Timers, whether used for defrost or electrical systems, are essential for the longevity and energy saving functionality of important equipment.

The Paragon® defrost and the Tork® electric timers offer versatility and unbeatable quality to control power and compressor defrost cycles. Defrost products include electromechanical and electronic timers for commercial and residential applications.

Timers

PARAGON®

Scan for all models, literature and cross reference

8045-00

8245-20

DEFROST TIMERS - ELECTROMECHANICAL

8000 Series

The Paragon® 8000 Series Commercial Defrost Controls are designed for commercial freezers and refrigerators to provide automatic defrost capability. They accommodate various types of defrost systems including electric defrost heaters, hot gas, and compressor off cycle.

Features and Benefits

- Time initiated; temperature, pressure or time terminated models available
- High-amp switch contacts: 40 amps, 2 HP
- Positive slider bar switch design assures positive electrical contact and wipes the contact surface of contaminates
- Temperature or pressure terminated models are designed for defrost termination using an external temperature or pressure device
- Safety back-up – mechanical time-driven defrost termination
- Heavy-duty synchronous design drive motor
- Choice of three contact arrangements
- Adjustable frequency of defrost initiation from 1 to 6 cycles per day with a minimum of 4 hours between successive operations
- Adjustable back-up defrost termination from 4 to 110 minutes in 2 minute increments
- Heavy-duty steel enclosure with knockouts (on the bottom, back and sides) and hasp and staple padlock
- All 8240 models have an adjustable cut-in pressure dial calibrated from 36-110 pounds for R12, R22, R502

c UL us LISTED Listed Product

c UL us Recognized Component

Specifications

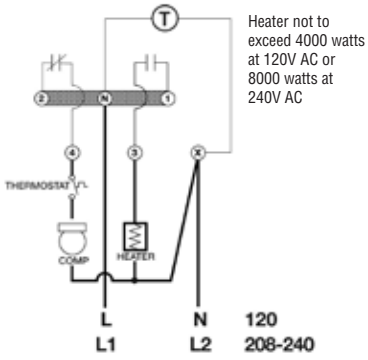
Part Numbers	Description	Switch Arrangement Contacts 2-4	Switch Arrangement Contacts 1-3	Switch Arrangement Contacts 3-N	Termination Type	Voltage
8041-00	Electric Heat	Closed	Open	Closed	Time	120V AC
8045-00	Electric Heat, Hot Gas or Compressor Shutdown	Closed	Open	None	Time	120V AC
8045-20	Electric Heat, Hot Gas or Compressor Shutdown	Closed	Open	None	Time	208-240V AC
8141-00	Electric Heat, Hot Gas or Compressor Shutdown	Closed	Open	Closed	Temp or Pressure	120V AC
8141-20	Electric Heat, Hot Gas or Compressor Shutdown	Closed	Open	Closed	Temp or Pressure	208-240V AC
8145-00	Electric Heat, Hot Gas or Compressor Shutdown	Closed	Open	None	Temp or Pressure	120V AC
8145-20	Electric Heat, Hot Gas or Compressor Shutdown	Closed	Open	None	Temp or Pressure	208-240V AC
8145-20B	Electric Heat, Hot Gas or Compressor Shutdown	Closed	Open	None	Temp or Pressure	208-240V AC
8245-20	Electric Heat, Hot Gas or Compressor Shutdown	Closed	Open	None	Pressure	208-240V AC
D81-8145-00EX*	Electric Heat, Hot Gas or Compressor Shutdown	Closed	Open	None	Temp or Pressure	120V AC
D81-8145-20EX*	Electric Heat, Hot Gas or Compressor Shutdown	Closed	Open	None	Temp or Pressure	208-240V AC

*International export models

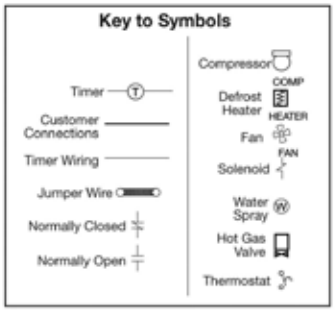
Product Drawings

Electric Heat Defrosting

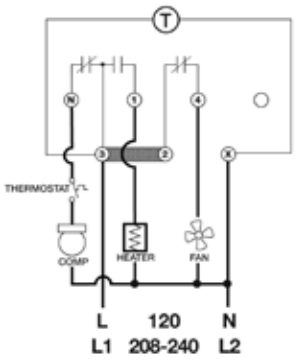
Models 8045-00 and 8045-20 - Wiring Diagram



Heater not to exceed 4000 watts at 120V AC or 8000 watts at 240V AC



Models 8041-00 and 8041-20 - Wiring Diagram



Fan and compressor loads not to exceed 2 hp. Heater not to exceed 4000 watts at 120V AC or 8000 watts at 240V AC

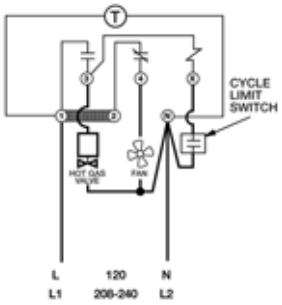
1 Year Limited Warranty

PARAGON

Product Drawings

Hot Gas Defrosting

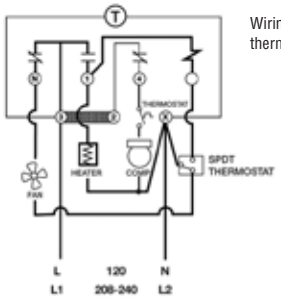
Models 8145-00, 8145-20 and E357-00 - Wiring Diagram



Wiring using 120V or 240V single phase line with compressor thermostat closed during defrost.

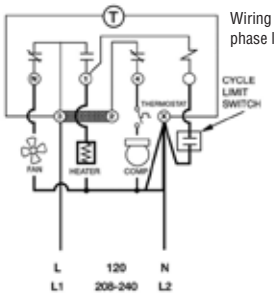
Electric Heat Defrosting

Models 8141-00 and 8141-20 - Wiring Diagram



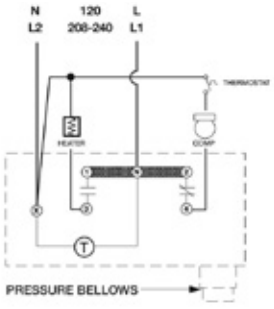
Wiring using differential of SPDT thermostat to delay fan after defrosting

Models 8141-00, 8141-20 - Wiring Diagram

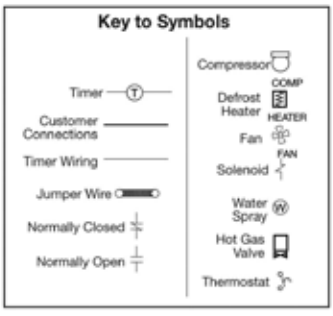


Wiring using 120V or 240V single phase line with auxiliary fan circuit

Models 8245-00 and 8245-20 - Wiring Diagram



Wiring for electric heat system without magnetic starter



DEFROST TIMERS - ELECTRONIC

9000 Series

The Paragon® 9045-00 and 9145-00 Universal Defrost Timers (UDT) are the only multi-voltage defrost timers engineered to industry refrigeration standards.

Designed to withstand the most rigorous refrigeration applications, this control offers a real-time clock and 100 hours of power loss protection for both time and defrost schedules. Mechanism-only models also are available to fit in standard defrost timer enclosures.

Features and Benefits

- Certified to UL873 standard for temperature-indicating and regulating equipment
- Wires directly to 120V AC, 208V AC or 240V AC power sources without jumpers or switches
- Rated to 30,000 cycles for refrigeration controllers with switches
- Easy programming, easy set-up, set time, set defrost start and defrost end
- Initiate 15 minute manual defrost
- 100 hours of power loss protection for both time and defrost schedule
- Real-time clock
- Lighted display shows defrost start time and duration
- System status indicators

9045-00

9045-00M

PARAGON®

Scan for all models, literature and cross reference

c UL us LISTED
Listed Product

c US
Recognized Component

1 Year Limited Warranty

PARAGON®

Scan for all models, literature and cross reference

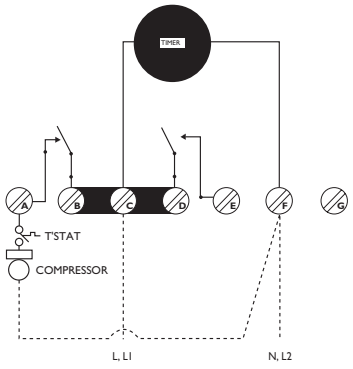
Specifications

Part Numbers	Description	Relay Switch	Initiation Type	Termination Type	Voltage
9045-00	Universal Defrost Timer	SPST	Time	Time	120-208-240V AC
9045-00M	Mechanism Only	SPST	Time	Time	120-208-240V AC
9145-00	Universal Defrost Timer	SPDT	Time	Time, Temp or Pressure	120-208-240V AC
9145-00M	Mechanism Only	SPDT	Time	Time, Temp or Pressure	120-208-240V AC

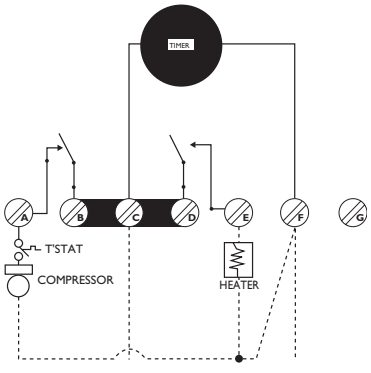
9045 Terminal Data	A	B	C	D	E	F	G
Relay Contact	SPST #1 NC Contact	SPST #1 Common Contact	L1 Power in to Timer	SPST #2 No Contact	SPST #2 Common Contact	L2/N Power in to timer	No Connection
Relay Rating	30 A resistive @ 120 to 240V AC 1 HP @ 120V AC, 2 HP @ 208 to 240V AC				30 A resistive @ 120 to 240V AC 1 HP @ 120V AC, 2 HP @ 208 to 240V AC		
Device Connections	Compressor (Typical)				Defrost Device (Typical)		Defrost Termination Switch

9145 Terminal Data	A	B	C	D	E	F	G
Relay Contact	SPDT NC Contact	SPDT NO Contact	SPDT Common Contact	SPST NO Contact	SPST Common Contact	L2/N Power in to timer	Defrost Termination Device Input L2/N side
Relay Rating	15 A resistive @ 120 to 240V AC 1/4 HP @ 120V AC, 1/2 HP @ 208 to 240V AC	30 A resistive @ 120 to 240V AC 1 HP @ 120V AC 2 HP @ 208 to 240V AC			30 A resistive @ 120 to 240V AC 1 HP @ 120V AC, 2 HP @ 208 to 240 AC		
Device Connections	Fan (Typical) Compressor (Optional)	Defrost Device (Typical)	L1 Power to Timer and to Defrost Termination Device		Compressor (Typical) Fan (Optional)		Defrost Termination Switch

Product Drawings

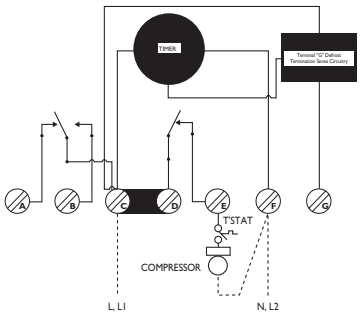


9045 AIR DEFROST - Time Initiated Time Terminated - Wiring Diagram

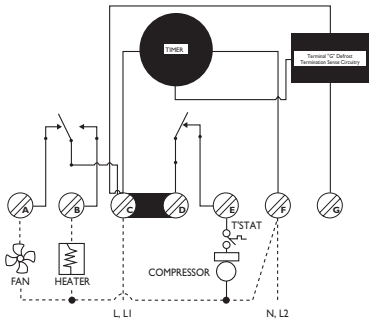


9045 ELECTRIC DEFROST - Time Initiated Time Terminated - Wiring Diagram

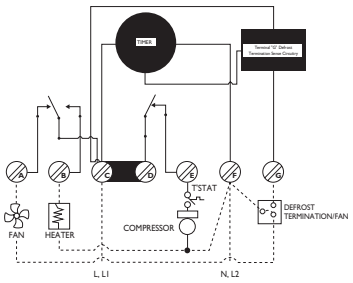
Product Drawings



9145 AIR DEFROST - Time Initiated
Time Terminated - Wiring Diagram



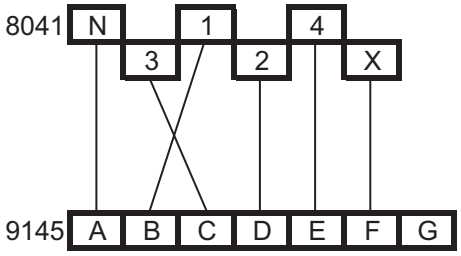
9145 ELECTRIC DEFROST - Time Initiated
Time Terminated - Wiring Diagram



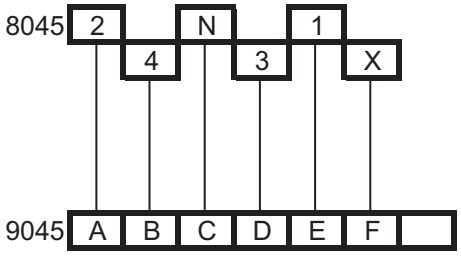
9145 ELECTRIC DEFROST - Time Initiated
Temperature Terminated - Wiring Diagram

Conversion Diagrams for Paragon Mechanical Controls

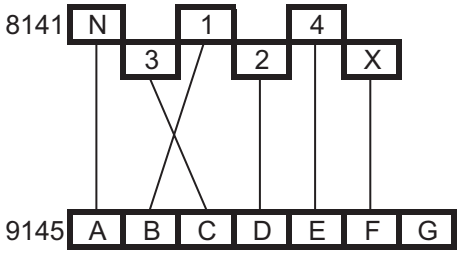
Convert 8041 to 9145



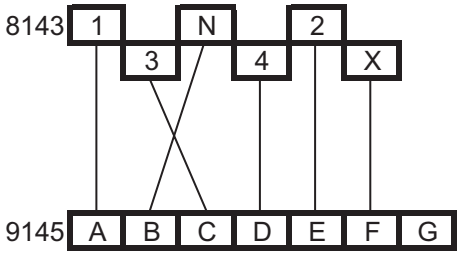
Convert 8045 to 9045



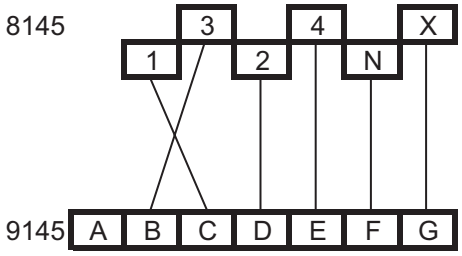
Convert 8141 to 9145



Convert 8143 to 9145



Convert 8145 to 9145



TORK

Scan for all models, literature and cross reference

1102

P47

ELECTRIC TIMERS - ELECTROMECHANICAL

1100 Series - 24 Hour Time Switches

The Tork® 1100 Series Electric Timers offer 24 hour time switches with automatic On-Off control when operation is required at the same time every day, seven days a week.

Applications include On-Off control of heating, air conditioning, display lighting, ventilating, pumps and fans.

Tork Electric Timers are sold exclusively through Invensys to HVACR wholesalers.

Features and Benefits

- Heavy-duty synchronous, self-starting high torque timing motor
- Power consumption: 3 watts maximum
- Automatic operation for 24 hour timers with one pair of On-Off trippers supplied – accommodates up to 12 pairs
- Multilingual dial markings - English, French and Spanish
- Temporary manual override
- General purpose (NEMA 1) metal enclosure of deep-drawn steel, enamel coated and lockable hasp
- Combination 1/2" and 3/4" knockouts on both sides, bottom and back

LISTED
Listed Product

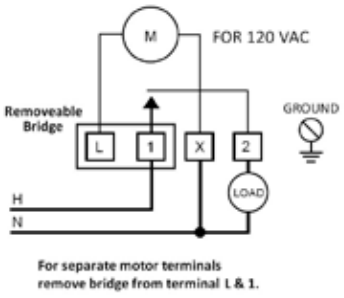
Specifications

Part Numbers	Description	Contact Ratings	Automatic Operation	Operating Temperature	Enclosure	Switch	Voltage
1101	24 Hour Electromechanical Timer	40 A Resistive 20 A Inductive 1000 VA Pilot Duty 2HP (24 FLA) 120V AC	Minimum ON 20 minutes; OFF 75 minutes	-40°F to 165°F (-40°C to 74°C)	Metal	SPST	120V AC
1102	24 Hour Electromechanical Timer	40 A Resistive 20 A Inductive 1000 VA Pilot Duty 2HP (24 FLA) 120V AC	Minimum ON 20 minutes; OFF 75 minutes	-40°F to 165°F (-40°C to 74°C)	Metal	SPST	208-277V AC
1103	24 Hour Electromechanical Timer	40 A Resistive 20 A Inductive 1000 VA Pilot Duty 2HP (24 FLA) 120V AC	Minimum ON 20 minutes; OFF 75 minutes	-40°F to 165°F (-40°C to 74°C)	Metal	DPST	120V AC
1104	24 Hour Electromechanical Timer	40 A Resistive 20 A Inductive 1000 VA Pilot Duty 2HP (24 FLA) 120V AC 5HP 240V AC	Minimum ON 20 minutes; OFF 75 minutes	-40°F to 165°F (-40°C to 74°C)	Metal	DPST	208-277V AC
P47	Accessory trippers for 1100 Series Timers	NA	NA	NA	NA	NA	NA

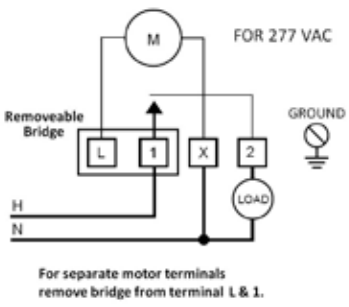
Product Drawings

Single Pole - Wiring Diagrams

1101

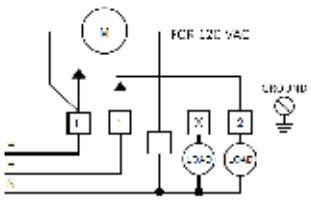


1102



Double Pole - Wiring Diagrams

1103



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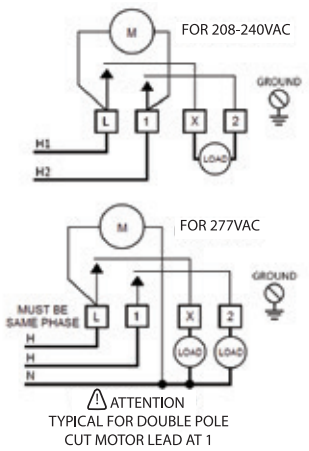


1 Year Limited Warranty

TORK

Scan for all models, literature and cross reference

W220

ELECTRIC TIMERS - ELECTROMECHANICAL

W Series - 7 Day Time Switches

The Tork® W Series - 7 day time switches offer the easiest and most accurate setting of any 7 day time switch through its unique combination of On-Off trippers, distinctive time indicator, and trigger action switch tripping mechanism.

Applications include On-Off control of heating, air conditioning, display lighting, ventilating, pumps and fans. Tork Electric Timers are sold exclusively through Invensys to HVACR wholesalers.

Features and Benefits

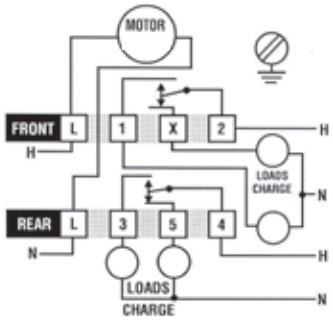
- Heavy-duty synchronous, self-starting high torque timing motor
- Power consumption: 3 watts maximum
- Keeps dial on time up to 24 hours during power outage
- Automatic operation with 7 day calendar dial accommodates up to 2 pairs of On-Off removable Trippers per day – 7 pairs are supplied
- Multilingual dial markings - English, French and Spanish
- General purpose (NEMA 1) metal enclosure of deep-drawn steel, enamel coated and lockable hasp

Specifications

Part Numbers	Description	Contact Ratings	Automatic Operation	Operating Temperature	Enclosure	Switch	Voltage
W220	7 Day Electromechanical Timer	40 A Resistive 20 A Inductive 1000 VA Pilot Duty 2HP (24 FLA) 120V AC	Minimum ON 1 hour OFF 2 hours	-40°F to 165°F (-40°C to 74°C)	Metal	DPDT	120V AC

Product Drawings

W220 (DPDT) - Wiring Diagram



UL LISTED Listed Product

CSA

1 Year Limited Warranty

ELECTRIC TIMERS - ELECTROMECHANICAL

TU40 Series - Universal 24 Hour Time Switches

The Tork® TU40 Series - Universal 24 hour time switches with multi-voltage options offer automatic On-Off control when operation is required at the same time every day, seven days a week.

Applications include On-Off control of heating, air conditioning, display lighting, ventilating, pumps, fans and security systems. Tork Electric Timers are sold exclusively through Invensys to HVACR wholesalers.

TU40

Features and Benefits

- Automatic input voltage detection without DIP switches
- LED indicators for load and power
- Includes On/Off/Auto switch
- Power consumption: 6 VA maximum
- Temporary manual override is standard
- Combination 1/2" and 3/4" knockouts on both sides, bottom and back
- Enclosure includes indoor/outdoor NEMA 3R plastic

TORK

Scan for all models, literature and cross reference

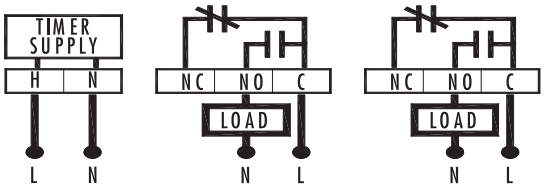
Specifications

Part Numbers	Description	Contact Ratings (Normally Open)	Automatic Operation	Temperature Range	Enclosure	Switch	Voltage
TU40	24 Hour Electromechanical Timer	40 A Resistive 30 A Inductive 720 VA Pilot Duty 1HP 120V AC 2HP 240V AC	Minimum setting: 15 minutes	-31°F to 116°F (-35°C to 47°C)	Plastic	4 IN 1 DPDT, SPST, SPDT, DPST	Universal Multi-Voltage 120/208-240/277V AC

Product Drawings

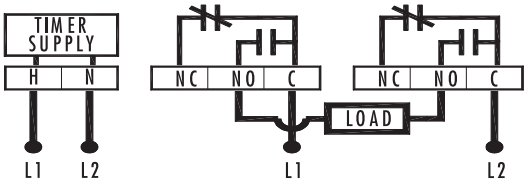
TU40 - 120/277V AC Application - Wiring Diagram

120/277VAC Application



TU40 - 208/240V AC Application - Wiring Diagram

208/240VAC Application



c UL us LISTED Listed Product

1 Year Limited Warranty

TORK®

Scan for all models, literature and cross reference

E101B

ELECTRIC TIMERS - ELECTRONIC

E100B Series

The Tork® E100B series multipurpose 1 channel control comes with 120 - 277 Volts AC input voltages for 24 hour programming. Standard enclosure for indoor and outdoor settings uses patented 40 Amp contacts. Applications include display lighting, security systems, HVAC, signs, sump pumps and ventilating fans. Tork Electric Timers are sold exclusively through Invensys to HVACR wholesalers.

Features and Benefits

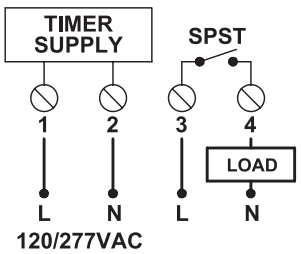
- Automatic input voltage detection without DIP switches
- LCD Display
- Simple programming with brief easy-to-follow instructions
- Power consumption: 6 watts minimum
- Daylight savings time is automatic (can be omitted)
- Manual override until the next regularly scheduled On or Off. Automatic operation then resumes or permanently if desired
- AM/PM clock format
- Power outage back-up with permanent schedule retention. Super-capacitor maintains real-time clock for 100 hours
- Includes load status and power failure indicators

Specifications

Part Numbers	Description	Contact Ratings	Scheduling	Setpoints	Operating Temperature	Enclosure	Switch	Voltage
E101B	24 Hour Electronic Timer	40 A General purpose 40 A Inductive 720 VA Pilot Duty 1HP (120V AC)	Same Everyday	20 with 1 minute minimums	-40°F to 149°F (-40°C to 65°C)	NEMA 3R Plastic	SPST	120-277V AC

Product Drawings

E101B Series - Wiring Diagram



c UL us LISTED Listed Product

1 Year Limited Warranty

RESIDENTIAL DEFROST TIMERS

Domestic Defrost Timers

The Paragon® 1401 Series Defrost Timers are a synchronous motor control that activates an internal SPDT switch to actuate a defrost heater in a refrigerator. These heavy-duty 15 Amp Paragon timers are used by OEM manufacturers to replace both the older classic design timers and the new OEM versions.

Features and Benefits

- Bulk quantities must be ordered in multiples of 12
- Quiet - synchronous design provides extremely quiet operation
- Position freedom - timer can be mounted in various locations
- Interchangeability - standard mounting allows use in all applications
- Double insulated - requires no earth grounding
- RoHS compliant

A1401-00

Specifications

Part Numbers	Description	Bulk Quantity	OEM	Timing
A1401-00*	Defrost Timer in Refrigerator	12	Admiral	6 hours 21 minutes
B1401-00*	Defrost Timer in Refrigerator	12	Frigidare	8 hours 20 minutes
G1401-00*	Defrost Timer in Refrigerator	12	G.E.	6 hours 25 minutes

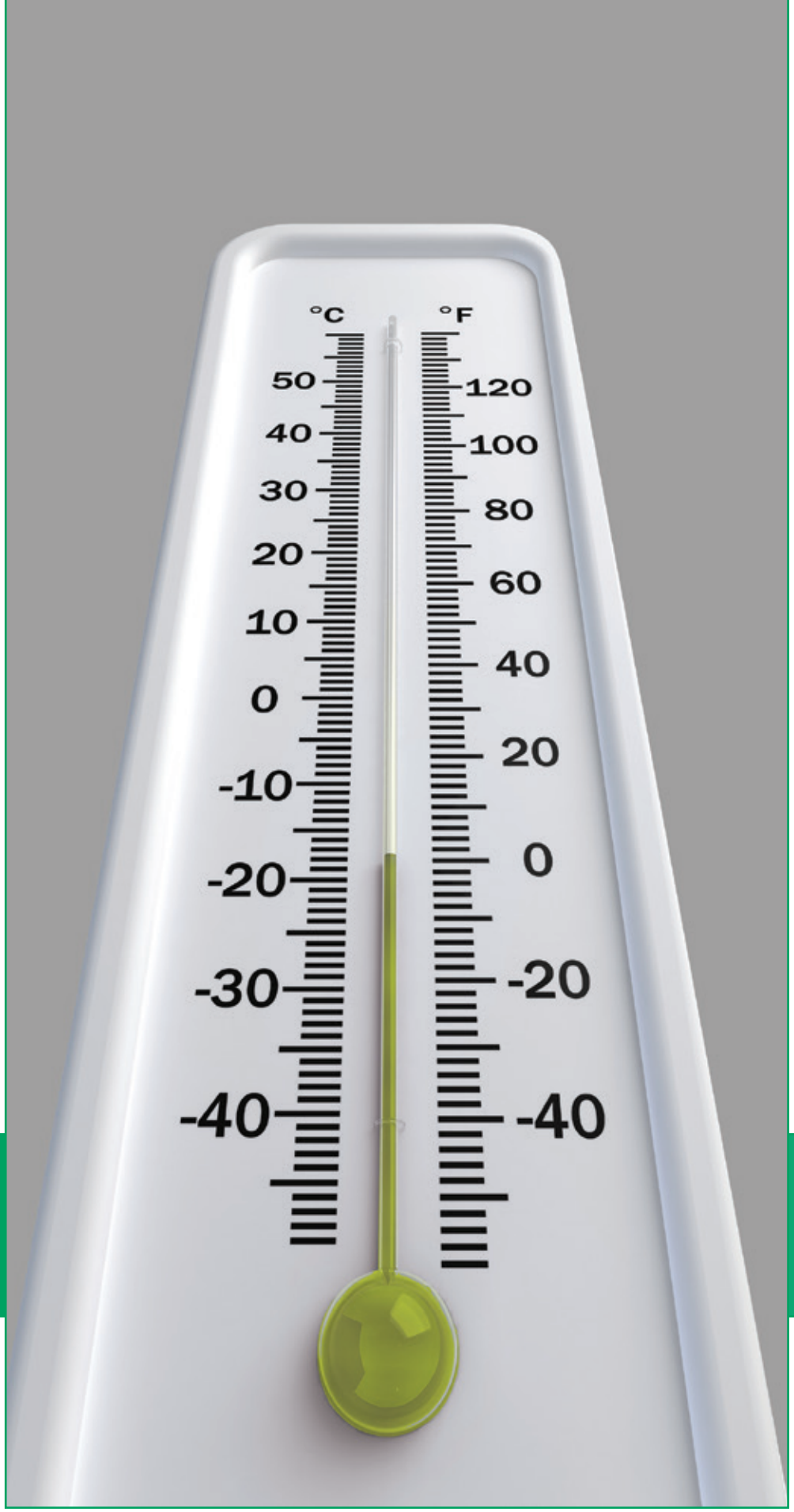
*International export models

PARAGON®

Scan for all models, literature and cross reference

UL LISTED Listed Product

1 Year Limited Warranty


°C
°F
50
40
30
20
10
0
-10
-20
-30
-40
120
100
80
60
40
20
0
-20
-40

Contractors appreciate smooth HVAC installations while consumers look for a fine balance between temperature comfort and energy savings.

The Robertshaw® wall thermostats and humidistats offer all of the above. With its extensive yet focused product offering, the Robertshaw product line can deliver intuitive, feature-rich and efficient solutions for homeowners and commercial customers.

Wall Thermostats

Robertshaw®

Scan for all models, literature and cross reference

PROGRAMMABLE

9825i2

9025i

i2 Deluxe Series

The Robertshaw® i2 Series Programmable Thermostats are easy-to-install and program. Our patent pending Set-Up Wizard can help you spend 50% less installation time over competitive models. Feature-rich, the 9801i2 and 9825i2 thermostats can be used with the 9025i outdoor sensor to maintain comfort settings and indoor humidity levels while minimizing window condensation.

Features and Benefits

All i2 Series Programmable Thermostats feature:

- Set-Up Wizard
- 7-Day, 5-2, 5-1-1 or 24 hour programming
- 2, 4, 6 Events per day
- Programmable service reminders
- Trilingual display options
- Worry-free memory storage
- Contractor ID with programmable service schedule
- Indoor/Outdoor remote sensor capability
- Adjustable temperature differential
- Adjustable timed upstaging

9801i2 and 9825i2 Thermostats with Humidity Control have these additional features:

- Adjustable humidification and dehumidification set points
- Automatic humidification control (when coupled with the remote outdoor sensor)
- Adjustable overcooling limits
- Customizable dew point control

9020i and 9025i Indoor and Outdoor Sensors features:

- Designed to sense air temperature at a remote location up to 300 feet from thermostat
- Automatic configuration with i2 thermostats
- Installs with a simple twisted pair wiring
- Temperature range for 9025i Outdoor sensor is -40°F to 158°F (-40°C to 70°C)

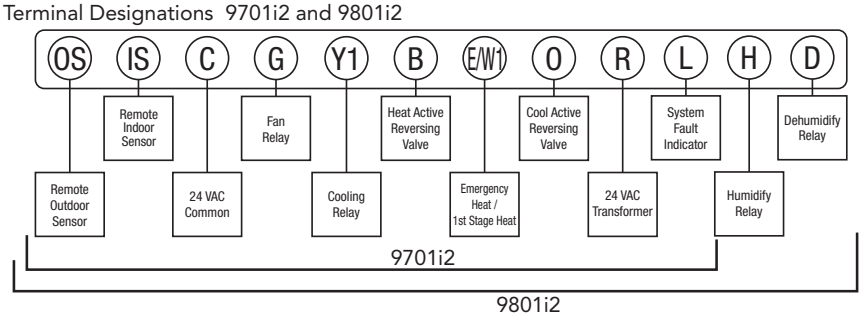
California Title 24 Compliant

Specifications

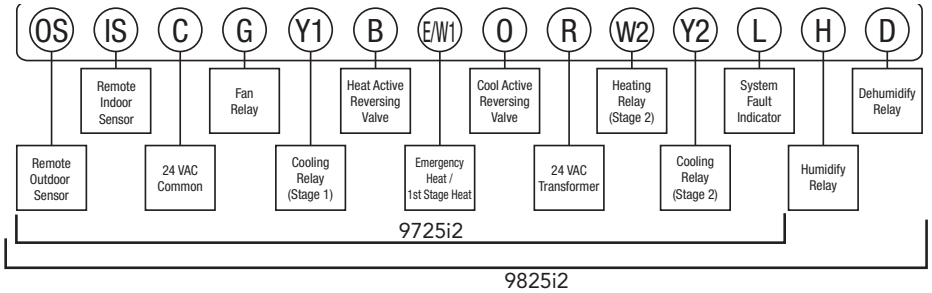
Part Numbers	Description	Application	Temperature Range / Accuracy	Auto Changeover Deadband	Temporary Temperature Override	Electrical Rating
9701i2	7 Day Programmable	1 Heat / 1 Cool, Gas, Oil, Electric and Heat Pump systems	45°F to 90°F (7°C to 32°C) / +/-1°F (+/-0.5°C)	Selectable 2°F to 8°F (-16°C to -13°C)	3 hour max or next setpoint and vacation setting	24V AC 1 Amp max load per terminal (relay outputs) 3 Amp max load (all terminals combined)
9725i2	7 Day Programmable	Universal Staging up to 3 Heat / 2 Cool, Gas, Oil, Electric and Heat Pump systems	45°F to 90°F (7°C to 32°C) / +/-1°F (+/-0.5°C)	Selectable 2°F to 8°F (-16°C to -13°C)	3 hour max or next setpoint and vacation setting	24V AC 1 Amp max load per terminal (relay outputs) 3 Amp max load (all terminals combined)
9801i2	7 Day Programmable with Humidity Control	1 Heat / 1 Cool, Gas, Oil, Electric and Heat Pump systems	45°F to 90°F (7°C to 32°C) / +/-1°F (+/-0.5°C)	Selectable 2°F to 8°F (-16°C to -13°C)	3 hour max or next setpoint and vacation setting	24V AC 1 Amp max load per terminal (relay outputs) 3 Amp max load (all terminals combined)
9825i2	7 Day Programmable with Humidity Control	Universal Staging up to 3 Heat / 2 Cool, Gas, Oil, Electric and Heat Pump systems	45°F to 90°F (7°C to 32°C) / +/-1°F (+/-0.5°C)	Selectable 2°F to 8°F (-16°C to -13°C)	3 hour max or next setpoint and vacation setting	24V AC 1 Amp max load per terminal (relay outputs) 3 Amp max load (all terminals combined)
9020i	Indoor Sensor	For use with i Series and i2 Series Thermostats	NA	NA	NA	NA
9025i	Outdoor Sensor	For use with i Series and i2 Series Thermostats	-40°F to 158°F (-40°C to 70°C)	NA	NA	NA

Product Drawings

Terminal Designations 9701i2 and 9801i2



Terminal Designations 9725i2 and 9825i2



Robertshaw®

5 Year Limited Warranty

Robertshaw®

Scan for all models, literature and cross reference

PROGRAMMABLE

RS6320

RS6000 and RS5000 Value Series

The Robertshaw® RS6000 and RS5000 Series Programmable Thermostats offer 7 day and 5-2 day models with enhanced features, energy saving setpoints, and value pricing. When powered-up, the thermostat initiates the Pop-up Wizard with step-by-step installation instructions to save time. All models cover a wide range of applications that are fully compatible with gas and electric furnaces, and heat pumps. Universal control is available on multi-stage systems.

Features and Benefits

- Pop-up Wizard
- Auto changeover
- Bigger, brighter backlight with nightlight option
- Easy change battery access
- Circulating fan
- Low temperature freeze protection
- Adjustable temperature differential and upstaging

RS6000 Series 7 Day have these additional features:

- Universal control available on RS6220 and RS6320
- Copy command for easy programming

RS5000 Series 5-2 Day have these additional features:

- Universal control available on RS5220
- Vacation setpoint

Specifications

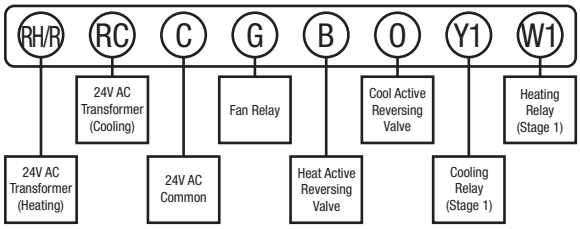
Part Numbers	Description	Application	Temperature Range / Accuracy	Electrical Rating
RS5110	5-2 Day Programmable	1 Heat / 1 Cool, Gas, Electric, Oil, Millivolt and Heat Pump systems	45°F to 90°F (7°C to 32°C) / +/-1°F (+/-0.5°C)	24V AC with battery back-up OR 3V DC battery powered 1 Amp max load per terminal 3 Amp max load (all terminals combined)
RS5220	5-2 Day Programmable	Universal Staging up to 2 Heat / 2 Cool, Gas, Electric, Oil, Millivolt and Heat Pump systems	45°F to 90°F (7°C to 32°C) / +/-1°F (+/-0.5°C)	24V AC with battery back-up OR 3V DC battery powered 1 Amp max load per terminal 3 Amp max load (all terminals combined)
RS5220C*	5-2 Day Programmable	Universal Staging up to 2 Heat / 2 Cool, Gas, Electric, Oil, Millivolt and Heat Pump systems	45°F to 90°F (7°C to 32°C) / +/-1°F (+/-0.5°C)	24V AC with battery back-up OR 3V DC battery powered 1 Amp max load per terminal 3 Amp max load (all terminals combined)
RS6110	7 Day Programmable	1 Heat / 1 Cool, Gas, Electric, Oil, Millivolt and Heat Pump systems	45°F to 90°F (7°C to 32°C) / +/-1°F (+/-0.5°C)	24V AC with battery back-up OR 3V DC battery powered 1 Amp max load per terminal 3 Amp max load (all terminals combined)
RS6220	7 Day Programmable	Universal Staging up to 2 Heat / 2 Cool, Gas, Electric, Oil, Millivolt and Heat Pump systems	45°F to 90°F (7°C to 32°C) / +/-1°F (+/-0.5°C)	24V AC with battery back-up OR 3V DC battery powered 1 Amp max load per terminal 3 Amp max load (all terminals combined)
RS6320	7 Day Programmable	Universal Staging up to 3 Heat / 2 Cool, Gas, Electric, Oil, Millivolt and Heat Pump systems	45°F to 90°F (7°C to 32°C) / +/-1°F (+/-0.5°C)	24V AC with battery back-up OR 3V DC battery powered 1 Amp max load per terminal 3 Amp max load (all terminals combined)
RS6320C*	7 Day Programmable	Universal Staging up to 3 Heat / 2 Cool, Gas, Electric, Oil, Millivolt and Heat Pump systems	45°F to 90°F (7°C to 32°C) / +/-1°F (+/-0.5°C)	24V AC with battery back-up OR 3V DC battery powered 1 Amp max load per terminal 3 Amp max load (all terminals combined)

*International export models

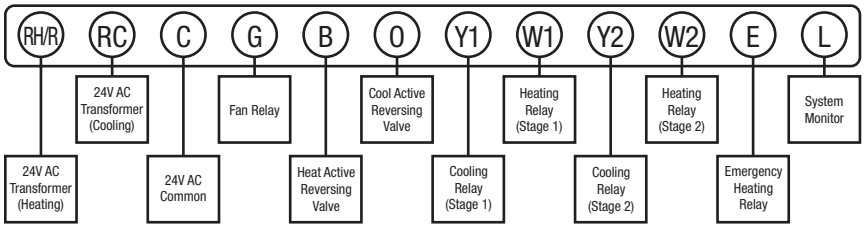
California Title 24 Compliant

Product Drawings

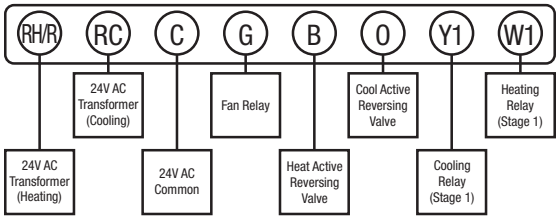
Terminal Designations RS5110



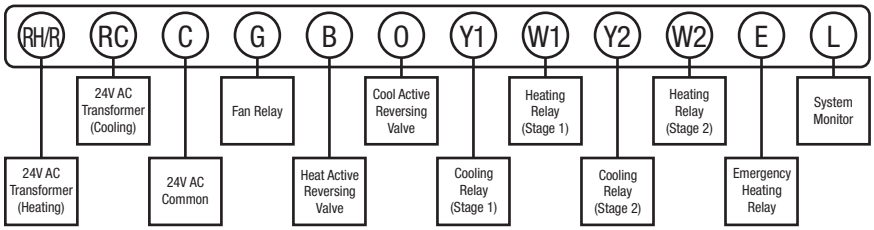
Terminal Designations RS5220



Terminal Designations RS6110



Terminal Designations RS6220 and RS6320



Robertshaw®

5 Year Limited Warranty

Robertshaw®

Scan for all models, literature and cross reference

PROGRAMMABLE

RS3110

RS3000 Economy Series

The Robertshaw® RS3000 Series Programmable Thermostats provide temperature control to help reduce energy costs up to 25%. The RS3000 family provides custom program options in value-packed thermostats for an economical price. All models are fully compatible with all standard 24V AC heating and cooling systems.

Features and Benefits

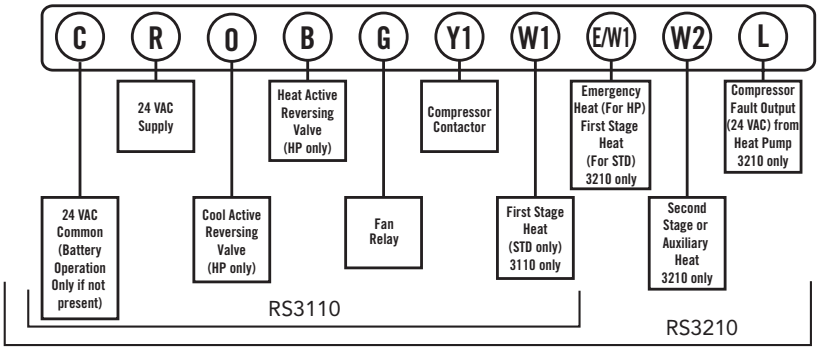
- New improved display
- Adjustable temperature differential
- Filter monitor
- O and B terminals
- Automatic compressor short cycle protection
- Zone system compatible
- Quick Wire terminal block
- Worry-free memory retention on RS3210 only

Specifications

Part Numbers	Description	Application	Temperature Range / Accuracy	Electrical Rating
RS3110	5-2 Day Programmable	1 Heat / 1 Cool, Electric, Gas, Oil, Millivolt and Heat Pump systems	45°F to 90°F (7°C to 32°C) / +/-1°F (+/-0.5°C)	24V AC with battery back-up OR 3V DC battery powered 1 Amp max load per terminal 3 Amp max load (all terminals combined)
RS3110C*	5-2 Day Programmable	1 Heat / 1 Cool, Electric, Gas, Oil, Millivolt and Heat Pump systems	45°F to 90°F (7°C to 32°C) / +/-1°F (+/-0.5°C)	24V AC with battery back-up OR 3V DC battery powered 1 Amp max load per terminal 3 Amp max load (all terminals combined)
RS3210	5-2 Day Programmable	2 Heat / 1 Cool, Electric, Gas, Oil, Millivolt and Heat Pump systems	45°F to 90°F (7°C to 32°C) / +/-1°F (+/-0.5°C)	24V AC with battery back-up OR 3V DC battery powered 1 Amp max load per terminal 3 Amp max load (all terminals combined)
RS3210C*	5-2 Day Programmable	2 Heat / 1 Cool, Electric, Gas, Oil, Millivolt and Heat Pump systems	45°F to 90°F (7°C to 32°C) / +/-1°F (+/-0.5°C)	24V AC with battery back-up OR 3V DC battery powered 1 Amp max load per terminal 3 Amp max load (all terminals combined)

*International export models

Product Drawings Terminal Designations RS3110 and RS3210



2 Year Limited Warranty

California Title 24 Compliant

PROGRAMMABLE

300 Series

The Robertshaw® 300 Series Programmable Thermostats offer a contemporary design with a large, easy-to-read LCD display. The 300 Series features a lockable key pad and door that offer security against unwanted tampering. Select models have O and B terminals for use with heat pumps or controlling dampers and fresh air economizers. It also can connect to remote indoor and outdoor sensors for added indoor comfort. The compressor short cycle protection reduces wear and tear to HVAC equipment.

Features and Benefits

- Auto changeover
- 3-hour override allows temporary adjustment of temperature
- Automatic compressor short cycle protection
- Multiple remote sensor capable

300-224


10-528

Robertshaw®

Scan for all models, literature and cross reference

Specifications

Part Numbers	Description	Application	Temperature Range / Accuracy	Auto Changeover Deadband	Temporary Temperature Override	Electrical Rating
300-224	5-2 Day Programmable	1 Heat / 1 Cool, Gas, Oil and Electric systems	38°F to 88°F (3°C to 31°C) / +/-1°F (+/-0.5°C)	2°F (1°C)	3 hour max	24V AC 0.05 - 0.75 Amp per output 2.25 Amp max load (all terminals combined)
300-225	7 Day Programmable	1 Heat / 1 Cool, Gas, Oil and Electric systems	38°F to 88°F (3°C to 31°C) / +/-1°F (+/-0.5°C)	2°F (1°C)	3 hour max	24V AC 0.05 - 0.75 Amp per output 2.25 Amp max load (all terminals combined)
300-227	7 Day Programmable	3 Heat / 2 Cool or 2 Heat / 1 Cool Heat Pump systems	38°F to 88°F (3°C to 31°C) / +/-1°F (+/-0.5°C)	2°F (1°C)	3 hour max	24V AC 0.05 - 0.75 Amp per output 2.25 Amp max load (all terminals combined)
300-229	7 Day Programmable	2 Heat / 2 Cool or 2 Heat / 1 Cool, Gas, Oil and Electric systems	38°F to 88°F (3°C to 31°C) / +/-1°F (+/-0.5°C)	2°F (1°C)	3 hour max	24V AC 0.05 - 0.75 Amp per output 2.25 Amp max load (all terminals combined)
10-528	Indoor Sensor	NA	NA	NA	NA	NA
10-529	Outdoor Sensor	NA	NA	NA	NA	NA

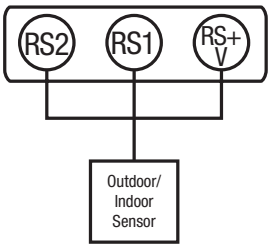
2 Year Limited Warranty

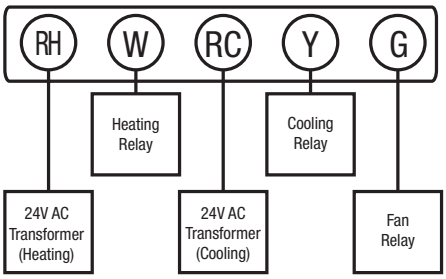
California Title 24 Compliant

Robertshaw®

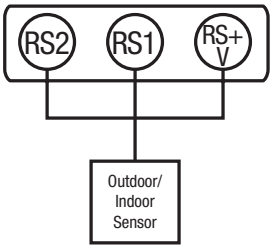
Product Drawings

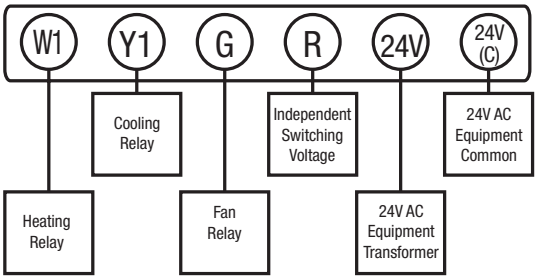
Terminal Designations - 300-224



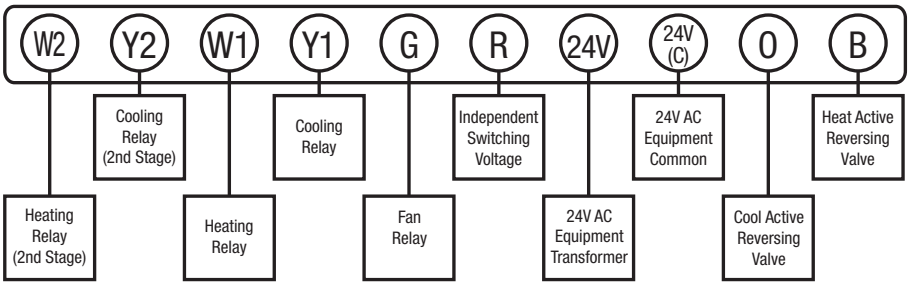


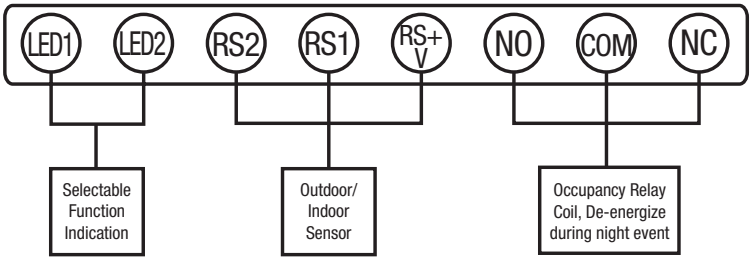
Terminal Designations - 300-225





Terminal Designations - 300-227 and 300-229





NON-PROGRAMMABLE

RS4000 Value Series

The Robertshaw® RS4000 Series Non-Programmable Thermostats are Simply the Right Choice™ when it comes to automatic temperature control at an affordable price. When powered up, the thermostat initiates the Pop-up Wizard to walk the installer through the set-up in simple language. Three models cover a wide range of applications that are fully compatible with gas and electric furnaces, and heat pumps. Each model can be powered with either two AA batteries or 24V AC common.

Features and Benefits

- Pop-up Wizard
- Auto changeover
- Bigger, brighter backlight with nightlight option
- Easy change battery access
- Circulating fan
- Low temperature freeze protection
- Adjustable temperature differential and upstaging

RS4220 and RS4320 Thermostats have these additional features:

- Universal control with compatibility to multi-stage gas/ electric furnaces and heat pumps

RS4110

Scan for all models, literature and cross reference

Specifications

Part Numbers	Description	Application	Temperature Range / Accuracy	Electrical Rating
RS4110	Digital Non-Programmable	1 Heat / 1 Cool, Gas, Electric, Oil, Millivolt, and Heat Pump systems	45°F to 90°F (7°C to 32°C) / +/-1°F (+/-0.5°C)	24V AC with battery back-up OR 3V DC battery powered 1 Amp max load per terminal 3 Amp max load (all terminals combined)
RS4220	Digital Non-Programmable	Universal Staging up to 2 Heat / 2 Cool, Gas, Electric, Oil, Millivolt, and Heat Pump systems	45°F to 90°F (7°C to 32°C) / +/-1°F (+/-0.5°C)	24V AC with battery back-up OR 3V DC battery powered 1 Amp max load per terminal 3 Amp max load (all terminals combined)
RS4220C*	Digital Non-Programmable	Universal Staging up to 2 Heat / 2 Cool, Gas, Electric, Oil, Millivolt, and Heat Pump systems	45°F to 90°F (7°C to 32°C) / +/-1°F (+/-0.5°C)	24V AC with battery back-up OR 3V DC battery powered 1 Amp max load per terminal 3 Amp max load (all terminals combined)
RS4320	Digital Non-Programmable	Universal Staging up to 3 Heat / 2 Cool, Gas, Electric, Oil, Millivolt, and Heat Pump systems	45°F to 90°F (7°C to 32°C) / +/-1°F (+/-0.5°C)	24V AC with battery back-up OR 3V DC battery powered 1 Amp max load per terminal 3 Amp max load (all terminals combined)
RS4320C*	Digital Non-Programmable	Universal Staging up to 3 Heat / 2 Cool, Gas, Electric, Oil, Millivolt, and Heat Pump systems	45°F to 90°F (7°C to 32°C) / +/-1°F (+/-0.5°C)	24V AC with battery back-up OR 3V DC battery powered 1 Amp max load per terminal 3 Amp max load (all terminals combined)

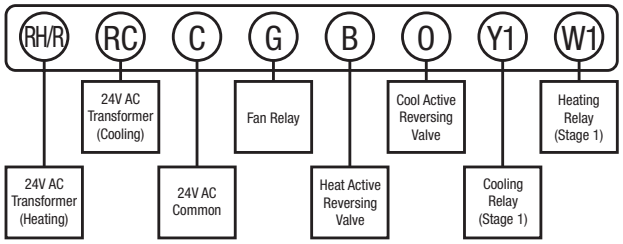
*International export models

5 Year Limited Warranty

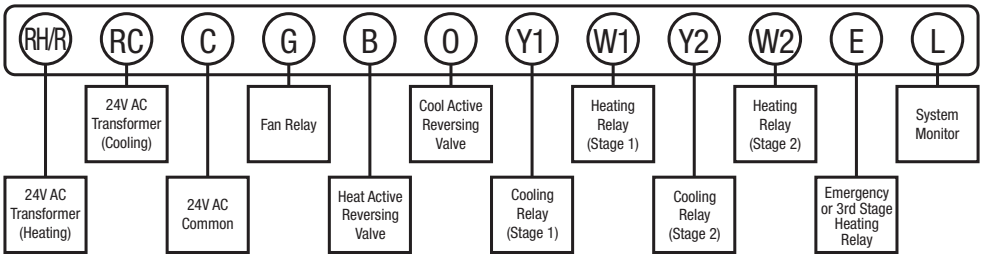
Robertshaw®

Product Drawings

Terminal Designations RS4110



Terminal Designations RS4220 and RS4320



NON-PROGRAMMABLE

RS2000 Economy Series

The Robertshaw® RS2000 Series Non-Programmable Thermostats are fully compatible with all standard 24V AC heating and cooling systems. With the comfort, convenience and efficiency features that contractors and homeowners want, our Economy Series is a perfect cost effective solution.

Features and Benefits

- New improved display
- Adjustable temperature differential
- Filter monitor
- Automatic compressor short cycle protection
- O and B terminals
- Zone system compatible
- Quick wire terminal block

RS2110

Robertshaw®

Scan for all models, literature and cross reference

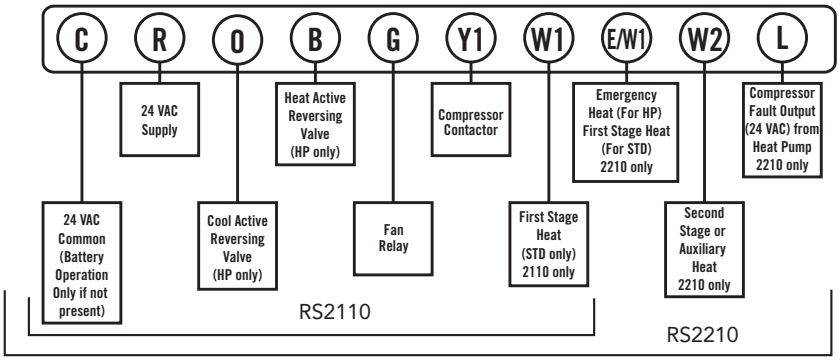
Specifications

Part Numbers	Description	Application	Temperature Range / Accuracy	Electrical Rating
RS2110	Digital Non-Programmable	1 Heat / 1 Cool, Electric, Gas, Oil, Millivolt and Heat Pump systems	45°F to 90°F (7°C to 32°C) / +/-1°F (+/-0.5°C)	24V AC with battery back-up OR 3V DC battery powered 1 Amp max load per terminal 3 Amp max load (all terminals combined)
RS2110C*	Digital Non-Programmable	1 Heat / 1 Cool, Electric, Gas, Oil, Millivolt and Heat Pump systems	45°F to 90°F (7°C to 32°C) / +/-1°F (+/-0.5°C)	24V AC with battery back-up OR 3V DC battery powered 1 Amp max load per terminal 3 Amp max load (all terminals combined)
RS2210	Digital Non-Programmable	2 Heat / 1 Cool, Electric, Gas, Oil, and Heat Pump systems	45°F to 90°F (7°C to 32°C) / +/-1°F (+/-0.5°C)	24V AC with battery back-up OR 3V DC battery powered 1 Amp max load per terminal 3 Amp max load (all terminals combined)
RS2210C*	Digital Non-Programmable	2 Heat / 1 Cool, Electric, Gas, Oil, and Heat Pump systems	45°F to 90°F (7°C to 32°C) / +/-1°F (+/-0.5°C)	24V AC with battery back-up OR 3V DC battery powered 1 Amp max load per terminal 3 Amp max load (all terminals combined)

*International export models

Product Drawings

Terminal Designations RS2110 and RS2210



2 Year Limited Warranty

Scan for all models, literature and cross reference

NON-PROGRAMMABLE

300-201

10-528

300 Series

The Robertshaw® 300 Series Non-Programmable Thermostats offer a contemporary design with a large, easy-to-read LCD display. The 300 Series has features that users need like a lockable key pad and door that offer security against unwanted tampering. Select models have O and B terminals for use with heat pumps or controlling dampers and fresh air economizers. Also, it can connect to remote indoor and outdoor sensors for added indoor comfort. The compressor short cycle protection reduces wear and tear to HVAC equipment.

Features and Benefits

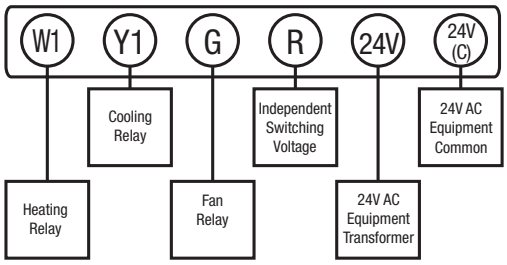
- Automatic compressor short cycle protection
- O and B terminals on select models
- Occupied and unoccupied mode allows for different setting for day and night (Not included on 300-204)
- Multiple remote sensor capable (Not included on 300-204)

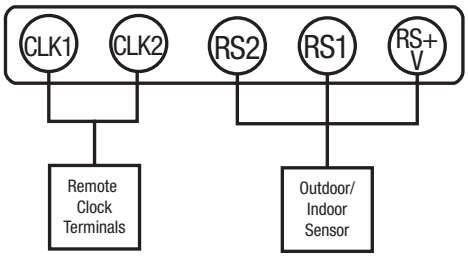
Specifications

Part Numbers	Description	Application	Temperature Range / Accuracy	Auto Changeover Deadband	Temporary Temperature Override	Electrical Rating
300-201	Digital Non-Programmable	1 Heat / 1 Cool, Gas, Oil and Electric systems	38°F to 88°F (3°C to 31°C) / +/-1°F (+/-0.5°C)	2°F (1°C)	3 hour max	24V AC 0.05 - 0.75 Amp per output 3 Amp max load (all terminals combined)
300-202	Digital Non-Programmable	3 Heat / 2 Cool or 2 Heat / 1 Cool Heat Pump systems	38°F to 88°F (3°C to 31°C) / +/-1°F (+/-0.5°C)	2°F (1°C)	3 hour max	24V AC 0.05 - 0.75 Amp per output 3 Amp max load (all terminals combined)
300-203	Digital Non-Programmable	2 Heat / 2 Cool, Gas, Oil and Electric systems	38°F to 88°F (3°C to 31°C) / +/-1°F (+/-0.5°C)	2°F (1°C)	3 hour max	24V AC 0.05 - 0.75 Amp per output 3 Amp max load (all terminals combined)
300-204	Digital Non-Programmable	Heat only, Gas systems	38°F to 88°F (3°C to 31°C) / +/-1°F (+/-0.5°C)	2°F (1°C)	3 hour max	24V AC 0.05 - 0.75 Amp per output 3 Amp max load (all terminals combined)
300-205	Digital Non-Programmable	Cool only, Electric systems	38°F to 88°F (3°C to 31°C) / +/-1°F (+/-0.5°C)	2°F (1°C)	3 hour max	24V AC 0.05 - 0.75 Amp per output 3 Amp max load (all terminals combined)
300-206	Digital Non-Programmable	1 Heat / 1 Cool, Gas, Oil and Electric systems	38°F to 88°F (3°C to 31°C) / +/-1°F (+/-0.5°C)	2°F (1°C)	3 hour max	24V AC 0.05 - 0.75 Amp per output 3 Amp max load (all terminals combined)
300-207	Digital Non-Programmable	1 Heat / 1 Cool Heat Pump systems	38°F to 88°F (3°C to 31°C) / +/-1°F (+/-0.5°C)	2°F (1°C)	3 hour max	24V AC 0.05 - 0.75 Amp per output 3 Amp max load (all terminals combined)
300-208	Digital Non-Programmable	2 Heat / 1 Cool Heat Pump systems	38°F to 88°F (3°C to 31°C) / +/-1°F (+/-0.5°C)	2°F (1°C)	3 hour max	24V AC 0.05 - 0.75 Amp per output 3 Amp max load (all terminals combined)
10-528	Indoor Sensor	NA	NA	NA	NA	NA
10-529	Outdoor Sensor	NA	NA	NA	NA	NA

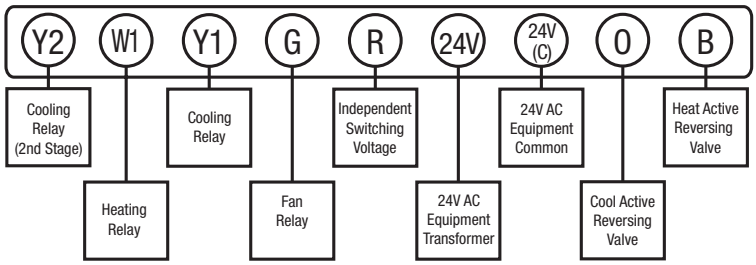
Product Drawings

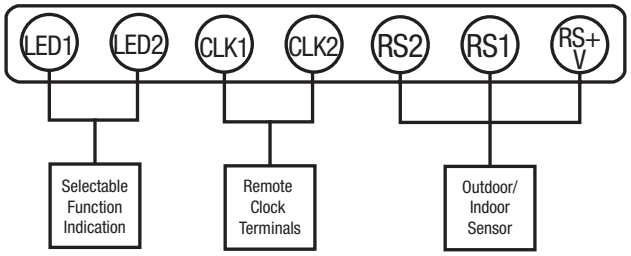
Terminal Designations - 300-201



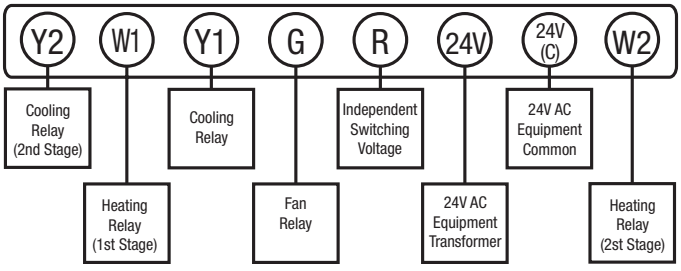


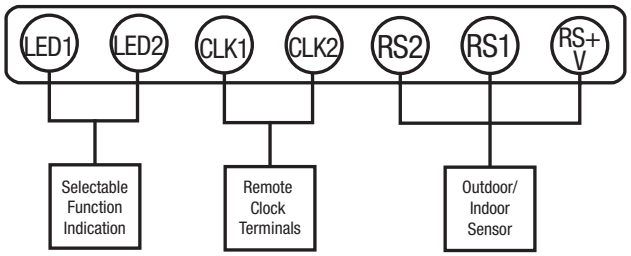
Terminal Designations - 300-202





Terminal Designations - 300-203





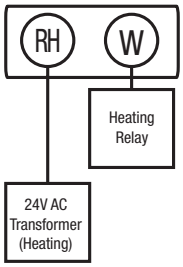
Robertshaw®

2 Year Limited Warranty

Robertshaw®

Product Drawings

Terminal Designations - 300-204



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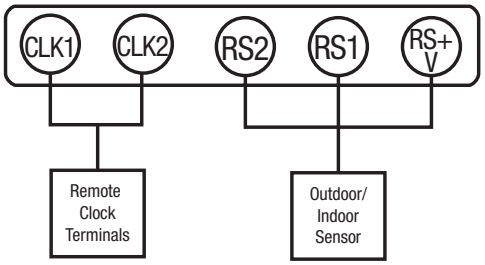
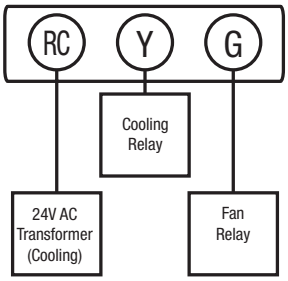
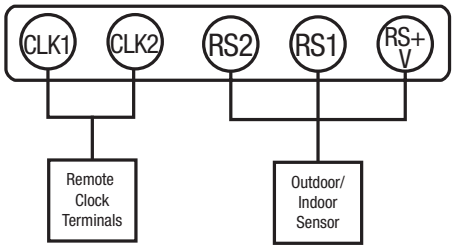
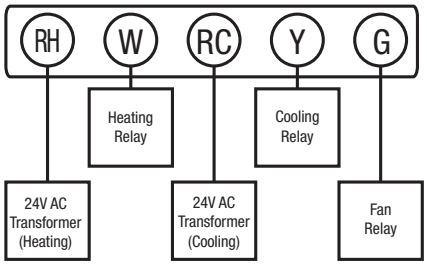


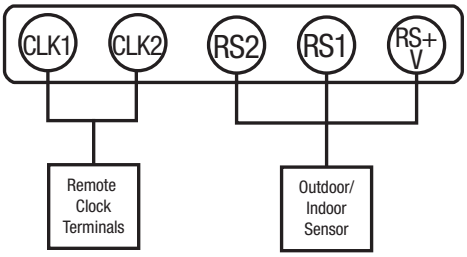


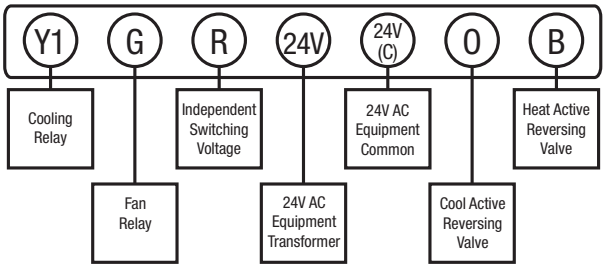
Terminal Designations - 300-206



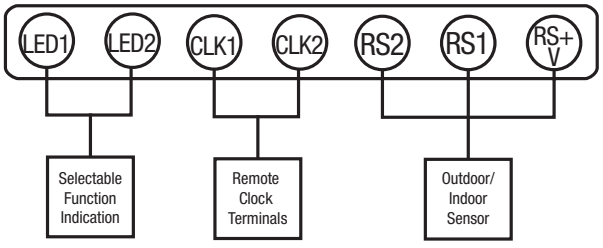


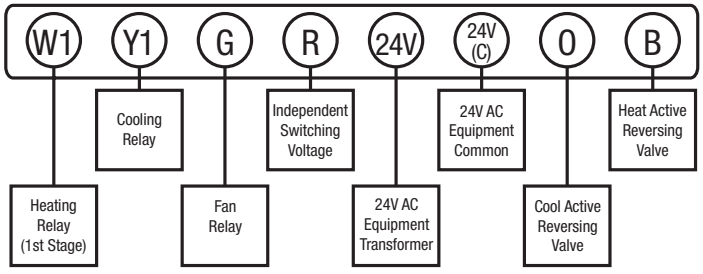
Terminal Designations - 300-207





Terminal Designations - 300-208





MECHANICAL

9200 Series

The Robertshaw® 9200 Series Mechanical Thermostats are both attractive and functional. The temperature display is easy-to-read and offers accurate room temperature measurement. The simple two-piece design saves time at installation. Four Robertshaw 9200 series thermostats replace over 50 competitive models, so less inventory is needed to meet each job requirement.

Features and Benefits

- Heavy-duty adjustable heat anticipation - More anticipation settings to choose from allows use on a wider range of heating equipment
- No sub-base required - Simple base and cover design speeds installation. Base can be mounted on wall, freeing both hands for wiring
- Mercury-free - No leveling required. Speeds up installation time
- J-Box compatible - Not only will it meet code, but it speeds up installation
- Positive-off switch - Assured shutdown of HVAC system (9200)

9204V

9204H

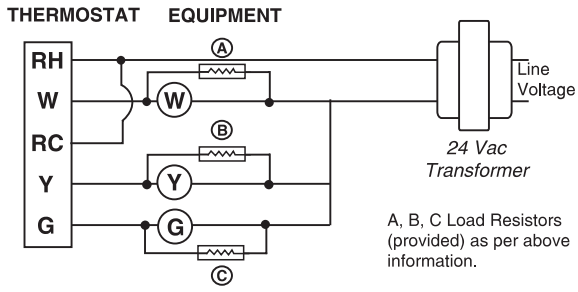
Scan for all models, literature and cross reference

Specifications

Part Numbers	Description	Application	Switch Action	Temperature Range / Accuracy	Anticipation	Fixed Cooling Anticipation	Electrical Rating
9200H	Mechanical, Horizontal model	1 Heat / 1 Cool, Gas, Electric Systems (System Switch and Fan Switch Included)	SPDT	50°F to 90°F (10°C to 30°C) / +/-2°F (+/-1°C)	0.2 to 1.6 Amps	4700 ohms	24V AC, 2 Amps max
9200V	Mechanical, Vertical model	1 Heat / 1 Cool, Gas, Electric Systems (System Switch and Fan Switch Included)	SPDT	50°F to 90°F (10°C to 30°C) / +/-2°F (+/-1°C)	0.2 to 1.6 Amps	4700 ohms	24V AC, 2 Amps max
9204H	Mechanical, Horizontal model	1 Heat, Gas, Electric Systems	SPST	50°F to 90°F (10°C to 30°C) / +/-2°F (+/-1°C)	0.2 to 1.6 Amps	4700 ohms	24V AC, 2 Amps max
9204V	Mechanical, Vertical model	1 Heat, Gas, Electric Systems	SPST	50°F to 90°F (10°C to 30°C) / +/-2°F (+/-1°C)	0.2 to 1.6 Amps	4700 ohms	24V AC, 2 Amps max

Product Drawings

Wiring Diagram



A, B, C Load Resistors (provided) as per above information.

1 Year Limited Warranty

Robertshaw®

Scan for all models, literature and cross reference

400-420

MECHANICAL

400 Series

The Robertshaw® 400 Series Mechanical Thermostats are mercury-free, so they require no leveling and no special disposal requirements. For flexibility on-site, the fully adjustable heat anticipator can be used on a wide range of heating equipment.

Used with a 400 Series Universal Switching Sub-base, the 400 Series Thermostats are compatible with most 24 Volt AC heating and cooling systems. A decorative wall plate is included to aid in covering previous thermostat mounting marks. To complement any decor, choose from beige or white.

Features and Benefits

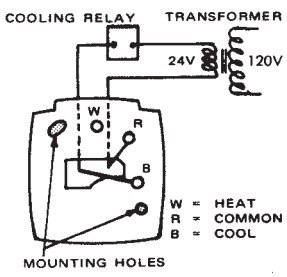
- Heavy-duty adjustable heat anticipator - More anticipation settings to choose from allows use on wider range of heating equipment
- Mercury-free - No leveling required. Speeds up installation time
- Positive-off switch - Assured shutdown of HVAC system
- Fixed cooling anticipation - Maintains optimal cooling comfort
- Opens on temperature rise for heating, closes on temperature rise for cooling

Specifications

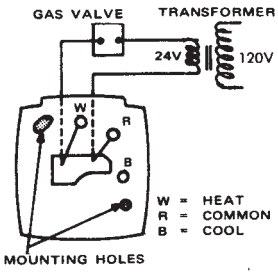
Part Numbers	Description	Application	Thermometer Range / Accuracy	Switch Action	Heat Anticipation Range	Fixed Cooling Anticipation	Electrical Rating
400-420	Mechanical with 490-400 Universal sub-base, Beige	Universal Heating / Cooling replacement	44°F to 96°F (7°C to 36°C) / +/-2°F (+/-1°C)	SPDT	0.18 to 1.0 Amp	4700 ohms	24V AC, 1.5 Amps max load (all terminals combined)
405-420	Mechanical with 495-400 Universal sub-base, White	Universal Heating / Cooling replacement	44°F to 96°F (7°C to 36°C) / +/-2°F (+/-1°C)	SPDT	0.18 to 1.0 Amp	4700 ohms	24V AC, 1.5 Amps max load (all terminals combined)

Product Drawings

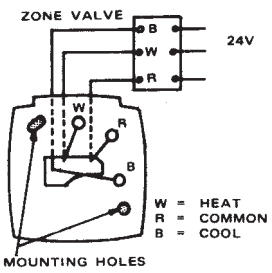
Wiring Diagram



TX400
WIRED FOR COOLING



TX400
WIRED FOR HEATING



TX400
WIRED FOR ZONE

1 Year Limited Warranty

MECHANICAL

200 Series

The Robertshaw® 200 Series Mechanical Thermostats are decorator designed and engineered for outstanding performance. The 200 Series Thermostats are mercury-free and environmentally safe. Their unique hermetically sealed-in-glass switch design requires no leveling and provides optimum protection from contamination.

Models are available for 24 volt and millivolt applications. Models are also available for low temperature heating ranges, cooling only, and 3-wire zone applications.
A decorative wall plate is included with all models to cover old thermostat mounting marks.

200-401

Features and Benefits

- Heavy-duty adjustable heat anticipator - More anticipation settings to choose from allows use on a wider range of heating equipment
- Mercury-free - No leveling required to speed up installation
- Positive-off switch - Assured shutdown of HVAC system
- Fixed cooling anticipation - Maintains optimal cooling comfort

Robertshaw®

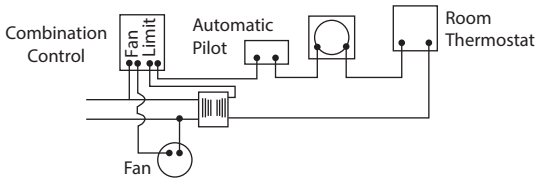
Scan for all models, literature and cross reference

Specifications

Part Numbers	Description	Application	Thermometer Range / Accuracy	Switch Action	Heat Anticipation Range	Fixed Cooling Anticipation	Electrical Rating
200-401	Mechanical	2 Wire, 24 Volt Heating	44°F to 96°F (7°C to 36°C)/ +/-2°F (+/-1°C)	SPST	0.18 to 1.0 Amp	4700 ohms	24V AC, 1.0 Amp max

Product Drawings

Gas Valve or Two-Wire Oil Burner or Stoker Relay



1 Year Limited Warranty

Wall Thermostats

Scan for all models, literature and cross reference

988-1R

MECHANICAL

900 Series

The Robertshaw® 900 Series Mechanical Thermostats are low cost controls with highly reliable performance. The two-piece design is simple to install to save valuable time. The large display is easy-to-read and switches on the front cover are readily accessible to adjust for comfort. Wall plates are available to mask any unsightly marks left by previous thermostats.

Features and Benefits

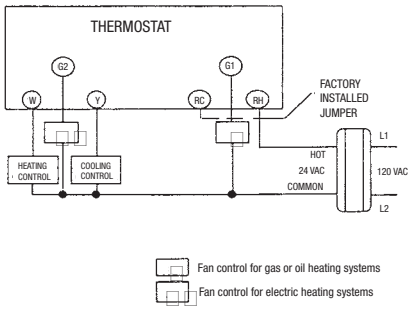
- Accurate room temperature - Built-in thermometer accurately displays room temperature
- Adjustable heat anticipation - Multiple anticipation settings supports a wide range of heating equipment
- No sub-base required - Base can be mounted on wall to free both hands for wiring
- Mercury-free - No leveling or special disposal required
- J-Box compatible - Code compatible to speed up installation
- Positive off Switch - Assured shutdown of HVAC system
- Fixed cooling anticipation - Optimal cooling comfort maintained

Specifications

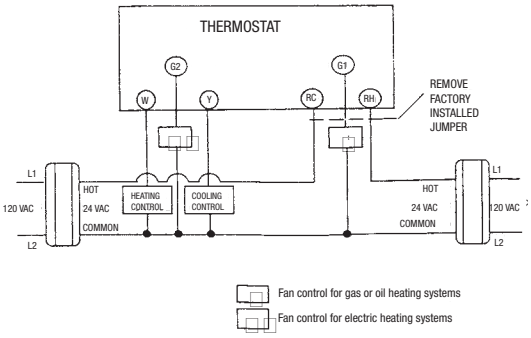
Part Numbers	Description	Application	Temperature Range / Accuracy	Anticipation	Electrical Rating
986-1R	Mechanical	Heat Only, Electric, Gas, Millivolt	50°F to 90°F (10°C to 30°C) / +/-2°F (+/-1°C)	0.1 to 1.2 Amps	24V AC and 250-750 mV, 1.5 Amps max load (all terminals combined)
988-1R	Mechanical	1 Heat / 1 Cool, Electric, Gas, Millivolt	50°F to 90°F (10°C to 30°C) / +/-2°F (+/-1°C)	0.1 to 1.2 Amps	24V AC and 250-750 mV, 1.5 Amps max load (all terminals combined)

Product Drawings

One Transformer - Models 986-1R, 988-1R



Two Transformers - Models 988-1R



1 Year Limited Warranty

LINE VOLTAGE

800 Series

The Robertshaw® 800 Series Line Voltage Thermostats are universal replacements for many other brands and can be used to retrofit most existing electric heat thermostats. With models for heating that include single-line break and double-line break as well as a single-line break cooling model, there is one for every application.

Features and Benefits

- Convenient temperature display - View comfort level at-a-glance
- Bimetal temperature sensing - For improved thermal performance
- Mercury-free - No leveling or special disposal required
- J-Box compatible - Not only will it meet code, but it speeds up installation
- Positive-off switch - Assured shutdown of HVAC system
- Universal replacement - Can retrofit most existing electric heat thermostats

801

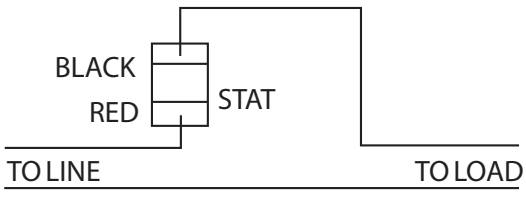
Scan for all models, literature and cross reference

Specifications

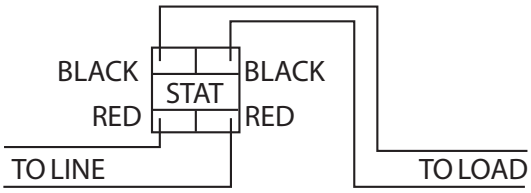
Part Numbers	Description	Application	Temperature Range / Accuracy	Switch Action	Electrical Rating
801	Line Voltage	Heating	50°F to 90°F (10°C to 32°C) / +/-2°F (+/-1°C)	SPST	120 / 240 / 277 Volts, Non-Inductive, 1/4 HP @ 120V AC, 1/3 HP @ 240V AC, 125 VA Pilot Duty
802	Line Voltage	Heating	50°F to 90°F (10°C to 32°C) / +/-2°F (+/-1°C)	DPST	120 / 240 / 277 Volts, Non-Inductive, 1/4 HP @ 120V AC, 1/3 HP @ 240V AC, 125 VA Pilot Duty
803	Line Voltage	Cooling	50°F to 90°F (10°C to 32°C) / +/-2°F (+/-1°C)	SPST	120 / 240 / 277 Volts, Non-Inductive, 1/4 HP @ 120V AC, 1/3 HP @ 240V AC, 125 VA Pilot Duty

Product Drawings

Single Pole Thermostat - Model 801,803



Double Pole Heating Thermostat - Model 802



1 Year Limited Warranty

RANCO®

Scan for all models, literature and cross reference


J10-808

HUMIDITY CONTROLS

J10 Series Humidistats

The Ranco® J10 Series Humidistats are designed to regulate the relative humidity of confined spaces by cycling humidifying equipment. They can be used either as internal components for portable humidifiers and dehumidifiers, or as mounted humidity controls for central systems.

The J10 is a relative humidity control, consisting of a humidity sensing element, adjustable set-point cam and electrical switch. The sensing element changes length in response to the exposed RH to move the switch mechanisms at appropriate switch points.

Features and Benefits

- Strong beige plastic frame with integral switch
- Improved woven nylon sensing element provides 12 times faster speed of response than film nylon elements
- Greater stability of setpoints over dramatic changes in relative humidity
- Switch grade plastic frame eliminates the need for grounding the control
- Choice of (2) SPST and (2) SPDT switches to better match applications
- Choice of fixed or adjustable setpoint
- Choice of dial shaft flat orientation
- Gold-plated contacts available for microprocessor load applications
- Available with case and cover for wall/duct mounting

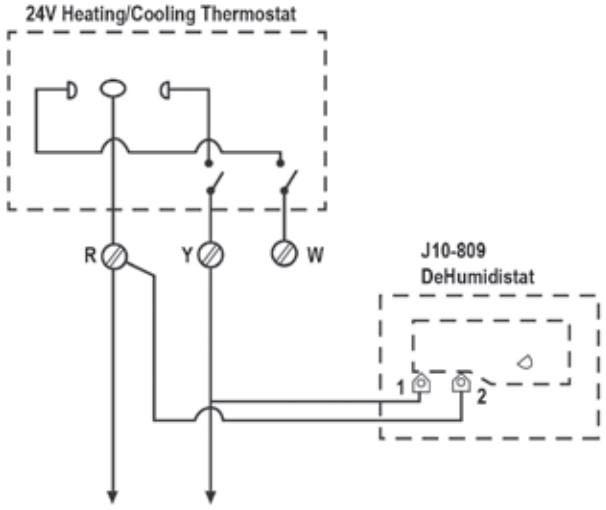
Specifications

Part Numbers	Description	Application	Relative Humidity Range	Temperature Range	Differential	Control Cycle Rating	Electrical Rating
J10-808	Humidistat	Wall / Duct Mount	10 to 60%	32°F to 140°F (0°C to 60°C)	5% to 15% RH	Automatic switch cycles @ 140°F (60°C) 50000. Manual dial shaft cycles 6000.	24V AC / 60V AC
J10-809-W	Dehumidistat, White model	Wall Mount	20 to 80%	32°F to 140°F (0°C to 60°C)	5% to 15% RH	Automatic switch cycles @ 140°F (60°C) 50000. Manual dial shaft cycles 6000.	24V AC / 60V AC
J10-810	Dehumidistat, Vertical model	Wall Mount	20 to 80%	32°F to 140°F (0°C to 60°C)	5% to 15% RH	Automatic switch cycles @ 140°F (60°C) 50000. Manual dial shaft cycles 6000.	24V AC / 60V AC

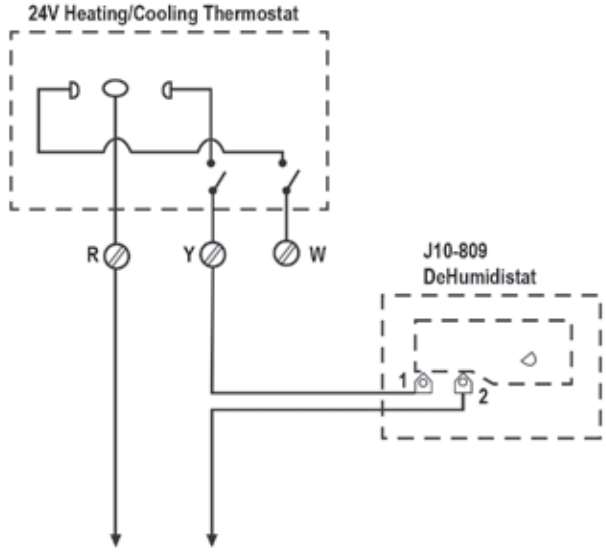
c UL us LISTED
Listed Product

Product Drawings

Wiring Diagram - Parallel Installation



Wiring Diagram - Series Installation



RANCO®

1 Year Limited Warranty

APPENDIX

TIPS ON SELECTING A REPLACEMENT GAS VALVE

Safety Warning: Any work on gas valves or equipment should be preformed by a qualified service technician only. Please do not attempt any repairs or replacement if you are not qualified. Serious injury can occur from improper installation or usage.

Disclaimer: The cross references provided in this catalog are intended to be functional equivalents and not exact matches of products listed. Invensys assumes no liability in connection with the information contained herein and makes no representations regarding the accuracy of any such information. Final selection of a replacement product is the sole responsibility of the buyer.

GAS VALVE SELECTION CHECKLIST GUIDELINES

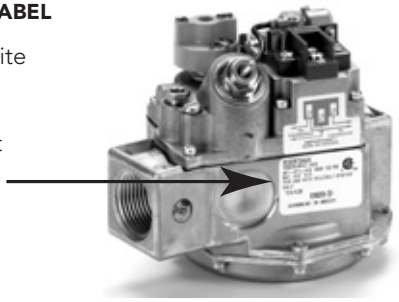
Always check the following with any gas valve retrofit application:

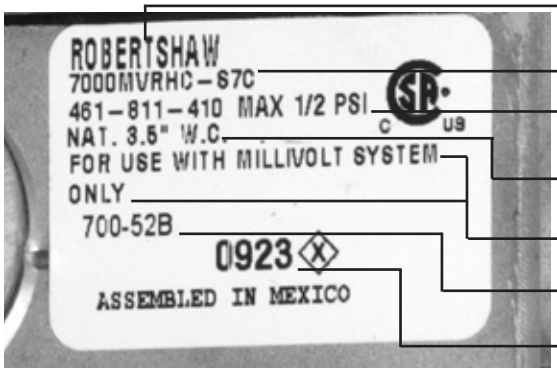
1. Check capacity
2. Check inlet and outlet sizes
3. Determine if the valve is non-regulated
    a. Check if the pressure regulator requires adjusting
4. Determine if the replacement requires straight-thru
5. Determine if the application is LP or Natural Gas
    a. For LP gas, a separate pressure regulator may be required
6. Determine if the pilot needs to be plugged
7. Determine if the valve is slow opening
8. Determine if a transformer is required
9. Determine if the replacement shaft and hub will require assembly
10. Check OEM and replacement manuals for proper installation instructions

HOW TO READ AND INTERPRET A GAS VALVE LABEL

To identify your valve type, locate the red or white factory label on the valve body.

Note: It is essential to write down the nine digit factory number correctly.





An OEM valve may have an OEM part number instead of the Robertshaw part number. The cross reference on the following pages will cross most nine digit factory numbers or OEM part numbers to the Robertshaw numbers.

Gas valves with white labels are usually manufactured to be used on natural gas applications. Red labels indicate the valves are usually manufactured to be used on LP gas applications.

Any additional characters after the nine digit factory number are used for shipping purposes and should be ignored when cross referencing.

APPENDIX

FACTORY MODEL CODE IDENTIFICATION

Factory Model Number			DESCRIPTION	
7000	2000	7200		
•			**A**	Unitrol 7000 Body with small diameter valve seat. 100,000 BTU
•			**B**	Unitrol 7000 Body with large diameter valve seat. 240,000 or 300,000 BTU
•			**BB**	Unitrol 7000 Body with medium diameter valve seat - Intrinsically "non-hunting"
•			**7010**	Unitrol 7000 Body without a gas cock
•			**CSTR**	Convertible Hydraulic Actuator - From natural to LP gas
•	•	•	**D**	Solenoid Valve - Pilot Gas - Single coil operated on AC
•	•	•	**E**	Electric Actuator - 24VAC
•			**E12**	Electric Actuator - 12VAC
•	•	•	**E120**	Electric Actuator - 120VAC
•		•	**E240**	Electric Actuator - 240VAC
•			**EH**	Electric Heat Motor Actuator (obsolete)
•			**EM**	Electric Actuator with manual override (obsolete)
•			**ESTR-SS**	Electric Solid-State Actuator (obsolete)
•			**F**	Factory Fixed (not adjustable regulator setting) (3.5° to 5.0° W.C.)
•			**GO**	Bleed Gas Operated Actuator
•			**GS**	Gas Cock Safety - with gas cock and safety valve - no main valve
•			**GV**	Gas Valve without a safety valve - No Safety Magnet
•			**-1H**	Remote dual hydraulic type - dual bellows
•	•		**HC**	High Capacity Body
•			**HHC**	High Capacity Body AGA rated for side ways or vertical mounting. Can be replaced by HC model
•	•	•	**IPER**	Intermittent Pilot Ignition Gas Valve - regulated
•			**L**	Relight Interlock type. A European requirement
•	•		**LC**	Low Capacity Body - 710 Series
•	•	•	**LP**	For Liquefied Petroleum Gases
•			**M**	Manual Actuator
•			**MS**	Millivolt Safety Magnet - uses thermopile type safety
•			**MV**	Millivolt Actuator
•		•	**P**	Pulse Combustion
•	•	•	**R**	Regulator Type
•		•	**RS**	Adjustable (High - Low) pressure regulator adjusts percentage of output. -3 = 50% of full flow -4 = 60% of full flow -5 = 70% of full flow -6 = 80% of full flow

Factory Model Number			DESCRIPTION	
7000	2000	7200		
•			**RB**	High/Low
•	•	•	**RC**	Convertible regulator from natural gas to LP and back
		•	**RN**	Negative Pressure Regulator
•			**R1**	Class I and II Natural Gas Pressure Regulator
•	•	•	**R2**	Two-Stage pressure regulator valve opens to percentage of full flow as indicated by the number -1 = 30% of full flow -2 = 40% of full flow -3 = 50% of full flow -4 = 60% of full flow -5 = 70% of full flow -6 = 80% of full flow
•			**S**	Hydraulic Snap-Acting Actuator - non regulated
		•	**SO**	Step-opening regulated with factory fixed setting 30 seconds max. To full flow: -1 = 30% of full flow -2 = 40% of full flow -3 = 50% of full flow -4 = 60% of full flow -5 = 70% of full flow
•			**SR**	Hydraulic Regulated Snap-Acting Actuator
•			**ST**	Hydraulic Snap - Throttle Actuator, but set-up for use on a specific gas; natural gas only or LP gas only. Non-regulated number indicates percentage of By-Pass flow. -1 = 30% of full flow -2 = 40% of full flow -3 = 50% of full flow -4 = 60% of full flow -5 = 70% of full flow
•			**STR**	Hydraulic Snap-Throttle Actuator, regulator number indicates percentage of By-Pass flow. -2 = 40% of full flow -3 = 50% of full flow -4 = 60% of full flow -5 = 70% of full flow
•	•	•	**S7**	Slow Opening devices with either a plastic body or a metal body Orifice Valve Assembly A = 0 to 5 seconds to full flow B = 5 to 10 seconds to full flow C = 10 to 30 seconds to full flow
•			**S13**	Slow Opening Control with .0135 orifice in body, but no other "Slow Opening" device. 0 to 5 seconds to full flow.
•			**S36**	Slow Opening Control with two .018" orifices - one in Body and one in Cover, but no other Slow Opening device. 5 to 10 seconds to full flow.

APPENDIX

GAS VALVE CROSS REFERENCE FOR UNI-LINE® PARTS

Factory Number	Uni-Line Number
110ER	120-402
110ERCHC	120-407
110ERCHC20-2E	120-472
110ERCHCS0-2C	120-474
110ERCHCSO-2D	120-473
110S	120-204
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7000BDER-LP-S7A	700-055
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7000BER-240	700-464
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7000BMSGOR	700-886
7000BMSGOR	700-887
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7000BMV	700-505
7000BMVR	700-510
7000BMVR	700-504
7000BMVR	700-508
7000BMVR	700-506
7000BMVR-LP	700-515
7000BMVR-S7C	700-511
7000BMVR-S7C	700-512
7000BMVR-S7C	700-507
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7000DER2-HC-3-LP-S7C	700-063
7000DER2-HC-4-S7C	700-064
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7000EHC-120-S7C	700-455
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7000ERHC-120-S7C	700-456
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7000ERHC-S7C	700-442
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7000GVEHC-120-S7C	700-459
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7000GVERHC-S7C	700-432
7000GVER-S7A	700-430
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7000MRHC-S7C	700-114
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7010BGVMV	700-513
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7100DERN	700-074
7100DERP	700-076
7100DER-S7C	700-070
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7200DERCS-1	720-055
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7200DER-S7C	720-050
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7200ERC	720-007
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7200IPER	720-079
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