See The Difference

Make The Connection
with Invensys Controls

Thermostats

HVAC Controls

Commercial Refrigeration Controls

Innovation you expect.
Menu Driven Display
Universal Staging
up to 3 Heat / 2 Cool

Programming Made Even Easier

Do you want to spend less time installing and setting up thermostats?

The new 9725i2 makes installation even easier with our new Setup Wizard. The Setup Wizard allows you to spend 50% less time setting up the thermostat over competitive models. Plus everything is in plain language so there are no complicated codes or button combinations to memorize.

We’ve also made programming even easier for your customers. Menus are easier to navigate. We’ve even added additional convenience features such as Automated Time adjustment for Daylight Saving Time, along with new indoor air quality reminders.

The new 9725i2 is so user friendly, it sets a higher standard in efficiency and simplicity for programmable thermostats. It is truly programming made even easier.

Features and Benefits

- **Set-up Wizard**
  Helps speed through the installation process with step-by-step setup and programming instructions.

- **Trilingual Display Option**
  Set to your customers’ language of choice – English, Spanish or French.

- **Convenient Displays**
  View a full day of programming at once for quick review or easy adjustment.

- **Contractor ID Feature**
  Set it yourself or custom order with your information preloaded. Your name and phone number remind your customers when service is needed.

- **Daylight Saving Time Adjustment**
  Automatically adjusts to correct time regardless of seasonal changes.

- **Adjustable Backlighting**
  Choose to have backlighting on at all times or only when programming. You can also adjust the brightness and contrast for improved readability.

- **Time of Day Zoning**
  When coupled with a remote sensor (part #9020i), you can control the temperature in remote locations given different scheduled events.

- **Three Levels of Security**
  Secure protection against unwanted changes to the programming menus, temperature or set-up functions with your own 4-digit PIN.

- **Auto Changeover**
  Automatically adjusts between heating and cooling cycles to maintain optimal comfort.

- **Worry-Free Memory Storage**
  Even during power outages, the thermostat maintains set point and programmed parameters.

- **Adjustable Temperature Offset**
  Change the displayed temperature from the actual sensed temperature.

- **Adjustable Temperature Differential**
  Maintains optimal customer comfort.

- **Intermittent Fan**
  Maintains optimal air filtration and circulation with minimal energy use.
THE ROBERTSHAW 9725i2 REPLACES:

White-Rodgers Co.* 1F92-71, 1F93-380, 1F94-71, 1F95-377
Honeywell, Inc.* TH8320U1006
Carrier Corp.* P274-1300, P274-2100, P374-1000, P374-1100, P474-1050

* Verify specific application requirements before substitution.

Optional Sensors:
- 9020i REMOTE INDOOR
- 9025i REMOTE OUTDOOR

Specifications

Electrical rating: 24 Volt AC (18-30 VAC)
1 amp maximum load per terminal (relay outputs)
3 amp total maximum load (all terminals combined)
Temperature control range: 45°- 90°F (7°- 32°C)
Accuracy: +/-1.0°F (+/-0.5°C)
Power Source: 24 VAC
Auto Changeover deadband: Selectable 2° to 8°F
Temperature override: 3 hour maximum or next setpoint
Remote sensor capable: 1 indoor and 1 outdoor sensor
System configurations: Multi-stage gas, oil or electric heating/cooling systems
Terminations: R, E/W1, W2, Y1, B, O, G, C, IS, OS, L

Shipping Information

Indiv. Ctn. Dim.: 6.625" x 4.25" x 1.625"
Master Ctn. Qty.: 6
Master Ctn. Dim.: 2.625" x 1.5625" x 4.4375"

Other Multi-Stage Heat / Cool Thermostats

9615: Programmable, 7 Day
9415: Non-Programmable

Patent Information

This product is covered by one or more of the following U.S. patents. Foreign patent rights may be pending. 4967382, 5803357, 6502758, 7000849, D301207, D462940

Invensys
Honeywell
Carrier
White-Rodgers

Menu Driven (Ease of Programming) X
Installation Wizard X
Displays Complete Program X
Adjustable Backlighting X
Cooling System Monitor X
Heating System Monitor X
Multi-Language X
1/2 Degree Resolution X
Time of Day Zoning X
Adjustable Timed Upstaging X
5/2 Program X
24 Hour Programming X
7-Day Programming X X X
Large Display X X X
Adjustable Timed Override/Hold X X
Automatic Daylight Saving Time X X
Adjustable Temperature Limits X X
High/Low Balance Points X X
LED Status Indicators X X
Adjustable Differential X X
Adjustable Compressor Short Cycle Protection X X
Adjustable Residual Cooling X X
Fossil Fuel Kit required on HP units No No Yes Yes
Battery Free Memory Retention X X
Manual Override X X X X
Resume X X X X
Auto Changeover X X X X
Gas/Electric X X X X
Single Stage Heat Pump Compatible X X X X
Line Powered X X X X
Programmable Fan X X X X
Interruption Fan X X
°F and °C X X X X
12 or 24 Hour X X X
Air Filter Monitor X X X
Humidifier Pad Monitor X X X
UV Light Monitor X X X
Vacation Setting X X Partial X
O & B Terminals X X Partial X
Events per day 2, 4, 6 4 4 2, 4
Remote Outdoor Sensor X Combo X Partial X
Remote Indoor Sensor X X X
Energy Efficient Recovery X X X X
Pre-set Program X X X
Hidden Service Level X X X
Security Key Pad X X
Temperature Recalibration X X X
Customizable Contractor ID X Factory Only

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www.about-i-series.com
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Do you want to spend less time installing and setting up thermostats?

The new Robertshaw® 9825i2 thermostat makes controlling your customers’ comfort even easier. We’ve combined humidity and temperature control in one easy to install, easy to program thermostat. This versatile thermostat provides control over both humidification and dehumidification. When used in conjunction with our 9025i outdoor sensor, the 9825i2 automatically controls indoor humidity levels maintaining optimal comfort while minimizing condensation on windows. Your customers will enjoy maximum comfort and energy savings and you will benefit from the time and effort saved by installing a single device that does the work of two.

The new Setup Wizard allows you to spend 50% less time setting up the thermostat over competitive models. Everything is in plain language so there are no complicated codes or button combinations to memorize. Plus with our new universal design, one unit does the job of many saving time and money.

The new 9825i2 is so user friendly it sets a higher standard in efficiency and simplicity for programmable thermostats. It is truly comfort made even easier.

### Features and Benefits

- **Set-up Wizard**
  - Helps speed through the installation process with step-by-step setup and programming instructions.
- **Trilingual Display Option**
  - Set to your customers’ language of choice – English, Spanish or French
- **Convenient Displays**
  - View a full day of programming at once for quick review or easy adjustment.
- **Contractor ID Feature**
  - Set it yourself or custom order with your information preloaded. Your name and phone number remind your customers when service is needed.
- **Automatic Daylight Saving Time**
  - Automatically adjusts to correct time regardless of seasonal changes.
- **Brighter, Adjustable Backlighting**
  - Choose to have backlighting on at all times or only when programming. You can also adjust the brightness and contrast for improved readability.
- **Nightlight Option**
  - Leave the backlight on to have a convenient, comforting nightlight to illuminate the area.
- **Time of Day Zoning**
  - When coupled with a remote indoor sensor (part #9020i), you can control the temperature in remote locations given different scheduled events.

### Three Levels of Security

- **Secure protection against unwanted changes to the programming menus, temperature or set-up functions with your own 4-digit PIN.**
- **Auto Changeover**
  - Automatically adjusts between heating and cooling cycles to maintain optimal comfort.
- **Worry-Free Memory Storage**
  - Even during power outages, the thermostat maintains set point and programmed parameters.
- **Adjustable Temperature Offset**
  - Change the displayed temperature from the actual sensed temperature.
- **Adjustable Temperature Differential**
  - Maintains optimal customer comfort.
- **Intermittent Fan**
  - Maintains optimal air filtration and circulation with minimal energy use.

### ENERGY STAR

- **24 VAC Powered**
- **Five Year Warranty**
**Verification of Specific Application Requirements Before Substitution.**

**Specifications**

- **Electrical Rating:** 24 Volt AC (18-30 VAC)
- **1 amp maximum load per terminal (relay outputs)**
- **4 amp total maximum load (all terminals combined)**
- **Temperature control range:** 45°F - 90°F (7°C - 32°C)
- **Accuracy:** ±1.0°F (+/-0.5°C)
- **Power Source:** 24 VAC
- **Auto Changeover deadband:** Selectable 2°F to 8°F
- **Temporary temperature override:** From 10 minutes to 365 days
- **Remote sensor capable:** 1 indoor and 1 outdoor sensor
- **System configurations:** Multi-stage gas, oil or electric heating/cooling systems
- **Terminations:** OS, IS, C, G, Y1, B, E/W1, O, R, W2, Y2, L, H, D

**Shipping Information**

- **Indiv. Ctn. Dim.:** 6.625” x 4.25” x 1.625”
- **Master Ctn. Qty.:** 6
- **Master Ctn. Dim.:** 9.25” x 5.625” x 7.5”
- **Master Ctn. Wt.:** 3.5 lbs.
- **Max. Pallet Qty.:** 24
- **Max. Pallet Wt.:** 785 lbs.

**Other Multi-Stage Heat / Cool Thermostats**

- **9615:** Programmable, 7 Day
- **9415:** Non-Programmable

**Patent Information**

This product is covered by one or more of the following U.S. patents. Foreign patent rights may be pending.

- 4967382
- 5803357
- 6502758
- 7000849
- D301207
- D462940

**Optional Sensors:**

- 9020i: Remote Indoor
- 9025i: Remote Outdoor
Features and Benefits

The Robertshaw Silicon Nitride Hot Surface Ignitors provide a new and resilient solution to gas ignition. The Silicon Nitride Ignitor provides exceptional improvement in durability by virtually eliminating breakage.

- All Robertshaw Silicon Nitride Hot Surface Ignitors are very durable, robust and resistant to rust, dirt, condensation, oils or falling debris from the heating element.

- The Robertshaw Silicon Nitride Ignitors are 120V AC. Some hot surface modules are rated for 208/240 volts input, however they step the voltage to the ignitor down to 120V AC.

- High temperature leads are enclosed with a special fiberglass insulation providing superior electrical protection.

- This ignitor is a functional upgrade or replacement to Silicon Carbide applications.

- Ignitors are boxed with mounting hardware and termination required for direct replacement.

An ISO 9001 – 2000 Certified Company

2 Year Limited Warranty
ATTENTION: Flame sensors are required for all Silicon Nitride Ignitors. Ignitor/Sensor assembly 1751-729 (24" lead) or 1751-749 (72" lead) can be used if an existing flame sensor is not present and a terminal is available on the ignition control.

<table>
<thead>
<tr>
<th>Uni-Line® Part Number</th>
<th>Ceramic Block Style</th>
<th>Terminal Block Style</th>
<th>Lead Wire Length</th>
<th>Comments</th>
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<tbody>
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<td>A</td>
<td>A</td>
<td>5-1/4&quot;</td>
<td>Includes a gasket</td>
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<tr>
<td>41-402N</td>
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<td>None</td>
<td>24&quot;</td>
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<tr>
<td>41-403N</td>
<td>C</td>
<td>None</td>
<td>5-1/4&quot;</td>
<td></td>
</tr>
<tr>
<td>41-404N</td>
<td>C</td>
<td>D</td>
<td>5-3/4&quot;</td>
<td>Includes special mounting</td>
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<tr>
<td>41-405N</td>
<td>D</td>
<td>None</td>
<td>9&quot;</td>
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<tr>
<td>41-406N</td>
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<td>9&quot;</td>
<td>Includes a gasket</td>
</tr>
<tr>
<td>41-407N</td>
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<td>B</td>
<td>5-3/4&quot;</td>
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</tr>
<tr>
<td>41-408N</td>
<td>B</td>
<td>C</td>
<td>5-3/4&quot;</td>
<td></td>
</tr>
<tr>
<td>41-409N</td>
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<tr>
<td>41-411N</td>
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<td>C</td>
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<tr>
<td>41-412N</td>
<td>F</td>
<td>None</td>
<td>24&quot;</td>
<td></td>
</tr>
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</table>
The E71R and E72R EcoCool controllers from Ranco® are microprocessor-based electronic temperature and defrost controllers for use in compressor-driven commercial freezers and refrigerators.

The E71R includes a single relay for managing compressor operation. The E72R includes one relay for managing compressor operation, and one relay for a defrost heater and optional fan.

Both controllers include intelligent software with settings that can be configured to meet a full range of commercial refrigeration applications.

Features and Benefits

- Electronic control provides consistent and accurate temperature control.
- Compressor protection features prevents short cycling.
- Smart defrost functionality is based on time and/or temperature.
- Combined defrost and temperature controls in one unit means cost savings – reducing the components, wiring, and labor required.
- LED indicators show controller status: refrigeration, defrost and alarm.
- EcoCool configuration software makes it easy to download setpoints from a PC or copy card.
- Switching mode power supply of 90 to 240V AC allows the same controller to be used on both 120V AC and 230/240V AC applications.
- Optional display shows current temperature or setpoint during controller adjustment.
**Wiring Diagrams**

**EcoCool E71R - SMPS 90 to 240V AC**

- **TERMINALS**
  - 4 – 5: NO Compressor / refrigeration relay
  - 6 – 7: Power Supply SMPS 90 to 240V AC
  - 8 – 10: Probe 1 Input (Control temperature)
  - 9 – 10: Probe 2 Input (Evaporator temperature)
  - 10 – 11: NO Digital Input (Optional defrost termination switch)

**EcoCool E72R - SMPS 90 to 240V AC**

- **TERMINALS**
  - 1 – 2: NO Defrost Relay (heat)
  - 2 – 3: NC Defrost Relay (optional evaporator fan)
  - 4 – 5: NO Compressor / refrigeration relay
  - 6 – 7: Power Supply SMPS 90 to 240V AC
  - 8 – 10: Probe 1 Input (Control temperature)
  - 9 – 10: Probe 2 Input (Evaporator temperature)
  - 10 – 11: NO Digital Input (Optional defrost termination switch)

**Accessories**

**NTC Sensors**

- Units are available for air temperature or evaporator temperature sensing.
- Ranges for sensors are from -58°F to 230˚F.
- High quality sensor is protected by a capsule made of ABS, Steel INOX AISI 304/316 or Iconel®.

<table>
<thead>
<tr>
<th>Accessory</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic Temperature Control E72R</td>
<td>08203-015RC</td>
</tr>
<tr>
<td>Remote Display E72R</td>
<td>08210-015RC</td>
</tr>
<tr>
<td>Electronic Temperature Control E72R (Hussmann)</td>
<td>08349-015RC</td>
</tr>
<tr>
<td>Remote Display E72R (Hussmann)</td>
<td>08350-015RC</td>
</tr>
<tr>
<td>Copy Card</td>
<td>08208-015RC</td>
</tr>
<tr>
<td>Jumper Card</td>
<td>08351-015RC</td>
</tr>
<tr>
<td>Cable 2m</td>
<td>08352-015RC</td>
</tr>
<tr>
<td>Cable 5m</td>
<td>08353-015RC</td>
</tr>
</tbody>
</table>

**Copy Card**

- Quick configuration accessory helps rapidly download parameters to the controllers.
- Red and green LED indicators display transmission status.
- Configurable with PC using EcoCool configuration software – download and upload

**Display**

- Inexpensive optional display allows user to see setpoints and status of system.
- Display shows two digits with negative sign.
- Display unit has a small footprint of 18.9” x 11.26” x 5.91” (48 x 28.6 x 15 mm)
The Paragon® 9045-00 and 9145-00 Universal Defrost Timers are the only multi-voltage defrost timers engineered to refrigeration standards. At four defrosts per day, the Paragon Universal Defrost Timer switches last 16 years longer than competitive offerings.

Features

- Real-time clock
- Initiate 15 minute manual defrost
- System status indicators
- Lighted display
- 100 hours of power loss protection for both time and defrost schedule
- Mechanism-only versions designed to fit in the standard Paragon enclosures
- Certified to UL873 Standard for Temperature-Indicating and Regulating Equipment, as Refrigeration Controllers
- Wires directly to 120V AC, 208V AC or 230V AC power sources without jumpers or switches
- Easy programming, easy set-up, set time, set defrost start and defrost end
- Display shows defrost start time and duration
### Specifications

**Input Power**
120/208–240 VAC 60 Hz (+10, -15%)

**Power Consumption**
6VA max, Defrost termination switch (terminal "G")
input impedance to terminal C: 85kΩ +/- 5%

**Operating Voltage**
102 VAC min to 132 VAC max @ 60 Hz
176.8 VAC min to 264 VAC max @ 60Hz
NOTE: No user-required adjustments to switch between the high and low voltage.

**Ambient Operating Conditions**
-40°F to 131°F (-40°C to 55°C); 0 to 95% RH (non-condensing)

**Storage Temperature**
-40°F to 140°F (-40°C to 60°C)

**Outside Dimensions**
Individual unit 4.40"W x 7.82"H x 3.80"D
Individual unit (in shipping box) 4.75"W x 8.875"H x 4.75"D

**Individual Case Shipping Weight**
3.2 lbs

**Agency Approvals**
c-UR-us Recognized Component – Models 9045-00M & 9145-00M
c-UR-us Listed Product – Models 9045-00 & 9145-00
Training Classes
Now Available

Invensys Controls Uni-Line®
Technical Knowledge, Level 2 Courses
NATE® Recognized
(North American Technicians Excellence)

For more information regarding NATE recognized courses with Invensys Controls or to request training in your area, log into our Customer Toolbox at: www.toolbox.invensyscontrols.com

Heating Basics – Ignition Controls
Course ID: 3084-0001, NATE Recognized hours: 1 hour
GAS HEATING SERVICE
Overview of ignition systems and control boards including hot surface, intermittent pilot, and direct spark ignitions. Sequence of heating events of electronics including thermostats, main gas valves, ignitors and control functions.

Heating Basics – Gas Valves
Course ID: 3084-0002, NATE Recognized hours: 1 hour
GAS FURNACE SERVICE / GAS HEATING SERVICE / HYDRONICS – GAS SERVICE
Overview of the types of gas valves used in heating systems. Includes basic characteristics of natural gas and propane, inlet and outlet pressure, pressure measurements, thermocouples, step open, slow open, and standard open gas valves.

Commercial Refrigeration Basics
Course ID: 3084-0003, NATE Recognized hours: 2 hours
AIR CONDITIONING / AIR DISTRIBUTION / HEAT PUMP / REFRIGERATION LT. COMM. / REFRIGERATION COMM. SERVICE & INSTALATION
Technical overview of basic commercial refrigeration temperature, pressure and defrost controls. Topics include refrigeration thermodynamics, reversing valves, discharge temperature control, super-heat, sub-cooling, and cut-in & cut-out modes.

Heating and Cooling Basics – Thermostat Control
Course ID: 3084-0004, NATE Recognized hours: 2 hours
AIR CONDITIONING / AIR DISTRIBUTION / HEAT PUMP / GAS HEATING / OIL HEATING SERVICE & INSTALLATION
Overview of thermostats and how they control HVAC systems. Features will be discussed such as humidity control, enthalpy control, balance point, staging, differentials, and communications with Zoning and Indoor Air Quality Products.

Ventilation Basics - Zoning and Indoor Air Quality
Course ID: 3084-0005, NATE Recognized hours: 2 hours
AIR CONDITIONING / AIR DISTRIBUTION / HEAT PUMP / GAS HEATING / OIL HEATING SERVICE & INSTALLATION
Overview of Zoning and Indoor Air Quality equipment used in HVAC systems. Zoning features include regular & bypass dampers, equipment design and setting up DIP switches. IAQ topics include ultraviolet systems, humidifiers, energy and heat recovery ventilators, and filters.