IntelliZone2
BACnet™

COMFORT ZONING SYSTEM
INTELLIZONE2® BACNET

Six Zone Capability

Designed for Use with Communicating Heat Pump Controls

Submittal Data

English Language/IP Units

SDAC-0052W 02/26

Contractor:P.O.: _____ _____

Engineer: _____

Project Name: _____ Unit Tag: _____

General Specifications

- Up to 6 zone possible in variable speed systems (maximum of 4 for dual capacity units and 2 for single speed units)
- Full communicating system for advanced features:
- Full text Faults/Alarms from IZ2 and Aurora® Advanced Control
- Adjust zone setpoints from BAS, Zone Sensors or Tablet
- Full features of the Aurora® Advanced Control are communicated including faults and energy monitoring
- No bypass damper or dump zone needed.
- Model ZDRT3 and ZDCT3 are “3-wire” motorized rectangular and circular dampers utilizing a 24VAC actuator to power open and power close the damper in a period of 95 seconds or less. The ZDRT2 and ZDCT2 are “2-wire” motorized rectangular and circular dampers that use a 2-wire actuator to power close and spring open the damper. All dampers are constructed of heavy gauge G90 galvanized steel
- Central Zone option operates all dampers open on temperature measurement from Zone 1 Sensor for commissioning or service operation.
- Economy/comfort settings for each zone to reduce operating costs In less important zones.
- Zones are ‘sized’ to provide more proper compressor and blower staging.
- Staging flexibility allows several up/down staging options for customization to your application.
- Full Aurora® controls capability
- Diagnostic LED indicators

NOTE: IntelliZone2® BACnet Relay Panel must be mounted indoors.

Cabinet Exterior

Shipping Weight: 7.25 lbs.

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IntelliZone2® BACnet Components

IntelliZone2® BACnet includes the following:

- IntelliZone2® BACnet Relay Panel - 17P878-01
- Wiring Harness - 11P833-01
- UPC2 Controller

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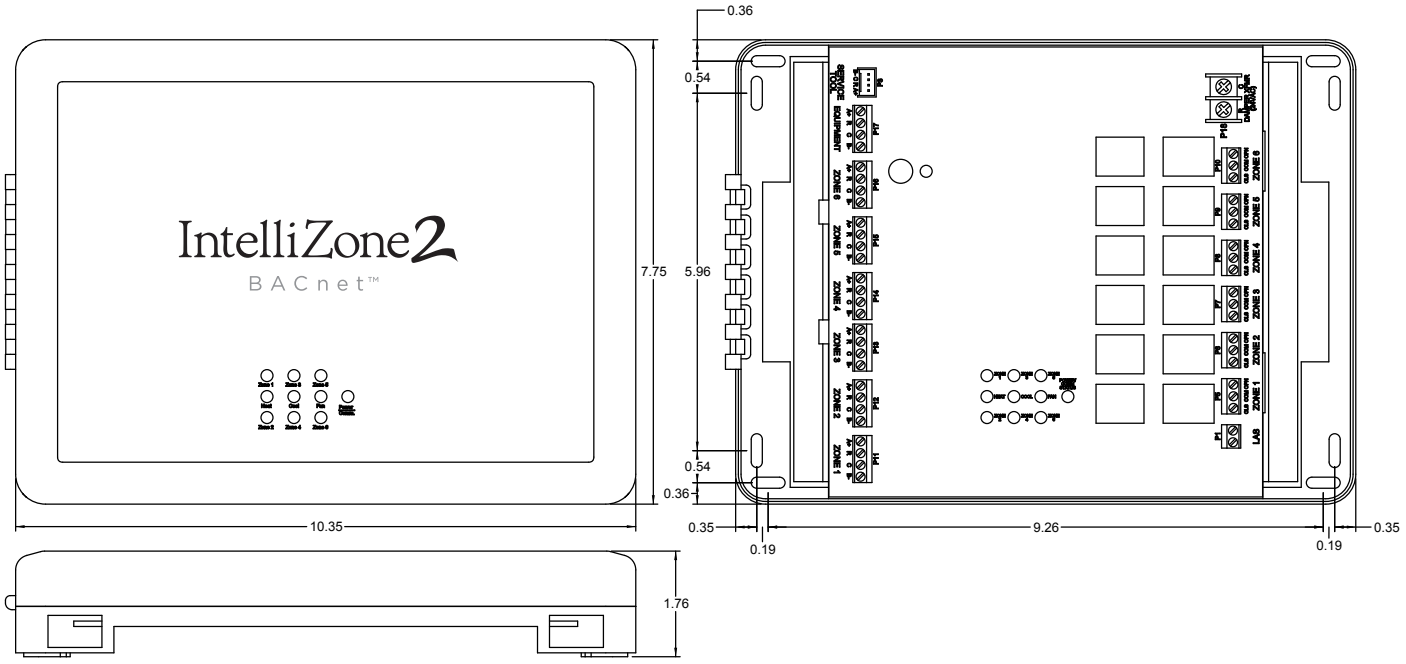
Relay Board



SPECIFICATIONS

Electric Rating:

Input-Hardwire.....18 to 30 VAC

Input Current.....350mA @ 24 VAC

Damper Outputs.....Fused @ 5A

Operating Ambient.....32° to +122°F (0 to +50°C)

Storage Ambient.....14° to +135°F (-10 to +57°C)

Operating Humidity.....10% to 95% non-condensing

Storage Humidity.....10% to 95% non-condensing

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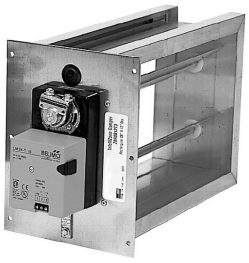
IntelliZone2® BACnet Zone Sensors

For detailed information on the IntelliZone2® BACnet Zone Sensors, see the Aurora® Universal Protocol Converter (UPC2) Zone Sensors submittal data (SD1582EW).

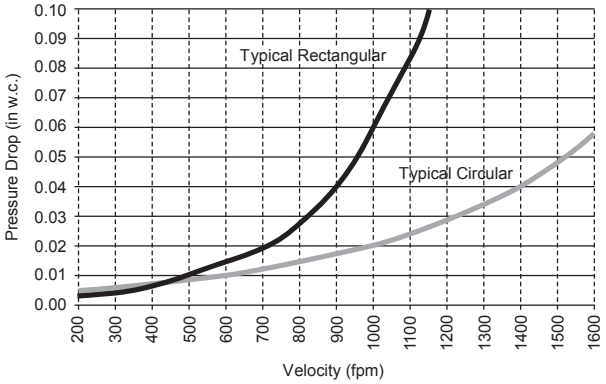
IntelliZone2® BACnet Dampers

Model ZDR
Rectangular Damper



Model ZDC
Circular Damper

Damper Pressure Drop



Model ZDR Rectangular Dampers

WIDTH IN INCHES	8" HIGH	10" HIGH	12" HIGH	14" HIGH
8	ZDR0808T2, T3	ZDR1008T2, T3	ZDR1208T2, T3	ZDR1408T2, T3
10	ZDR0810T2, T3	ZDR1010T2, T3	ZDR1210T2, T3	ZDR1410T2, T3
12	ZDR0812T2, T3	ZDR1012T2, T3	ZDR1212T2, T3	ZDR1412T2, T3
14	ZDR0814T2, T3	ZDR1014T2, T3	ZDR1214T2, T3	ZDR1414T2, T3
16	ZDR0816T2, T3	ZDR1016T2, T3	ZDR1216T2, T3	ZDR1416T2, T3
18	ZDR0818T2, T3	ZDR1018T2, T3	ZDR1218T2, T3	ZDR1418T2, T3
20	ZDR0820T2, T3	ZDR1020T2, T3	ZDR1220T2, T3	ZDR1420T2, T3
22	ZDR0822T2, T3	ZDR1022T2, T3	ZDR1222T2, T3	ZDR1422T2, T3
24	ZDR0824T2, T3	ZDR1024T2, T3	ZDR1224T2, T3	ZDR1424T2, T3
26	ZDR0826T2, T3	ZDR1026T2, T3	ZDR1226T2, T3	ZDR1426T2, T3
28	ZDR0828T2, T3	ZDR1028T2, T3	ZDR1228T2, T3	ZDR1428T2, T3
30	ZDR0830T2, T3	ZDR1030T2, T3	ZDR1230T2, T3	ZDR1430T2, T3

NOTES: Actuators mounted on "H" dimension.
*T2 indicates 2 wire (power close, spring open) dampers.
T3 indicates 3 wire (power close, power open) dampers.

Model ZDC Circular Dampers Selection*

Diameter	Part No.	Length
6" Round	ZDC06T2, T3	9"
8" Round	ZDC08T2, T3	10"
10" Round	ZDC10T2, T3	11"
12" Round	ZDC12T2, T3	12"
14" Round	ZDC14T2, T3	14"
16" Round	ZDC16T2, T3	16"
18" Round	ZDC18T2, T3	18"

NOTES: *T2 indicates 2 wire (power close, spring open) dampers. T3 indicates 3 wire (power close, power open) dampers.

IntelliZone2® BACnet Transformers

The heat pump transformer should never be used to power the zone dampers. Damage to the heat pump or dampers may occur. Providing adequate transformer power (VA) to supply the system is an important requirement. Each IntelliZone2® BACnet 3-wire damper requires 3.0VA at nominal voltage and each 2-wire damper requires 7.0VA at nominal voltage. The standard available transformer is a 75VA with an integrated circuit breaker (Part # ZTK240). The Transformer 'VA' Calculation table shows a sample sizing procedure for both the 3-wire and 2-wire dampers that should be carried out for each installation. If the total VA is greater than 70VA, then a second 75VA transformer should be wired in parallel to provide a total power capability of 150VA. As the 'VA' Calculation table shows the 2-wire damper requires much more VA than the 3-wire damper.

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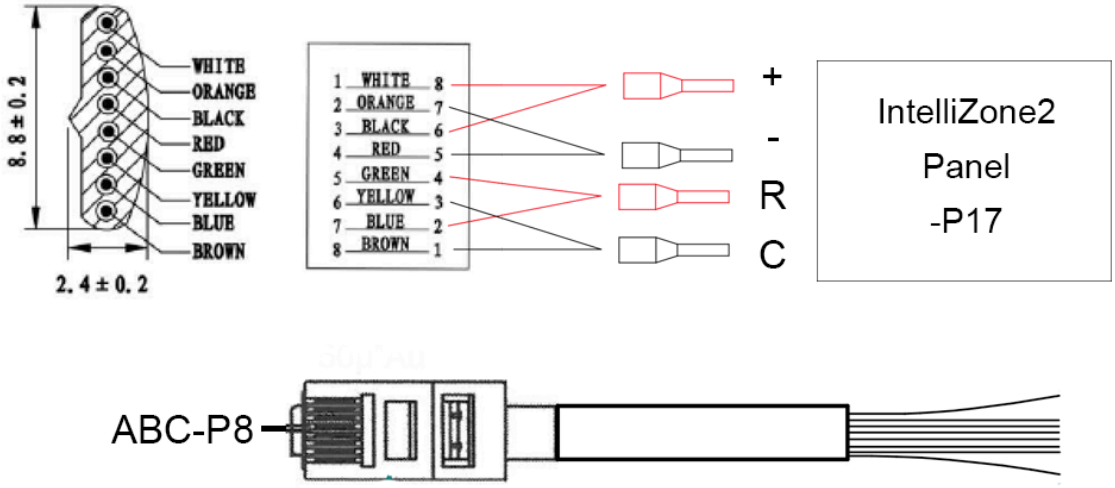
Wiring Harness



SPECIFICATIONS

10ft wiring harness with terminal on one end to plug into P8 on the Aurora® ABC board, and other end wires to the IntelliZone2® BACnet relay board.

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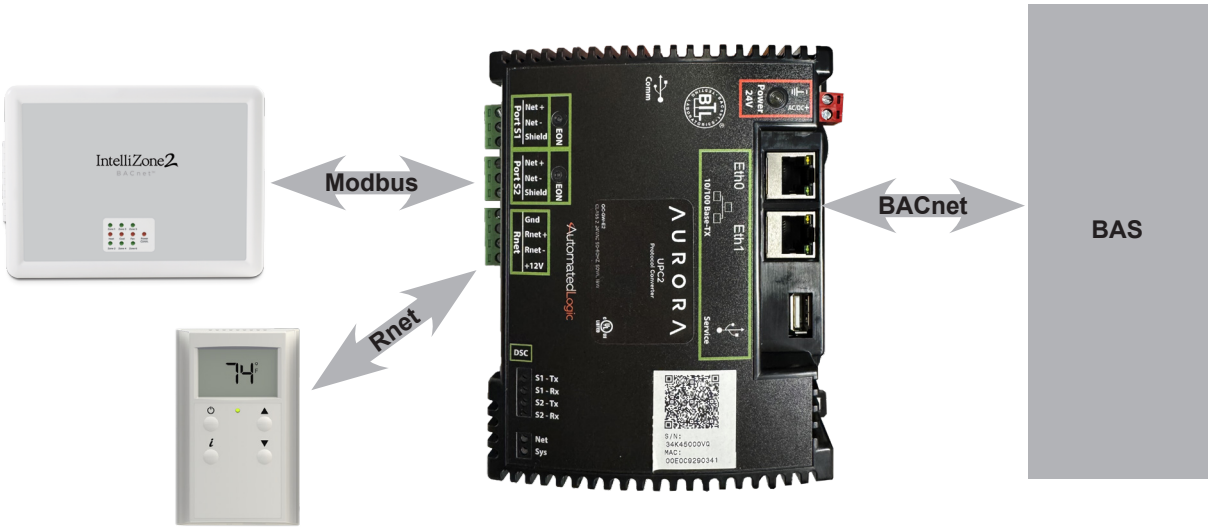
UPC2 Overview



Aurora® UPC2 Features

- Status of all unit operating conditions and fault lockouts
- Provides gateway into Aurora® heat pump controls for unsurpassed control flexibility
    - Network point for commanding unit into load shed
    - Network point for commanding unit into emergency shutdown
    - Network points to assist in fan speed selection
    - Network points for freeze protection settings
- Heating and cooling control from a remotely located zone sensor
- Rnet communication port which allows for two Rnet zone sensors to be connected for space temperature averaging if desired for each zone.
- Local equipment touch application connection for field service

Aurora® UPC2 Optional Features

- Equipment Touch app needed for field configuration of fan speeds, set points, etc.
- Aurora® Advanced Control adds the Aurora® AXB expansion board and provides added I/O and standard features Optional Sensor Kits (requires Aurora® Advanced Control with AXB - Select Models/Configurations)
    - ***Refrigeration Monitoring –*** provides Suction and discharge pressure, Suction, liquid line temps and superheat and subcooling.
    - ***Performance Monitoring –*** provides entering and leaving loop water temperatures, optional water flow rate as well as heat of extraction or rejection rate into the loop.
    - ***Energy Monitoring –*** provides real-time power measurement (Watt) of compressor, fan, auxiliary heat and zone pump.

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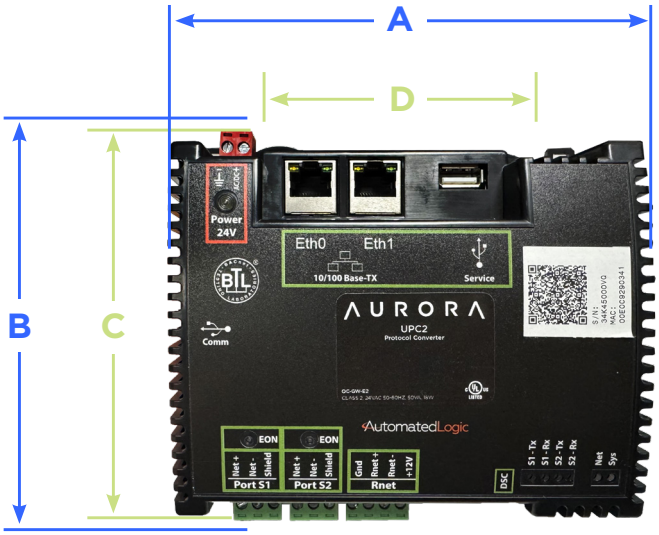
UPC2 Physical Data

Overall	A	5.51 in.	13.99 cm
	B	5.88 in.	14.94 cm
Mounting Hole Dimensions	C	5.29 in.	13.44 cm
	D	3.0 in.	7.62 cm
Depth		2.01 in	5.11 cm
Weight		.75 lbs	.3402 kg



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UPC2 Electrical Data

Power	24 Vac ± 10%, 50-60 Hz, 50 VA 24 Vdc ± 10%, 18 W
Physical	Fire-retardant plastic ABS, UL94-5VA
Operating Range	-40 to 158°F (-40 to 70°C), 10-95% relative humidity, non-condensing
Communication Ports	**Max Integration Points**: Supports 1,500 BACnet points and 1,000 Modbus points (IP or Modbus RTU) **Eth0,Eth1**: 10/100 BaseT, full duplex, Ethernet ports for BACnet/IP and/or BACnet Ethernet, or Modbus TCP/IP communication. **Port S1**: For communication with a BACnet MS/TP network at 9600 to 115200 bps or with a Modbus serial network at 9600 to 115200 bps. **Port S2**: For communication with a BACnet MS/TP network at 9600 to 115200 bps or with a Modbus serial network at 9600 to 115200 bps. **End of Net** switch can be turned on to terminate the network segment. **Rnet**: Supports up to 15 ZS sensors and one Equipment Touch; Supplies 12 VDC/260 mA power to the Rnet across its rated temperature range. **Service Port**: USB 2.0 service port for setting up the gateway and troubleshooting through a local connection to a computer, the OptiCORE ET display, or USB Wireless service adapter.
Real Time Clock	Real-time clock keeps track of time in the event of a power failure for up to 3 days
Protection	Device is protected by a replaceable, fast acting, 250 Vac, 3A, 5mm x 20mm glass fuse The power and network ports comply with the EMC requirements EN50491-5-2.
LED Status Indicators	Tricolor NET LED to show network status / Tricolor SYS LED to show system status/ POWER LED/S1 EON LED/S2 EON LED/A TX (Transmit) and RX (Receive) LED for: Port S1 and S2
Compliance/Listing	United States of America: FCC compliant to Title CFR47, Chapter 1, Subchapter A, Part 15, Subpart B, Class A; UL Listed to UL 916, PAZX, Energy Management Equipment; Canada: Industry Canada Compliant, ICES-003, Class A cUL Listed UL 916, PAZX7, Energy Management Equipment; Europe: Mark, UK: EN504915-2:2009; Part 5-2: EMC requirements for HBES/BACS used in residential, commercial and light industry environment RoHS Compliant: 2015/863/EU REACH Compliant; Australia and New Zealand: C-Tick Mark, AS/NZS 61000-6-3
Mounting	35mm DIN rail mounting or screw mounting

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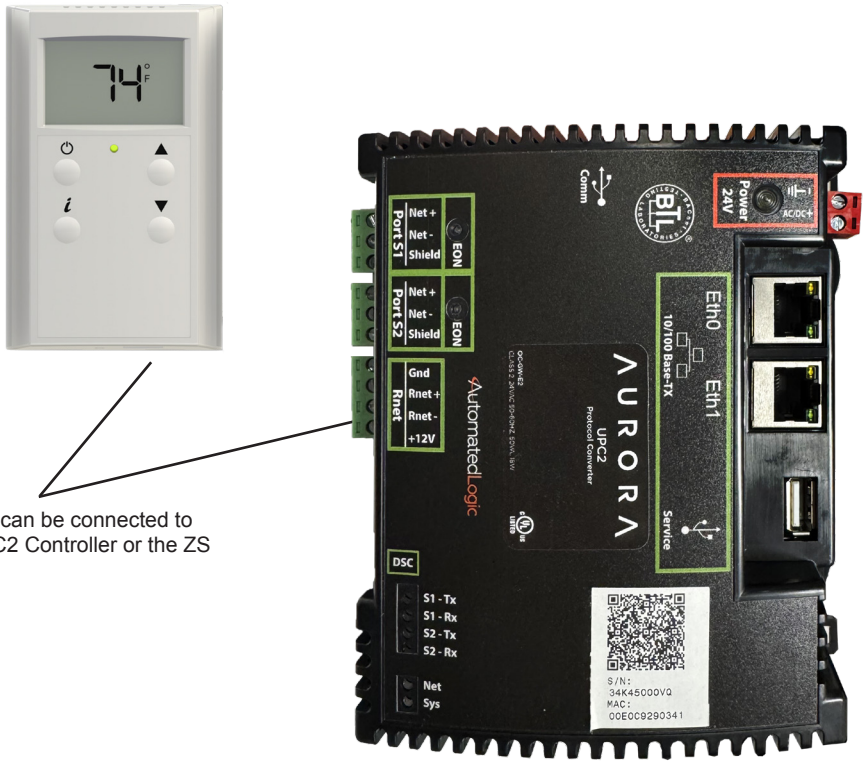
Equipment Touch Application (ETA)

Aurora® Equipment Touch App

Utilizing a touch-screen interface, the UPC2 provides a technician the ability to configure and diagnose equipment at the unit or from any room sensor for added accessibility and simplified troubleshooting. The technician will have full access to equipment status, parameter values, temperature, and humidity sensing as well as access to alarm and trend history. With website-like navigation, the ETA Interface is easy to use and provides important insight into the system so your building can operate as efficiently as possible.

Connecting the ETA Interface

There are two ports that will accept the ETA connection, one is located on the UPC2 and the other is on the bottom of the ZS zone sensors. Either connection will allow the operator to access and edit the same information within the UPC2.



ETA Interface can be connected to either the UPC2 Controller or the ZS zone sensor.

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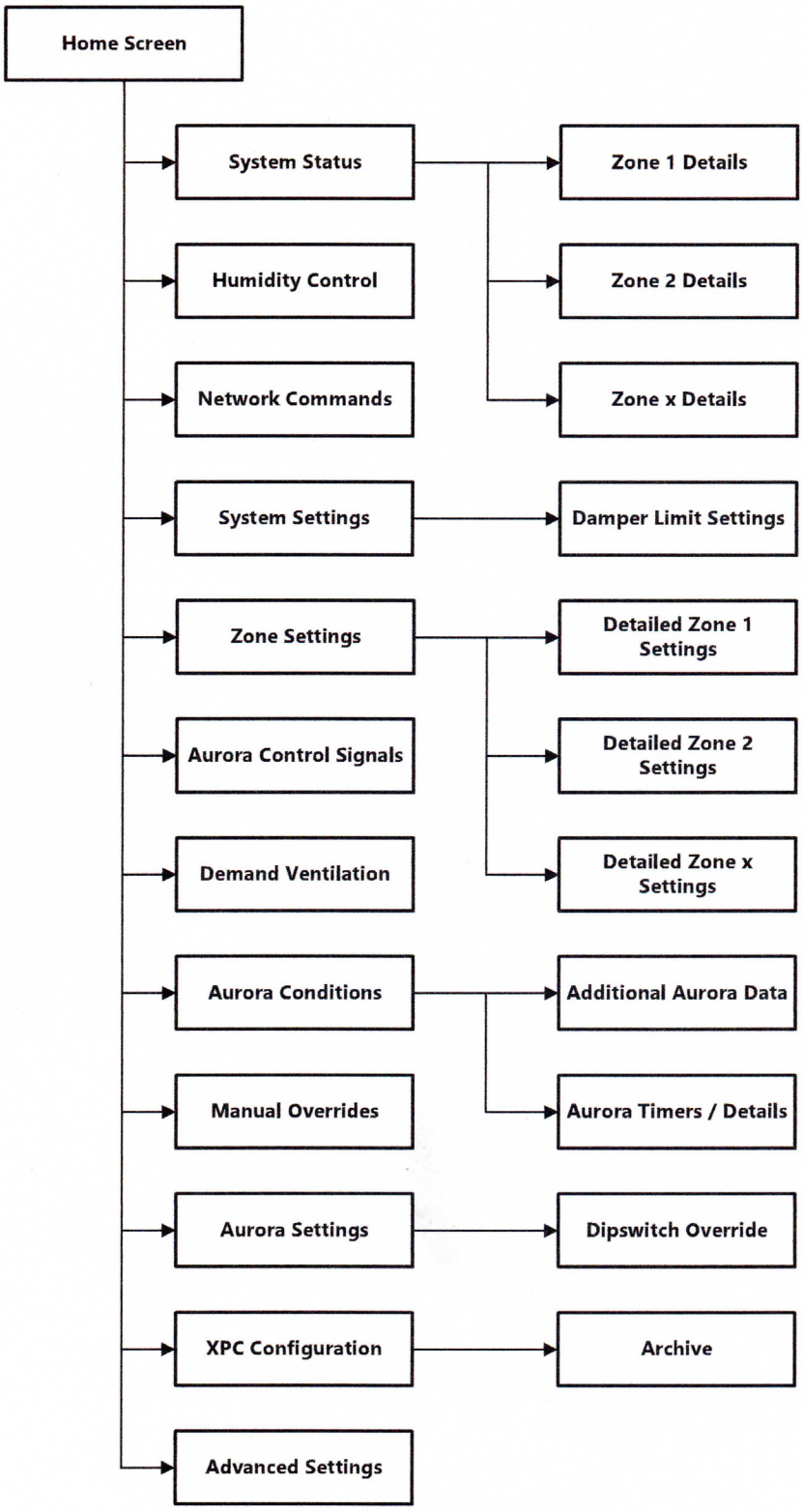
Equipment Touch Application (ETA) cont.



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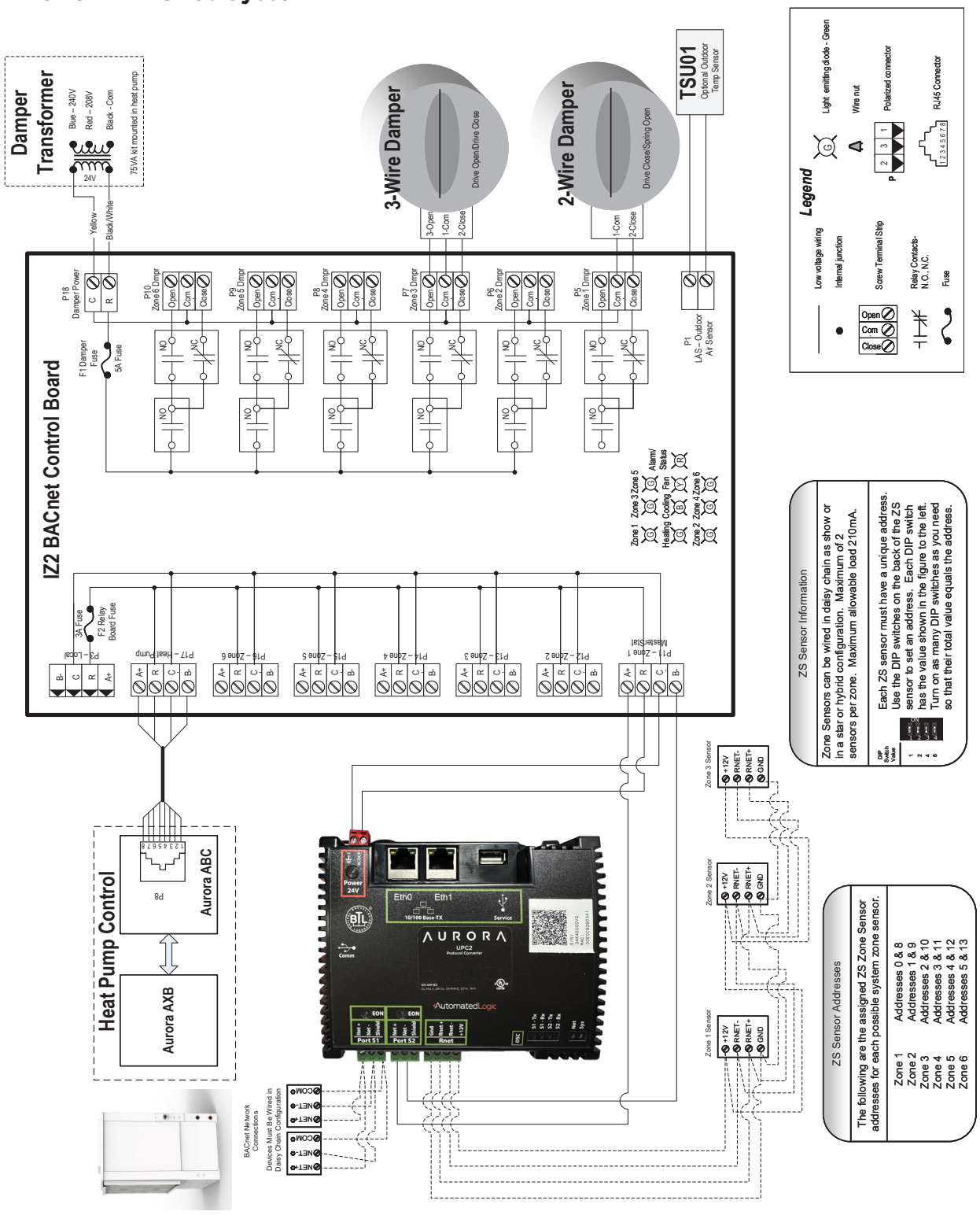
Wiring Schematic - Package Unit

IntelliZone2® BACnet System



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Revision Guide

Pages:	Description:	Date:	By:
All	Document Created	16 Nov 2020	MA
Misc	Update XPC to UPC2	19 Jan 2026	SW

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