

# Preferred Mutual New Berlin

New Berlin, New York



## **AIR TEMP HEATING & AIR CONDITIONING, INC.** **A LINC SERVICE ® CONTRACTOR**

1165 Front Street  
Binghamton, New York 13905

Phone Number: (607)772-8362

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Engineer/Architect


Mechanical Contractor      Air Temp

Job Number                      P8237

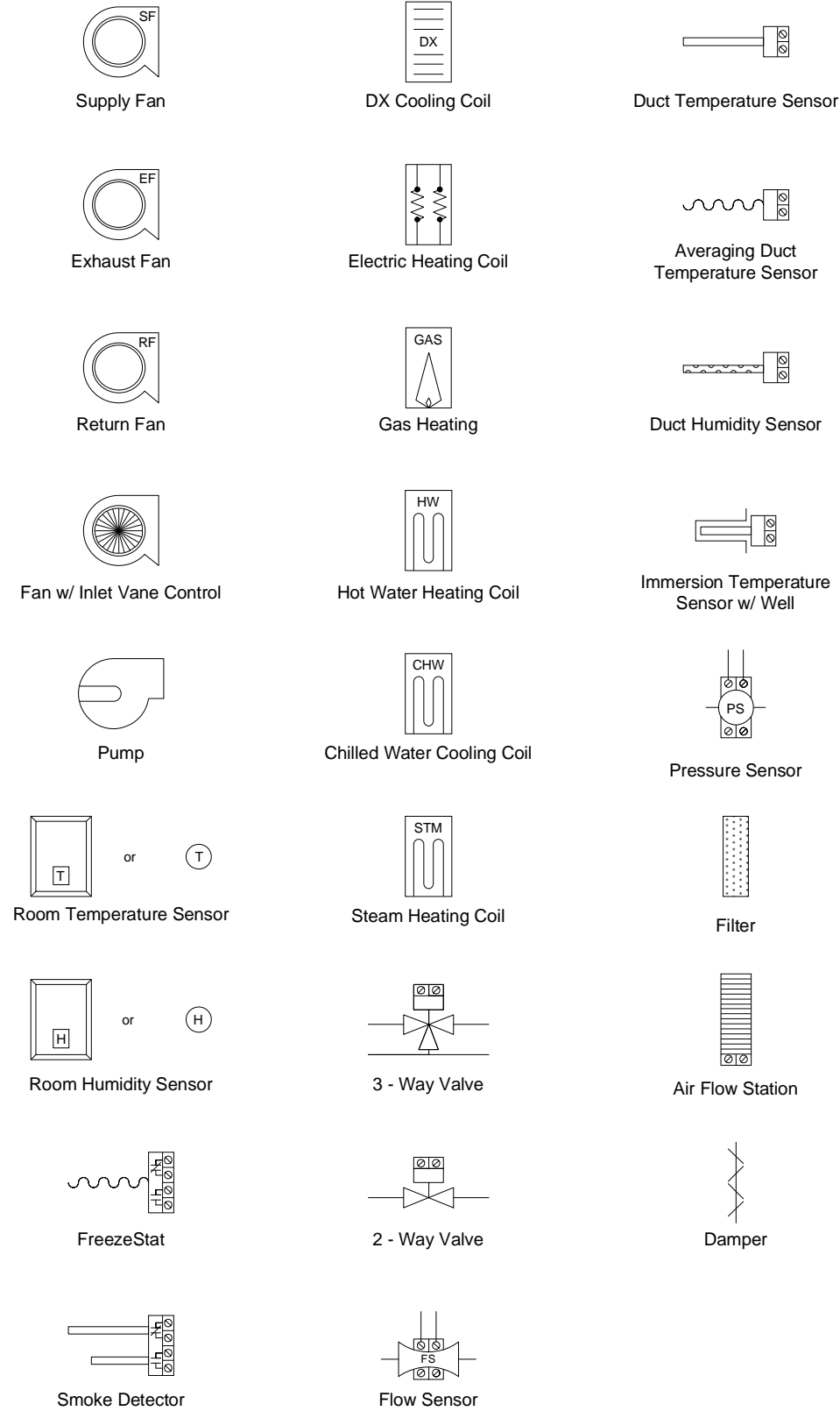
**AUTOMATEDLOGIC®**  
CORPORATION

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# Symbol Legend

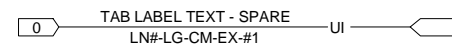


## Common Abbreviations:

AC - Air Conditioning	EVAP - Evaporator	SA - Supply Air
ACU - Air Conditioning Unit	F - Fahrenheit	SF - Supply Fan
AHU - Air Handling Unit	FCU - Fan Coil Unit	SP - Static Pressure
AI - Analog Input	HOA - Hand / Off / Auto	TEMP - Temperature
AO - Analog Output	HP - Heat Pump	UH - Unit Heater
AUTO - Automatic	HRU - Heat Recovery Unit	UV - Unit Ventilator
AUX - Auxiliary	HTEX - Heat Exchanger	VAV - Variable Air Volume
C - Common	HW - Hot Water	VVTU - Variable Volume Terminal Unit
CHW - Chilled Water	HWP - Hot Water Pump	W/ - with
CHWP - Chilled Water Pump	HWR - Hot Water Return	W/O - without
CHWR - Chilled Water Return	HWS - Hot Water Supply	WSHP - Water-Source Heat Pump
CHWS - Chilled Water Supply	MAX - Maximum	
COND - Condenser	MIN - Minimum	
CW - Condenser Water	MISC - Miscellaneous	
CWP - Condenser Water Pump	NC - Normally Closed	
CWR - Condenser Water Return	NO - Normally Open	
CWS - Condenser Water Supply	OA - Outdoor Air	
DA - Discharge Air	PIU - Powered Induction Unit	
DI - Digital Input	RA - Return Air	
DO - Digital Output	RF - Return Fan	
EA - Exhaust Air	RH - Relative Humidity	
EF - Exhaust Fan	RTU - Roof-top Unit	

## General Notes:

1. All control modules are drawn using standard ALC module representations.
2. 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.

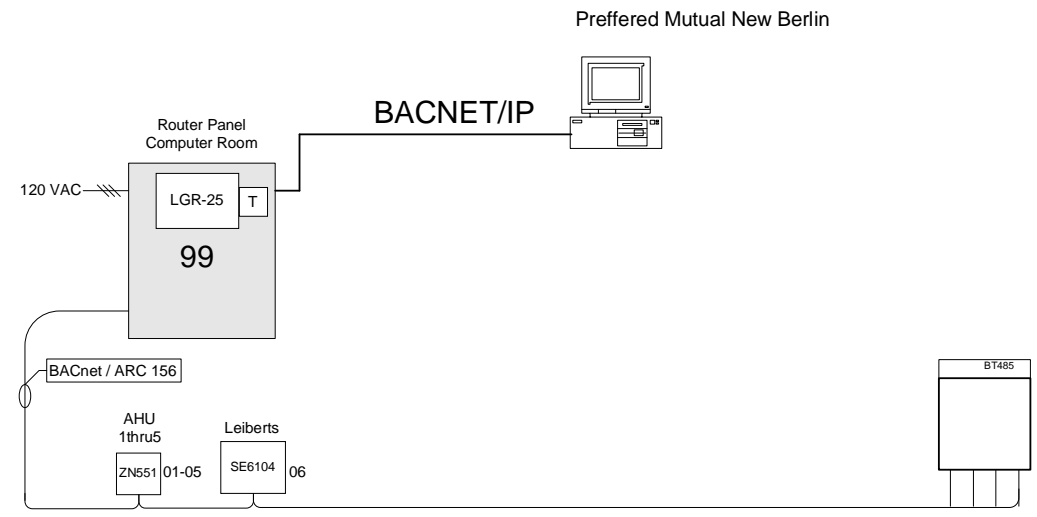
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# Summary Bill of Materials

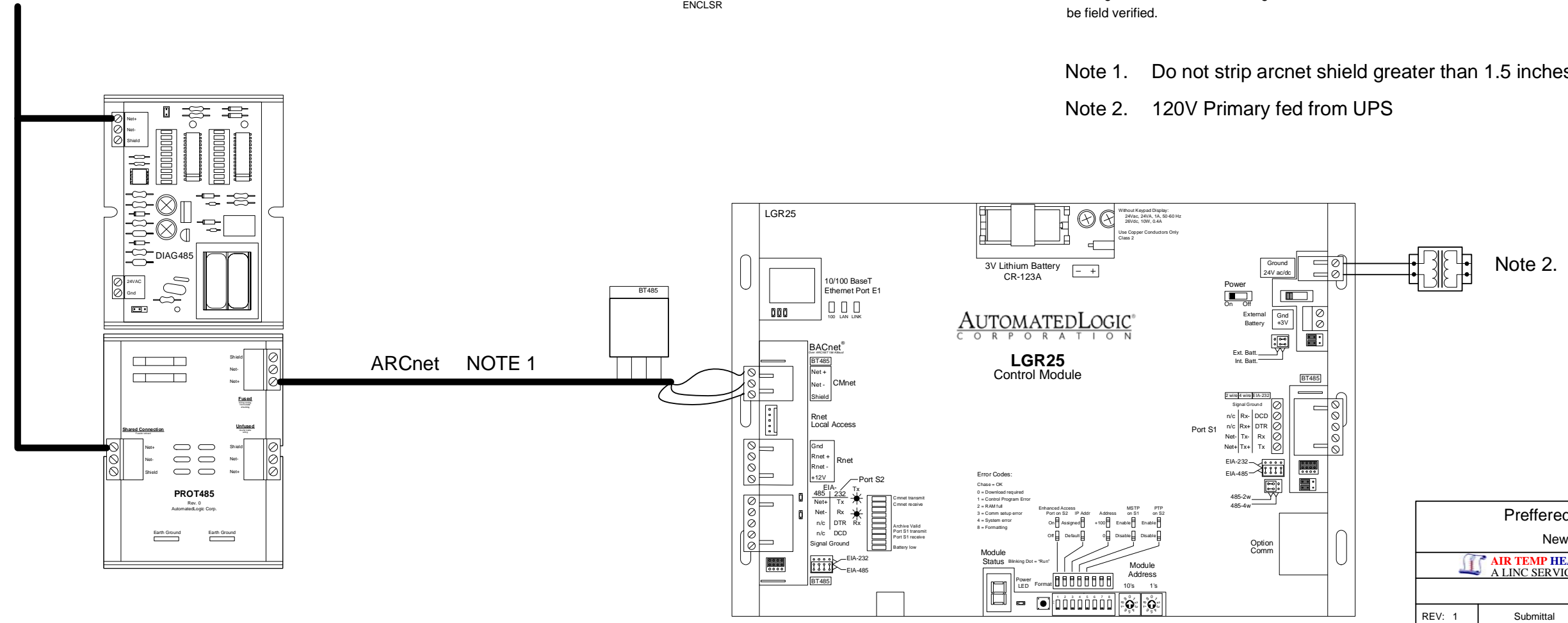
Summary Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DAT	DUCT SENSE	BAPI	BA10K	5 ea
DIAG				1 ea
LGR25	LGR25	AUTOMATED LOGIC	LGR25	1 ea
PROT				1 ea
RS	SPACE SENSOR	ALC	RS	5 ea
SE6104a	SE6104A	AUTOMATED LOGIC	SE6104A	1 ea
Wall snsr	WALL SNSR	BAPI	BA10KW	3 ea
ZN551	ZN551	AUTOMATED LOGIC	ZN551	5 ea
bt485	BIAS TERM	ALC	BT485	2 ea
enclsr	ENCLSR	ALPS	ALPS003	2 ea
trans	TRANSFORMER	FD	TR50VA	1 ea

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# Riser



- PROT
- DIAG
- BT485
- ENCLSR



## Bill of Materials

DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DIAG				1 ea
LGR25		AUTOMATED LOGIC	LGR25	1 ea
PROT				1 ea
b485	BIASTERM	ALC	BT485	2 ea
enclsr	ENCLSR	ALPS	ALPS003	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.

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

Note 2. 120V Primary fed from UPS

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**Riser**

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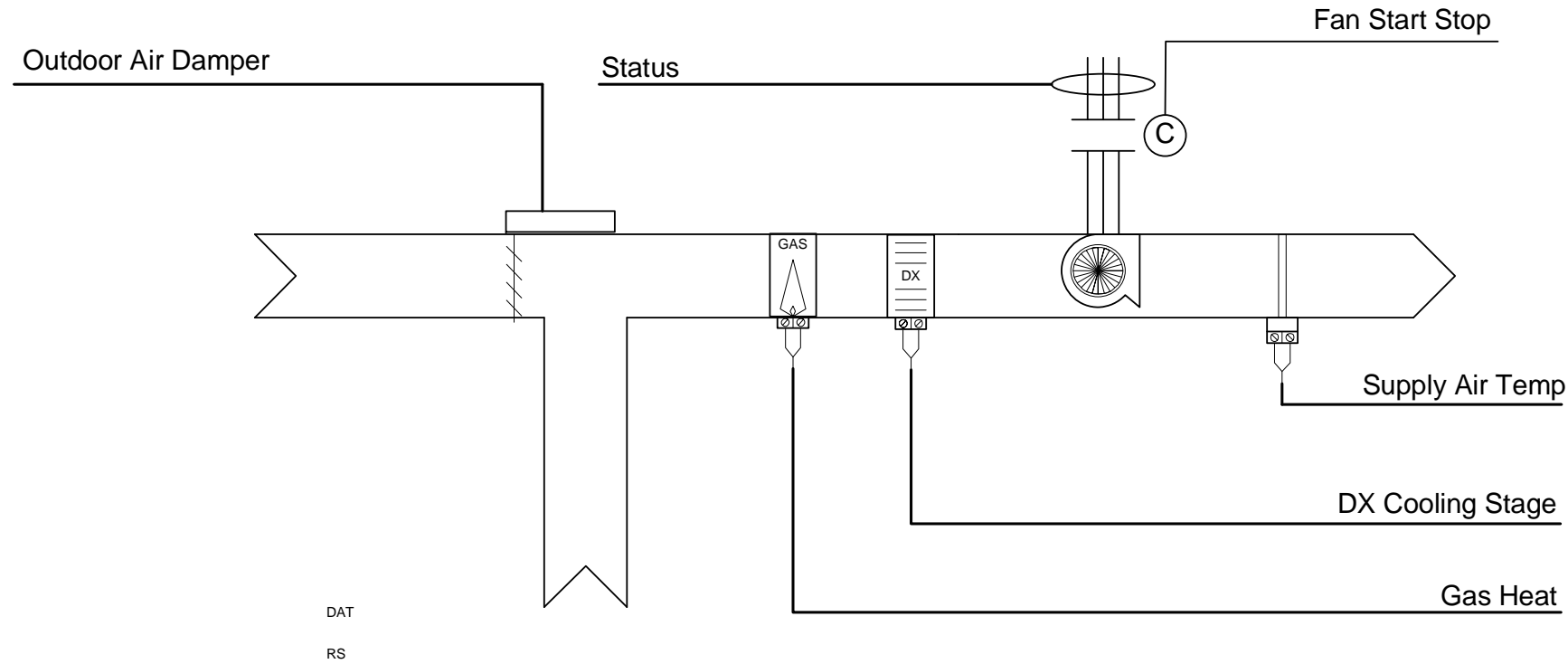
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# AHU 1

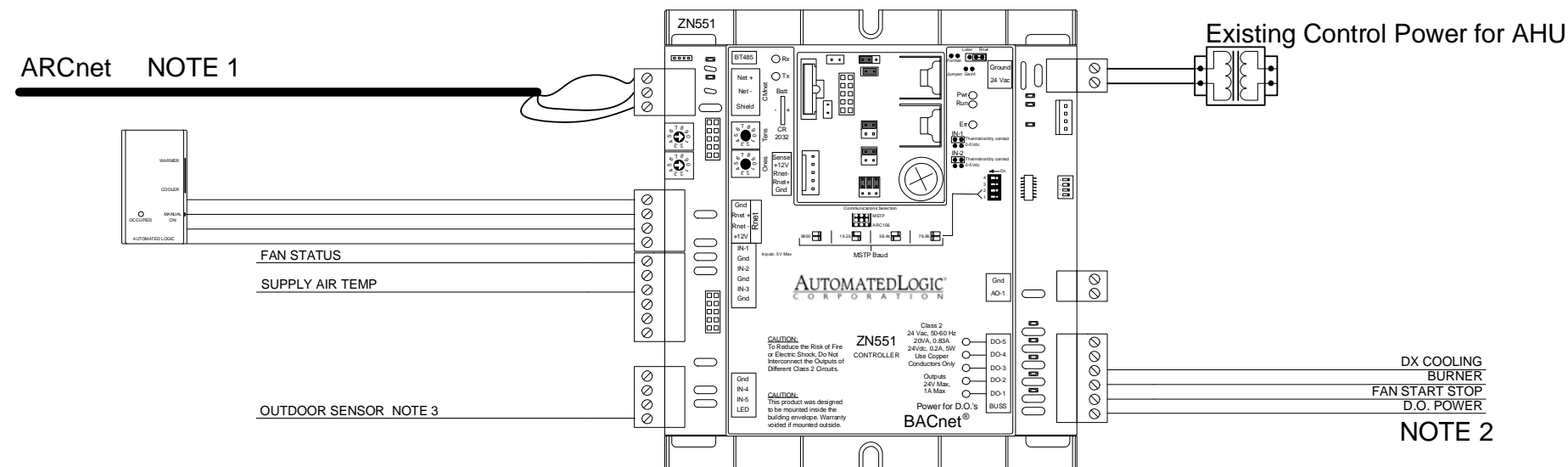
AHU 1 thru 5

## Bill of Materials

DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DAT	DUCT SENSE	BAPI	BA10K	5 ea
RS	SPACE SENSOR	ALC	RS	5 ea
ZN551	ZN551	AUTOMATED LOGIC	ZN551	5 ea



- Note 1. Do not strip arcnet shield greater than 1.5 inches
- Note 2. D.O. power is supplied by AHU's control transformer
- Note 3. O.A. Sensor north wall to nearest AHU Controller



- Note 1. Do not strip arcnet shield greater than 1.5 inches
- Note 2. D.O. power is supplied by AHU's control transformer

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AHU 1

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# LEIBERT INTERFACE

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
SE6104a	SE6104A	AUTOMATED LOGIC	SE6104A	1 ea
Wall snsr	WALL SNSR	BAPI	BA10KW	3 ea
enclsr	ENCLSR	ALPS	ALPS003	1 ea
trans	TRANSFORMER	FD	TR50VA	1 ea

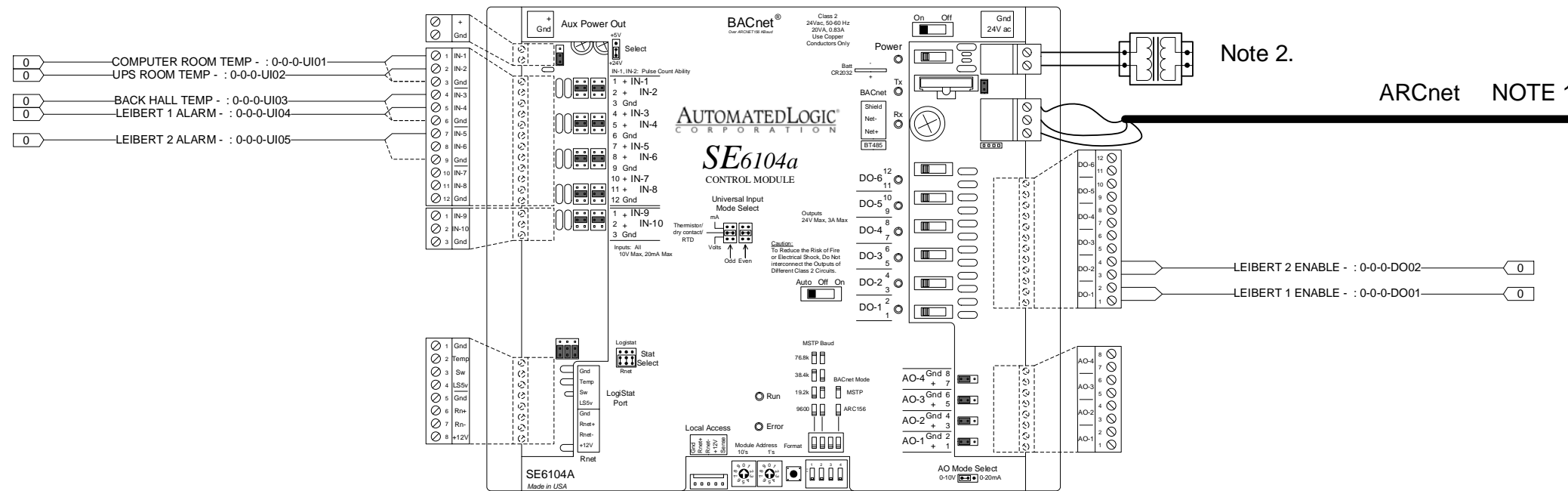
Note 1. Do not strip arcnet shield greater than 1.5 inches

Note 2. 120V Primary fed from UPS

ENCLSR

TRANS

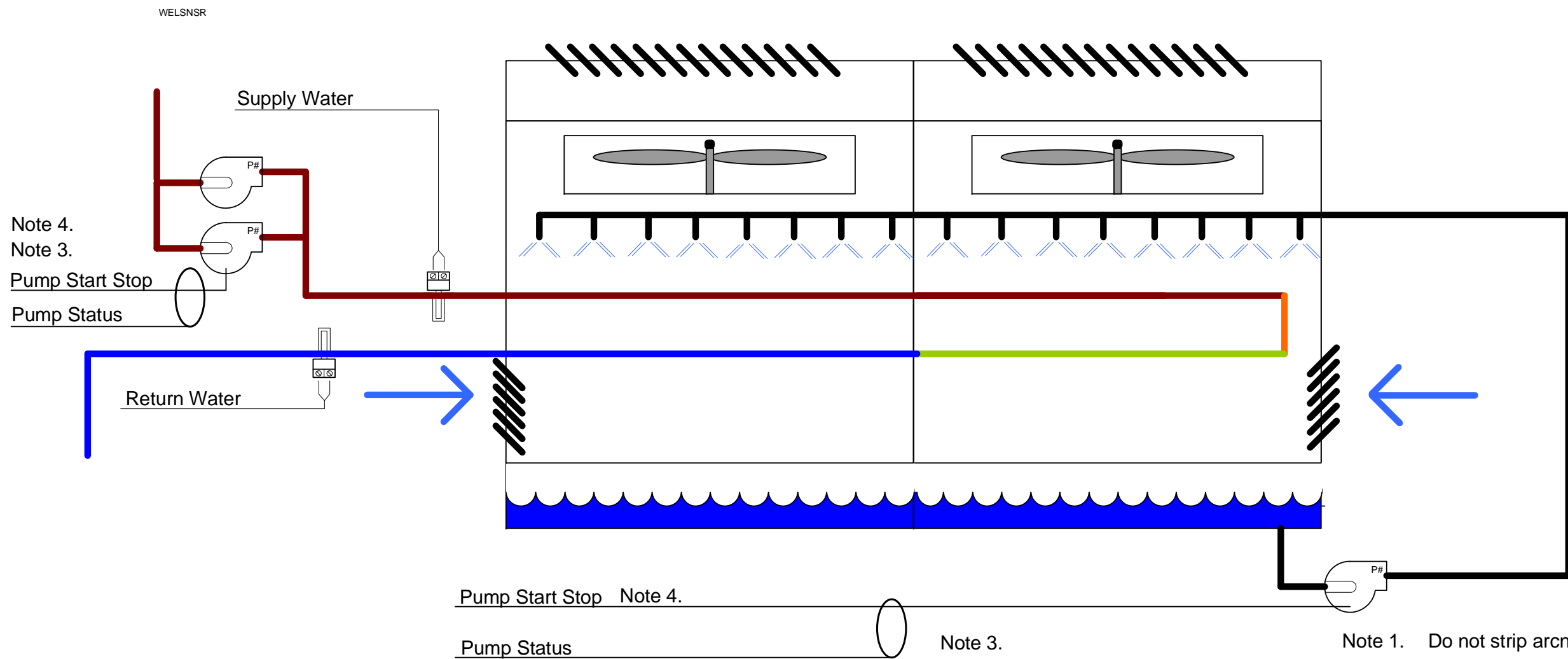
WALL SNSR



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# Cooling Tower

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
SE6104a	SE6104A	AUTOMATED LOGIC	SE6104A	1 ea
welsnsr	WELSNSR	BAPI	BA10KI4	2 ea



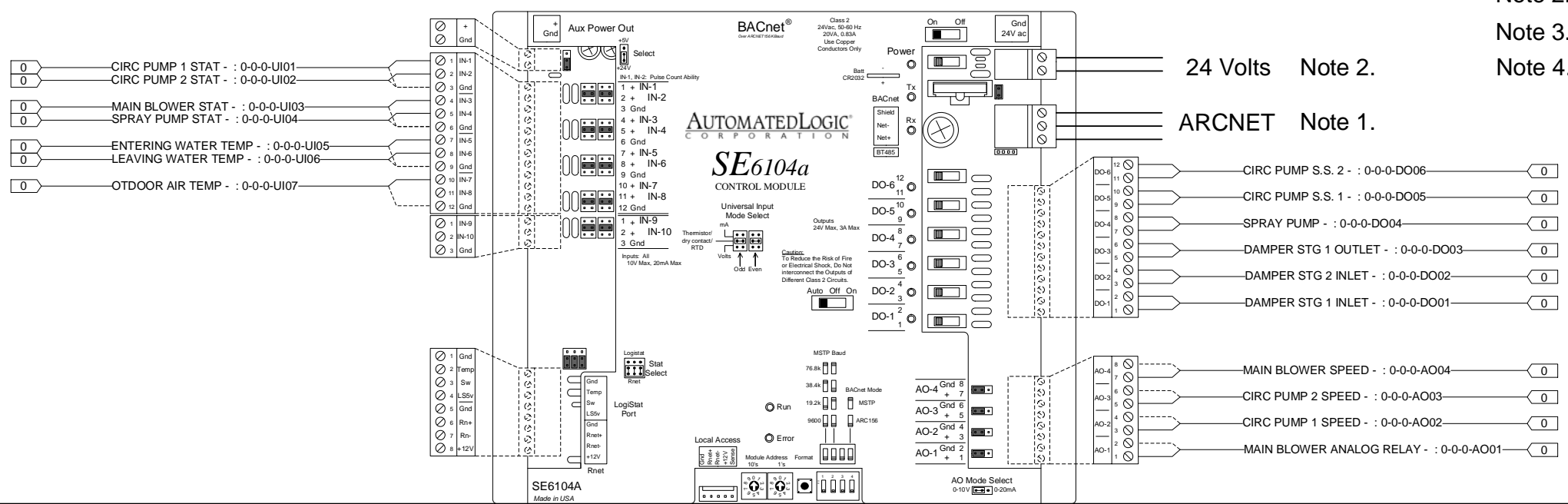
Note 4.  
Note 3.  
Pump Start Stop  
Pump Status

Pump Start Stop Note 4.

Pump Status

Note 3.

- Note 1. Do not strip arcnet shield greater than 1.5 inches
- Note 2. Use Existing Control Transformer
- Note 3. Use Existing CT's
- Note 4. Isolation Control Relays Use Existing



24 Volts Note 2.

ARCNET Note 1.

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Cooling Tower

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