

Preferred Mutual

New Berlin, New York

Application Engineering by Randy Langille

Engineer/Architect


Mechanical Contractor Air Temp

Job Number P8237

AUTOMATEDLOGIC[®]
CORPORATION

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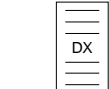
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 AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® CONTRACTOR			
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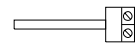
Symbol Legend



Supply Fan



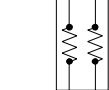
DX Cooling Coil



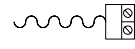
Duct Temperature Sensor



Exhaust Fan



Electric Heating Coil



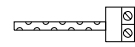
Averaging Duct Temperature Sensor



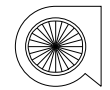
Return Fan



Gas Heating



Duct Humidity Sensor



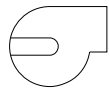
Fan w/ Inlet Vane Control



Hot Water Heating Coil



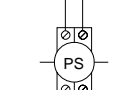
Immersion Temperature Sensor w/ Well



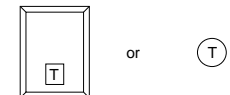
Pump



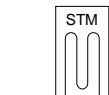
Chilled Water Cooling Coil



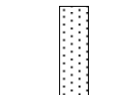
Pressure Sensor



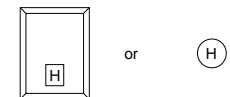
Room Temperature Sensor



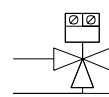
Steam Heating Coil



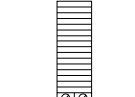
Filter



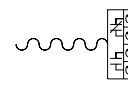
Room Humidity Sensor



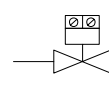
3 - Way Valve



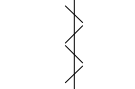
Air Flow Station



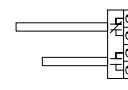
FreezeStat



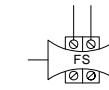
2 - Way Valve



Damper



Smoke Detector



Flow Sensor

Common Abbreviations:

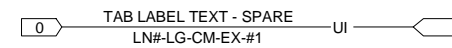
AC - Air Conditioning
 ACU - Air Conditioning Unit
 AHU - Air Handling Unit
 AI - Analog Input
 AO - Analog Output
 AUTO - Automatic
 AUX - Auxiliary
 C - Common
 CHW - Chilled Water
 CHWP - Chilled Water Pump
 CHWR - Chilled Water Return
 CHWS - Chilled Water Supply
 COND - Condenser
 CW - Condenser Water
 CWP - Condenser Water Pump
 CWR - Condenser Water Return
 CWS - Condenser Water Supply
 DA - Discharge Air
 DI - Digital Input
 DO - Digital Output
 EA - Exhaust Air
 EF - Exhaust Fan

EVAP - Evaporator
 F - Fahrenheit
 FCU - Fan Coil Unit
 HOA - Hand / Off / Auto
 HP - Heat Pump
 HRU - Heat Recovery Unit
 HTEX - Heat Exchanger
 HW - Hot Water
 HWP - Hot Water Pump
 HWR - Hot Water Return
 HWS - Hot Water Supply
 MAX - Maximum
 MIN - Minimum
 MISC - Miscellaneous
 NC - Normally Closed
 NO - Normally Open
 OA - Outdoor Air
 PIU - Powered Induction Unit
 RA - Return Air
 RF - Return Fan
 RH - Relative Humidity
 RTU - Roof-top Unit

SA - Supply Air
 SF - Supply Fan
 SP - Static Pressure
 TEMP - Temperature
 UH - Unit Heater
 UV - Unit Ventilator
 VAV - Variable Air Volume
 VVTU - Variable Volume Terminal Unit
 W/ - with
 W/O - without
 WSHP - Water-Source Heat Pump

General Notes:

- All control modules are drawn using standard ALC module representations.
- Electrical points are identified by a tagged method (LN# - LG - CM - EX - Z0):




LN# - The line number (optional).
 LG - The gateway number (optional).
 CM - The control module address.
 EX - The expander module number.
 #1 - The channel number.

These tags include wiring for all AI's, DI's, AO's and DO's. Points using pneumatic tubing follow the same convention.

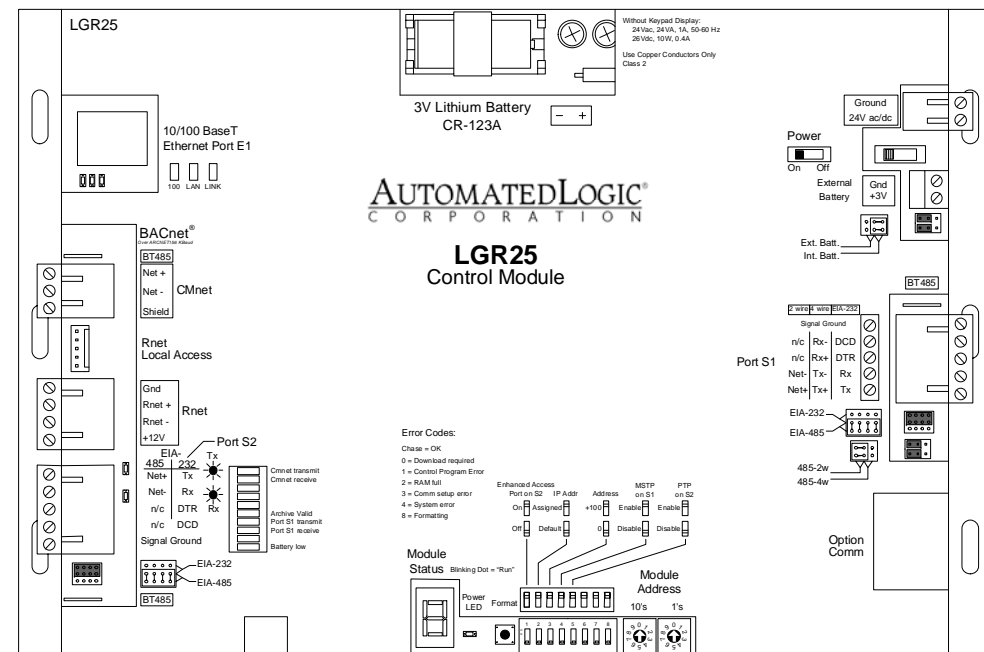
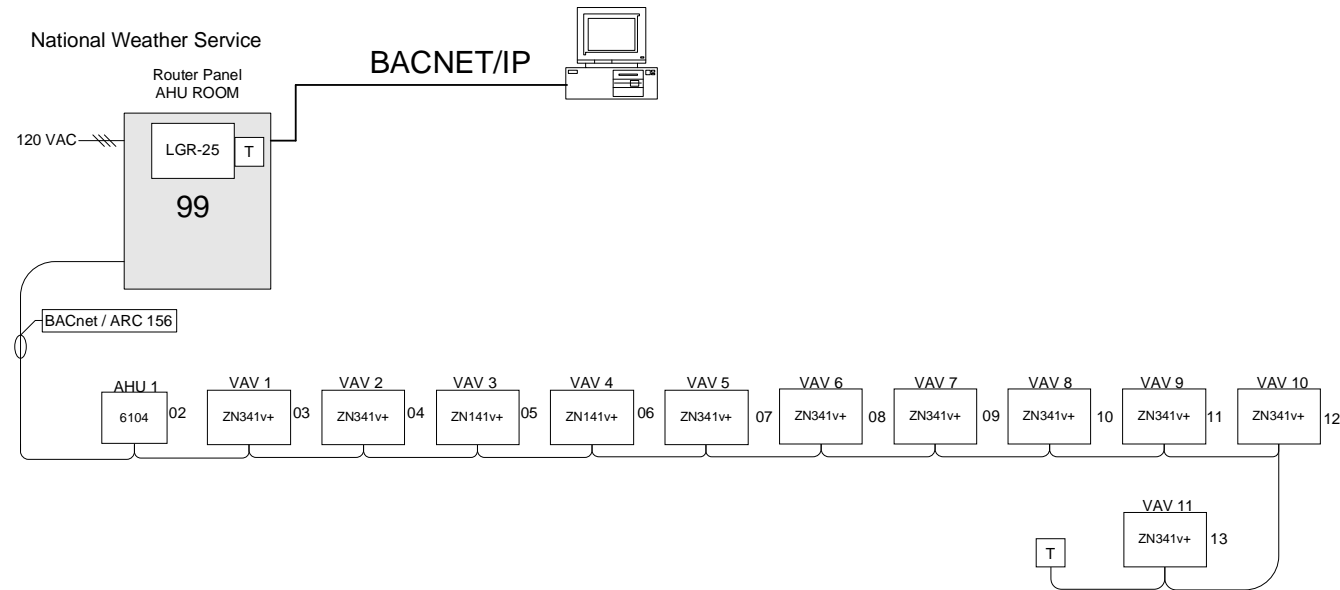
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Symbol Legend			
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Summary Bill of Materials

Summary Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
6321p-1	RAT	JOHNSON	6321P-1	1 ea
DIAG				1 ea
LGR25	LGR25	AUTOMATED LOGIC	LGR25	1 ea
PROT				1 ea
SE6104a	SE6104A	AUTOMATED LOGIC	SE6104A	1 ea
ZN141V+	ZN141V+	AUTOMATED LOGIC	ZN141V+	2 ea
ZN341V+	ZN341V+	AUTOMATED LOGIC	ZN341V+	9 ea
ba10kroom	WALL SNSR	ALC	BA10KROOM	11 ea
t450va	TRANS	TRANS	T450VA	10 ea
te6321p	8INCHDUCT	JOHNSON	TE6321P	12 ea
te6327p-1	DUCT SENSOR 1K	JOHNSON	TE6327P-1	2 ea

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<p>Summary Bill of Materials</p>			
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Riser



Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DIAG				1 ea
LGR25	LGR25	AUTOMATED LOGIC	LGR25	1 ea
PROT				1 ea

General Notes:

All ARC156 wiring shall be 22AWG single twisted pair, low capacitance (12.5pF/ft), shielded, plenum rated cable. ALC recommends Magnum Cable Corporation Product number A3ARC156.

Each ARC156 segment must be wired in a daisy chain configuration. Branching requires the use of a REP485.

Each ARC156 segment should have one (1) PROT485 installed to provide protection from electrical surges.

Each ARC156 segment end must be terminated with a TERM485 (120 ohm) terminating resistor.

The ARC156 network segment must have at least one (1) DIAG485 installed to supply bias.

Do not strip back shielded cable sheath more than 1" in order to keep twisted pair from separating. Do not ground shield to the panel or chassis ground. The shield should only be connected to the "Optional Shield" connection at a module.

Routing of communications cabling and control module locations shall be field verified.

PROT
DIAG

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Riser

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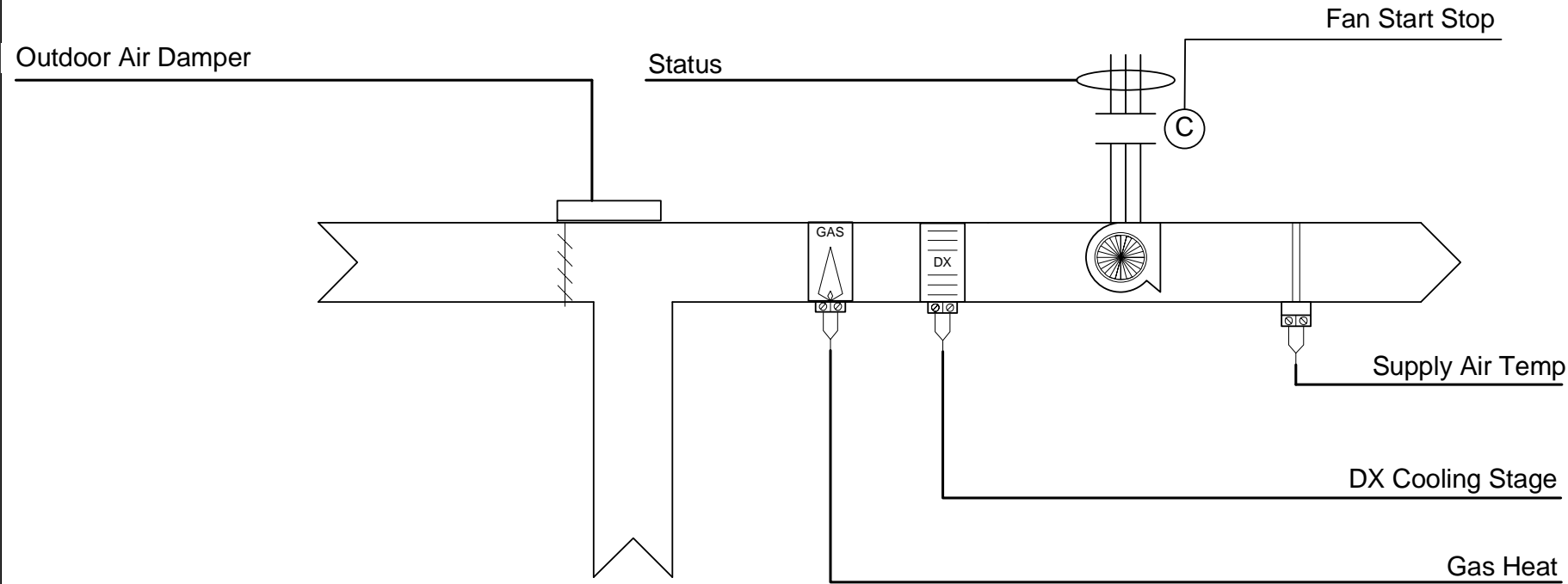
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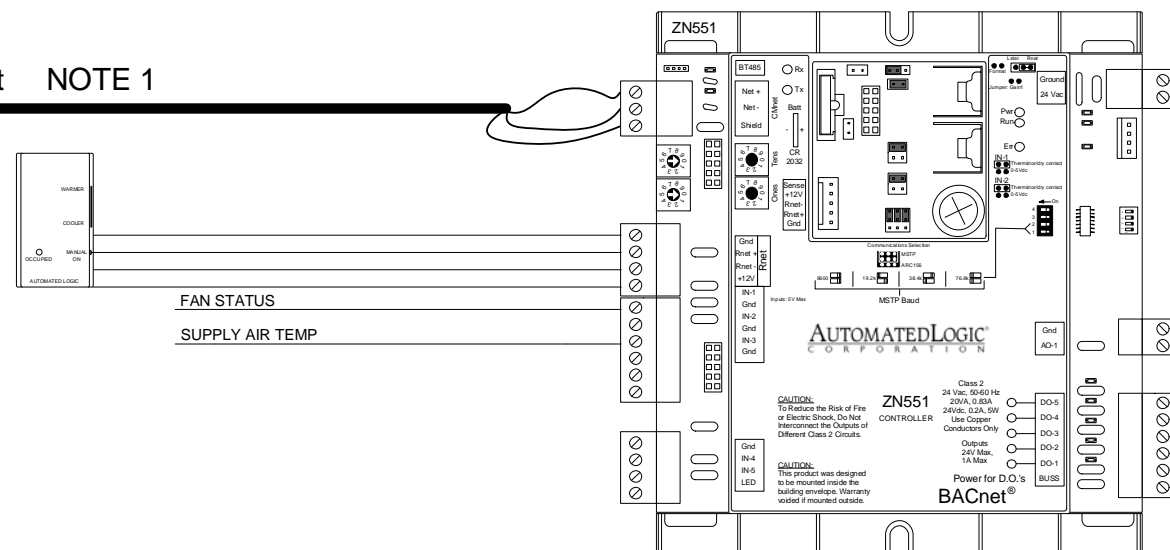
AHU 1

Bill of Materials

DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
6321p-1	RAT	JOHNSON	6321P-1	1 ea
SE6104a	SE6104A	AUTOMATED LOGIC	SE6104A	1 ea
te6327p-1	DUCT SENSOR 1K	JOHNSON	TE6327P-1	2 ea



ARCnet NOTE 1

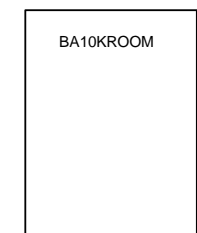
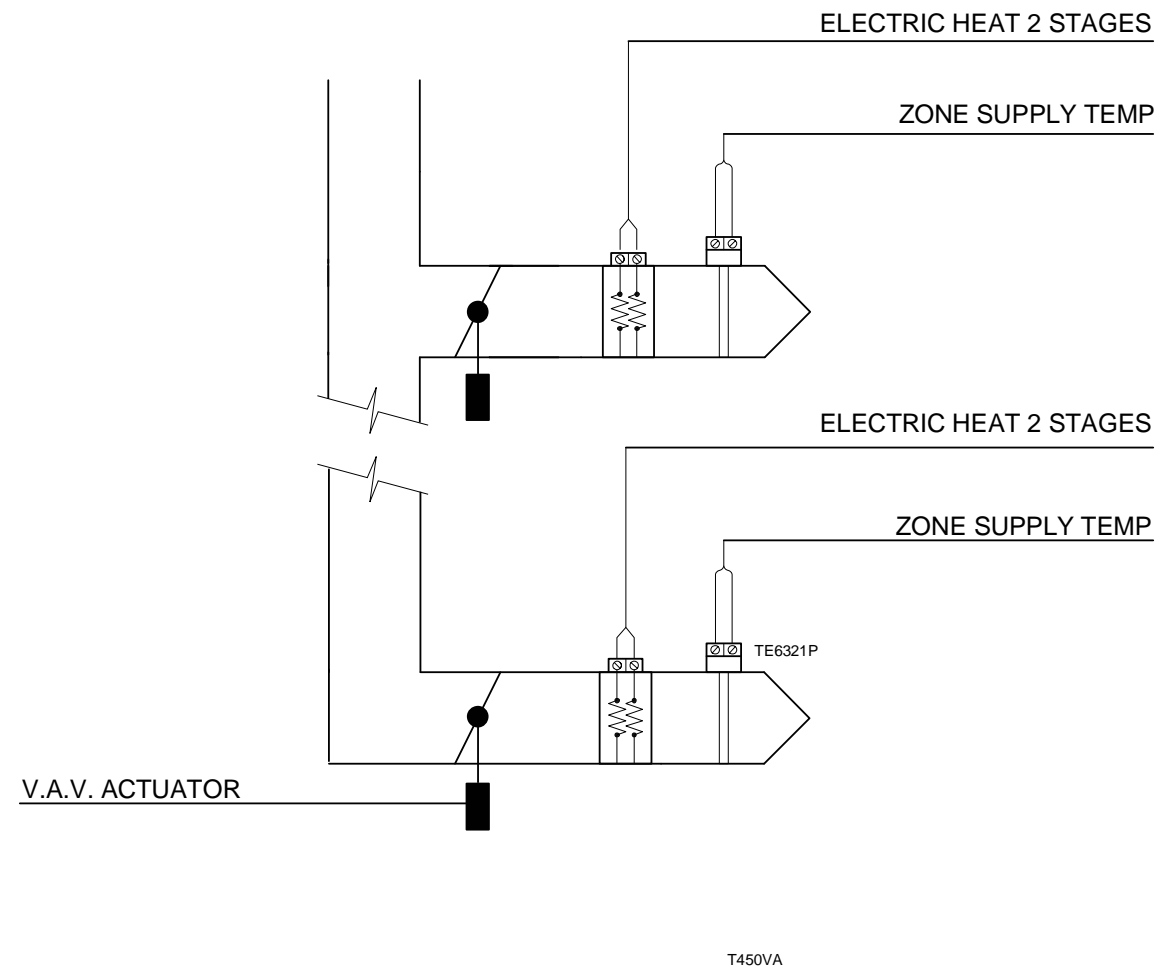


Note 1. Do not strip arcnet shield greater than 1.5 inches

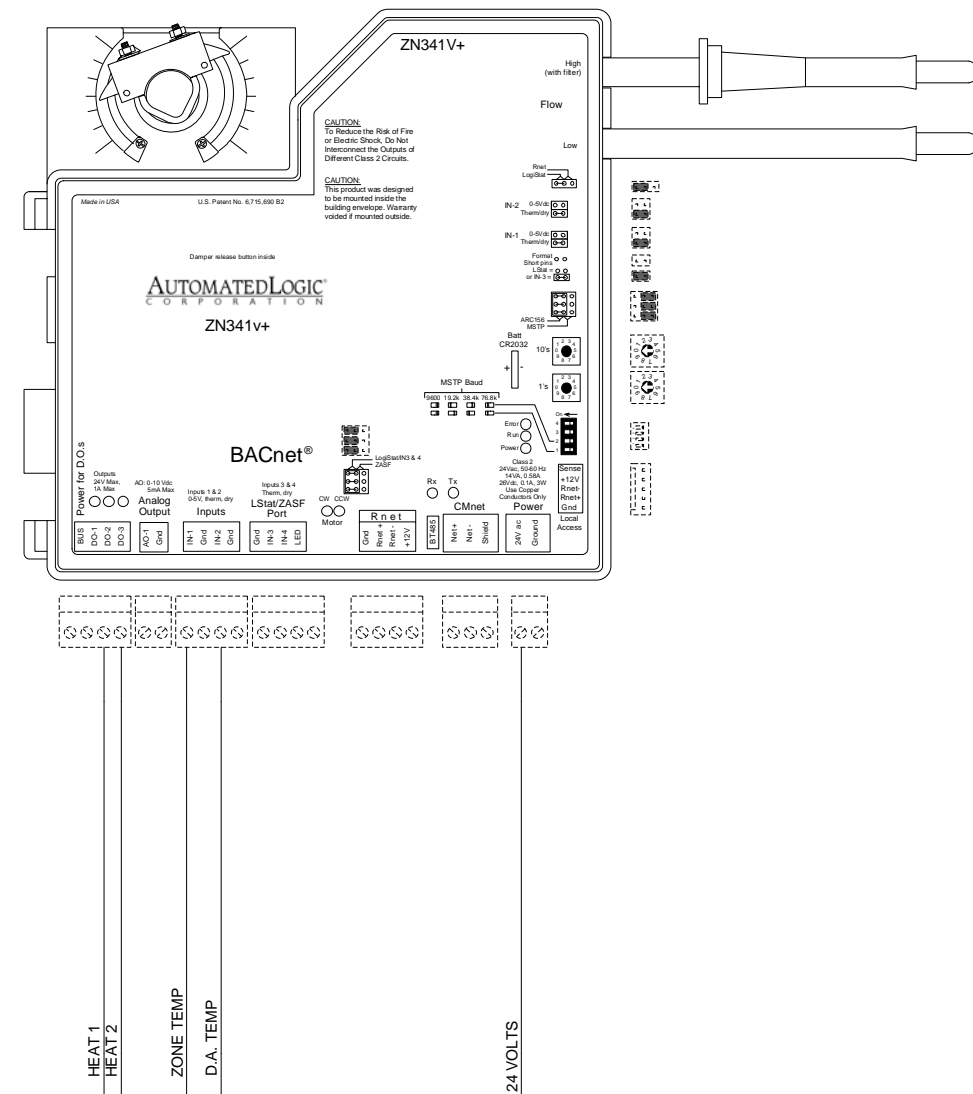
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VAV With Reheat

VAV 1,2,5,6,7




Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
ZN341V+	ZN341V+	AUTOMATED LOGIC	ZN341V+	5 ea
ba10kroom	WALL SNSR	ALC	BA10KROOM	5 ea
t450va	TRANS	TRANS	T450VA	5 ea
te6321p	8INCHDUCT	JOHNSON	TE6321P	11 ea



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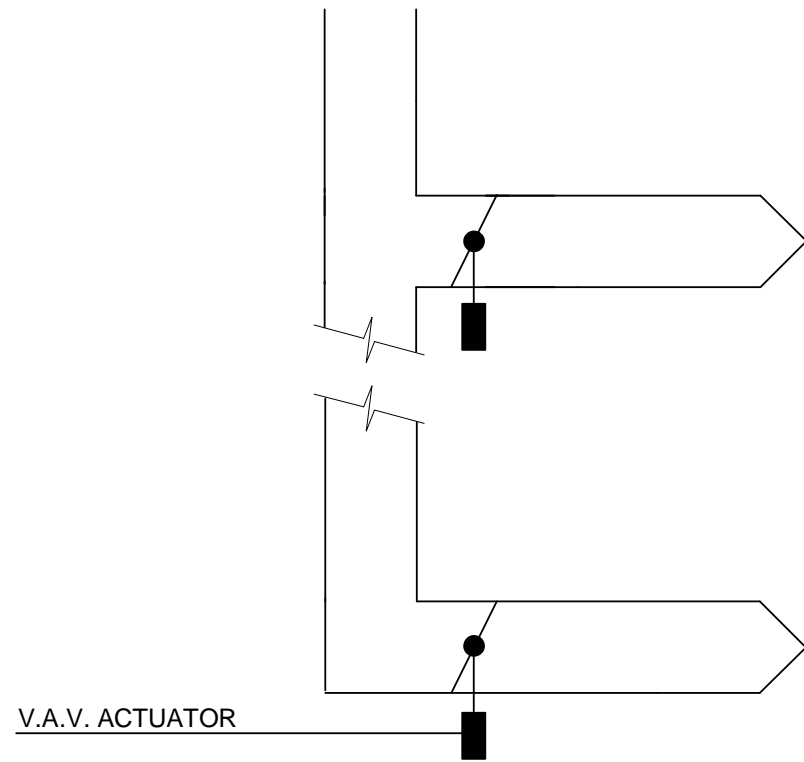
VAV With Reheat

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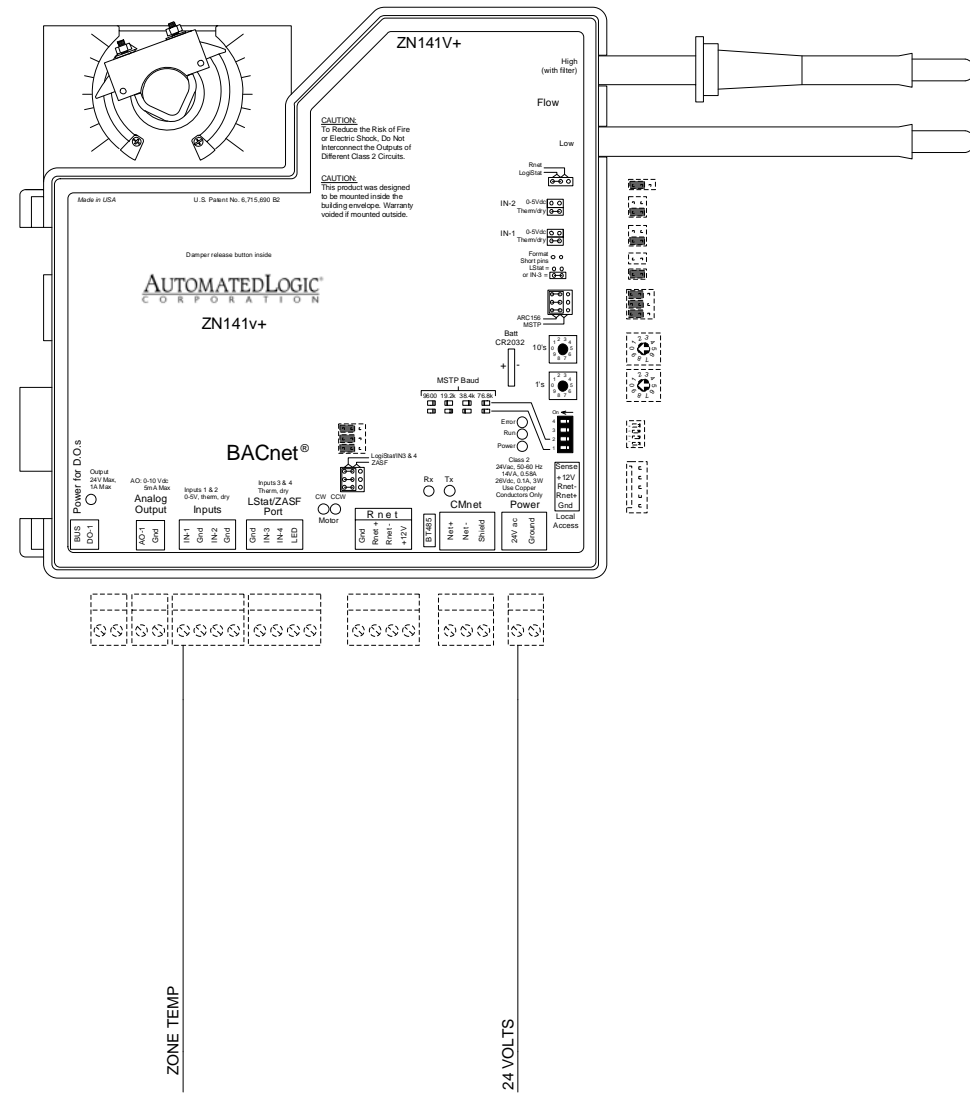
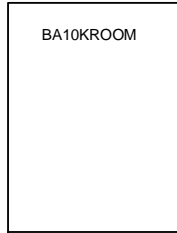
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VAV Cooling Only


VAV 3&4




T450VA



Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
ZN141V+	ZN141V+	AUTOMATED LOGIC	ZN141V+	2 ea
ba10kroom	WALL SNSR	ALC	BA10KROOM	2 ea
t450va	TRANS	TRANS	T450VA	2 ea

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VAV Cooling Only

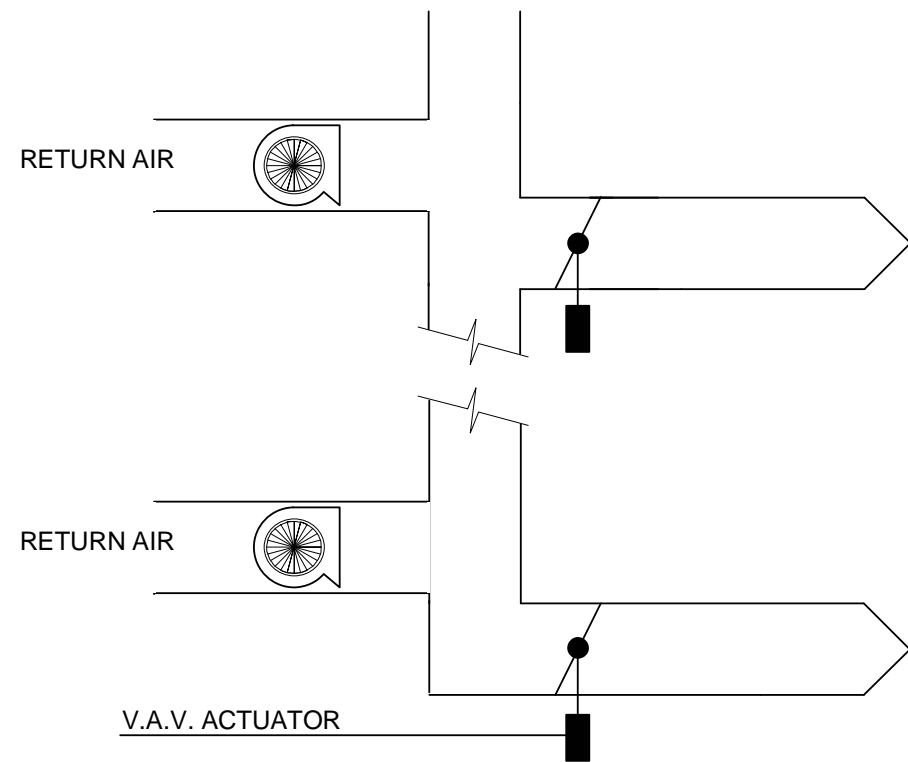
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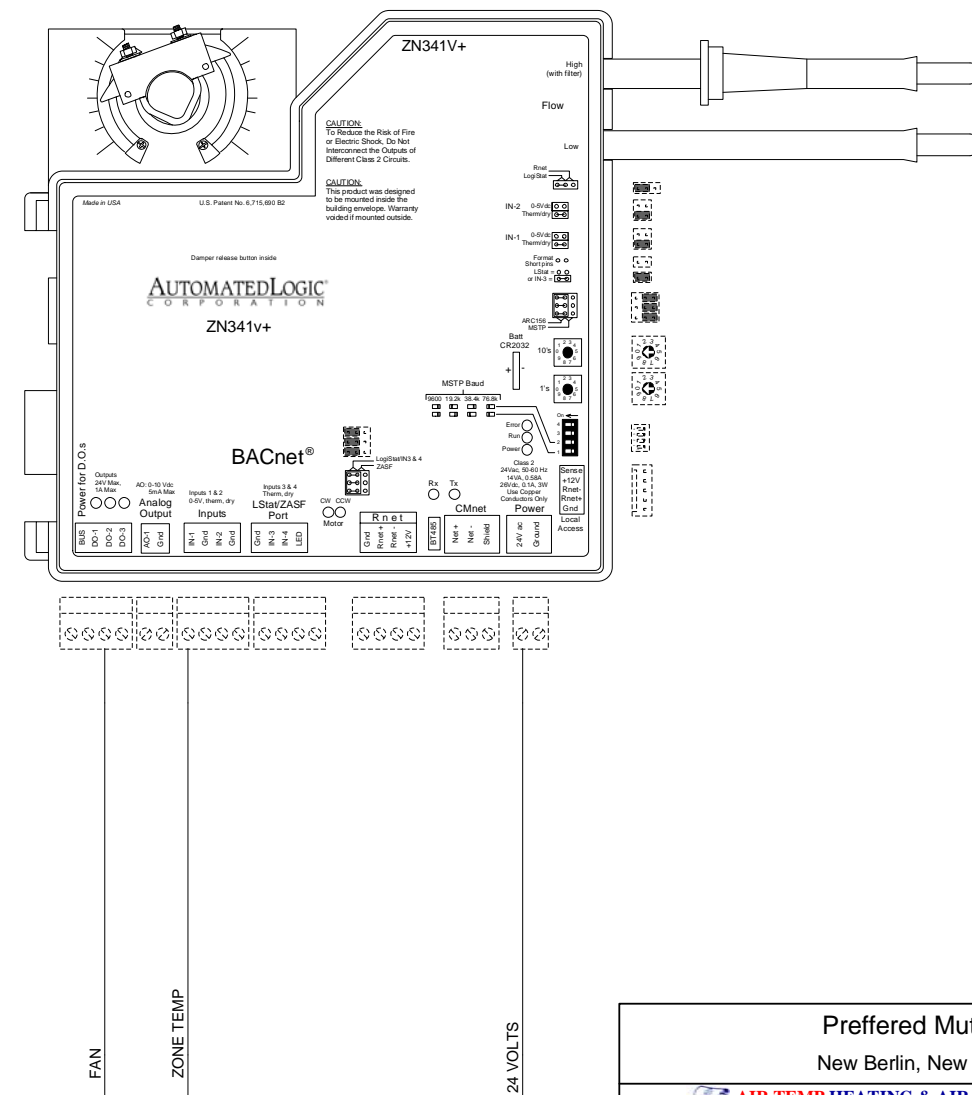
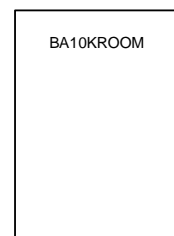
VAV Fan Powered

FTU 8,9,10

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
ZN341V+	ZN341V+	AUTOMATED LOGIC	ZN341V+	3 ea
ba10kroom	WALL SNSR	ALC	BA10KROOM	3 ea
t450va	TRANS	TRANS	T450VA	3 ea



T450VA



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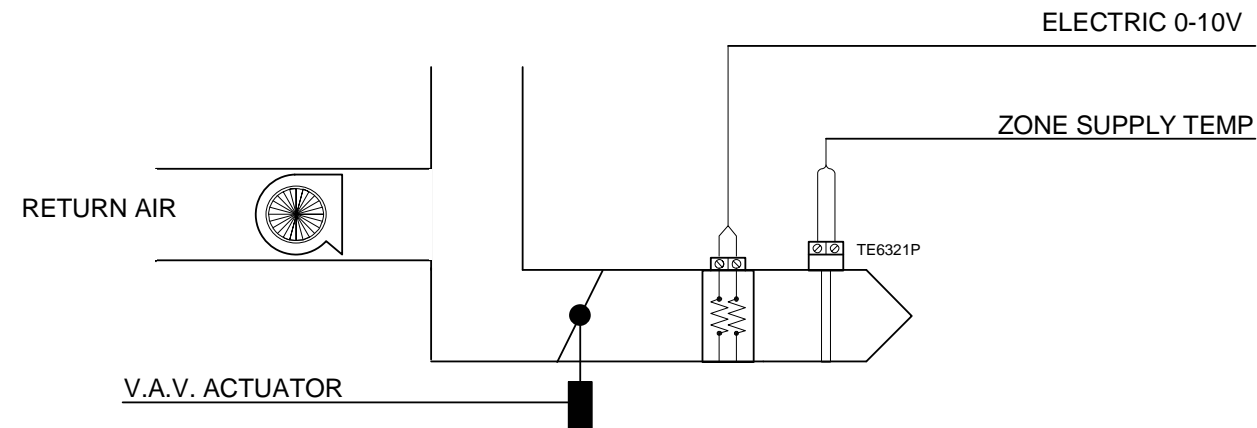
VAV Fan Powered

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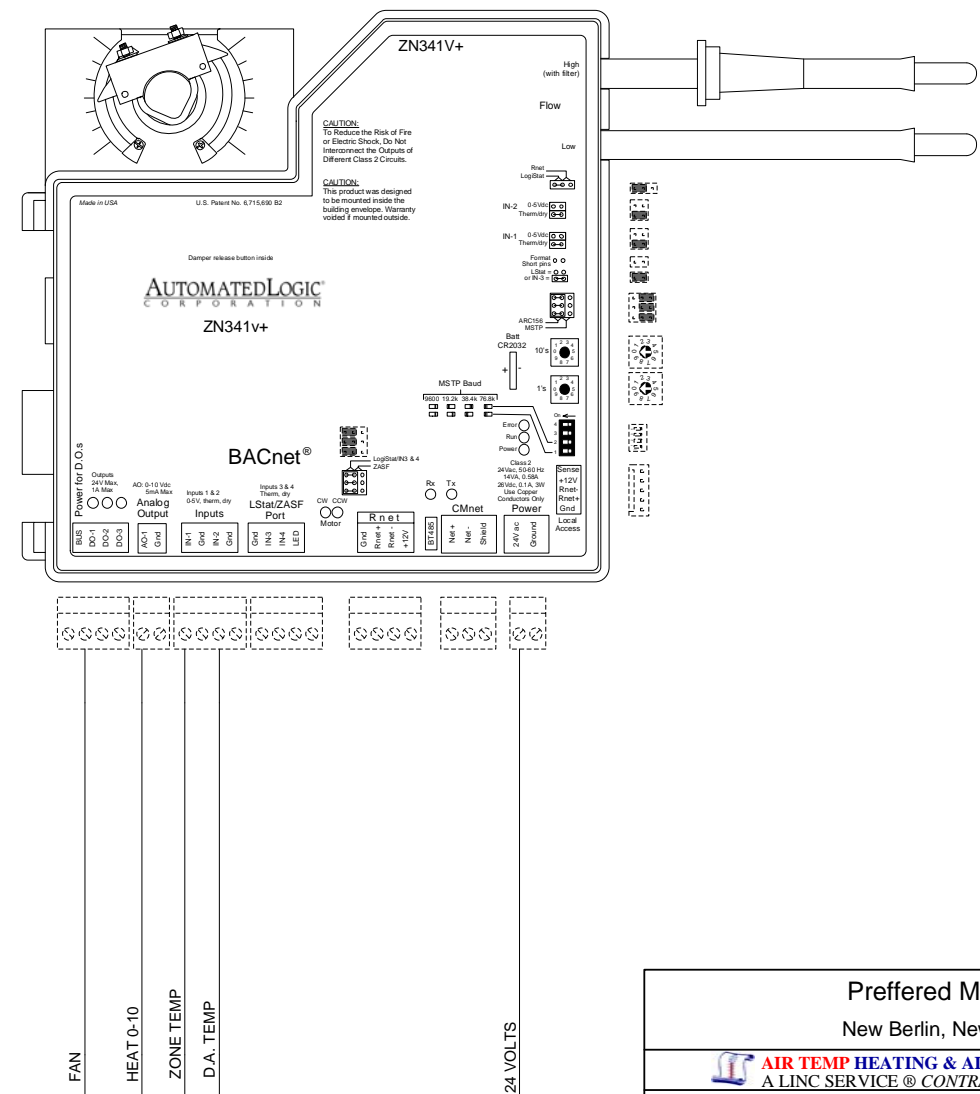
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VAV Fan Powered RH

FTU 11



Bill of Materials				
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ZN341V+	ZN341V+	AUTOMATED LOGIC	ZN341V+	1 ea
ba10kroom	WALL SNSR	ALC	BA10KROOM	1 ea
te6321p	8INCHDUCT	JOHNSON	TE6321P	1 ea



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VAV Fan Powered RH

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