC62/62U is designed for 24 Vac operating voltage. The low voltage must comply with the requirements for Class 2 voltage. When using several transformers in one system, the connection terminals GO must be common ground. Supplying voltages above 29 Vac to low voltage connections may damage or destroy the controller or any other connected devices.

### Commissioning

Either of the following documents is required for commissioning:

- Operating/Instruction Manual supplied with the RWC62/62U Controller.
- Technical Instructions (155-545P25).

### Configuration and Programming

The controller must be configured for installation-specific operation.

**NOTE:**

1. Provide power to the unit before configuring.
2. Values and settings entered in the devices are permanently saved, (that is, they remain available even on power failure).

### Operating Modes

The RWC62/62U Temperature Controller has three different operating modes:

- **Set-up mode** – Used to configure the controller to the application. In this mode, the controller is not in operation. To access setup mode: press Select for more than five seconds. See *Set-up Procedure* for further explanation.

- **Test mode** – Used to test the controller’s function and the installation. The controller operates normally, but displays the following test values:
  
  Output 1 <> Output 2 <> Analog Input 1 <> Analog Input 2 <> Digital input

  To access test mode: Press the Up ▲ and Down ▼ keys simultaneously.

- **Normal mode** – The controller assumes the normal operating mode when configuration is complete.
### Table 3. Parameters (Default values in brackets).

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Display or Setting Range</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MAIN</strong></td>
<td>Main sensor temperature</td>
<td>–31 to 266°F (–35 to 130°C)</td>
</tr>
<tr>
<td><strong>TS</strong></td>
<td>Temperature set point</td>
<td>32 to 230°F (0 to 110°C) [68°F (20°C)]</td>
</tr>
<tr>
<td><strong>2ND</strong></td>
<td>Second analog input</td>
<td>–31 to 266°F (–35 to 130°C)</td>
</tr>
<tr>
<td><strong>D I/P</strong></td>
<td>Digital input enable</td>
<td>On/off [off]</td>
</tr>
<tr>
<td><strong>SW/DN</strong></td>
<td>SW changeover/Day night select</td>
<td>DN On/SW On [DN On]</td>
</tr>
<tr>
<td><strong>TS_D</strong></td>
<td>Day set point</td>
<td>32 to 230°F (0 to 110°C) [68°F (20°C)]</td>
</tr>
<tr>
<td><strong>TS_N</strong></td>
<td>Night set point</td>
<td>32 to 230°F (0 to 110°C) [61°F (16°C)]</td>
</tr>
<tr>
<td><strong>TS_W</strong></td>
<td>Winter set point</td>
<td>32 to 230°F (0 to 110°C) [68°F (20°C)]</td>
</tr>
<tr>
<td><strong>TS_S</strong></td>
<td>Summer set point</td>
<td>32 to 230°F (0 to 110°C) [72°F (22°C)]</td>
</tr>
<tr>
<td><strong>PI LIMITER</strong></td>
<td>PI limiter mode</td>
<td>PI LIMITER, REMOTE, TEMP DIFF AND TEMP SHIFT</td>
</tr>
<tr>
<td><strong>2 I/P</strong></td>
<td>Auxiliary functions</td>
<td></td>
</tr>
<tr>
<td><strong>MAX/MIN</strong></td>
<td>Maximum/minimum limit select</td>
<td>Max On/Min On [Min On]</td>
</tr>
<tr>
<td><strong>TL</strong></td>
<td>Limiting temperature</td>
<td>32 to 230°F (0 to 110°C) [61°F (16°C)]</td>
</tr>
<tr>
<td><strong>REMOTE</strong></td>
<td>Remote set point mode</td>
<td></td>
</tr>
<tr>
<td><strong>RANGE</strong></td>
<td>32 to 122°F/32 to 212°F (0 to 50°C/0 to 100°C)</td>
<td>122/212°F (50/100°C) [122°F (50°C)]</td>
</tr>
<tr>
<td><strong>TEMP DIFF</strong></td>
<td>Temperature difference mode</td>
<td></td>
</tr>
<tr>
<td><strong>TDIFF</strong></td>
<td>Temperature difference</td>
<td>0 to 90°F (0 to 50°C) [0°F (0°C)]</td>
</tr>
<tr>
<td><strong>TEMP SHIFT</strong></td>
<td>Temperature shift mode</td>
<td></td>
</tr>
<tr>
<td><strong>SF_ST</strong></td>
<td>Temperature shift start</td>
<td>–31 to 95°F (–35 to 35°C) [79°F (26°C)]</td>
</tr>
<tr>
<td><strong>SF_ED</strong></td>
<td>Temperature shift end</td>
<td>–31 to 95°F (–35 to 35°C) [86°F (30°C)]</td>
</tr>
<tr>
<td><strong>SHIFT</strong></td>
<td>Temperature</td>
<td>0 to 63°F (0 to 35°C) [8°F (4°C)]</td>
</tr>
<tr>
<td><strong>O/P1</strong></td>
<td>Output 1</td>
<td>HEAt (R.A.)/CooL (D.A.) [HEAt (R.A.)]</td>
</tr>
<tr>
<td><strong>O/P2</strong></td>
<td>Output 2</td>
<td>HEAt (R.A.)/CooL (D.A.)/B1/off [CooL (D.A.)]</td>
</tr>
<tr>
<td><strong>xDZ</strong></td>
<td>Dead Zone</td>
<td>0 to 38°F (0 to 20°C) [2°F (1°C)]</td>
</tr>
<tr>
<td><strong>TN</strong></td>
<td>Integral time</td>
<td>16/32/64 to 4096 seconds [256 seconds]</td>
</tr>
<tr>
<td><strong>xP1</strong></td>
<td>Proportional band for output 1</td>
<td>2 to 180°F (1 to 100°C) [8°F (4°C)]</td>
</tr>
<tr>
<td><strong>xP2</strong></td>
<td>Proportional band for output 2</td>
<td>2 to 180°F (1 to 100°C) [4°F (2°C)]</td>
</tr>
</tbody>
</table>
Set-up Procedure

* If OUTPUT 2 = Off, or B1, OUTPUT 1 will be reversed (summer/winter changeover).

Figure 18. Set-up Procedure Flowcharts.

Terminal Layout

Legend:
B1  Signal input (main temperature)
B2  Signal input (auxiliary temperature or remote set point)
D1  Digital input
GND  Ground for digital signal input
G  24 Vac supply
GO  Common
M  Ground for signal inputs
Y1, Y2  Analog outputs

Figure 19. Terminal Layout.
Wiring Diagram

Legend:
- B1 Main temperature sensor
- B2 Auxiliary temperature sensor or remote set point
- D1 Digital Input
- G 24 Vac supply
- GND Ground for digital signal input
- GO Common
- M Measuring Neutral
- N1 RWC 62/62U Controller
- S1 Timer, summer/winter, or day/night changeover switch
- SP System Power
- SN System Neutral
- Y1 Valve actuator 1/damper actuator 1
- Y2 Valve actuator 2/damper actuator 2

Figure 20. Wiring Diagram.

Dimensions

Figure 21. RWC62/62U and ARG62.101 Dimensions in Inches (Millimeters).