ZON-0550 (Wi-Fi Enabled Zone Control)
Technical Data Sheet

Submittal: HBX ZON-0550

Project: [   ]

HBX Control Systems Inc. - Specification

Part 1: ZON-0550 Product

1. The Hydronic Zone Control must be a full microprocessor control with at least an 8-bit, 8MHz integrated microprocessor chip.

2. The Control must be capable of the following Input/Output Functions:

   a. 4 x Thermostat communication and power inputs
   b. 2 x Demand output relays
   c. 3 x Fancoil outputs (24VAC 2A)
   d. 4 x Zone relay outputs (120VAC 5A)
   e. 1 x Input power (120VAC 15A Max)
   f. 1 x system pump relay (120VAC 5A)
   g. 1 x Humidity Output (24VAC 2A)

3. The control must be able to control 4 zone vales or zone pumps per module.

4. The control must be expandable up to an additional four (4) ZON-0550 modules for a maximum of 20 zones per system. The control must allow to pair additional ZON-0550 modules wiressley at a maximum range of 2000 ft. open air. No wiring is required to pair additional modules.

5. The control must allow for a system pump to activate anytime when a zone demand is made.

6. The control must allow for zone post purge. Post purge is 60 seconds.

7. The control must be able to control a fancoil, furnace, Air conditioner unit.

8. The control must be able to control motorized damper zones.

9. The Control must allow for zone post purge. Post purge time is 60 seconds.

10. The control must allow for only 2 wire thermostats (power and communication) to be used on the ZON-0550. Only the THM-0300 or THM-0500 thermostats are compatible with the ZON-0550 module.

11. The control must be able to connect to a wifi network for remote control and monitoring using the TMX-0100 wifi communication module and the HBX Zone mobile app.
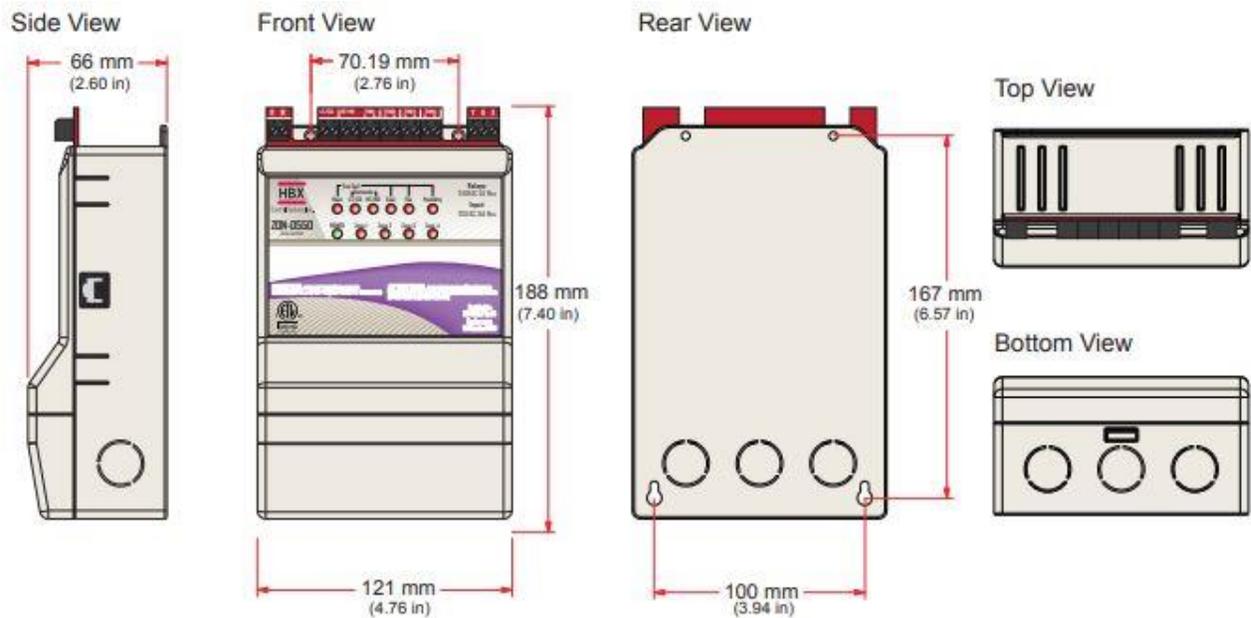
12. The control must allow for multiple zone priorities with the ability to have a permanent zone demand priority using the priority shield feature.

13. The control must allow for multiple zone demands (Low Temp, High Temp, DHW, Fancoil).

14. The control must be capable of controlling 2 or 4 pipe Geothermal applications (2 stage heating and 2 cooling).

15. The control must be capable of controlling humidity. The control must allow for the humidity target to be controlled automatically when connected to a wifi network or an external sensor.

16. The Control unit must be ETL approved.

Part 2: Acceptable Products

1. HBX ZON-0550 Control

Part 3: Physical Dimensions

Side View
66 mm
(2.60 in)

Front View
70.19 mm
(2.76 in)

188 mm
(7.40 in)

121 mm
(4.76 in)

Rear View

167 mm
(6.57 in)

100 mm
(3.94 in)

Top View

Bottom View

Part 4: Technical Data, Main Parts & Labels

Inputs/Outputs:

4 x THM-0300/THM-0500 Communication inputs
3 x Fancoil outputs 24VAC 2A
2 x Demand output replays 24VAC 2A
4 x Zone relay 120VAC 5A
1 x pump relay (120VAC 5A)
1 x Humidity output (24VAC 2A)

Power supply:

120 VAC, 15A

Dimensions:

4.76" x 7.40" x 2.60" (121mm x 188mm x 66mm)

Weight:

0.408kg

ETL Listings:

Meets CSA C22.2 No. 24
Meets UL Standard 873
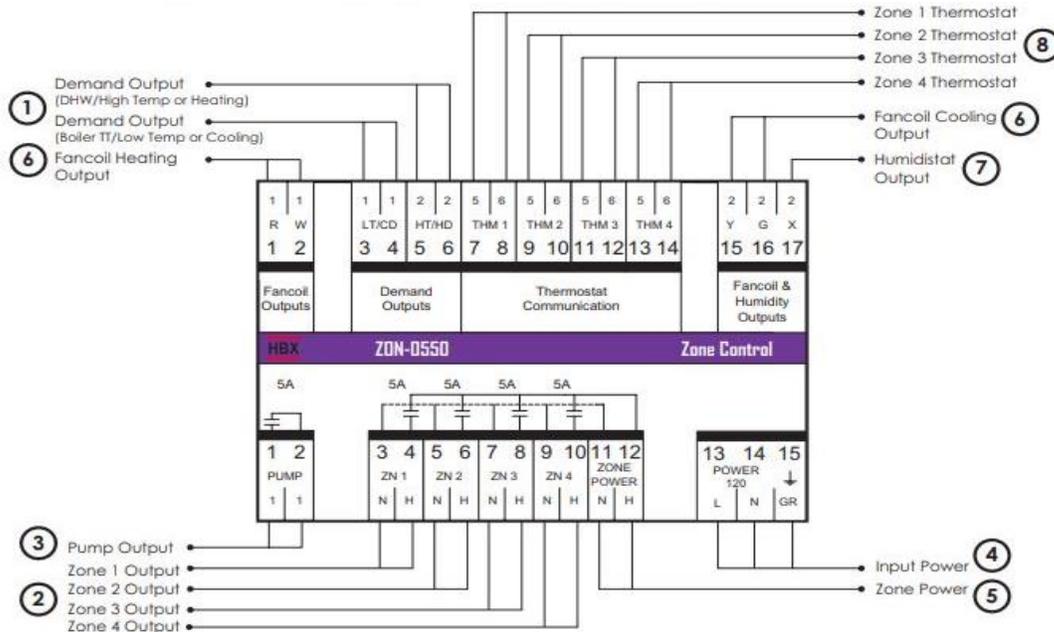ETL Control No. 3068143

Storage:

50°F to 104°F (10ºC to 40ºC)

ZON-0550 RF info:

Contains IC: 7693A-24J40MB
Contains FFC ID: 0A3MRF24J40MB

Terminal Block Labels:

Wiring
All signal wiring must be a minimum of 18AWG at a maximum of 500ft.

1. **Demand outputs –** These are the outputs for the demands. These can be a heating and cooling demand. 24VAC contact, dry contact TT/Low temperature demand on a boiler, or DHW/High temperature demand.
2. **Zone 1-4 output –** These are the outputs for the zone device. This can be a pump or a valve depending on power is supplied to terminals 11-12. These outputs can also be used for damper zones (terminals 1 & 3) or a 4 pipe system.
3. **System pump output –** This is a dry contact output that can be used for a system pump. This contact will activate any time a zone comes on.
4. **Input power –** This input is to power the ZON-0550. 0.5 Amps at 120VAC is required to power this device.
5. **Zone power –** This input is used to power the zone outputs and is rated for 240VAC, 120VAC or 24VAC.
6. **Fancoil output –** These are the outputs for the Fancoil demands. These can be a Fan Demand or an HRV Demand.
7. **Humidity Output -** This output is used for a humidity demand. This can be used to humidify or dehumidify.
8. **Thermostat Input 1-4 –** These terminals are used for power and communication for thermostat inputs. Only THM-0300 or THM-0500 thermostats are compatible with this control.

Problem	Possible Cause *(Resolution)*
No Power	• Verify that a 120VAC is present on pins 13-14-15.
Zone output won't turn on	• Verify that the appropriate power is connected to pins 11-12. • If the LED for that zone is not illuminated ensure a demand is present at the thermostat. P.I.D algorithm may take up to 5 minutes to initialize a demand. • Ensure the proper demand type on the thermostat is correct on page 9 on the THM-0300/0500 manual. A fancoil demand will only turn the zone output if zone on demand is set to yes page 10. THM-0300/0500 manual/ Page 14. ZON-0550. • Check priorities settings
System pump output won't turn on	• Verify wiring • A zone demand needs to be made for the system pump to turn on. • The system pump output is on each zone control is only associated with those 4 zone if multiple zone modules is controlling the same system pump then the system pump outputs should be wired in parallel. • Check priorities settings
Fancoil outputs won't turn on	• Verify wiring • Check the demand settings. See THM-0300/0500 manual • A zone demands needs to be for the fancoil output to turn on. • Check priorities settings
Zone lights flashing	• The ZON-0550 is in discovery mode
Demand outputs won't turn on/wrong demands turning on	• Verify wiring • Verify wiring when using multiple modules. • In the zone setup make sure you have correctly set your demand options.
Thermostat won't power	• Verify wiring. • Check wiring polarity in pins 5-6. • Check zone setup options that the damper zones is set correctly

	• THM-0500 thermostat(s) will take up 120 seconds to power up.
Zones modules not pairing	• Check zone sequence on each module • Ensure you are pairing the zones module using the THM 1 thermostat on the zone module.