



Heat Pump Thermostat Datasheet

17 models. Controls with reversing valve outputs and auxiliary heat staging for heat pump systems.

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Focused on thermostats since	2011
Compliance	RoHS, CE, UL, FCC, CSA, CCC, ISO 9001

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Why buyers specify this category

- Separate B and O terminals across the range
- Second stage swing adjustment to limit auxiliary heat
- 5 minute compressor delay protection, selectable
- Emergency heat terminal on the S725

Problems it solves

- Reversing valve wiring limited to one convention
- Auxiliary heat running longer than the building needs
- Compressor damage from rapid restart after a power cut

Models

Heat Pump 7 Day Programmable Thermostat

Heat Pump Thermostat, Electric and Gas Thermostat, Programmable Thermostat

STN2320 is a heat pump room thermostat built for installers who need one part number to cover scheduled and non-scheduled jobs. The same unit runs as 7 day, 5/1/1 or fully non-programmable, drives 2 heat and 1 cool stages, and reads room temperature to +/-1 C at 20 C. Separate B and O terminals let it sit on reversing valve systems that energise in either heating or cooling without a wiring adapter.

Key benefits

- One SKU covers 7 day, 5/1/1 and non-programmable jobs so distributors hold less stock
- Separate B and O terminals suit both B-energised and O-energised reversing valves
- Electric or gas configuration is set on site instead of ordering a different model
- 5 minute compressor delay protection is selectable, protecting the outdoor unit after short cycles



Programmability	7 Day,5/1/1 or Non-Programmable
Power Source	DC 2 x AAA 1.5V Alkaline batteries 24VAC (18~30VAC), 50/60 Hz for hardwire (common wire)
Temperature Range	32■F-99■F (1°C-40°C)
Control Temp.Range	44■F-90■F (7°C-32°C)
Temp.Meas.Accuracy	±1°C (at 20°C)

2 Heat 1 Cool Heat Pump Thermostat

Heat Pump Thermostat, Non-Programmable Thermostat

STN1320 is the non-programmable member of the same heat pump platform as STN2320. It drives 2 heat and 1 cool stages, keeps the separate B and O terminals and the compressor protection, but removes the schedule from the user interface. That makes it the right choice for rentals, holiday lets and social housing where a fixed setpoint causes fewer service calls than a schedule nobody understands.

Key benefits

- No schedule means no mis-programmed setbacks and fewer tenant call backs
- Separate B and O terminals cover both reversing valve conventions
- Second stage swing adjustment keeps auxiliary heat from running longer than needed
- White, blue or green backlight matches the rest of a building's control fit-out



Programmability	Non Programmable
Power Source	DC 2 x AAA 1.5V Alkaline batteries 24VAC (18~30VAC), 50/60 Hz for hardwire (common wire)
Temperature Range	32■F-99■F (1°C-40°C)
Control Temp.Range	44■F-90■F (7°C-32°C)
Temp.Meas.Accuracy	±1°C (at 20°C)

24V White Universal Touch LCD Screen Heat Pump Programmable Smart Air Conditioner Thermostat for AC

Air Conditioner Thermostats, Underfloor Heating Thermostat, HVAC Thermostat, Heat Pump Thermostat, Electric and Gas Thermostat, Programmable Thermostat

STN855 is the universal unit in the range. One part number covers up to 2 heat and 2 cool on conventional equipment and up to 3 heat and 2 cool on heat pumps, with auto changeover between modes. The interface is an LCD touch screen rather than a button keypad, and the switching side uses Omron relays rated 6 A with 2 A inductive load. For a contractor holding stock across mixed equipment, this is the model that replaces several.

Key benefits

- Universal staging removes the need to stock separate conventional and heat pump stats
- Auto changeover switches between heating and cooling without user intervention
- Omron relays rated 6 A, 2 A inductive, give a predictable contact life
- Touch screen keeps the front face clean, which matters in hotel and office fit-outs



Model	STN855
Programmability	5/1/1 programmable
Power Supply	24V power or battery
Switchable Current	6 A (2 A inductive load)
Temperature Range	32■-99■ (1■-40■) Power Consumption 2W
Display accuracy	±1°C (at 20°C)
Sensor	NTC
Relay	Omron
Screen	LCD Touch
Backlight	White/Blue/Green
Color	White/Customixed
Material	Anti-flammable PC +ABS
Dimension	120 x 98 x 28 mm
Installation	Mounts on wall or junction box
Consumption	2W
Type	Floor Heating Parts

24V LCD Heat Pump Electronic Programmable Heating Air Conditioner Room Thermostat

Air Conditioner Thermostats, Underfloor Heating Thermostat, HVAC Thermostat, Heat Pump Thermostat, Electric and Gas Thermostat, Programmable Thermostat

STN725 is a 24V programmable room thermostat for heat pump and air conditioning systems, controlling 2 heat and 1 cool. It uses an Omron relay on the switching side and an NTC sensor for room measurement, and runs from batteries or 24V hardwired power at 18 to 30 VAC, 50/60 Hz. Load rating is 1 amp per terminal with 1.5 amp maximum across all terminals combined.

Key benefits

- 2 heat and 1 cool staging covers heat pumps with auxiliary heat
- Omron relay gives a known contact specification rather than an unnamed part
- Battery or 24V power keeps the unit usable in retrofits without a C wire
- Rated for indoor and bathroom locations



Model	STN725
Power Supply	Battery or 24V power
Switchable Voltage	18 to 30 VAC, NEC Class I, 50/60 Hz for hardwire (common wire)
Load rating	1 amp per terminal, 1.5 amp maximum all terminals combined
Temperature Range	41°F to 95°F (5°C to 35°C)

Display accuracy	±1°F
Sensor	NTC
Relay	Omron
Screen	Digital LCD
Material	Anti-flammable PC +ABS
Operating Humidity	90% non-condensing maximum
Application	Indoors/Bathroom
Type	Floor Heating Parts
Function	Temperature Control
Feature	Saving energy
Certification	CE

24V Non-Programmable Digital Heating Heat Pump Thermostat STN721W Air Conditioner WiFi Thermostat ac with Alexa

WiFi Smart Thermostat, 24V WiFi Smart Thermostat, Air Conditioner Thermostats, Heat Pump Thermostat, Electric and Gas Thermostat, Non-Programmable Thermostat

STN721W is a WiFi heat pump thermostat with voice control through Alexa, supplied deliberately without a schedule. It handles heat pump staging and up to 2 heat and 1 cool on conventional equipment, keeps separate B and O terminals, and enforces heating and cooling setpoint limits so remote users cannot drive the plant outside its design range. Sensing runs 32 F to 99 F with a setpoint range of 44 F to 90 F.

Key benefits

- Voice control through Alexa without adding a schedule to maintain
- Setpoint limits cap what any user, local or remote, can select
- Separate B and O terminals suit both reversing valve conventions
- Universal sub-base mounts on a wall or a junction box



Model	STN721W
Programmability	Non-programmable
Power Supply	24 VAC
Switchable Voltage	24VAC (18~30VAC), 50/60 Hz for hardwire (common wire)
Temperature Range	32°F-99°F (1°C-40°C)
Setpoint Range	44°F-90°F (7°C-32°C)
Display accuracy	±1°C (at 20°C)
Screen	LCD
Material	ABS+PC
Dimension	120 x98 x28 mm
Application	Villa, Hotel, Apartment, Office Building, Hospital, School, Mall, Sports Venues, Leisure Facilities, Supermarket
Type	Air Conditioning/Heating/HVAC Systems/Heat Pump
Feature	Save Energy
Certification	FCC
Warranty	1 Year
After-sale Service	Online technical support, Return and Replacement

Wall Home Digital Programmable Air Conditioner Thermostat

Air Conditioner Thermostats, Underfloor Heating Thermostat, Heat Pump Thermostat, Electric and Gas Thermostat, Programmable Thermostat

S725 is a 24VAC wall thermostat in heat pump style, controlling 2 heat and 1 cool on a 5-1-1 programme. The terminal set is RH, RC, G, Y, C, O, B, E and W, which covers dual transformer systems, emergency heat and either reversing valve convention. The display is a 4 square inch LCD with green backlighting. It does not work with electric baseboard heat at 120 to 240 V.

Key benefits

- Full RH RC G Y C O B E W terminal set covers dual transformer and emergency heat wiring
- 4 square inch green backlit display is easy to read in low light
- Fan switch with ON and AUTO gives continuous circulation when needed
- Easy access battery compartment and low battery indicator



Model	S725
Programmability	5-1-1 Day Programmable
Stages	2 Heat, 1 Cool
Power Supply	24VAC
Temperature Range	41°F to 95°F
Setpoint Range	44°F to 90°F Dispaly 4 sq. inch large LCD display with green
Screen	LCD
Backlight	Terminal Designations RH,RC, G, Y, C, O, B, E, W
Material	Anti-flammable PC +ABS
Terminal Designations	RH,RC, G, Y, C, O, B, E, W
Application	Electric Systems
Type	Floor Heating Parts
Function	Temparature Control
Feature	Heat Pump style
Certification	ISO9001

Non Programmable Heat Pump 24 VAC HVAC Air Conditioner Digital Thermostat

Air Conditioner Thermostats, HVAC Thermostat, Heat Pump Thermostat, Non-Programmable Thermostat

STN721 is the non-programmable heat pump thermostat in the STN700 platform, built around a 4.5 square inch display. There is no schedule at all: the occupant sets a temperature, the fan switch offers AUTO or ON, and the installer tunes the differential anywhere between 0.2 and 2.0 F. A low battery indicator appears below 2.7 V when there is no 24V supply.

Key benefits

- 4.5 square inch display, the largest in the STN700 platform
- Differential adjustable from 0.2 to 2.0 F for tight or relaxed control
- No schedule at all, which removes the main source of tenant call backs
- AUTO or ON fan switch for continuous circulation



Model	STN721
Programmability	Non-programmable Low battery indicator Under 2.7 V (without 24V power supply)
Stages	2 Heat / 1 Cool
System Switch	HEAT/OFF/COOL Differential 0.2 to 2.0■

Switchable Voltage	24 VAC(18 to 30 VAC), 50/60 Hz 2*AAA 1.5V Alkaline batteries power
Load rating	1.0Amp per terminal, 1.5Amp maximum all terminals combined Fan Switch AUTO/ON
Temperature Range	32■ to 99■ (1■ to 40■)
Setpoint Range	44■ to 90■ (7■ to 32■)
Display accuracy	±1■(under 68■)
Differential	0.2 to 2.0■
Backlight	Blue/Green/White/Orange
Dimension	12 x 9.8 x 2.8 CM
Installation	Wall mounted Dispaly 4.5 sq.Inch
Application	Office Building/Hotel/Home/Indoor
Warranty	2 years
After-sale Service	Online technical support, Onsite Installation, Onsite Training, Onsite Inspection, Free spare parts, Return and Replacement, NONE

24V Heat Pump Digital Non-programmable Air Conditioner Room Thermostat for HVAC System

Air Conditioner Thermostats, HVAC Thermostat, Heat Pump Thermostat, Electric and Gas Thermostat, Non-Programmable Thermostat

STN621 is the non-programmable two stage heat pump thermostat in the STN600 platform, controlling 2 heat and 1 cool. It is specified for hotel work and covers air conditioning, heating, HVAC, ventilation and noise attenuation duties. Certification spans RoHS, CE, CCC and ISO, and project support includes graphic design and 3D model design for own-brand versions.

Key benefits

- 2 heat and 1 cool staging without a schedule to maintain
- Ventilation function alongside heating and cooling control
- RoHS, CE, CCC and ISO documentation from one part number
- Battery or 24V power for both new build and retrofit



Model	STN621
Programmability	Non-programmable
Stages	2 Heat,1 Cool
Power Supply	Battery or 24V
Sensor	NTC
Screen	Digital LCD
Color	White
Material	ABS
Application	Hotel
Type	Air Conditioning/Heating/HVAC Systems/Noise and Attenuation/Ventilation/Other
Function	Ventilation
Feature	Energy Saving
Certification	RoHS CE CCC ISO
Warranty	1 Year Specification Stages 2 Heat,1 Cool
After-sale Service	Online technical support

24V White Universal Touch LCD Screen Heat Pump Programmable Smart Air Conditioner Thermostat for AC

Air Conditioner Thermostats, Underfloor Heating Thermostat, HVAC Thermostat, Heat Pump Thermostat, Electric and Gas Thermostat, Programmable Thermostat

This is the STN855 supplied for hotel projects, where one control has to cover fan coil units, boilers, radiators, floor heating and ventilation in the same building. The touch LCD replaces a button keypad on the guest-facing surface, the schedule runs 5/1/1, and the Omron relay switches 6 A with 2 A inductive load. Housing colour can be customised alongside the white, blue and green backlight options.



Key benefits

- One control specified across FCU, boiler, radiator, floor heating and ventilation duties
- Touch LCD with no mechanical keys to wear in guest rooms
- Omron relay rated 6 A with 2 A inductive load
- Customised housing colour available as well as three backlight colours

Model	STN855
Programmability	5/1/1 programmable
Power Supply	24V power or battery
Switchable Current	6 A (2 A inductive load)
Temperature Range	32-99 (1-40) Shell
Display accuracy	±1°C (at 20°C)
Sensor	NTC
Relay	Omron
Screen	LCD Touch
Backlight	White/Blue/Green
Color	White/Customised
Material	Anti-flammable PC +ABS
Shell Material	PC+ABS (Fireproof)
Dimension	120 x 98 x 28 mm
Installation	Mounts on wall or junction box
Consumption	2W

Easy Menu Driven Programmable Heat Pump 2Heat 1Cool Room Temperaute Calibration Adjustment Wired Thermostat

Wired Thermostat, 24V Wired Thermostat, HVAC Thermostat, Heat Pump Thermostat, Electric and Gas Thermostat, Programmable Thermostat, Non-Programmable Thermostat

3025 and 3225 are the programmable heat pump models in our builder thermostat series, controlling 2 heat and 1 cool. Builder series units use a PP housing and are supplied as a wired builder thermostat with one instruction sheet, which is the specification volume developers ask for. Programming can be set to 7 day, 5/1/1 or non-programmable, and separate B and O terminals cover both reversing valve conventions.



Key benefits

- Builder series specification aimed at volume residential developments
- Three programme modes from one part number
- Separate B and O terminals for either reversing valve convention
- Second stage swing adjustment keeps auxiliary heat from overrunning

Model	3025/3225
Programmability	7 Day,5/1/1 or
Color	White/Blue/

Material	PP
Weight	400g
Package Included	1Wired Builder Thermostat 1Instruction

Digital Smart Heat Pump 2Heat 1Cool Room Temperature Calibration Adjustment Non-Programmable Wired Thermostat

Wired Thermostat, 24V Wired Thermostat, HVAC Thermostat, Heat Pump Thermostat, Electric and Gas Thermostat, Non-Programmable Thermostat

3021 and 3221 are the non-programmable heat pump models in the builder series, controlling 2 heat and 1 cool. They keep the separate B and O terminals, the second stage swing adjustment and the filter change indicator, but remove the schedule entirely. For a developer handing units to first-time occupants, that removes the single biggest source of early service calls.

Key benefits

- No schedule, which removes the main cause of handover service calls
- Separate B and O terminals for either reversing valve convention
- Second stage swing adjustment controls auxiliary heat
- Filter change indicator prompts the occupant at the right time



Model	3021/3221
Color	White/Blue/
Material	PP
Weight	400g
Package Included	1Wired Builder Thermostat 1Instruction

Heat Pump 2 Heat 1 Cool WIFI Thermostat

WiFi Smart Thermostat, 24V WiFi Smart Thermostat, Heat Pump Thermostat, Electric and Gas Thermostat, Programmable Thermostat, Non-Programmable Thermostat

STN725W is the connected heat pump thermostat that joins both 2.4 GHz and 5.0 GHz networks, which matters on sites where the 2.4 GHz band is saturated or where guest networks run 5 GHz only. It works with Alexa, drives heat pump staging plus up to 2 heat and 2 cool conventional, and can be set to 7 day, 5/1/1 or non-programmable.

Key benefits

- Joins 2.4 GHz and 5.0 GHz networks, unlike most connected thermostats
- Works with Alexa for voice control alongside the app
- Heat pump staging plus up to 2 heat 2 cool conventional
- Three programme modes from one connected part number



Programmability	Programmable
Power Source	24VAC
Temperature Range	32°F-99°F (1°C-40°C)
Control Temp.Range	44°F-90°F (7°C-32°C)
Temp.Meas.Accuracy	±1°C (at 20°C)
Dimension	120 x98 x28 mm

Multi Stage Heat Pump WIFI Thermostat

WiFi Smart Thermostat, 24V WiFi Smart Thermostat, Heat Pump Thermostat, Electric and Gas Thermostat, Non-Programmable Thermostat

This is STN721W described as the multi stage heat pump WiFi model: dual band connection on 2.4 GHz and 5.0 GHz, Alexa voice control, and heat pump staging plus up to 2 heat and 1 cool conventional. It is deliberately non-programmable, so the operator manages temperature remotely rather than maintaining a schedule in every room.

Key benefits

- Dual band WiFi on 2.4 GHz and 5.0 GHz
- Alexa voice control without a schedule to maintain
- Heat pump staging plus up to 2 heat and 1 cool conventional
- Measurement accuracy +/-1 C at 20 C over 32 F to 99 F



Programmability	Non Programmable
Power Source	24VAC
Temperature Range	32■F-99■F (1°C-40°C)
Control Temp.Range	44■F-90■F (7°C-32°C)
Temp.Meas.Accuracy	±1°C (at 20°C)
Dimension	120 x98 x28 mm

Easy Menu Driven Programmable Heat Pump 2Heat 1Cool Room Temperaute Calibration Adjustment Wired Thermostat

Wired Thermostat, 24V Wired Thermostat, HVAC Thermostat, Heat Pump Thermostat, Electric and Gas Thermostat, Programmable Thermostat, Non-Programmable Thermostat

STN625 and STN725 are the programmable heat pump models in the STN builder series, controlling 2 heat and 1 cool. They can be set to 7 day, 5/1/1 or non-programmable, keep separate B and O terminals, and offer swing adjustments that include the second stage so auxiliary heat only runs when the first stage cannot hold the room.

Key benefits

- Second stage swing adjustment limits auxiliary heat running time
- Three programme modes from one part number
- Separate B and O terminals for either reversing valve convention
- Filter change indicator and selectable 5 minute compressor delay



Model	STN625/STN725
Programmability	7 Day,5/1/1 or
Color	White/Blue/
Material	PP
Weight	400g
Package Included	1Wired Builder Thermostat 1Instruction

Digital Smart Heat Pump 2Heat 1Cool Non-Programmable Wired Builder Thermostat

Wired Thermostat, 24V Wired Thermostat, HVAC Thermostat, Heat Pump Thermostat, Electric and Gas Thermostat, Non-Programmable Thermostat

STN621 and STN721 are the non-programmable heat pump models in the STN builder series, controlling 2 heat and 1 cool. They keep the second stage swing adjustment that limits auxiliary heat, the separate B and O terminals and the filter change indicator, but remove the schedule so there is nothing for an occupant to set beyond a temperature.

Key benefits

- No schedule, which removes the main source of handover service calls
- Second stage swing adjustment limits auxiliary heat running time
- Separate B and O terminals for either reversing valve convention
- Filter change indicator prompts the occupant at the right time



Model	STN621/STN721
Color	White/Blue/
Material	PP
Weight	400g
Package Included	1Wired Builder Thermostat 1Instruction

24V 2Heat 2Cool Auto Changeover Thermostat STN855

Premier Thermostat, 24V Premier Thermostat, HVAC Thermostat, Heat Pump Thermostat, Electric and Gas Thermostat, Programmable Thermostat, Non-Programmable Thermostat

This is STN855 in the Premier range specification: a universal auto changeover thermostat covering up to 2 heat and 2 cool conventional and up to 3 heat and 2 cool heat pump, in a PP housing with white, blue or green backlight. Programming is selectable between 7 day, 5/1/1 and non-programmable, and the operator controls are here in full, namely keypad lockout, setpoint limits and a selectable compressor delay.

Key benefits

- Universal staging with auto changeover across conventional and heat pump plant
- Three programme modes from one Premier part number
- Keypad lockout and setpoint limits together give full operator control
- Mounts on a wall or a junction box, on battery or 24V power



Model	STN855
Programmability	7 Day,5/1/1 or
Color	White/Blue/
Material	PP
Weight	400g
Package Included	1Premier Thermostat 1Instruction

WiFi Smart Touchscreen Thermostat

WiFi Smart Thermostat, 24V WiFi Smart Thermostat, Heat Pump Thermostat, Electric and Gas Thermostat, Programmable Thermostat

STN855W is the connected touchscreen flagship: dual band WiFi on 2.4 GHz and 5.0 GHz, Alexa voice control, and universal staging up to 2 heat and 2 cool conventional or 3 heat and 2 cool heat pump. The schedule is editable rather than fixed, with programming segments that can be added or removed up to six, and the full set of operator controls including keypad lockout, setpoint limits and compressor delay.

Key benefits

- Programming segments can be added or removed, up to six, rather than a fixed pattern
- Dual band WiFi on 2.4 GHz and 5.0 GHz with Alexa voice control
- Widest staging in the range across conventional and heat pump plant
- Auto changeover plus keypad lockout and setpoint limits



Programmability	7 Day, 5/1/1 Programmable or Non-programmable
Power Source	24V
Temperature Range	32■F-99■F (1°C-40°C)
Control Temp.Range	44■F-90■F (7°C-32°C)
Temp.Meas.Accuracy	±1°C (at 20°C)
Dimension	120 x98 x28 mm