DCMO BOCES - Phase 1&2 AS BUILT

Norwich / Masonville, New York

As Prepared By

AIR TEMP HEATING & AIR CONDITIONING, INC.

A LINC SERVICE ® *CONTRACTOR*

1165 Front Street

Binghamton, New York 13905

Phone Number: 607-772-8362

Architect	Bearsch, Compeau, Knudson
Mechanical Engineer	Bearsch, Compeau, Knudson
Mechanical Contractor	Louis N. Picciano & Son

Table of Contents

DCMO BOCES - Phase 1&2 AS BUILT

Norwich / Masonville, New York

Air Temp Heating & Air Conditioning, Inc.

Table of Contents

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® CONTRACTOR			CHECK BY: RSL
			DSCODE:

Symbol Legend

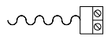
Supply Fan

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

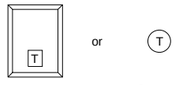
Hot Water Heating Coil

Immersion Temperature Sensor w/ Well

Pump

Chilled Water Cooling Coil

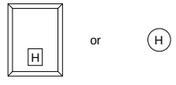
Pressure Sensor



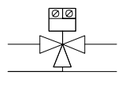
Room Temperature Sensor

Steam Heating Coil

Filter

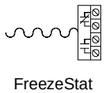


Room Humidity Sensor

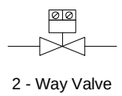


3 - Way Valve

Air Flow Station

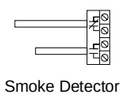


FreezeStat



2 - Way Valve

Damper



Smoke Detector

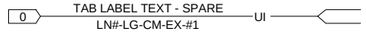
Flow Sensor

Common Abbreviations:

AC	- Air Conditioning	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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Symbol Legend

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® CONTRACTOR			CHECK BY: RSL
			DSCODE:

Summary Bill of Materials

Summary Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
AAR	ARCNET REPEATER	AUTOMATED LOGIC	AAR	1 ea
AQST	AQUASTAT	JOHNSON CONTROLS	A19DAC-1C	22 ea
CO	CARBON MONOXIDE SENSOR	BAPI	BA/420CO-3-ND-EUO-FM	2 ea
COA	ALARM BUZZER	MYN TAHL CORP	FM-24A-901A	2 ea
DAT	DA TEMP SENSOR	BAPI	BA/10K-2-D-12	20 ea
DATP	DISCHARGE AIR TEMP SENSOR	BAPI	BA/10K-2-RPP-8	105 ea
DHS	DUCT HUMIDITY SENSOR	BAPI	BA/H200-D	9 ea
DIAG	BIAS BOARD	AUTOMATED LOGIC	DIAG485	1 ea
DPT	DIFF PRESSURE TRANSMITTER-WET	SETRA	2301-025PD-2F-11-B	12 ea
ECON	DAMPER ACTUATOR	BELIMO	AF24-SR US	10 ea
EN-24	ENCLOSURE	DETROIT CONTROLS	DCP-24-T	2 ea
EOCV	CONTROL VALVE	BELIMO	SEE VALVE SCHEDULE	3 ea
F/BP	DAMPER ACTUATOR	BELIMO	LF24-SR US	3 ea
FLOW	FLOW SWITCH	INTEC	DBSF-1KPLN-4US	9 ea
HCV	HEATING CONTROL VALVE	BELIMO	SEE VALVE SCHEDULE	7 ea
HTL	HIGH TEMP SENSOR	SIEMENS	141-0530	4 ea
IMM	IMMERSION TEMP SENSOR	BAPI	BA/10K-2-I-4	16 ea
IMMS	IMMERSION TEMP SENSOR	BAPI	BA/10K-2-I-2	32 ea
LTD	LOW AIR TEMP SENSOR	SIEMENS	134-1510	10 ea
M8102	CONTROL MODULE	AUTOMATED LOGIC	M8102	2 ea
MAT	MIXED AIR TEMP SENSOR	BAPI	BA/10K-2-A-12	10 ea
MX4106	CONTROL MODULE	AUTOMATED LOGIC	MX4106	2 ea
MX880	CONTROL MODULE	AUTOMATED LOGIC	MX880	2 ea
OAD	DAMPER ACTUATOR	BELIMO	NF24-US	4 ea
PROT	SURGE PROTECTOR	AUTOMATED LOGIC	PROT485	1 ea
REP	SIGNAL REPEATER	AUTOMATED LOGIC	REP485	2 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	150 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	139 ea
RIBXL	RELAY	FUNCTIONAL DEVICES	RIBXLCRF	24 ea
SE6104	CONTROL MODULE	AUTOMATED LOGIC	SE6104	16 ea
STAT	LV RA THERMOSTAT	SIEMENS	RAA20U	1 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	147 ea
WELL	IMMERSION TEMP SENSOR WELL	BAPI	BA/4	16 ea
WELS	IMMERSION TEMP SENSOR WELL	BAPI	BA/2	32 ea
ZN220	CONTROL MODULE	AUTOMATED LOGIC	ZN220	16 ea
ZN253	CONTROL MODULE	AUTOMATED LOGIC	ZN253	3 ea
ZN551	CONTROL MODULE	AUTOMATED LOGIC	ZN551	106 ea
ZNT	ZONE TEMPERATURE SENSOR	AUTOMATED LOGIC	RS PLUS	112 ea

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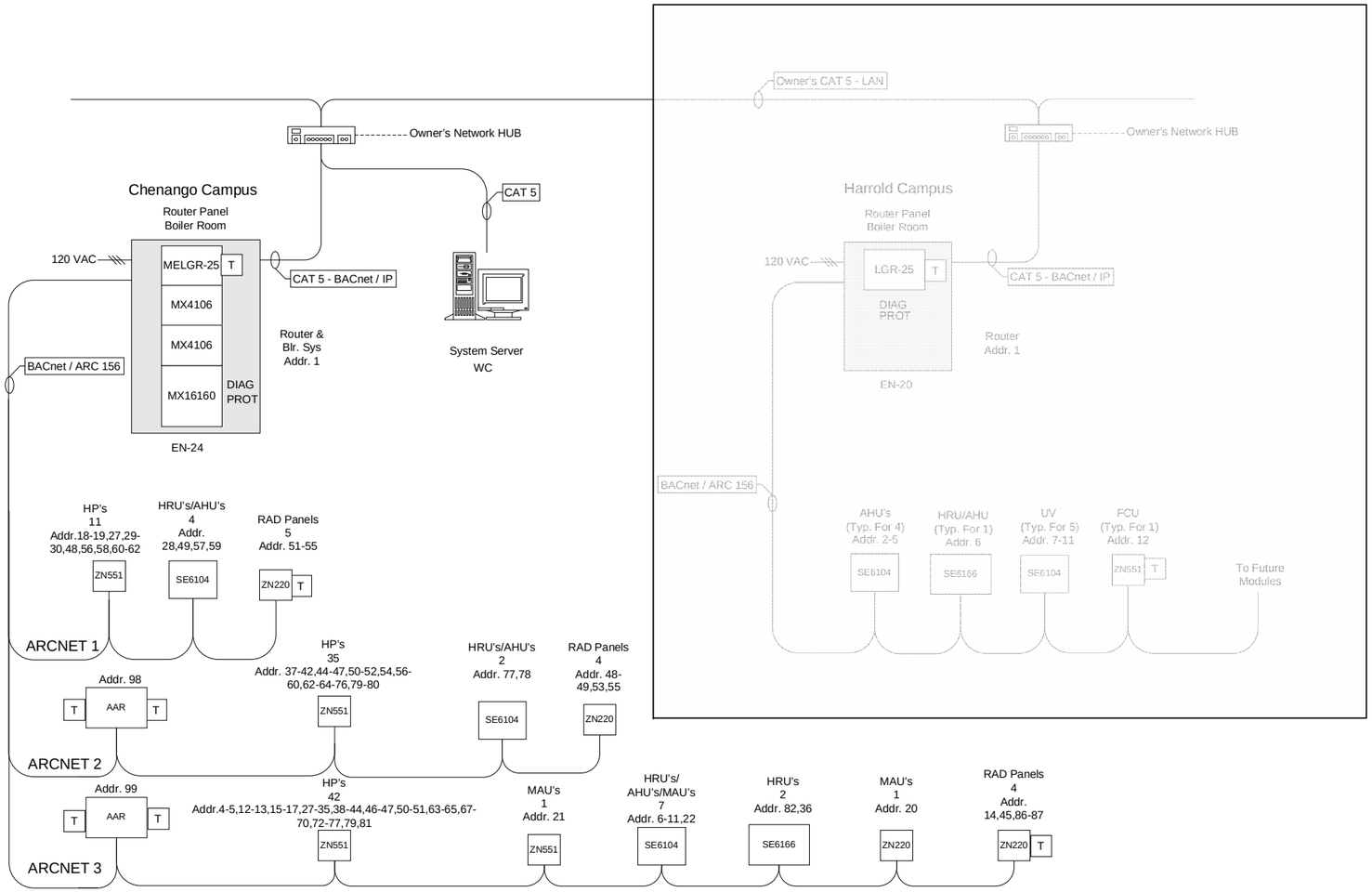
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® CONTRACTOR			DSCODE:
			4 of 69

Riser Diagram

DCMO NORWICH CAMPUS

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
AAR	ARCNET REPEATER	AUTOMATED LOGIC	AAR	1 ea
DIAG	BIAS BOARD	AUTOMATED LOGIC	DIAG485	2 ea
EN-20	ENCLOSURE	DETROIT CONTROLS	DCP-20-T	1 ea
EN-24	ENCLOSURE	DETROIT CONTROLS	DCP-24-T	1 ea
PROT	SURGE PROTECTOR	AUTOMATED LOGIC	PROT485	2 ea
WC	WEBCTRL SOFTWARE	AUTOMATED LOGIC	WC	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.

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Riser Diagram

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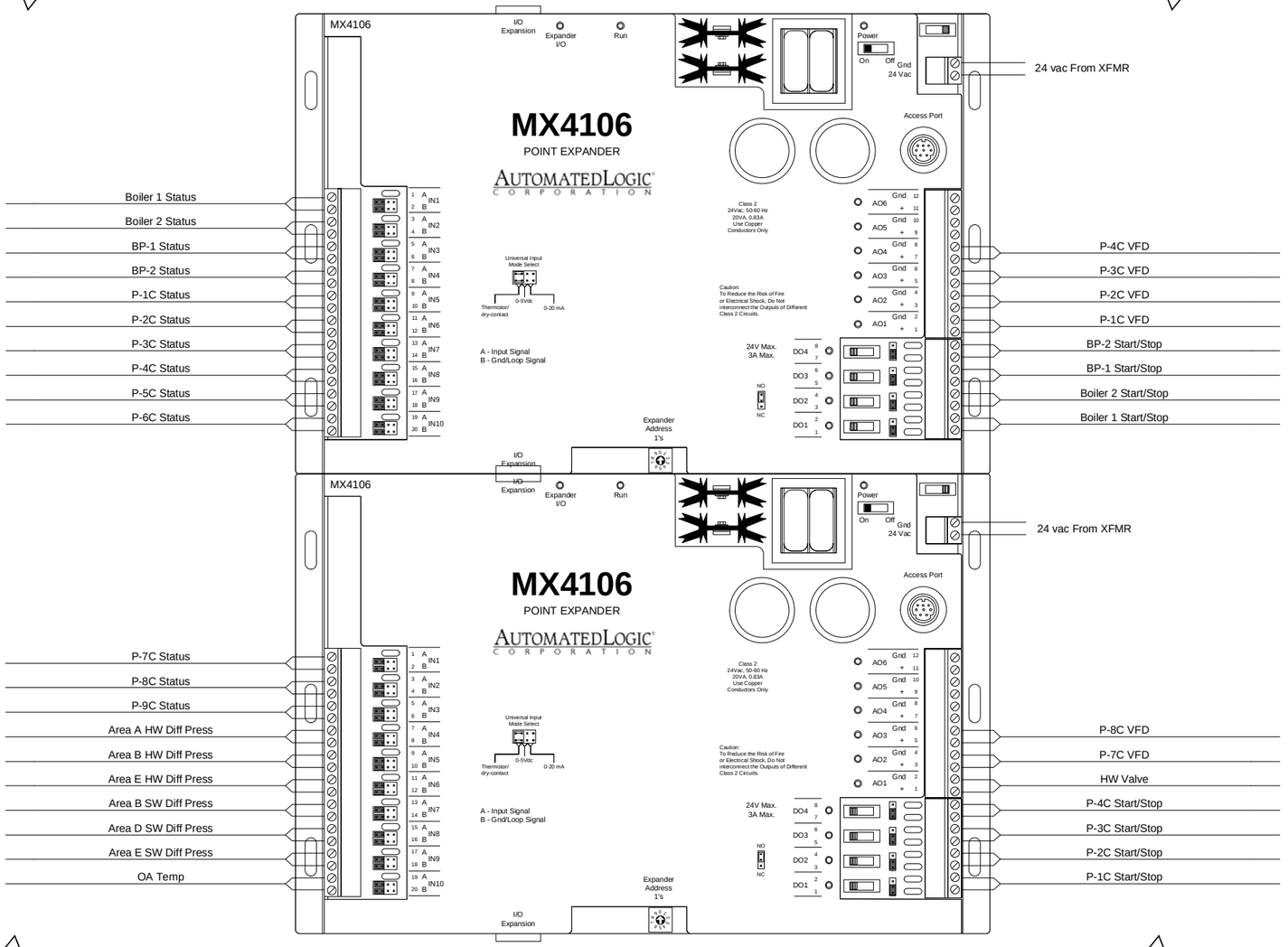
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® *CONTRACTOR*			DSCODE:
			5 of 69

Norwich Boiler Room

Chenango Campus

Panel continued from previous page



Panel continued on next page

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Norwich Boiler Room

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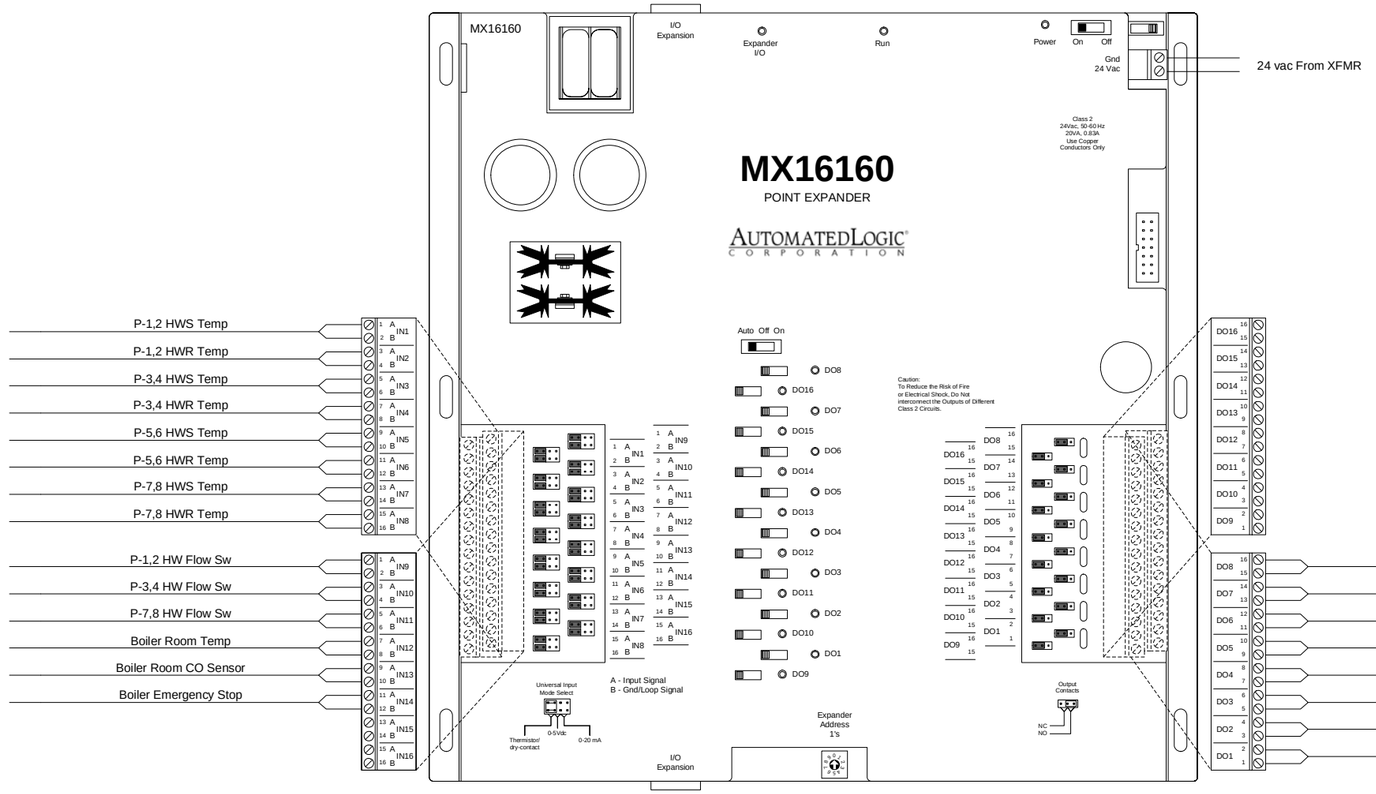
			DSCODE:
			6 of 69

Norwich Boiler Room 2

Chenango Campus

Panel continued from previous page



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Norwich Boiler Room 2

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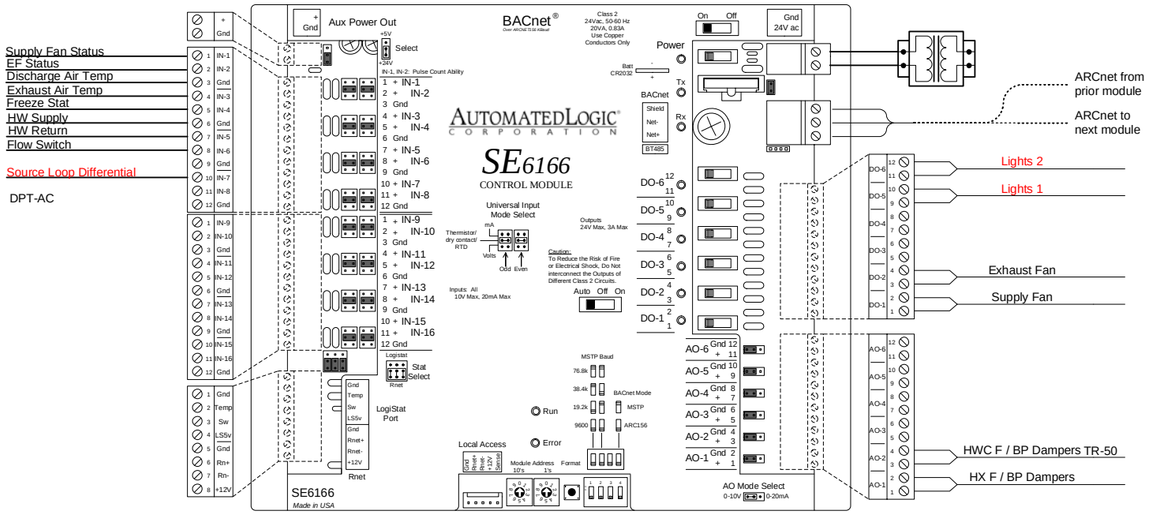
			7 of 69

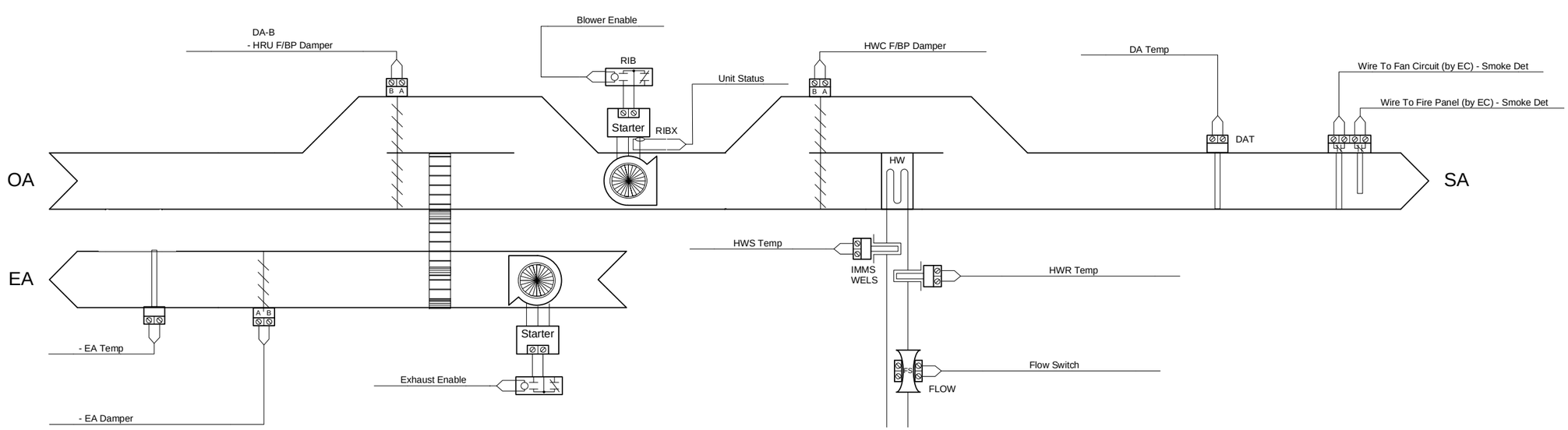
HRU Indoor 1C



Bill of Materials

DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DA-B	SR PROPORTIONAL 133 IN-LB 2-10VDC	BELIMO	AF24-SR ALC	2 ea
DAT	DA TEMP SENSOR	BAPI	BA/10K-2-D-12	2 ea
DPT-AC	DUCT PRESSURE TRANSDUCER 0-5 IN. 4-20MA	MAMAC	PR-276-R10-MA	1 ea
FLOW	FLOW SWITCH	INTEC	DBSF-1KPLN-4US	1 ea
IMMS	IMMERSION TEMP SENSOR	BAPI	BA/10K-2-I-2	2 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	2 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	2 ea
SE6166	SE6166	AUTOMATED LOGIC	SE6166	1 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	9 ea
WELS	IMMERSION TEMP SENSOR WELL	BAPI	BA/2	2 ea

HRU 1C Network 2 Address 77



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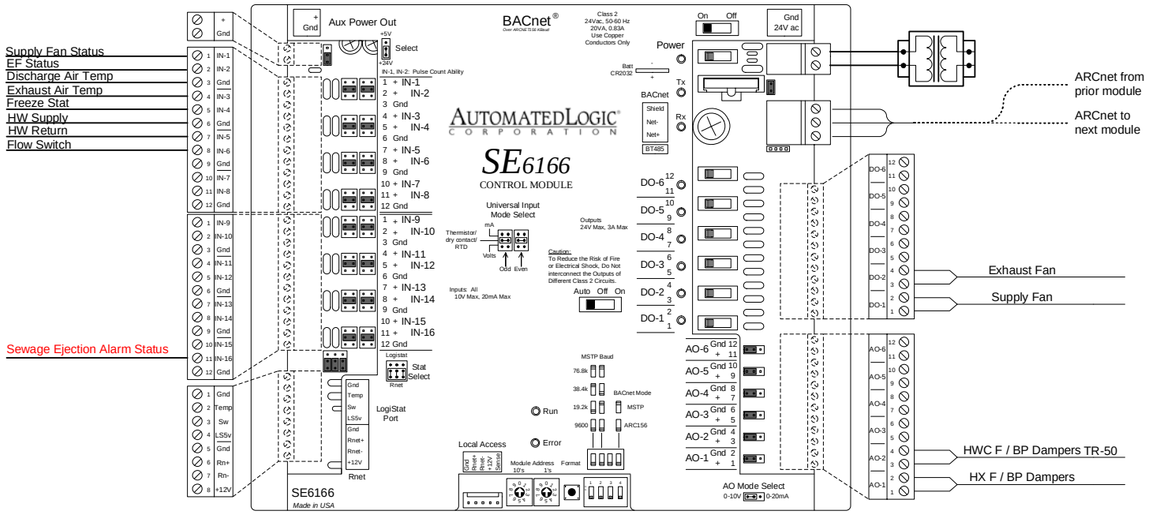
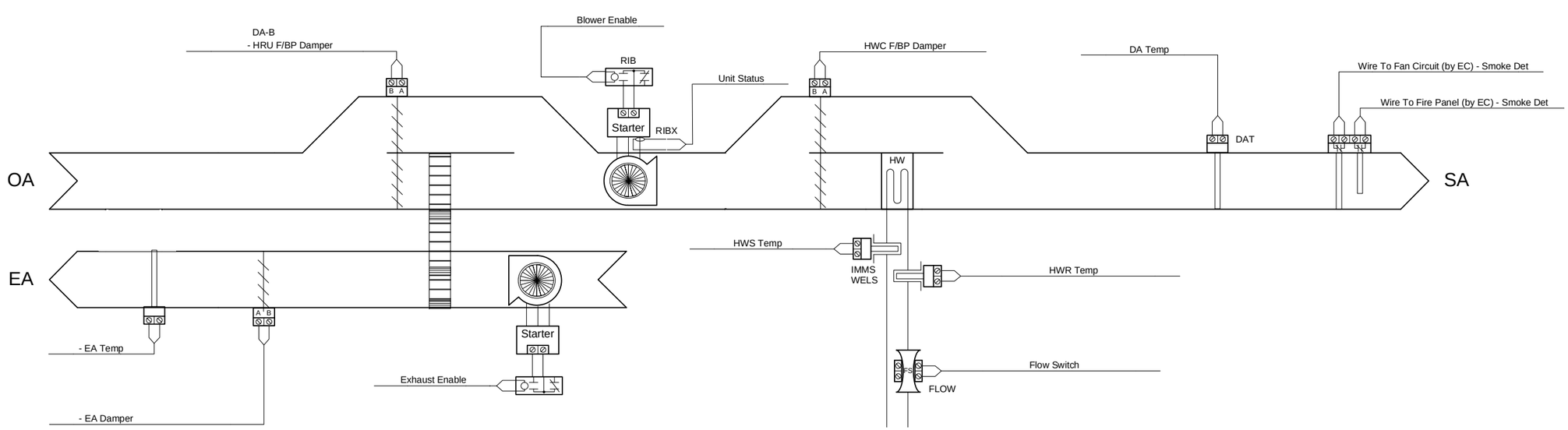
HRU Indoor 2C



HRU 2C Network 2 Address 78

Bill of Materials

DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DA-B	SR PROPORTIONAL 133 IN-LB 2-10VDC	BELIMO	AF24-SR ALC	4 ea
DAT	DA TEMP SENSOR	BAPI	BA/10K-2-D-12	4 ea
FLOW	FLOW SWITCH	INTEC	DBSF-1KPLN-4US	2 ea
IMMS	IMMERSION TEMP SENSOR	BAPI	BA/10K-2-I-2	4 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	4 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	4 ea
SE6166	SE6166	AUTOMATED LOGIC	SE6166	2 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	9 ea
WELS	IMMERSION TEMP SENSOR WELL	BAPI	BA/2	4 ea



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HRU Indoor 2C

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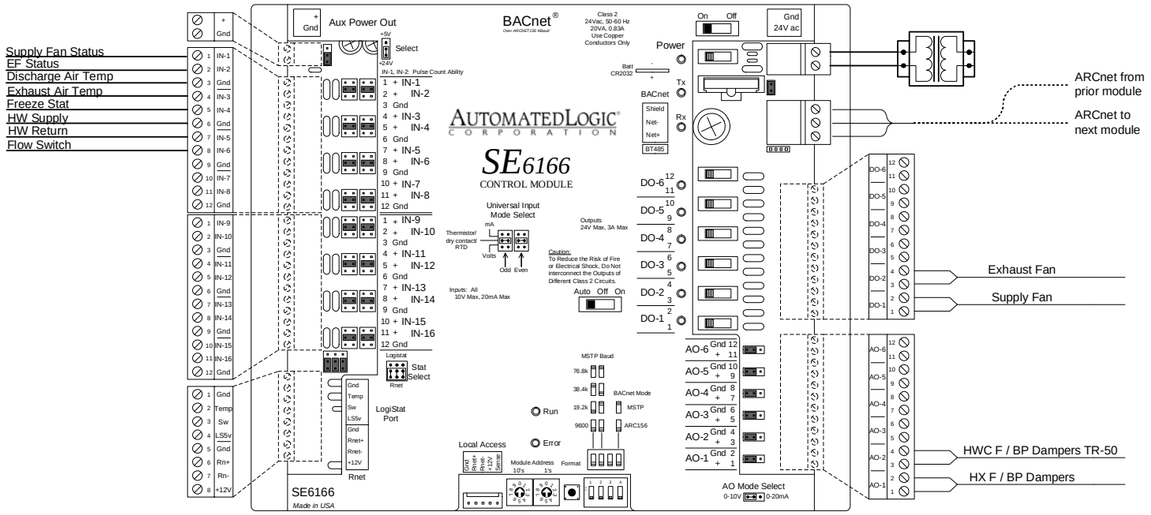
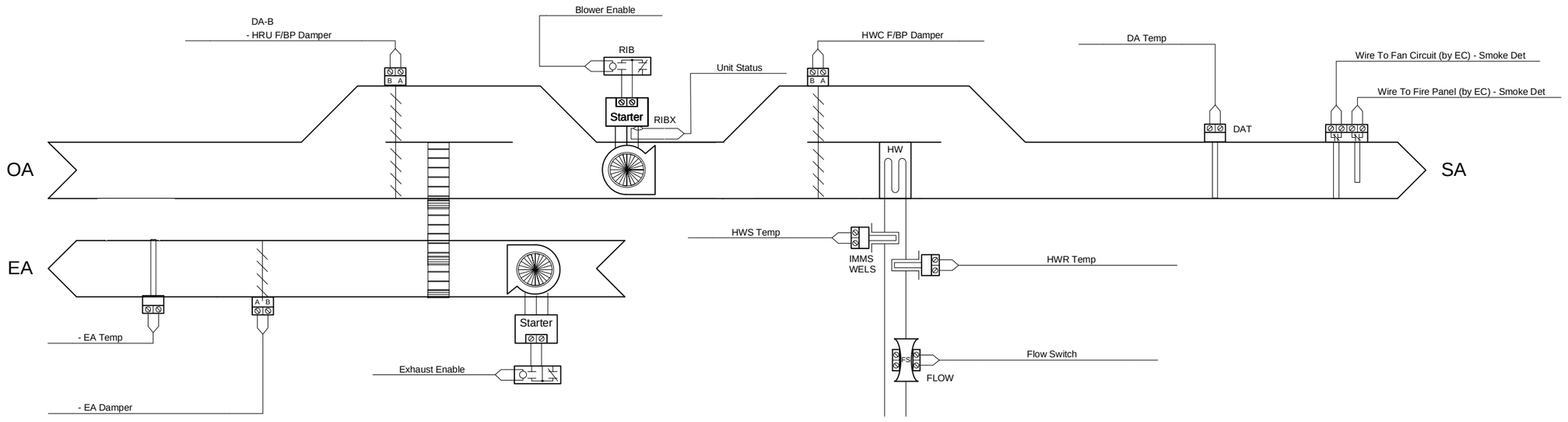
HRU INDOOR 3C, 4C





Bill of Materials

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DA-B	SR PROPORTIONAL 133 IN-LB 2-10VDC	BELIMO	AF24-SR ALC	4 ea
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FLOW	FLOW SWITCH	INTEC	DBSF-1KPLN-4US	2 ea
IMMS	IMMERSION TEMP SENSOR	BAPI	BA/10K-2-I-2	4 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	4 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	4 ea
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TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	9 ea
WELS	IMMERSION TEMP SENSOR WELL	BAPI	BA/2	4 ea

HRU 3C Network 1 Address 28

HRU 4C Network 1 Address 59

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HRU INDOOR 3C, 4C

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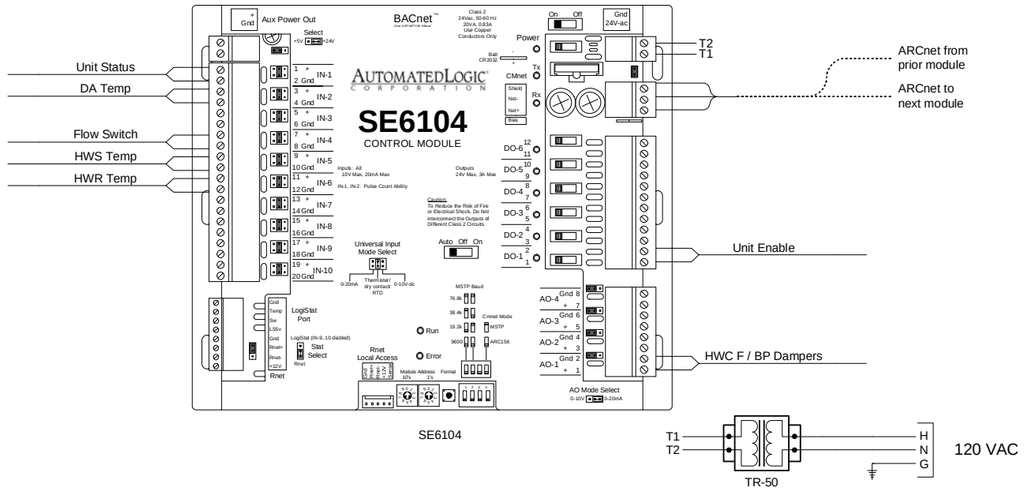
			10 of 69

HRU ROOF



Bill of Materials				
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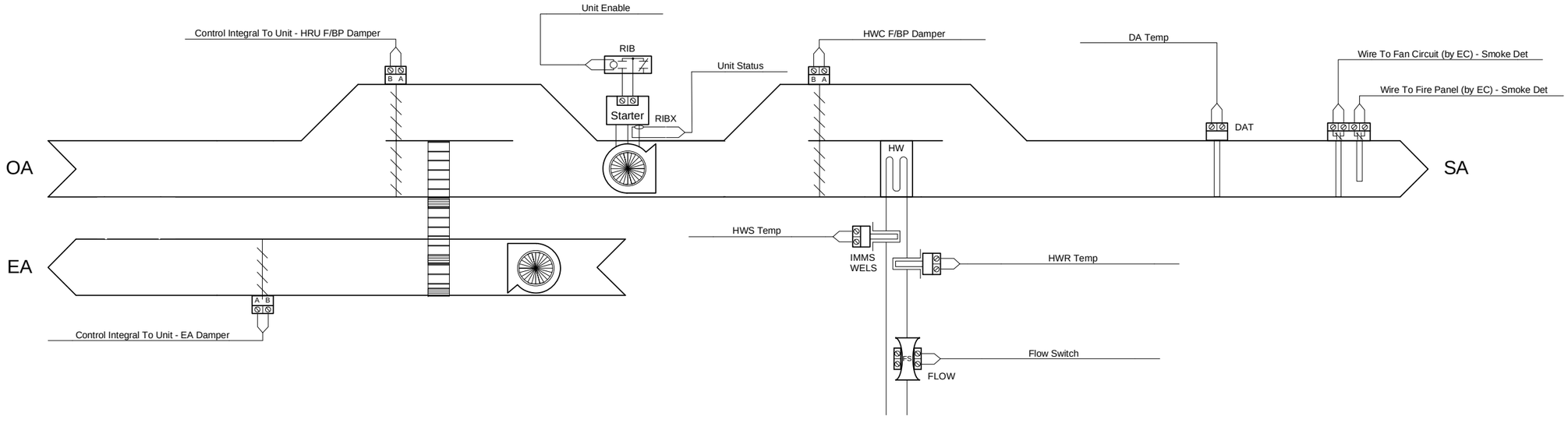
DAT	DA TEMP SENSOR	BAPI	BA/10K-2-D-12	4 ea
FLOW	FLOW SWITCH	INTEC	DBSF-1KPLN-4US	4 ea
IMMS	IMMERSION TEMP SENSOR	BAPI	BA/10K-2-I-2	8 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	4 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	4 ea
SE6104	CONTROL MODULE	AUTOMATED LOGIC	SE6104	4 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	4 ea
WELS	IMMERSION TEMP SENSOR WELL	BAPI	BA/2	8 ea

HRU 1C COSMO	Network 3 Address 66
HRU 7C COSMO	Network 3 Address 22
HRU 6C	Network 3 Address 82
HRU 5C	Network 3 Address 36



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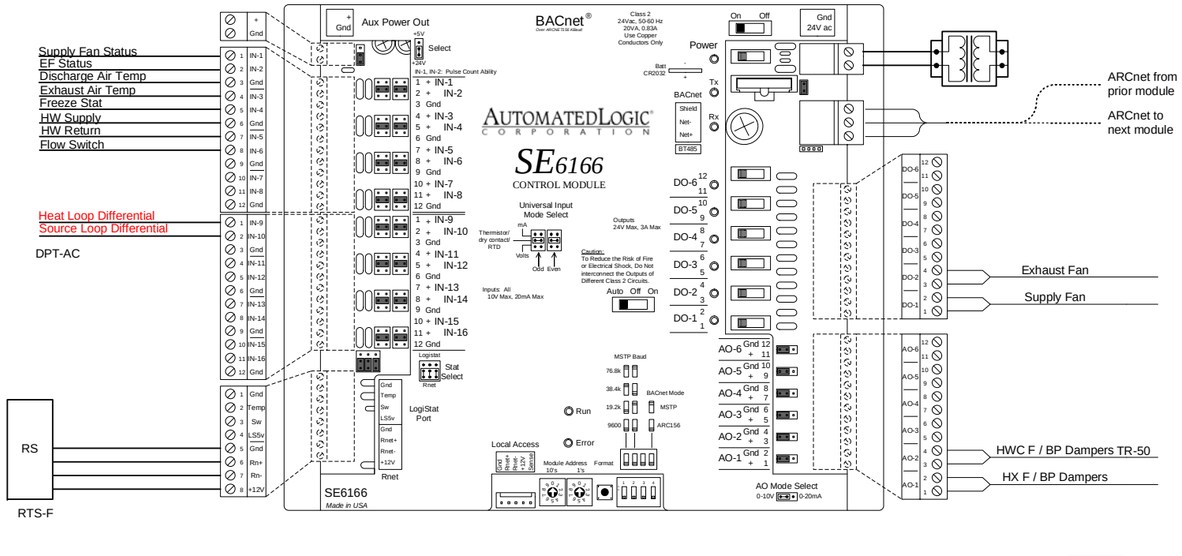
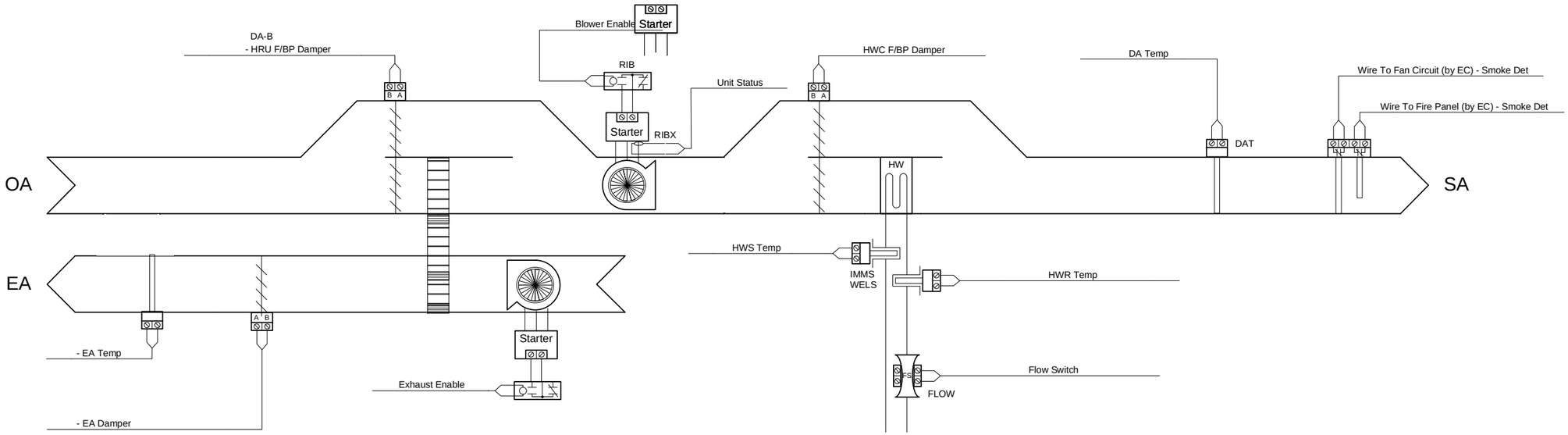
AHU 1C





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DA-B	SR PROPORTIONAL 133 IN-LB 2-10VDC	BELIMO	AF24-SR ALC	2 ea
DAT	DA TEMP SENSOR	BAPI	BA/10K-2-D-12	2 ea
DPT-AC	DUCT PRESSURE TRANSDUCER 0-5 IN. 4-20MA	MAMAC	PR-276-R10-MA	2 ea
FLOW	FLOW SWITCH	INTEC	DBSF-1KPLN-4US	1 ea
IMMS	IMMERSION TEMP SENSOR	BAPI	BA/10K-2-I-2	2 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	2 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	2 ea
RTS-F	10K ROOM THERMISTOR RS	BAPI	ALC/10K-2-RS	1 ea
SE6166	SE6166	AUTOMATED LOGIC	SE6166	1 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	9 ea
WELS	IMMERSION TEMP SENSOR WELL	BAPI	BA/2	2 ea

HRU 1C Gym Network 1 Address 49

NORWICH

DCMO BOCES - Phase 1&2 AS BUILT

Norwich / Masonville, New York

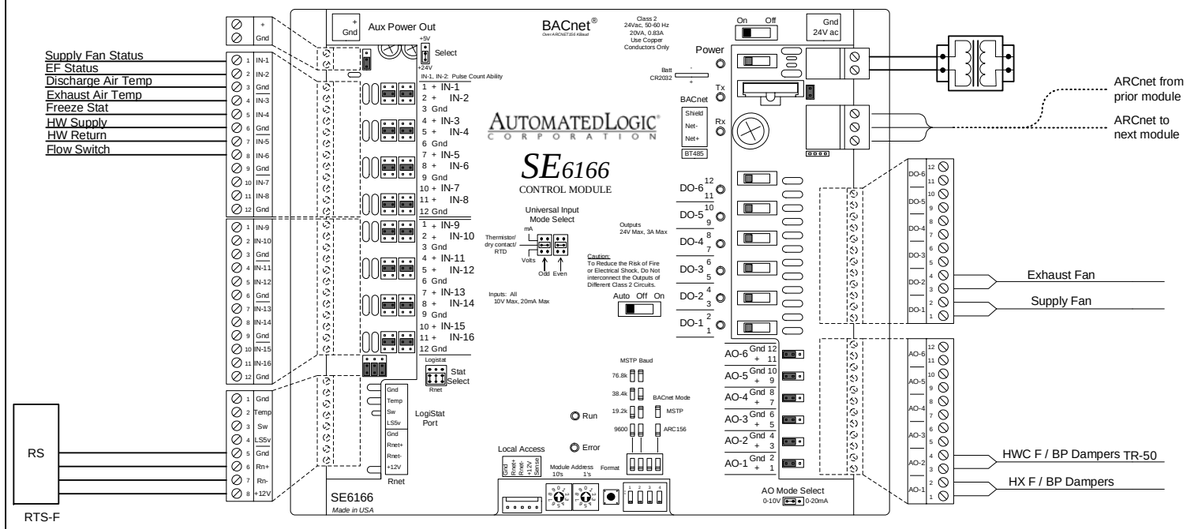
Air Temp Heating & Air Conditioning, Inc.

AHU 1C

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
			DSCODE:

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

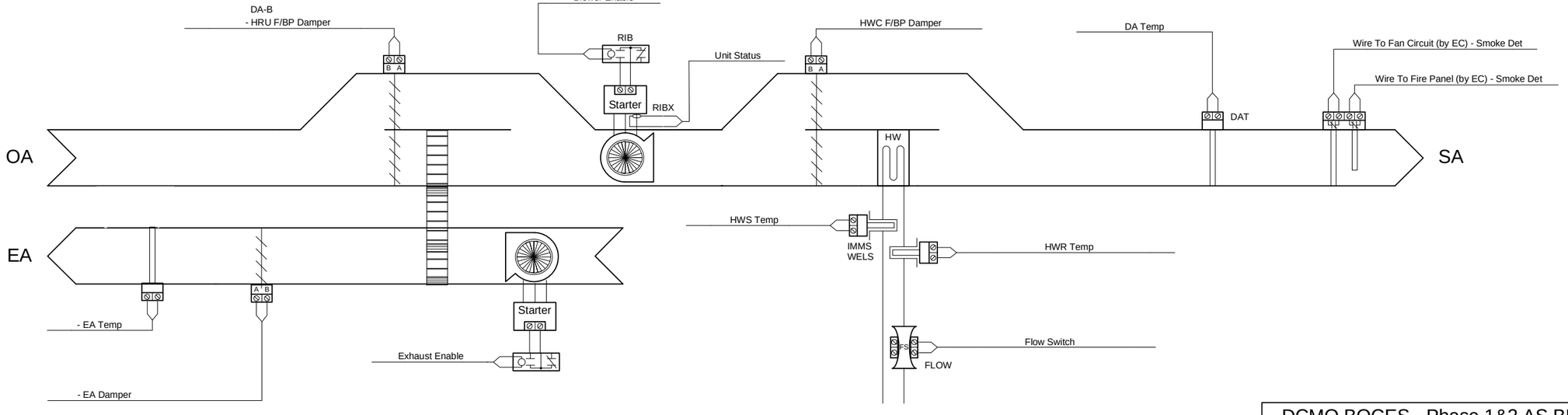
AHU 2C



Bill of Materials

DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DA-B	SR PROPORTIONAL 133 IN-LB 2-10VDC	BELIMO	AF24-SR ALC	4 ea
DAT	DA TEMP SENSOR	BAPI	BA/10K-2-D-12	4 ea
FLOW	FLOW SWITCH	INTEC	DBSF-1KPLN-4US	2 ea
IMMS	IMMERSION TEMP SENSOR	BAPI	BA/10K-2-I-2	4 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	4 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	4 ea
RTS-F	10K ROOM THERMISTOR RS	BAPI	ALC/10K-2-RS	1 ea
SE6166	SE6166	AUTOMATED LOGIC	SE6166	2 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	9 ea
WELS	IMMERSION TEMP SENSOR WELL	BAPI	BA/2	4 ea

HRU 2C Gym Network 1 Address 57



NORWICH

DCMO BOCES - Phase 1&2 AS BUILT

Norwich / Masonville, New York

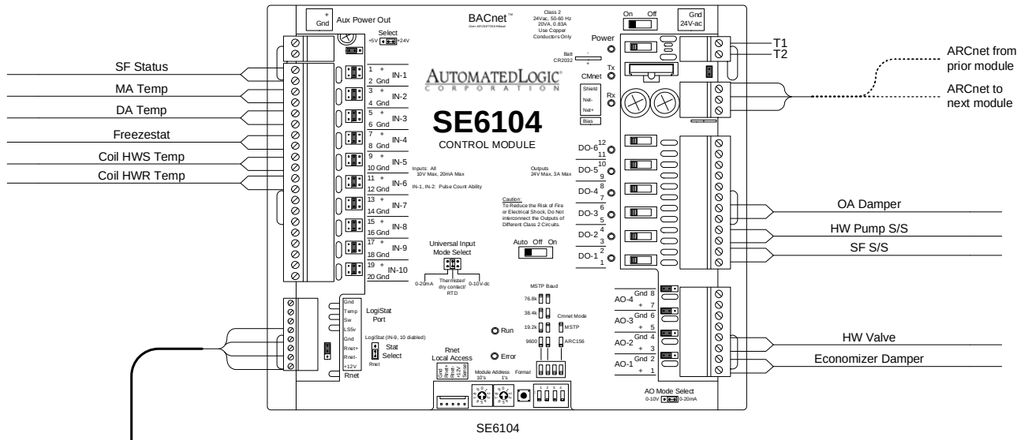
Air Temp Heating & Air Conditioning, Inc.

AHU 2C

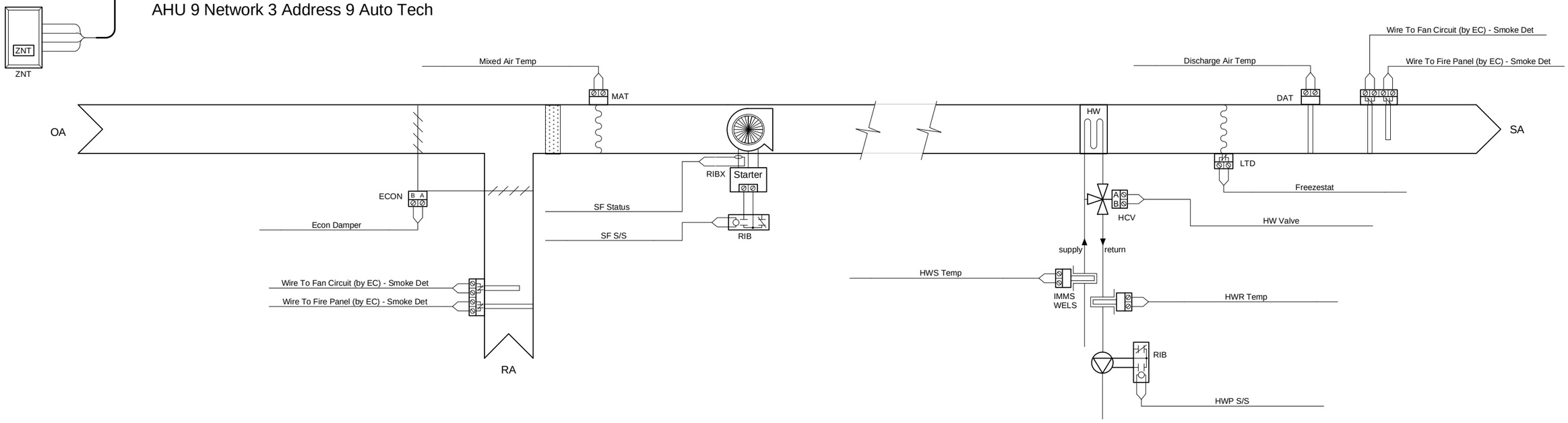
REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
			DSCODE:

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

AHU - 7, 8, 9



AHU 7 Network 3 Address 7 Autobody
AHU 8 Network 3 Address 8 Auto Tech
AHU 9 Network 3 Address 9 Auto Tech



Bill of Materials

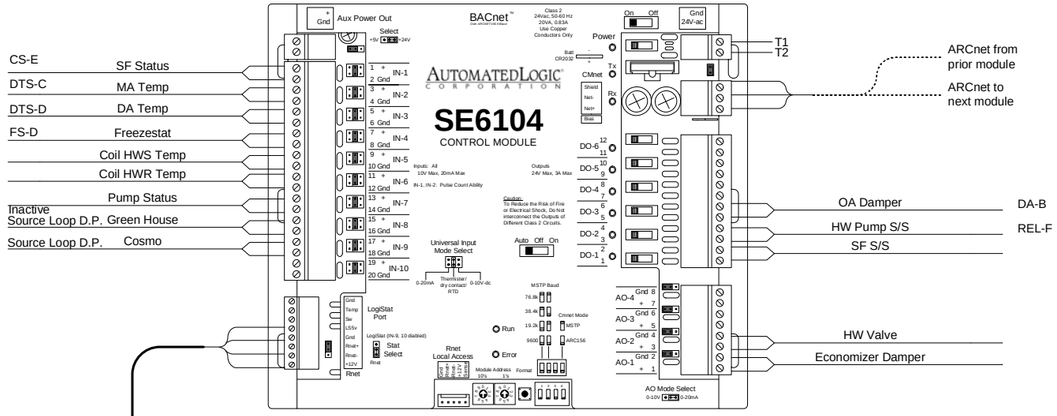
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DAT	DISCHARGE AIR TEMP SENSOR	BAPI	BA/10K-2-D-12	3 ea
ECON	DAMPER ACTUATOR	BELIMO	AF24-SR US	7 ea
HCV	HEATING CONTROL VALVE	BELIMO	SEE VALVE SCHEDULE	7 ea
IMMS	IMMERSION TEMP SENSOR	BAPI	BA/10K-2-I-2	14 ea
LTD	LOW AIR TEMP SENSOR	SIEMENS	134-1510	3 ea
MAT	MIXED AIR TEMP SENSOR	BAPI	BA/10K-2-A-12	3 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	13 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	6 ea
SE6104	CONTROL MODULE	AUTOMATED LOGIC	SE6104	3 ea
WELS	IMMERSION TEMP SENSOR WELL	BAPI	BA/2	14 ea
ZNT	ZONE TEMPERATURE SENSOR	AUTOMATED LOGIC	RS PLUS	3 ea

NORWICH

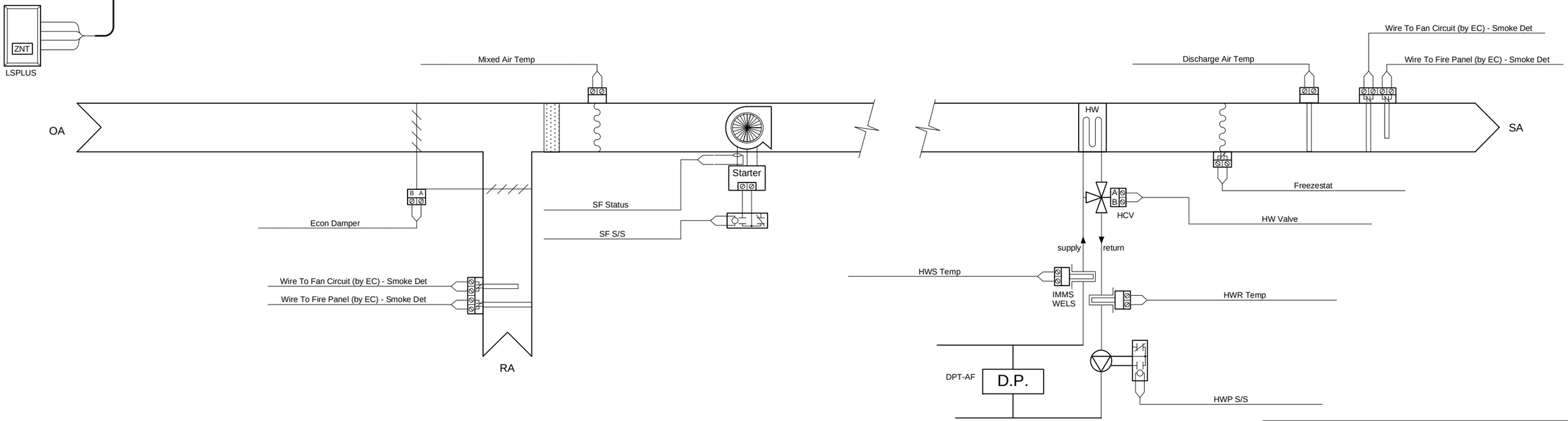
DCMO BOCES - Phase 1&2 AS BUILT
Norwich / Masonville, New York
Air Temp Heating & Air Conditioning, Inc.
AHU - 7, 8, 9

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® CONTRACTOR			DSCODE:
			14 of 69

AHU 10, 11



AHU 10 Network 3 Address 10 Equipment Technology
AHU 11 Network 3 Address 11 Equipment Technology



Bill of Materials

DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
CS-E	CURRENT SWITCH .5-200 AMP SOLID CORE GO/NO GO	VERUS IND.	H-800	2 ea
DA-B	SR PROPORTIONAL 133 IN-LB 2-10VDC	BELIMO	AF24-SR ALC	1 ea
DPT-AF	DIFF PRESS TRANSDUCER -.15/+.15 IN.	MODUS	T030-003B	2 ea
DTS-C	DUCT 10K THERMISTOR AVERAGING 24 FT.	BAPI	ALC/10K-2-A-24	2 ea
DTS-D	DUCT 10K THERMISTOR PROBE 8 IN.	BAPI	ALC/10K-2-D-8	2 ea
FS-D	TEMP LOW LIMIT MAN. RESET DPDT	LANDIS STEAFA	1341504	2 ea
HCV	HEATING CONTROL VALVE	BELIMO	SEE VALVE SCHEDULE	7 ea
IMMS	IMMERSION TEMP SENSOR	BAPI	BA/10K-2-I-2	14 ea
LSPLUS	LOGISTAT 10K ROOM SENSOR W/ SETP ADJ, TLO, COMM	BAPI	LSPLUS	2 ea
REL-F	RIB PILOT RELAY SPDT 10AMP	KELE & ASSOC.	RIBU1C	2 ea
WELS	IMMERSION TEMP SENSOR WELL	BAPI	BA/2	14 ea

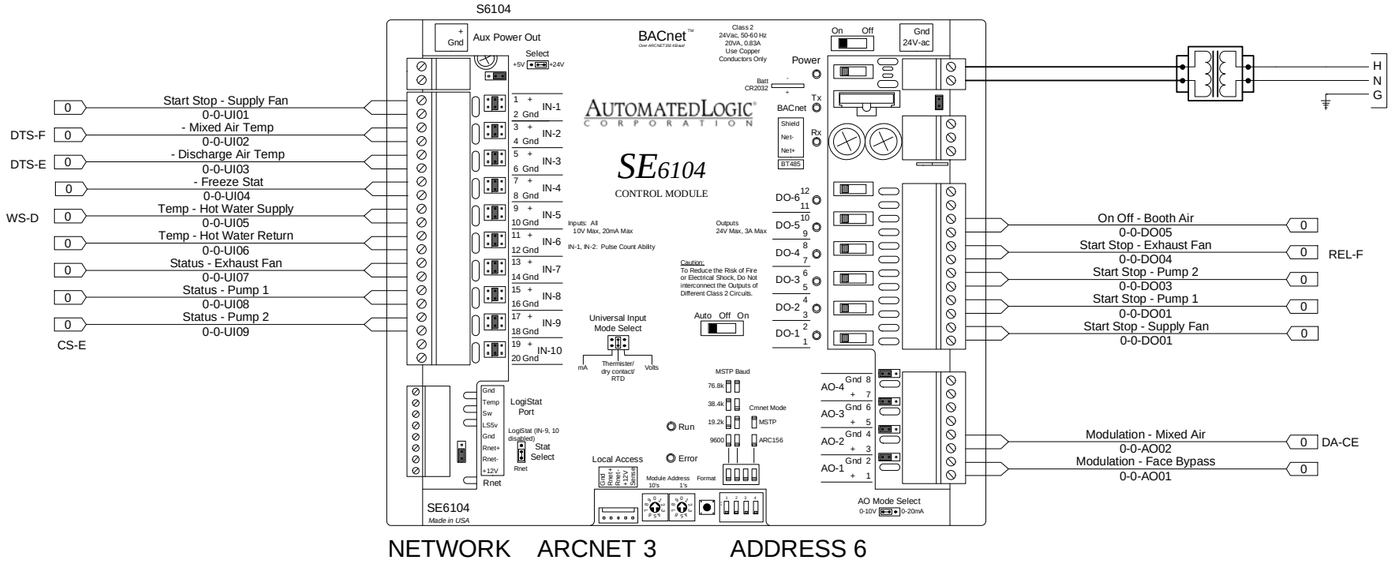
NORWICH

DCMO BOCES - Phase 1&2 AS BUILT
Norwich / Masonville, New York
Air Temp Heating & Air Conditioning, Inc.
AHU 10, 11

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
			DSCODE:

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

MUA Paint Booth



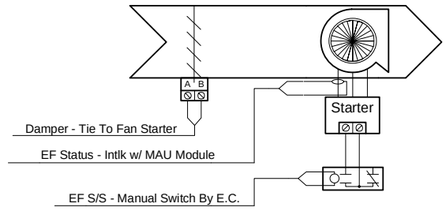
NETWORK ARCNET 3 ADDRESS 6

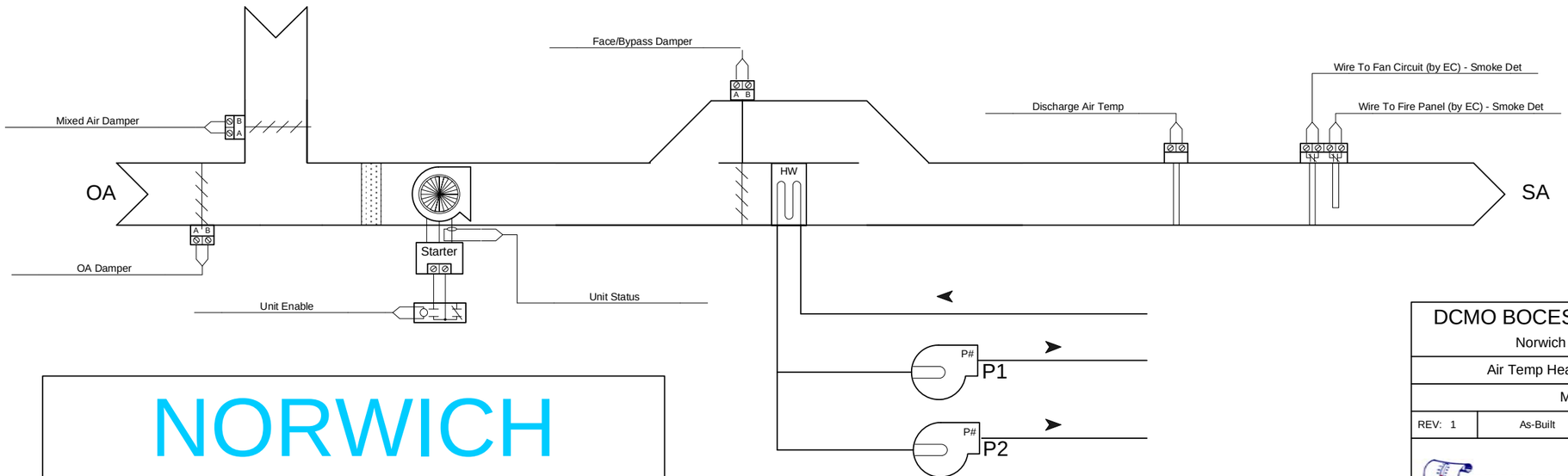
Bill of Materials

DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
CS-E	CURRENT SWITCH .5-200 AMP SOLID CORE GO/NO GO	VERUS IND.	H-800	4 ea
DA-CE	SR 0-10VDC 35 IN-LB 24 V	BELIMO	LF24-SR ALC	2 ea
DTS-E	DUCT 10K THERMISTOR PROBE 18 IN.	BAPI	ALC/10K-2-D-18	1 ea
DTS-F	DUCT 10K THERMISTOR AVERAGING 8 FT.	BAPI	ALC/10K-2-A-8	1 ea
REL-F	RIB PILOT RELAY SPDT 10AMP	KELE & ASSOC.	RIBU1C	4 ea
S6104	S6104	AUTOMATED LOGIC	S6104	1 ea
WS-D	10K IMMERSION THERMISTOR	BAPI	ALC/10K-2-I-22 1/2IN.	2 ea

Exhaust Fan Interlock

Typical for F-18H, 19H, & 26H





NORWICH

DCMO BOCES - Phase 1&2 AS BUILT

Norwich / Masonville, New York

Air Temp Heating & Air Conditioning, Inc.

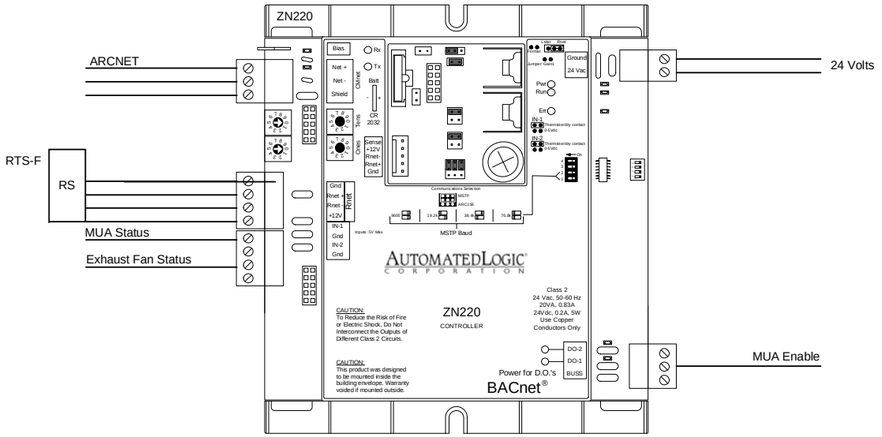
MUA Paint Booth

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
			DSCODE:

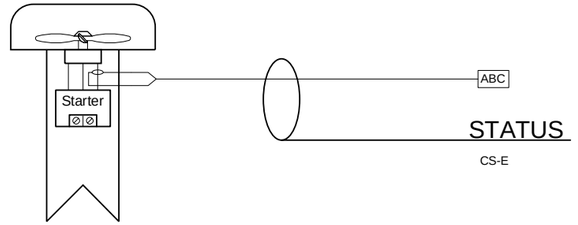
AIR TEMP HEATING & AIR CONDITIONING, INC.
A LINC SERVICE ® *CONTRACTOR*

MUA Prep Booth

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
CS-E	CURRENT SWITCH .5-200 AMP SOLID CORE GO/NO GO	VERUS IND.	H-800	1 ea
RTS-F	10K ROOM THERMISTOR RS	BAPI	ALC/10K-2-RS	1 ea
ZN220	ZN220	AUTOMATED LOGIC	ZN220	1 ea

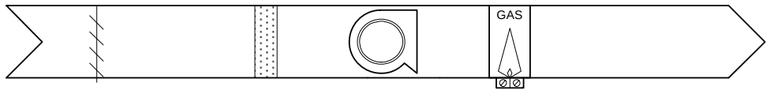


Fan Is Started By Manual Switch



NETWORK 3

Address 20



Enabled By Automated Logic
Unit Runs on Factory Controls

NORWICH

DCMO BOCES - Phase 1&2 AS BUILT

Norwich / Masonville, New York

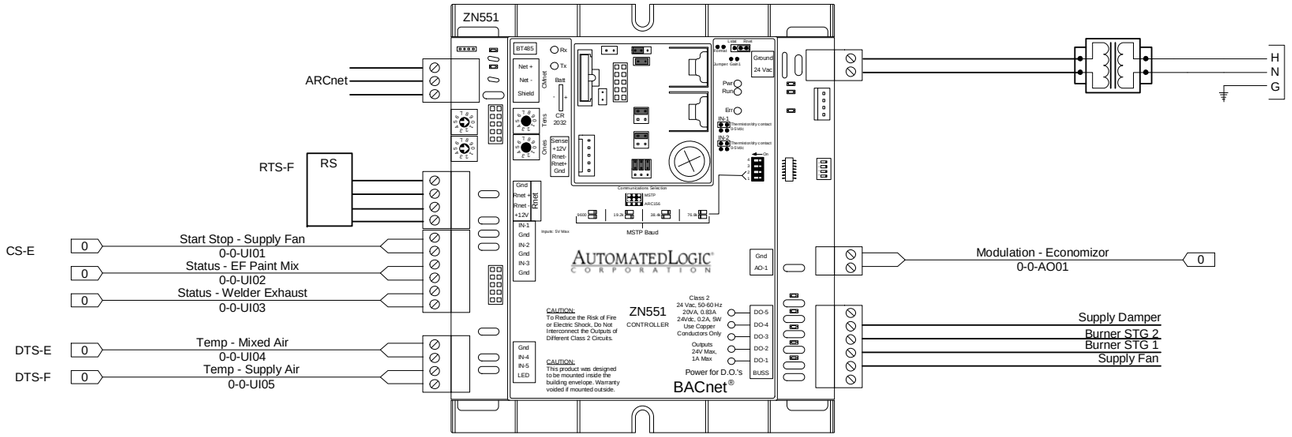
Air Temp Heating & Air Conditioning, Inc.

MUA Prep Booth

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
			DSCODE:

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

MUA Autobody



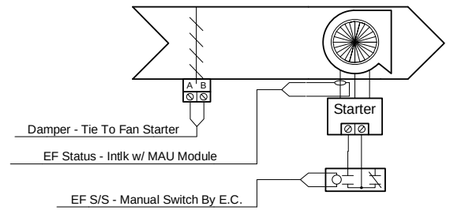
NETWORK ARCNET 3 ADDRESS 21

Bill of Materials

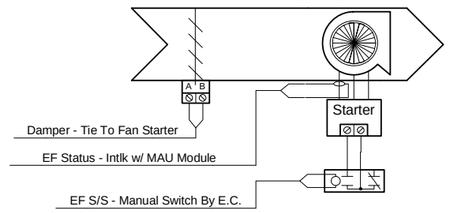
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
CS-E	CURRENT SWITCH .5-200 AMP SOLID CORE GO/NO GO	VERUS IND.	H-800	3 ea
DTS-E	DUCT 10K THERMISTOR PROBE 18 IN.	BAPI	ALC/10K-2-D-18	1 ea
DTS-F	DUCT 10K THERMISTOR AVERAGING 8 FT.	BAPI	ALC/10K-2-A-8	1 ea
RTS-F	10K ROOM THERMISTOR RS	BAPI	ALC/10K-2-RS	1 ea
ZN551	ZN551	AUTOMATED LOGIC	ZN551	1 ea

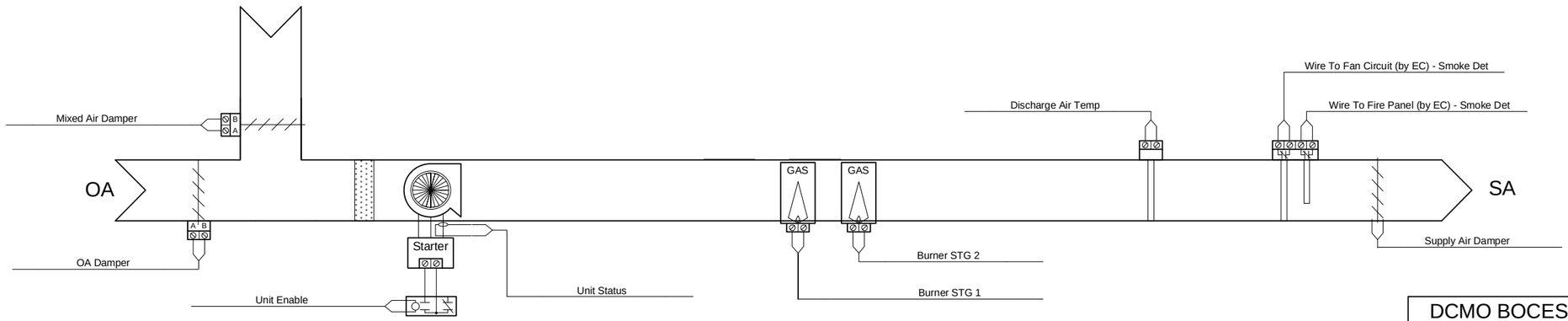
Exhaust Fan Interlock

Typical for F-18H, 19H, & 26H



Typical for F-18H, 19H, & 26H





NORWICH

DCMO BOCES - Phase 1&2 AS BUILT

Norwich / Masonville, New York

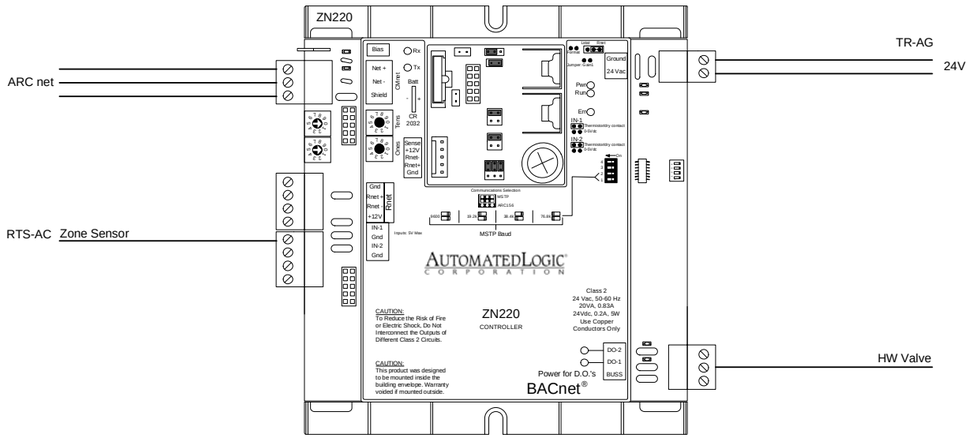
Air Temp Heating & Air Conditioning, Inc.

MUA Autobody

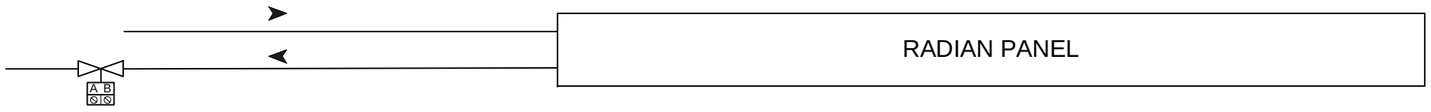
REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® *CONTRACTOR*			DSCODE:
			18 of 69

Radiant Panels

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
RTS-AC	10K ROOM THERMISTOR SS WALL PLATE	BAPI	BA/10K-2-93-631	9 ea
TR-AG	TRANSFORMER, 120/24VAC 150VA W/CCT BREAKER	CORE COMPONENTS	LE-124	1 ea
ZN220	ZN220	AUTOMATED LOGIC	ZN220	9 ea



Radiant C105.5	Network 3 Address 14
Radiant C1-5.1	Network 3 Address 87
Radiant C1-5.1 Boys Locker	Network 1 Address 51
Radiant C133.1 Girls Locker	Network 1 Address 52
Radiant C135 Aerobics	Network 1 Address 53
Radiant C136 Boys bathroom	Network 1 Address 54
Radiant C134 Girls bathroom	Network 1 Address 55
Radiant C110 Hall	Network 1 Address 50
Radiant Bathroom E Upper East	Network 2 Address 48



NORWICH

DCMO BOCES - Phase 1&2 AS BUILT

Norwich / Masonville, New York

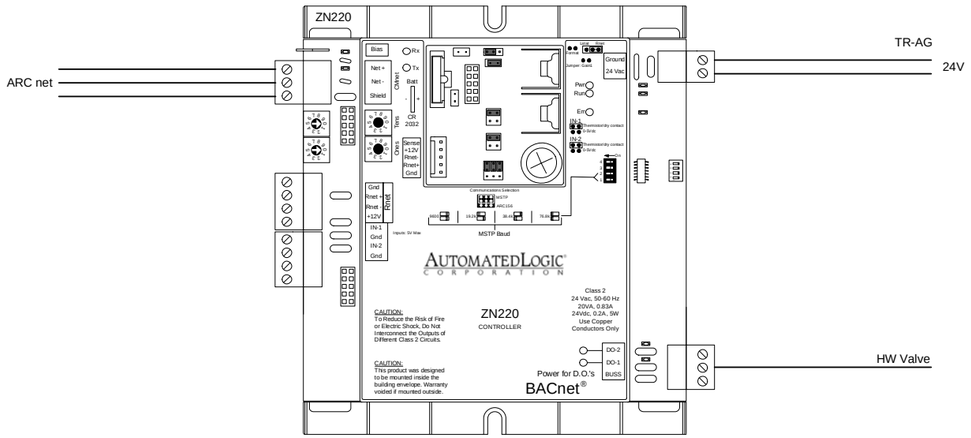
Air Temp Heating & Air Conditioning, Inc.

Radiant Panels

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® CONTRACTOR			DSCODE:
			19 of 69

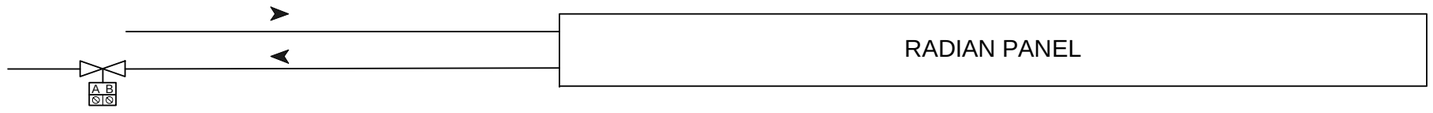
Radiant Panel rev2

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
RTS-AC	10K ROOM THERMISTOR SS WALL PLATE	BAPI	BA/10K-2-93-631	9 ea
TR-AG	TRANSFORMER, 120/24VAC 150VA W/CCT BREAKER	CORE COMPONENTS	LE-124	1 ea
ZN220	ZN220	AUTOMATED LOGIC	ZN220	9 ea



Radiant Bathroom North level 2 E Network 2 Address 53

Space Temp Sensor is Networked From from Network 2-56 RNET

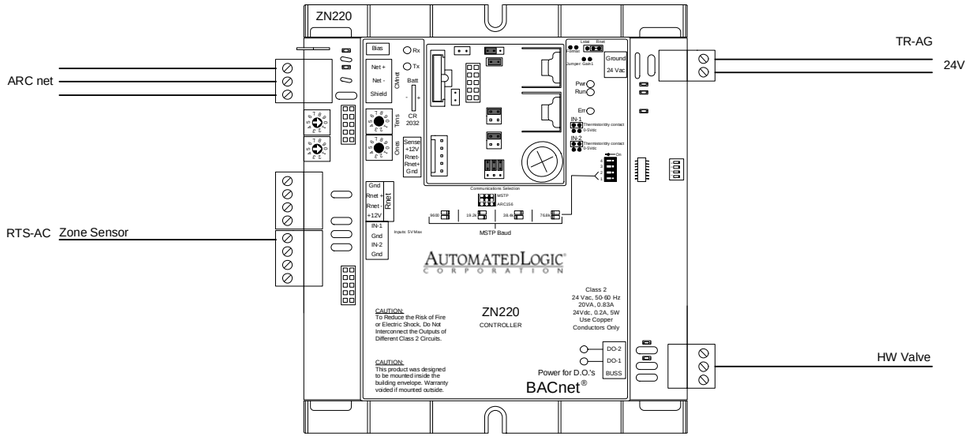


NORWICH

DCMO BOCES - Phase 1&2 AS BUILT Norwich / Masonville, New York			
Air Temp Heating & Air Conditioning, Inc.			
Radiant Panel rev2			
REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® CONTRACTOR			CHECK BY: RSL
			DSCODE:
			20 of 69

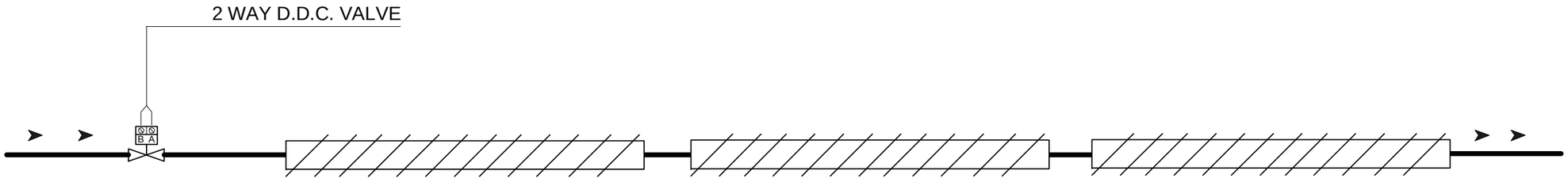
Fin Tube

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
RTS-AC	10K ROOM THERMISTOR SS WALL PLATE	BAPI	BA/10K-2-93-631	1 ea
TR-AG	TRANSFORMER, 120/24VAC 150VA W/CCT BREAKER	CORE COMPONENTS	LE-124	1 ea
ZN220	ZN220	AUTOMATED LOGIC	ZN220	1 ea



Radiant C160.1 Bathroom

Network 2 Address 55



NORWICH

DCMO BOCES - Phase 1&2 AS BUILT

Norwich / Masonville, New York

Air Temp Heating & Air Conditioning, Inc.

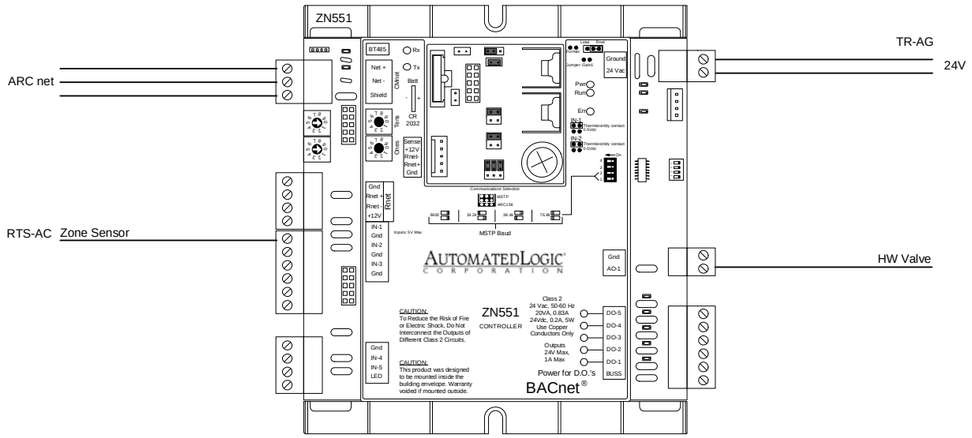
Fin Tube

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
			DSCODE:

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

Fin Tube Greenhouse

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
RTS-AC	10K ROOM THERMISTOR SS WALL PLATE	BAPI	BA/10K-2-93-631	1 ea
TR-AG	TRANSFORMER, 120/24VAC 150VA W/CCT BREAKER	CORE COMPONENTS	LE-124	1 ea
ZN551	ZN551	AUTOMATED LOGIC	ZN551	3 ea

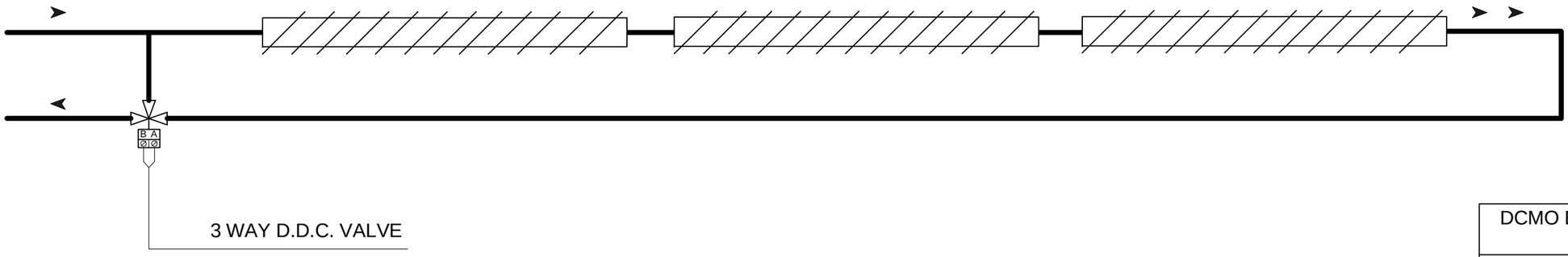


FINTUBE ROOM NORTH — Network 3 Address 24

FINTUBE ROOM MIDDLE — Network 3 Address 25

FINTUBE ROOM SOUTH — Network 3 Address 26

NORWICH



DCMO BOCES - Phase 1&2 AS BUILT

Norwich / Masonville, New York

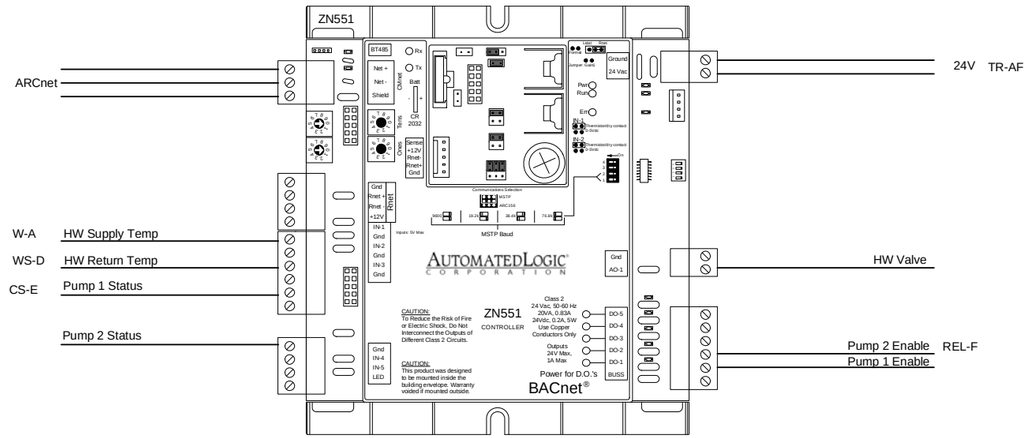
Air Temp Heating & Air Conditioning, Inc.

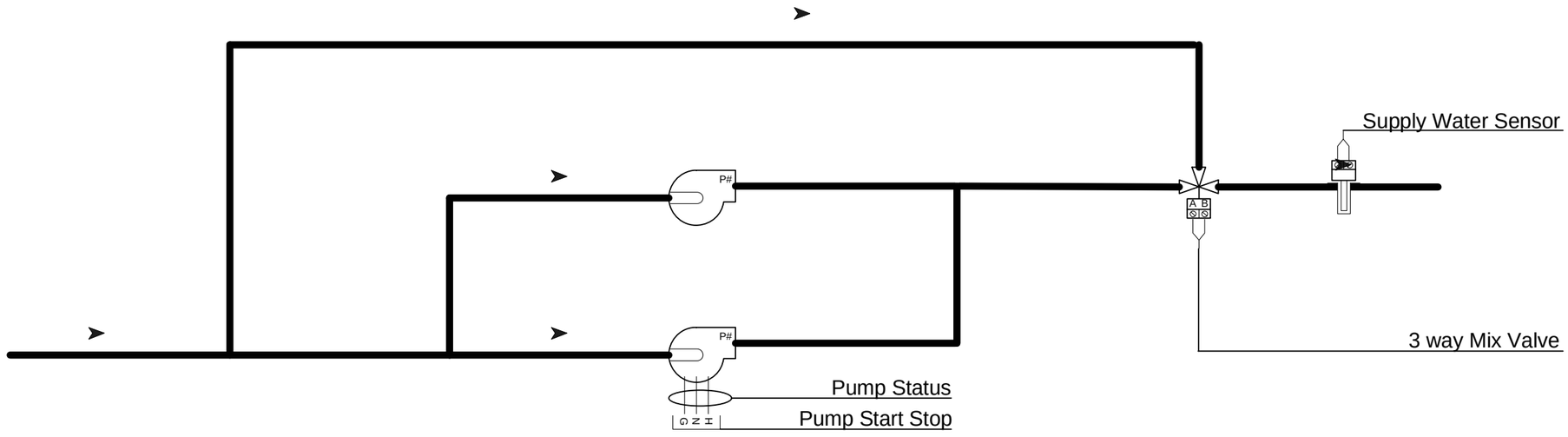
Fin Tube Greenhouse

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® CONTRACTOR			CHECK BY: RSL
			DSCODE:
			22 of 69

Greenhouse Hydronics

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
CS-E	CURRENT SWITCH .5-200 AMP SOLID CORE GO/NO GO	VERUS IND.	H-800	2 ea
REL-F	RIB PILOT RELAY SPDT 10AMP	KELE & ASSOC.	RIBU1C	2 ea
TR-AF	TRANSFORMER, 120-24VAC W/BREAKER	KELE & ASSOC.	691-K0A	1 ea
W-A	TWP PART SS WELL 4IN.	BAPI	BA/4IN.	2 ea
WS-D	10K IMMERSION THERMISTOR	BAPI	ALC/10K-2-I-22 1/2IN.	2 ea
ZN551	ZN551	AUTOMATED LOGIC	ZN551	1 ea





NORWICH

DCMO BOCES - Phase 1&2 AS BUILT

Norwich / Masonville, New York

Air Temp Heating & Air Conditioning, Inc.

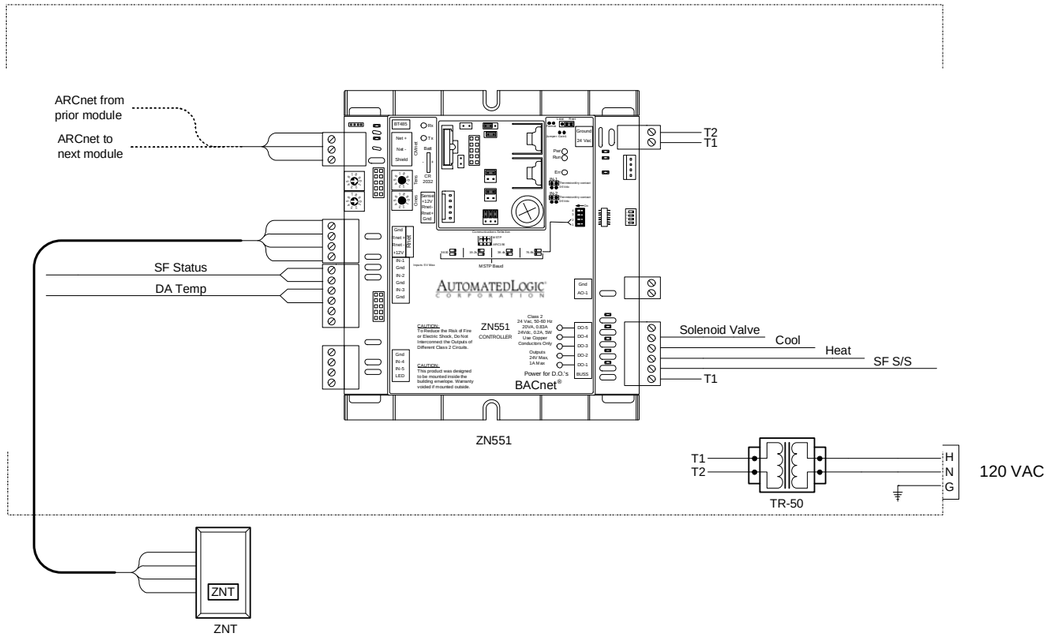
Greenhouse Hydronics

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
			DSCODE:

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

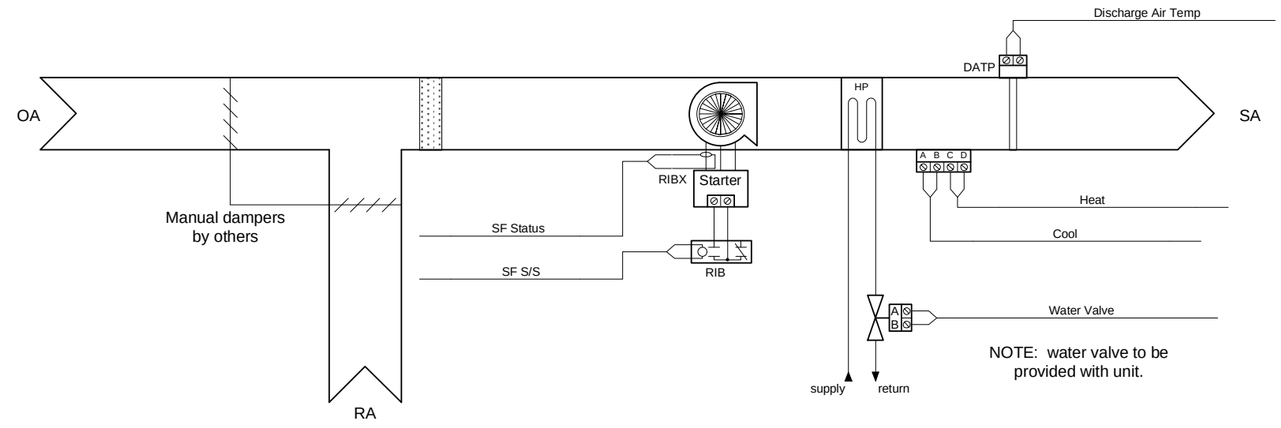
Heat Pump - HC & CC TYPICAL

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DATP	DISCHARGE AIR TEMP SENSOR	BAPI	BA/10K-2-RPP-8	102 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	102 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	102 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	102 ea
ZN551	CONTROL MODULE	AUTOMATED LOGIC	ZN551	102 ea
ZNT	ZONE TEMPERATURE SENSOR	AUTOMATED LOGIC	RS PLUS	102 ea



NORWICH

MASONVILLE



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.

DCMO BOCES - Phase 1&2 AS BUILT

Norwich / Masonville, New York

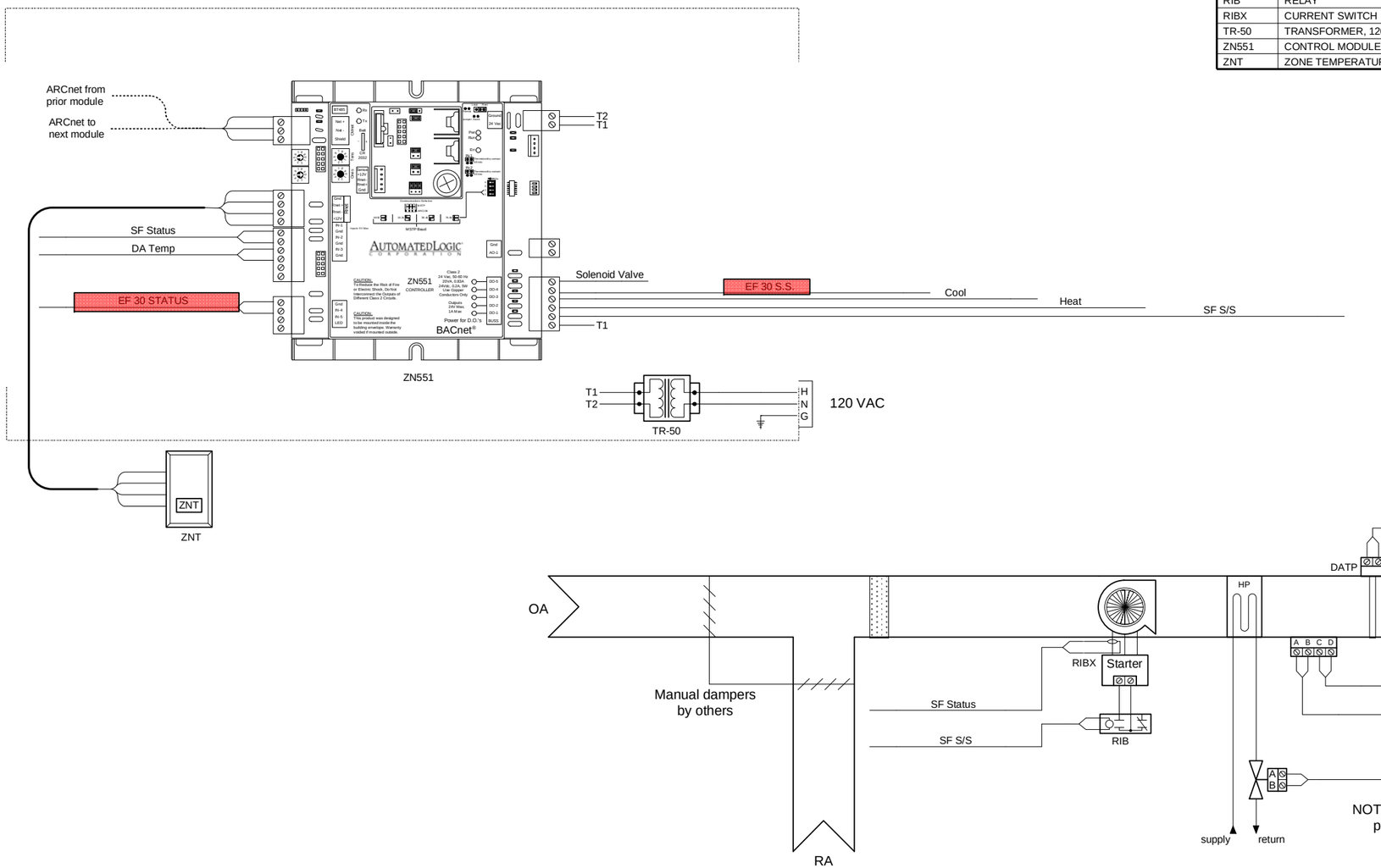
Air Temp Heating & Air Conditioning, Inc.

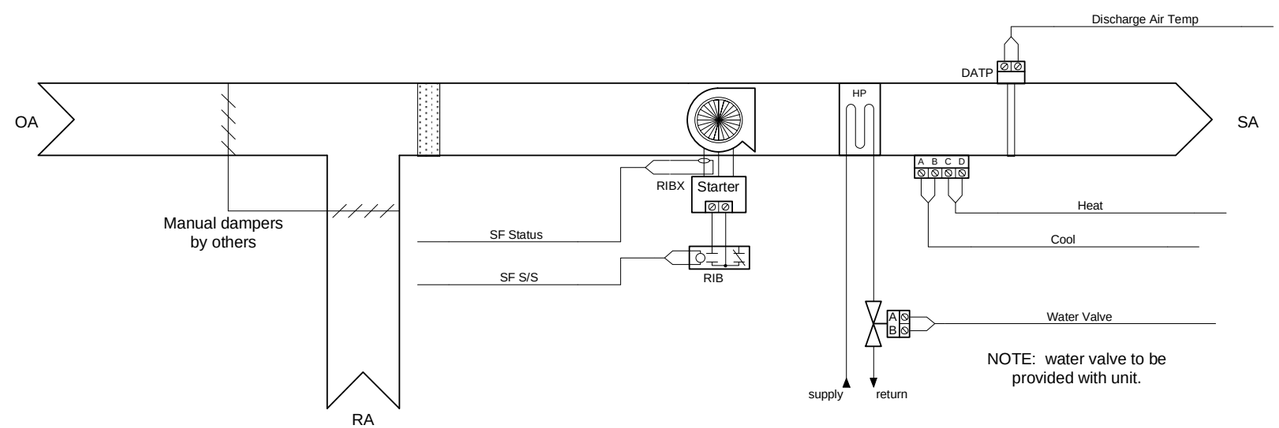
Heat Pump - HC & CC TYPICAL

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® *CONTRACTOR*			DSCODE:
			24 of 69

HPNorwich C172 Special Ed

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DATP	DISCHARGE AIR TEMP SENSOR	BAPI	BA/10K-2-RPP-8	102 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	102 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	102 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	102 ea
ZN551	CONTROL MODULE	AUTOMATED LOGIC	ZN551	102 ea
ZNT	ZONE TEMPERATURE SENSOR	AUTOMATED LOGIC	RS PLUS	102 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.

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

NORWICH

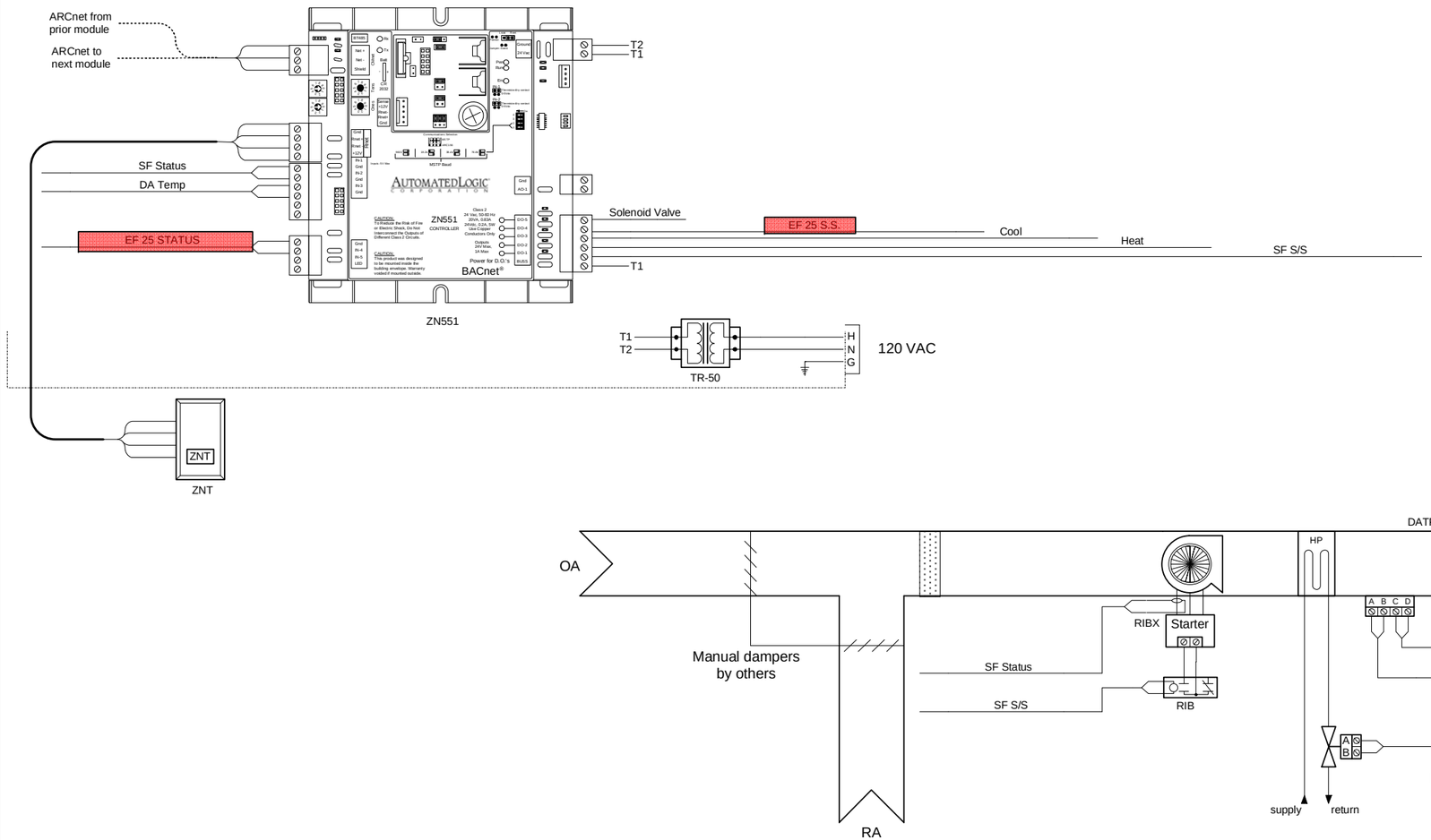
DCMO BOCES - Phase 1&2 AS BUILT
Norwich / Masonville, New York
Air Temp Heating & Air Conditioning, Inc.
HPNorwich C172 Special Ed

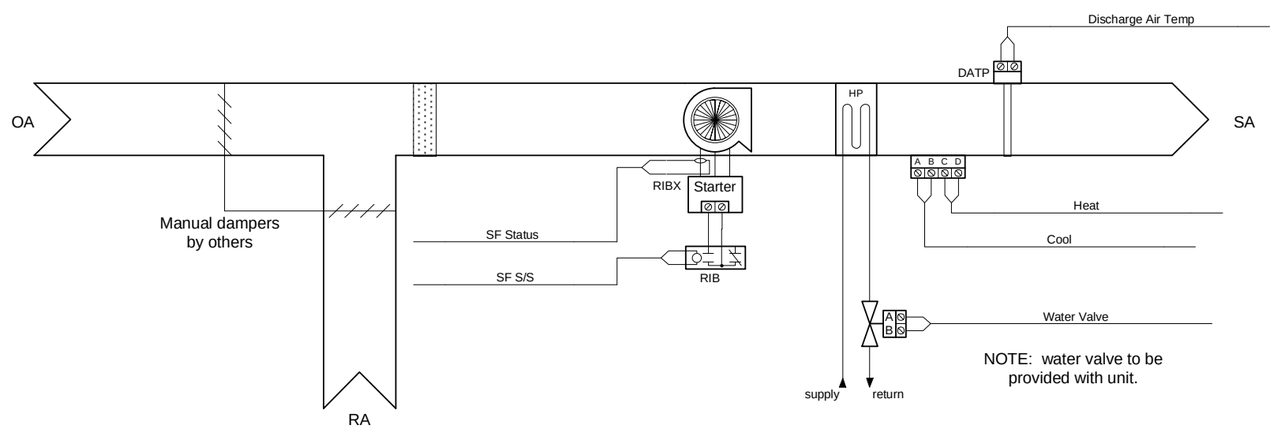
REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
			DSCODE:

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

HPNorwich C157 Offices

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DATP	DISCHARGE AIR TEMP SENSOR	BAPI	BA/10K-2-RPP-8	102 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	102 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	102 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	102 ea
ZN551	CONTROL MODULE	AUTOMATED LOGIC	ZN551	102 ea
ZNT	ZONE TEMPERATURE SENSOR	AUTOMATED LOGIC	RS PLUS	102 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.

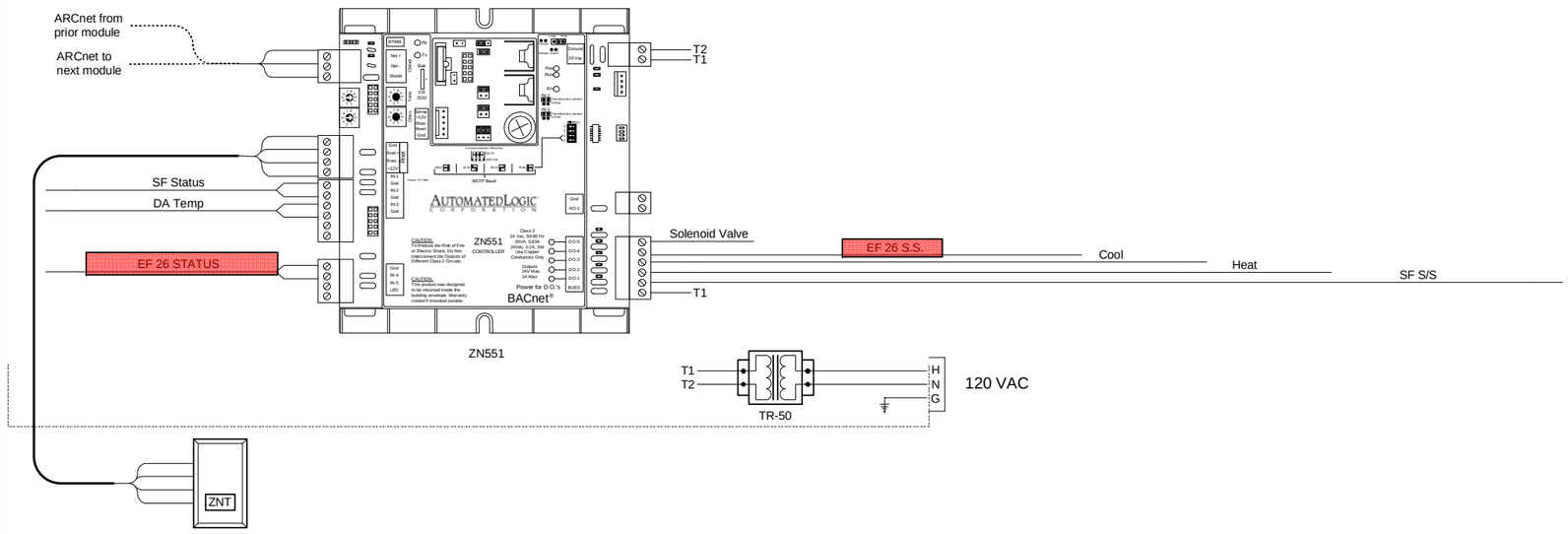
NORWICH

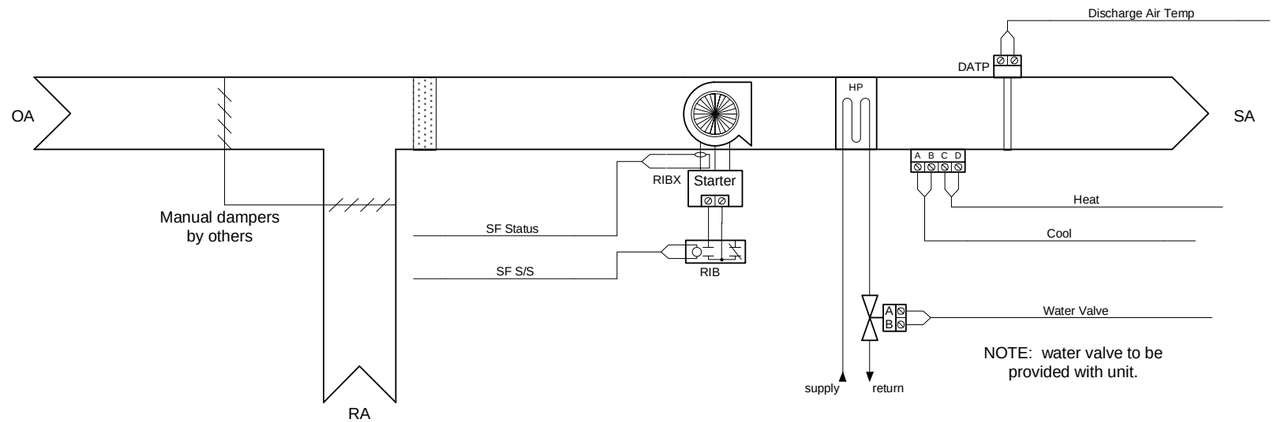
DCMO BOCES - Phase 1&2 AS BUILT
Norwich / Masonville, New York
Air Temp Heating & Air Conditioning, Inc.
HPNorwich C157 Offices

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® CONTRACTOR			DSCODE:
			26 of 69

HPNorwich C161 Special Ed

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DATP	DISCHARGE AIR TEMP SENSOR	BAPI	BA/10K-2-RPP-8	102 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	102 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	102 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	102 ea
ZN551	CONTROL MODULE	AUTOMATED LOGIC	ZN551	102 ea
ZNT	ZONE TEMPERATURE SENSOR	AUTOMATED LOGIC	RS PLUS	102 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.

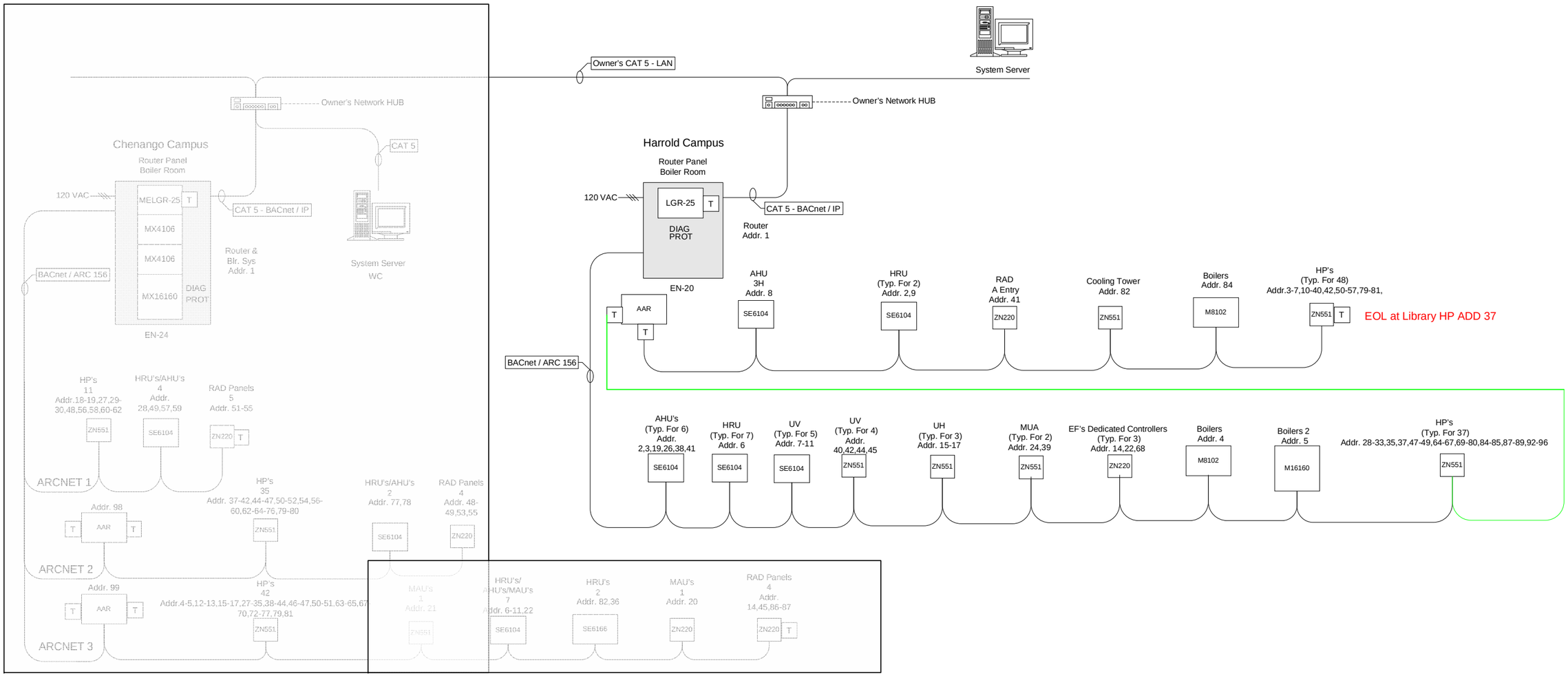
NORWICH

DCMO BOCES - Phase 1&2 AS BUILT
Norwich / Masonville, New York
Air Temp Heating & Air Conditioning, Inc.
HPNorwich C161 Special Ed

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® *CONTRACTOR*			DSCODE:
			27 of 69

Riser 2

DCMO HAROLD CAMPUS



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.

MASONVILLE

DCMO BOCES - Phase 1&2 AS BUILT

Norwich / Masonville, New York

Air Temp Heating & Air Conditioning, Inc.

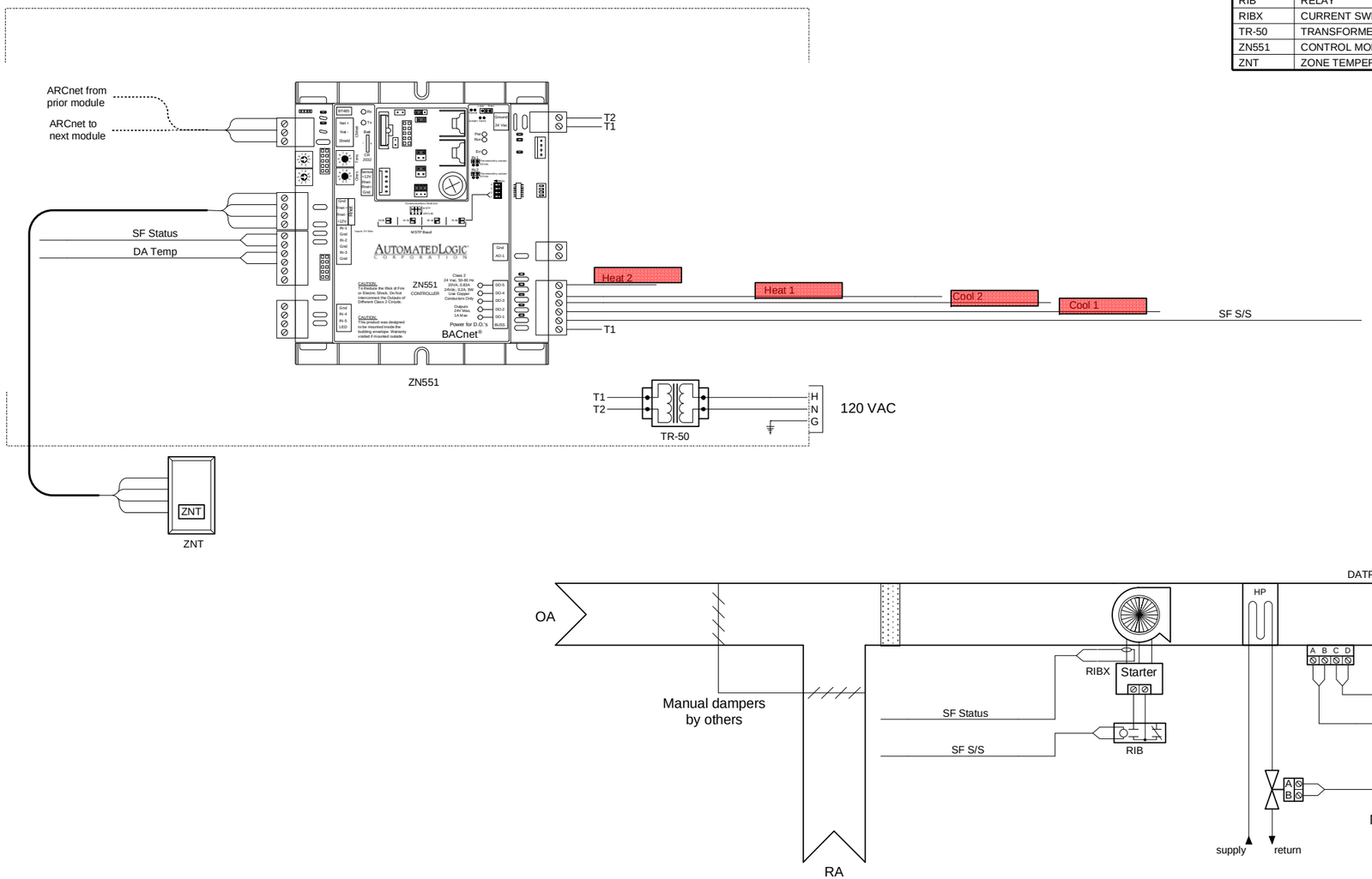
Riser 2

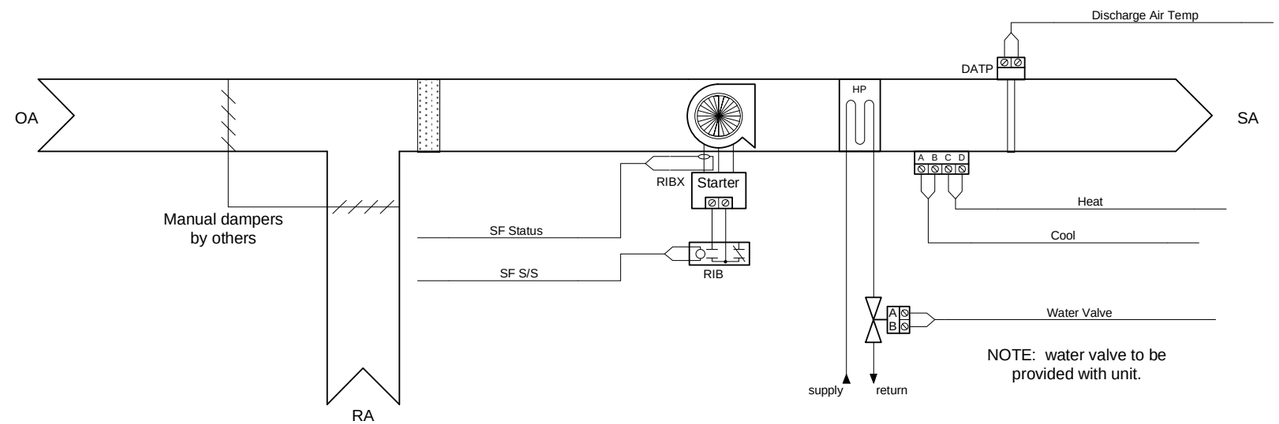
REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
			DSCODE:

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

HPNorwich C118 Computer Network

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DATP	DISCHARGE AIR TEMP SENSOR	BAPI	BA/10K-2-RPP-8	102 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	102 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	102 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	102 ea
ZN551	CONTROL MODULE	AUTOMATED LOGIC	ZN551	102 ea
ZNT	ZONE TEMPERATURE SENSOR	AUTOMATED LOGIC	RS PLUS	102 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.

NORWICH

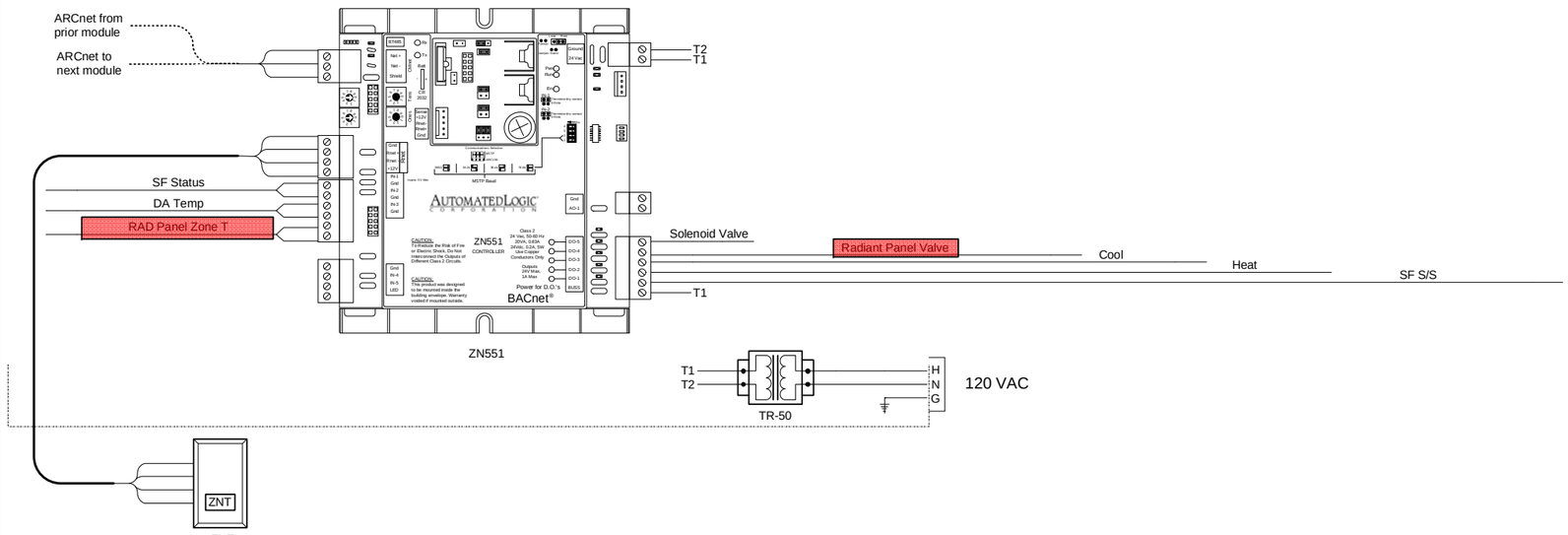
DCMO BOCES - Phase 1&2 AS BUILT
Norwich / Masonville, New York
Air Temp Heating & Air Conditioning, Inc.
HPNorwich C118 Computer Network

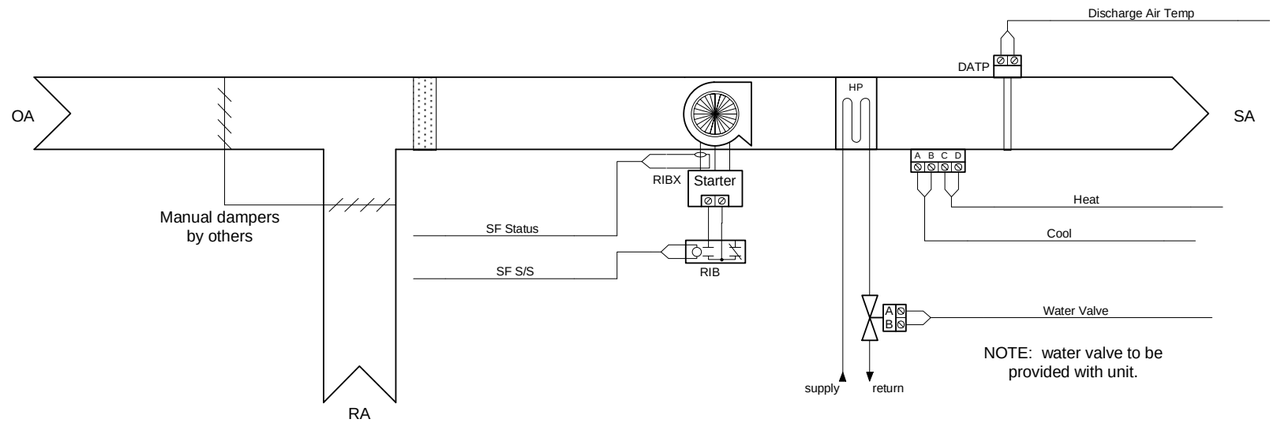
REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
			DSCODE:

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

HPNorwich HP C154 Special Ed

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DATP	DISCHARGE AIR TEMP SENSOR	BAPI	BA/10K-2-RPP-8	102 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	102 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	102 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	102 ea
ZN551	CONTROL MODULE	AUTOMATED LOGIC	ZN551	102 ea
ZNT	ZONE TEMPERATURE SENSOR	AUTOMATED LOGIC	RS PLUS	102 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.

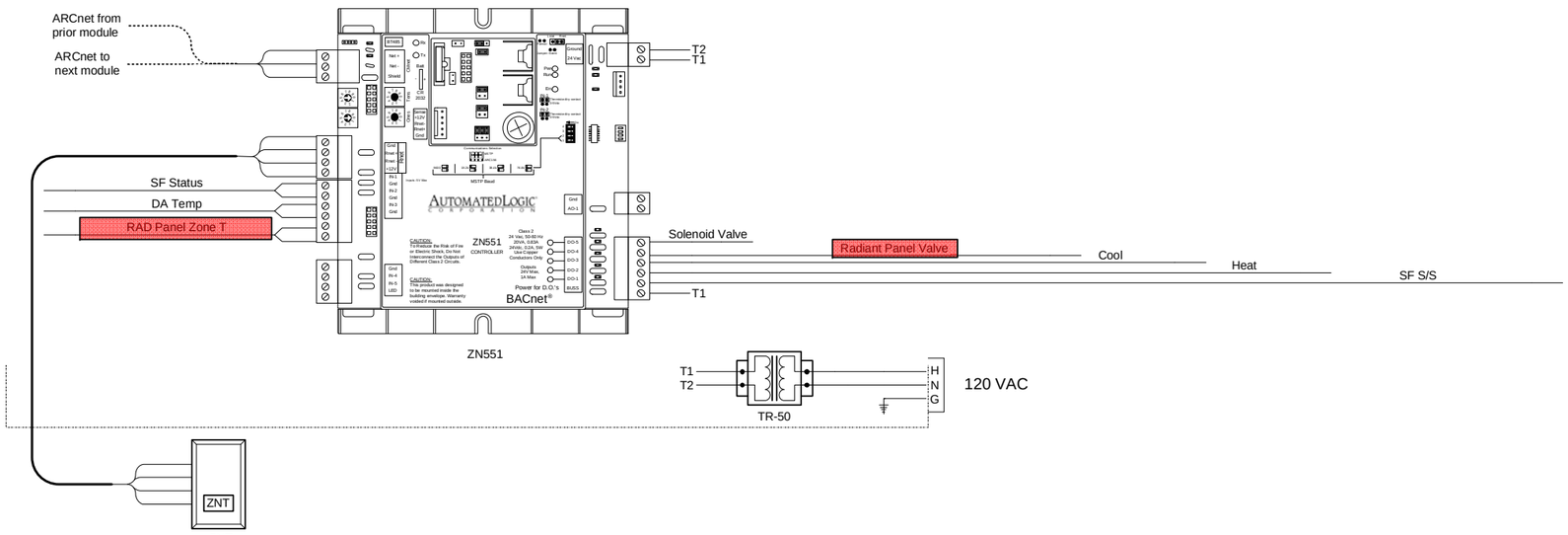
NORWICH

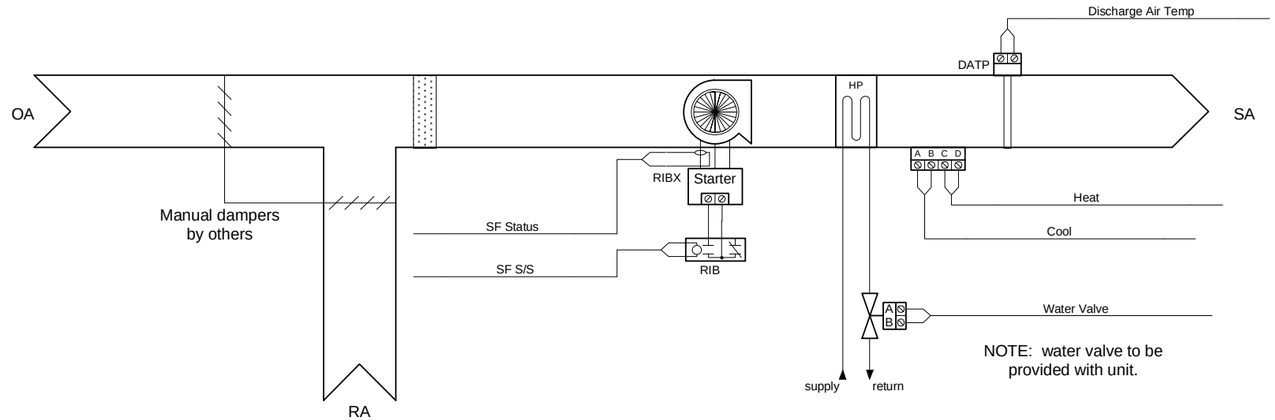
DCMO BOCES - Phase 1&2 AS BUILT
Norwich / Masonville, New York
Air Temp Heating & Air Conditioning, Inc.
HPNorwich HP C154 Special Ed

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® *CONTRACTOR*			DSCODE:
			30 of 69

HPNorwich 146 Bathooms

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DATP	DISCHARGE AIR TEMP SENSOR	BAPI	BA/10K-2-RPP-8	102 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	102 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	102 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	102 ea
ZN551	CONTROL MODULE	AUTOMATED LOGIC	ZN551	102 ea
ZNT	ZONE TEMPERATURE SENSOR	AUTOMATED LOGIC	RS PLUS	102 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.

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

NORWICH

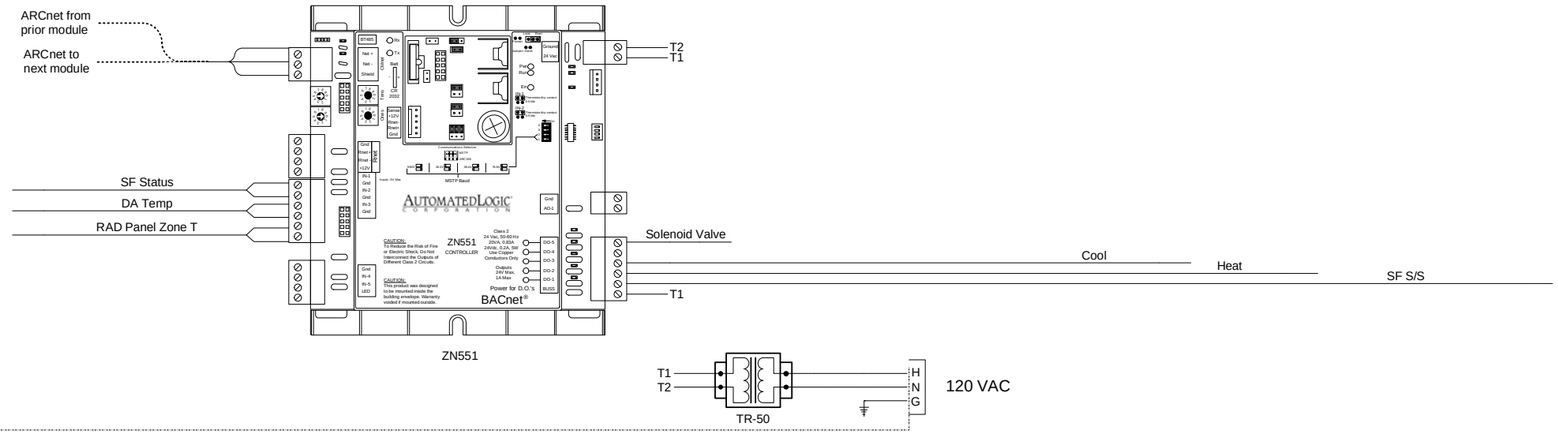
DCMO BOCES - Phase 1&2 AS BUILT
Norwich / Masonville, New York
Air Temp Heating & Air Conditioning, Inc.
HPNorwich 146 Bathooms

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
			DSCODE:

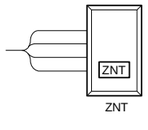
AIR TEMP HEATING & AIR CONDITIONING, INC.
A LINC SERVICE ® *CONTRACTOR*

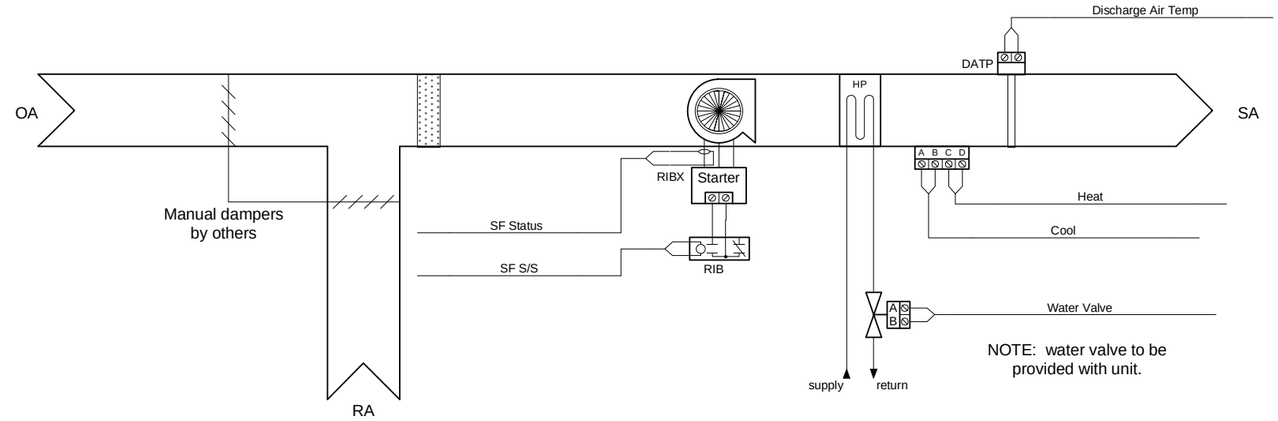
HPNorwich C136 Bathrooms

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DATP	DISCHARGE AIR TEMP SENSOR	BAPI	BA/10K-2-RPP-8	102 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	102 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	102 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	102 ea
ZN551	CONTROL MODULE	AUTOMATED LOGIC	ZN551	102 ea
ZNT	ZONE TEMPERATURE SENSOR	AUTOMATED LOGIC	RS PLUS	102 ea



NETWORKED FROM Address 55





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.

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

NORWICH

DCMO BOCES - Phase 1&2 AS BUILT

Norwich / Masonville, New York

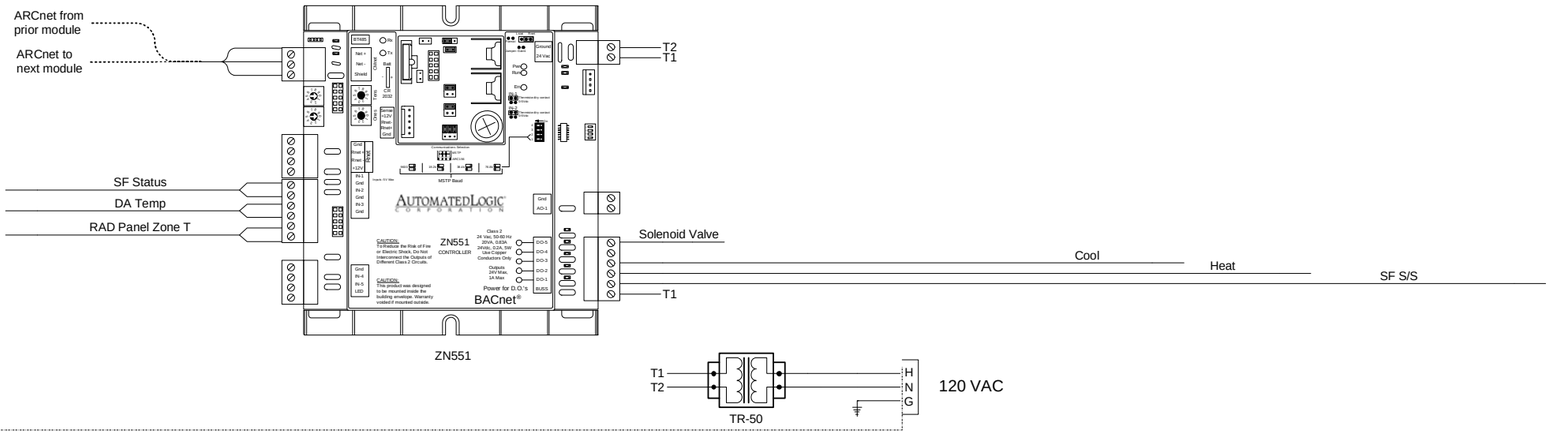
Air Temp Heating & Air Conditioning, Inc.

HPNorwich C136 Bathrooms

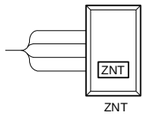
REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® CONTRACTOR			DSCODE:
			32 of 69

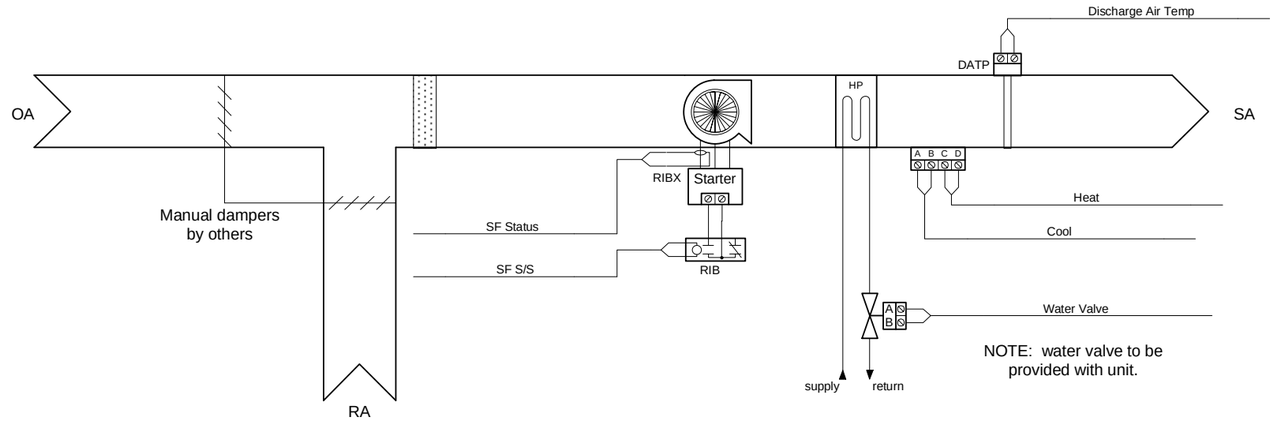
HPNorwich C133.1 Girls Locker

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DATP	DISCHARGE AIR TEMP SENSOR	BAPI	BA/10K-2-RPP-8	102 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	102 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	102 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	102 ea
ZN551	CONTROL MODULE	AUTOMATED LOGIC	ZN551	102 ea
ZNT	ZONE TEMPERATURE SENSOR	AUTOMATED LOGIC	RS PLUS	102 ea



NETWORKED FROM Address 52





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.

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

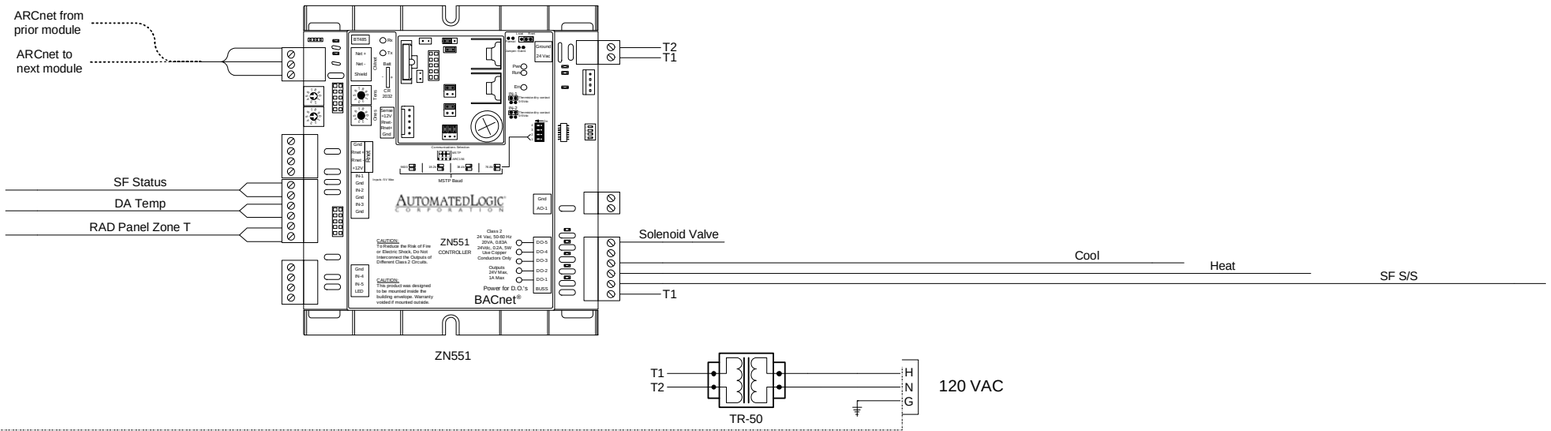
NORWICH

DCMO BOCES - Phase 1&2 AS BUILT
Norwich / Masonville, New York
Air Temp Heating & Air Conditioning, Inc.
HPNorwich C133.1 Girls Locker

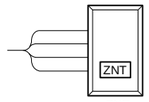
REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® CONTRACTOR			CHECK BY: RSL
			DSCODE:

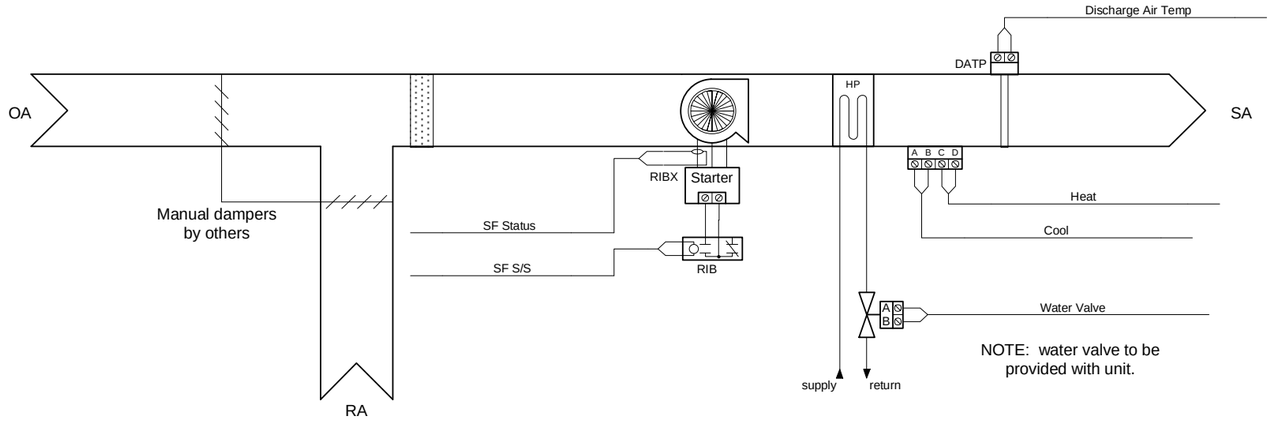
HPNorwich C132.1 Boys Locker

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DATP	DISCHARGE AIR TEMP SENSOR	BAPI	BA/10K-2-RPP-8	102 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	102 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	102 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	102 ea
ZN551	CONTROL MODULE	AUTOMATED LOGIC	ZN551	102 ea
ZNT	ZONE TEMPERATURE SENSOR	AUTOMATED LOGIC	RS PLUS	102 ea



NETWORKED FROM Address 51





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.

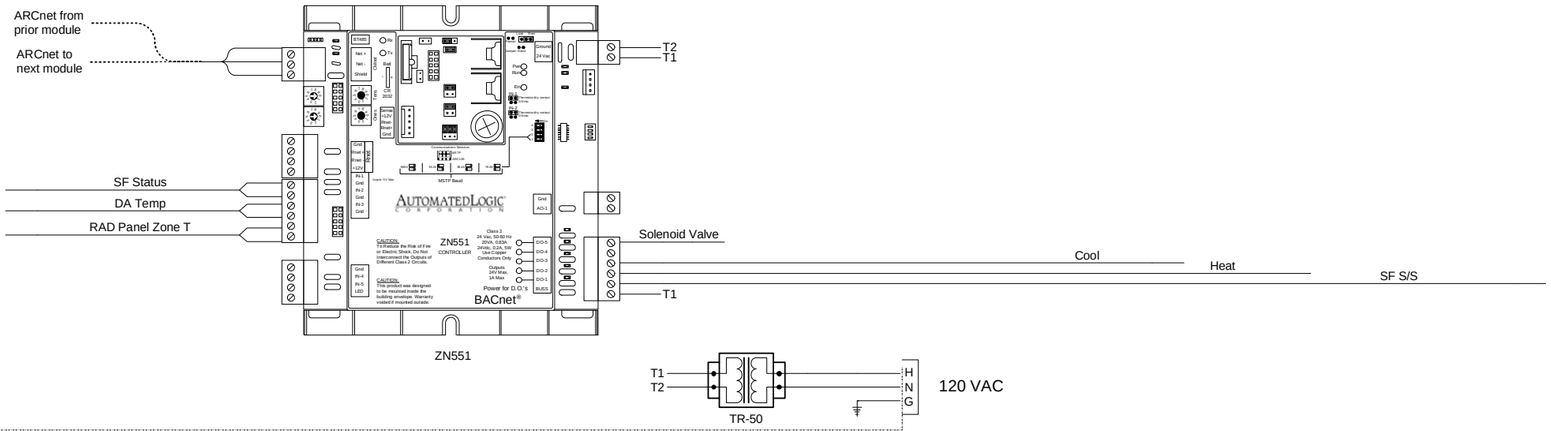
NORWICH

DCMO BOCES - Phase 1&2 AS BUILT
Norwich / Masonville, New York
Air Temp Heating & Air Conditioning, Inc.
HPNorwich C132.1 Boys Locker

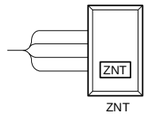
REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® CONTRACTOR			CHECK BY: RSL
			DSCODE:

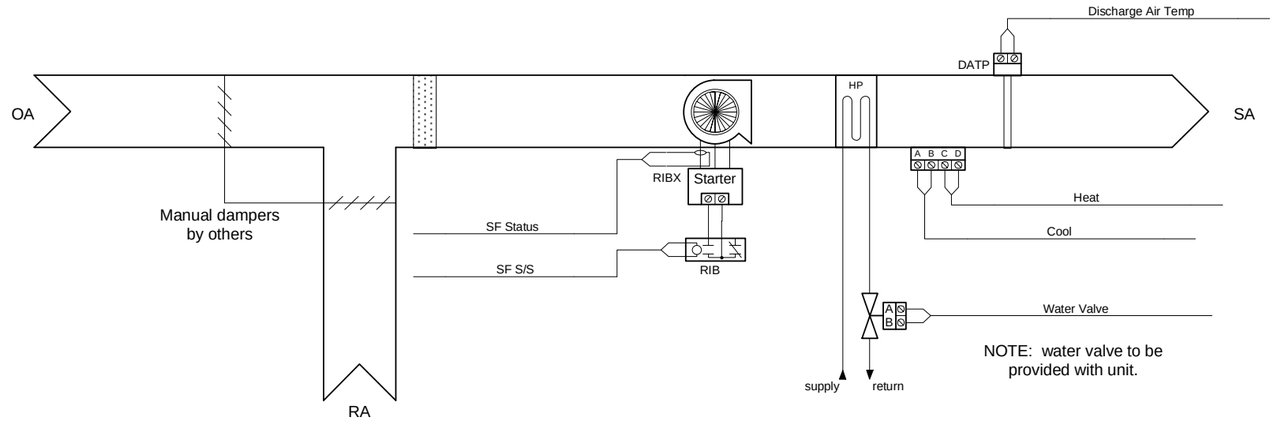
HPNorwich C19 Corridoor

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DATP	DISCHARGE AIR TEMP SENSOR	BAPI	BA/10K-2-RPP-8	102 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	102 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	102 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	102 ea
ZN551	CONTROL MODULE	AUTOMATED LOGIC	ZN551	102 ea
ZNT	ZONE TEMPERATURE SENSOR	AUTOMATED LOGIC	RS PLUS	102 ea



NETWORKED FROM Address 50





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.

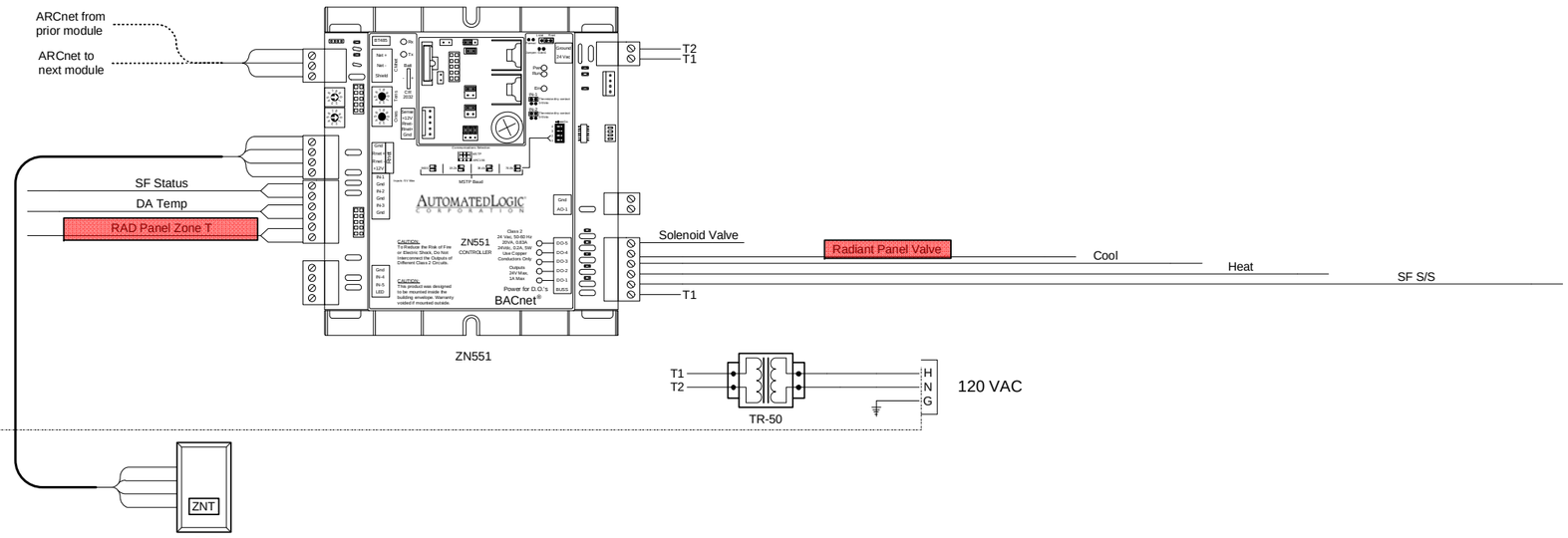
NORWICH

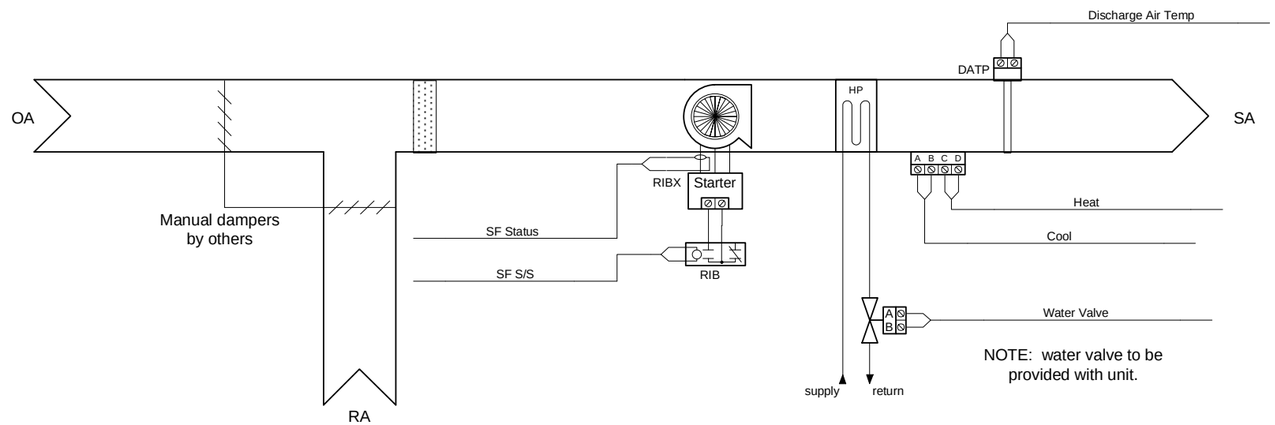
DCMO BOCES - Phase 1&2 AS BUILT
Norwich / Masonville, New York
Air Temp Heating & Air Conditioning, Inc.
HPNorwich C19 Corridoor

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® CONTRACTOR			DSCODE:
			35 of 69

HPNorwich CG07 Bathroom

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DATP	DISCHARGE AIR TEMP SENSOR	BAPI	BA/10K-2-RPP-8	102 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	102 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	102 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	102 ea
ZN551	CONTROL MODULE	AUTOMATED LOGIC	ZN551	102 ea
ZNT	ZONE TEMPERATURE SENSOR	AUTOMATED LOGIC	RS PLUS	102 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.

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

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

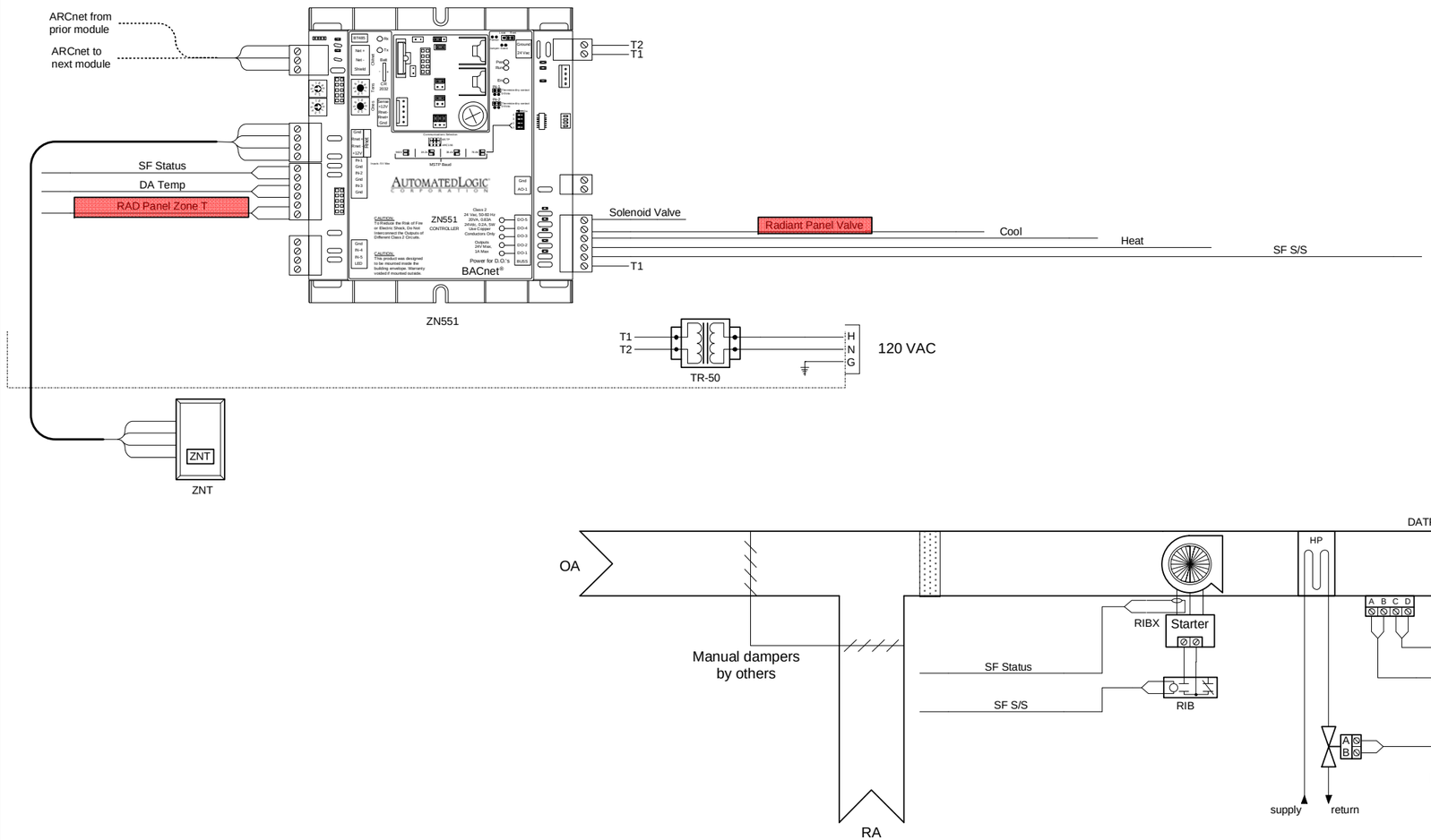
NORWICH

DCMO BOCES - Phase 1&2 AS BUILT
Norwich / Masonville, New York
Air Temp Heating & Air Conditioning, Inc.
HPNorwich CG07 Bathroom

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® *CONTRACTOR*			DSCODE:
			36 of 69

HPNorwich CG05 Bathroom

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DATP	DISCHARGE AIR TEMP SENSOR	BAPI	BA/10K-2-RPP-8	102 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	102 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	102 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	102 ea
ZN551	CONTROL MODULE	AUTOMATED LOGIC	ZN551	102 ea
ZNT	ZONE TEMPERATURE SENSOR	AUTOMATED LOGIC	RS PLUS	102 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.

NORWICH

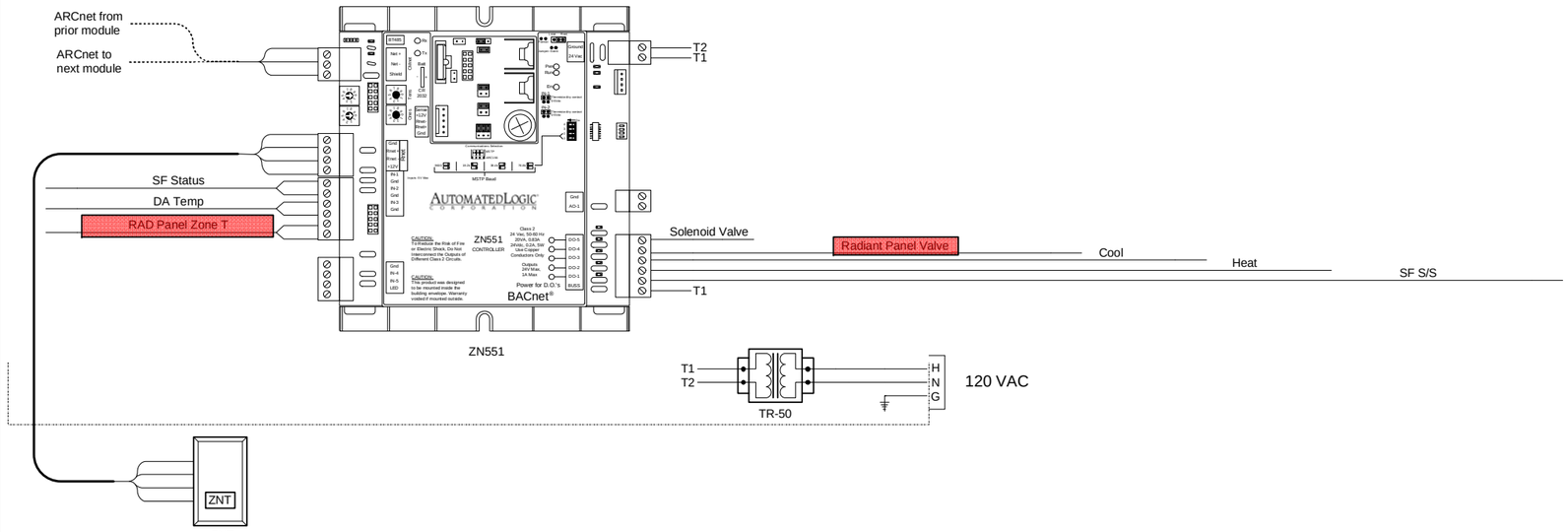
DCMO BOCES - Phase 1&2 AS BUILT
Norwich / Masonville, New York
Air Temp Heating & Air Conditioning, Inc.
HPNorwich CG05 Bathroom

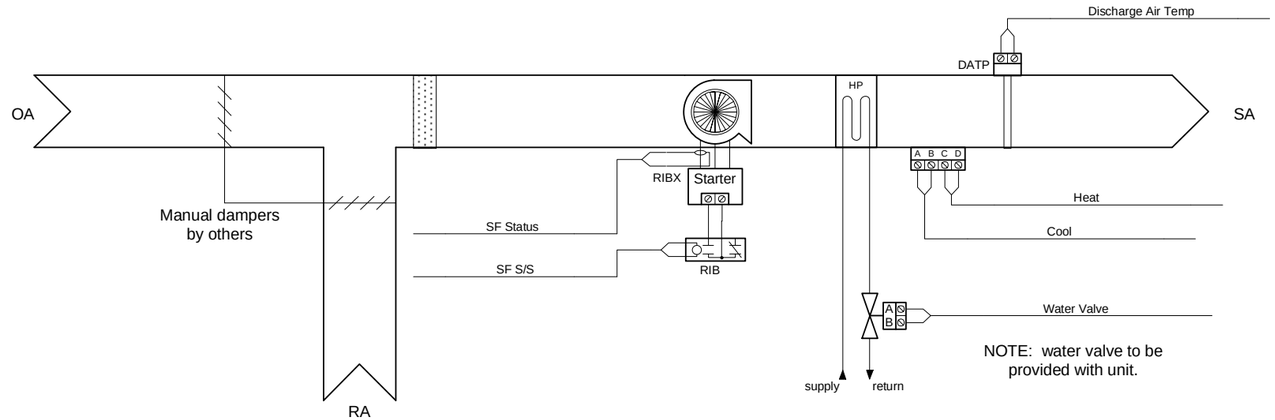
REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
			DSCODE:

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

HPNorwich C163 Bathrooms

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DATP	DISCHARGE AIR TEMP SENSOR	BAPI	BA/10K-2-RPP-8	102 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	102 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	102 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	102 ea
ZN551	CONTROL MODULE	AUTOMATED LOGIC	ZN551	102 ea
ZNT	ZONE TEMPERATURE SENSOR	AUTOMATED LOGIC	RS PLUS	102 ea





General Notes:
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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.

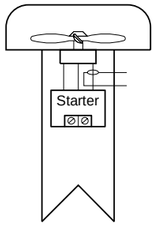
Routing of communications cabling and control module locations shall be field verified.

DCMO BOCES - Phase 1&2 AS BUILT
Norwich / Masonville, New York
Air Temp Heating & Air Conditioning, Inc.
HPNorwich C163 Bathrooms

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
			DSCODE:

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

EF'S NORWICH



CS-E

REL-F

EF 24 C Bathrooms 146, 147	Controlled From Device 2-42
EF 145 C Bathrooms 144, 145	Controlled From Device 3-88
EF 151 Bathrooms 151	Controlled From Device 3-88
EF 30 C Prep Room 169.1	Controlled From Device 2-39
EF 26 Girls Bathroom E Wing	Controlled From Device 2-59
EF 25 Boys Bathroom E Wing	Controlled From Device 3-88
EF 28 Area D Locker Rooms	Controlled From Device 1-59

NORWICH

Bill of Materials

DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
CS-E	CURRENT SWITCH .5-200 AMP SOLID CORE GO/NO GO	VERUS IND.	H-800	1 ea
REL-F	RIB PILOT RELAY SPDT 10AMP	KELE & ASSOC.	RIBU1C	1 ea

DCMO BOCES - Phase 1&2 AS BUILT

Norwich / Masonville, New York

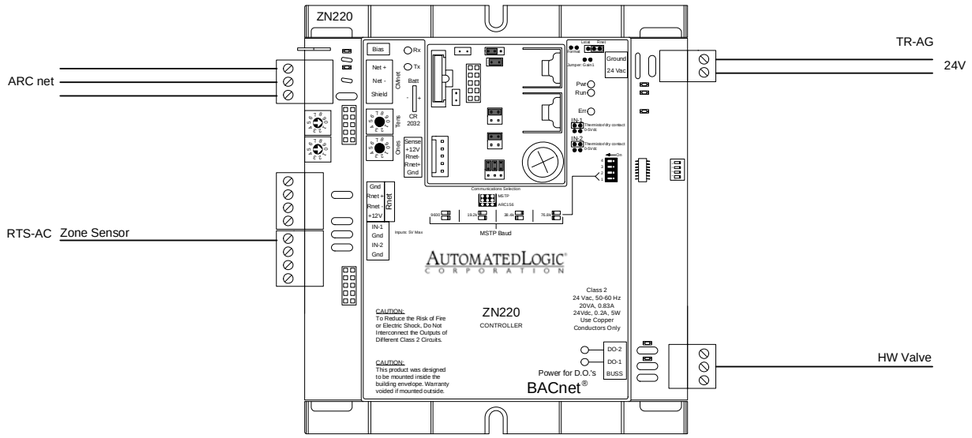
Air Temp Heating & Air Conditioning, Inc.

EF'S NORWICH

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® *CONTRACTOR*			CHECK BY: RSL
			DSCODE:
			39 of 69

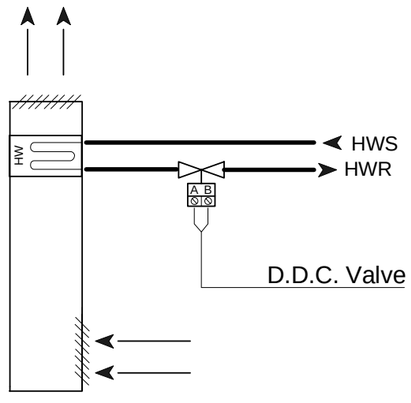
Convector

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
RTS-AC	10K ROOM THERMISTOR SS WALL PLATE	BAPI	BA/10K-2-93-631	1 ea
TR-AG	TRANSFORMER, 120/24VAC 150VA W/CCT BREAKER	CORE COMPONENTS	LE-124	1 ea
ZN220	ZN220	AUTOMATED LOGIC	ZN220	1 ea



Radiant C107.5

Network 3 Address 86



CONVECTOR HEATER

NORWICH

DCMO BOCES - Phase 1&2 AS BUILT

Norwich / Masonville, New York

Air Temp Heating & Air Conditioning, Inc.

Convector

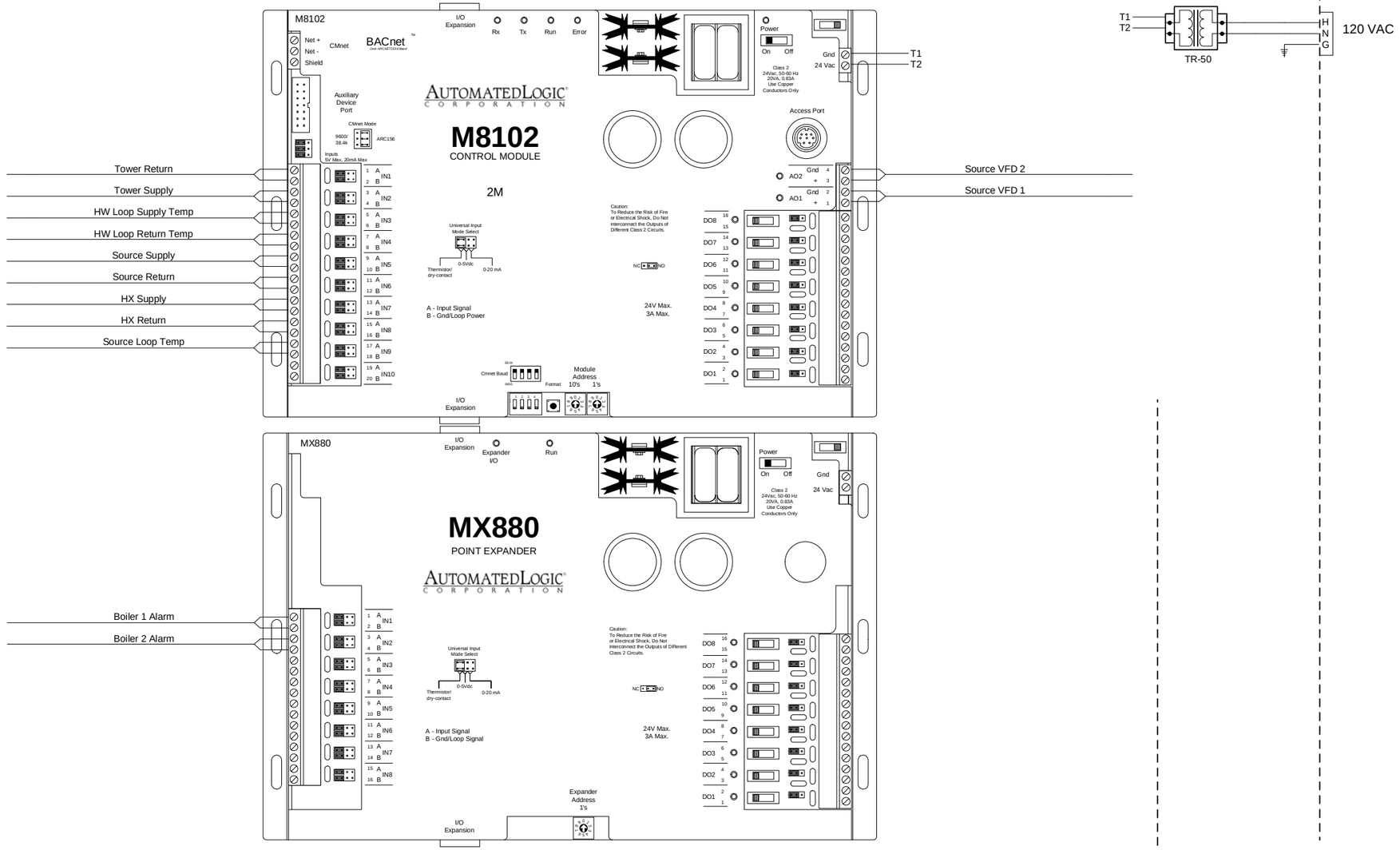
REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® CONTRACTOR			CHECK BY: RSL
			DSCODE:
			40 of 69

Boiler Wiring 01- HC

Harrold Campus
Typical For 2 Boiler Rooms

Bill of Materials

DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
M8102	CONTROL MODULE	AUTOMATED LOGIC	M8102	2 ea
MX880	CONTROL MODULE	AUTOMATED LOGIC	MX880	2 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	6 ea



MASONVILLE WITH EXPANDER 1

CONTINUED NEXT PAGE

DCMO BOCES - Phase 1&2 AS BUILT
Norwich / Masonville, New York
Air Temp Heating & Air Conditioning, Inc.
Boiler Wiring 01- HC

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
			DSCODE:

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

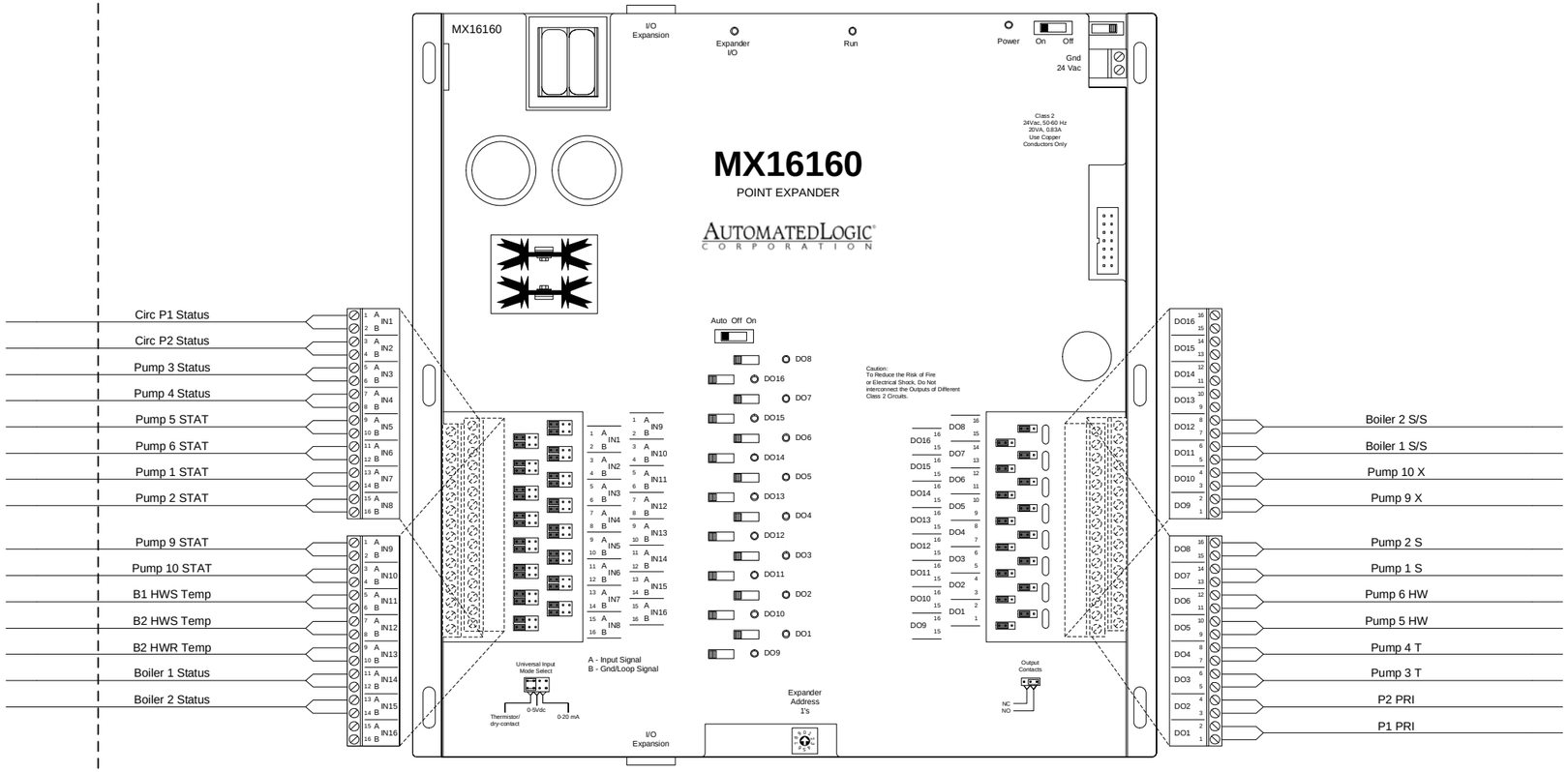
Boiler Wiring 02 - HC

Bill of Materials

DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
IS	SENSOR	BAPI	BA10K2I4	12 ea
MX16160	MX16160	AUTOMATED LOGIC	MX16160	1 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	10 ea
RIBXKF	CT	FUNCTIONAL DEVICES	RIBXKF	12 ea

Harrold Campus
A BOILER

Panel continued from previous page



IS RIB
RIBXKF

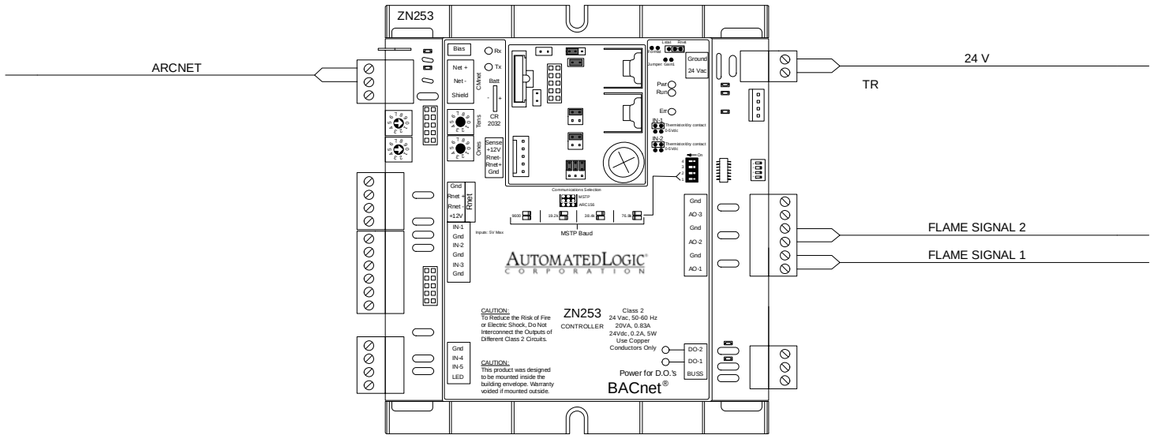
MASONVILLE WITH EXPANDER 2

DCMO BOCES - Phase 1&2 AS BUILT
Norwich / Masonville, New York
Air Temp Heating & Air Conditioning, Inc.
Boiler Wiring 02 - HC

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® CONTRACTOR			DSCODE:
			42 of 69

Boiler Wiring 03 - HC

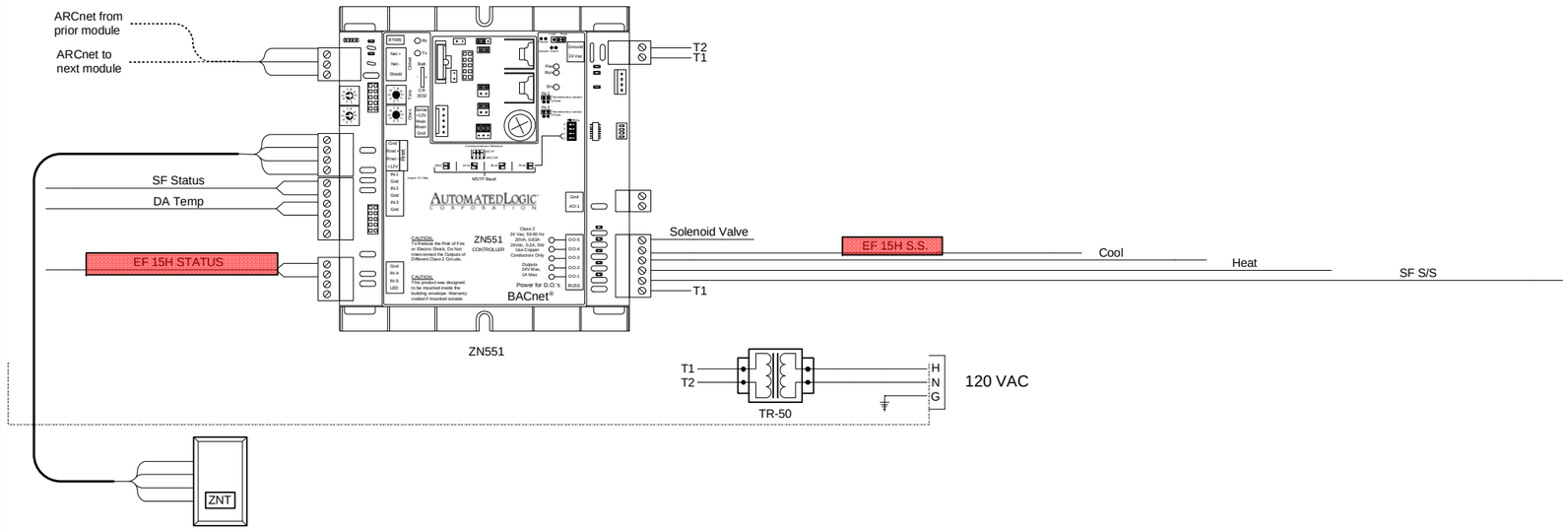
Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
TR	TRANSFORMER	FUNTIONAL DEVICES	TR50VA	3 ea
ZN253	ZN253	AUTOMATED LOGIC	ZN253	1 ea

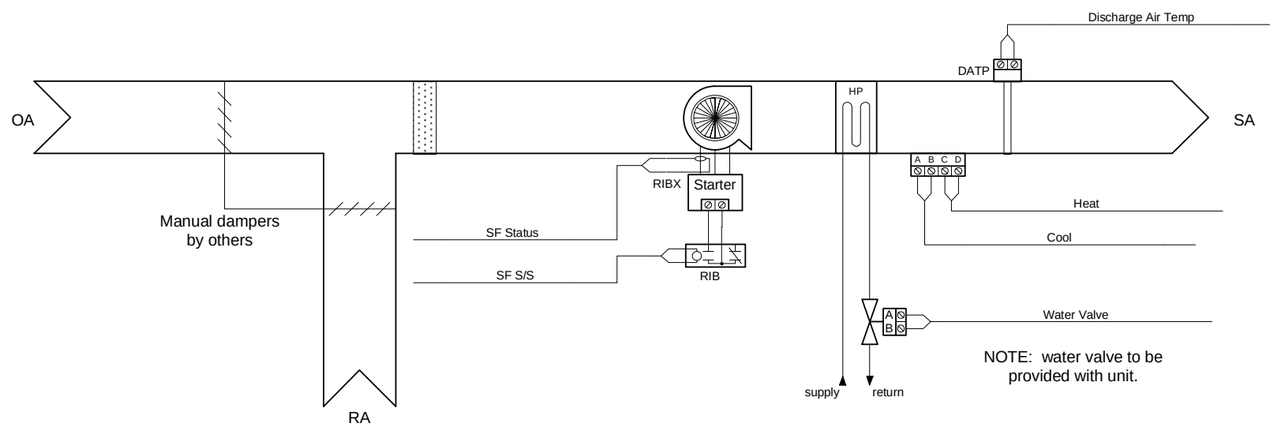


DCMO BOCES - Phase 1&2 AS BUILT			
Norwich / Masonville, New York			
Air Temp Heating & Air Conditioning, Inc.			
Boiler Wiring 03 - HC			
REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® CONTRACTOR			CHECK BY: RSL
			DSCODE:
			43 of 69

HPHarold A308 Bathrooms

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DATP	DISCHARGE AIR TEMP SENSOR	BAPI	BA/10K-2-RPP-8	102 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	102 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	102 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	102 ea
ZN551	CONTROL MODULE	AUTOMATED LOGIC	ZN551	102 ea
ZNT	ZONE TEMPERATURE SENSOR	AUTOMATED LOGIC	RS PLUS	102 ea





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

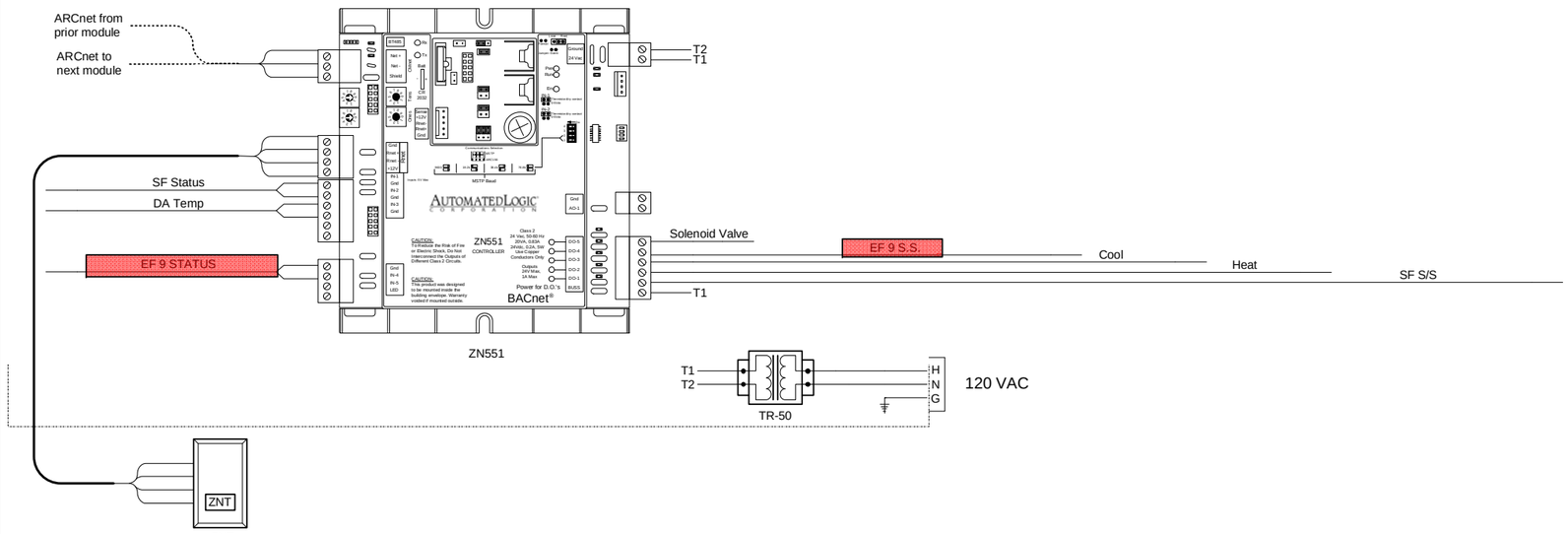
MASONVILLE

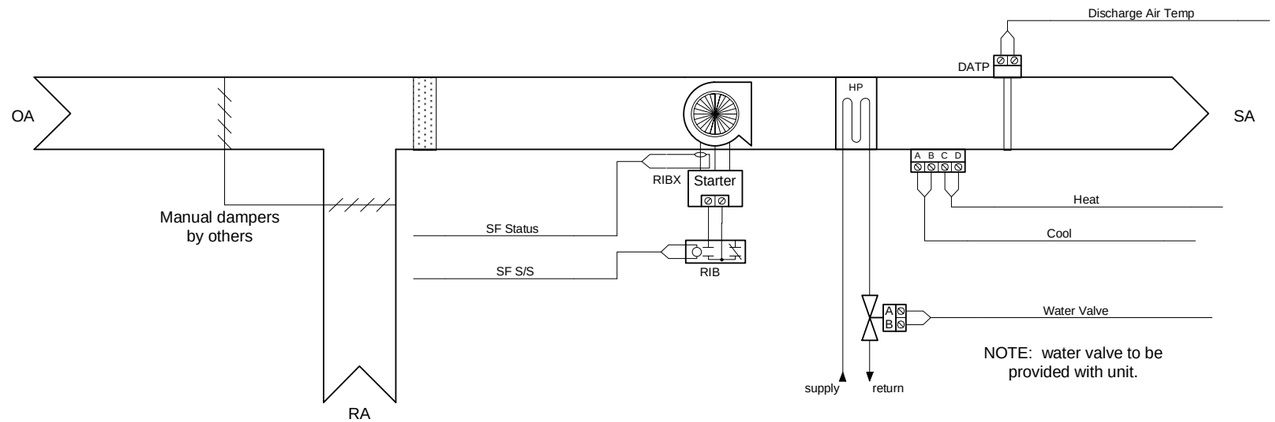
DCMO BOCES - Phase 1&2 AS BUILT
Norwich / Masonville, New York
Air Temp Heating & Air Conditioning, Inc.
HPHarold A308 Bathrooms

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® *CONTRACTOR*			DSCODE:
			44 of 69

HPHarold A212

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DATP	DISCHARGE AIR TEMP SENSOR	BAPI	BA/10K-2-RPP-8	102 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	102 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	102 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	102 ea
ZN551	CONTROL MODULE	AUTOMATED LOGIC	ZN551	102 ea
ZNT	ZONE TEMPERATURE SENSOR	AUTOMATED LOGIC	RS PLUS	102 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.

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

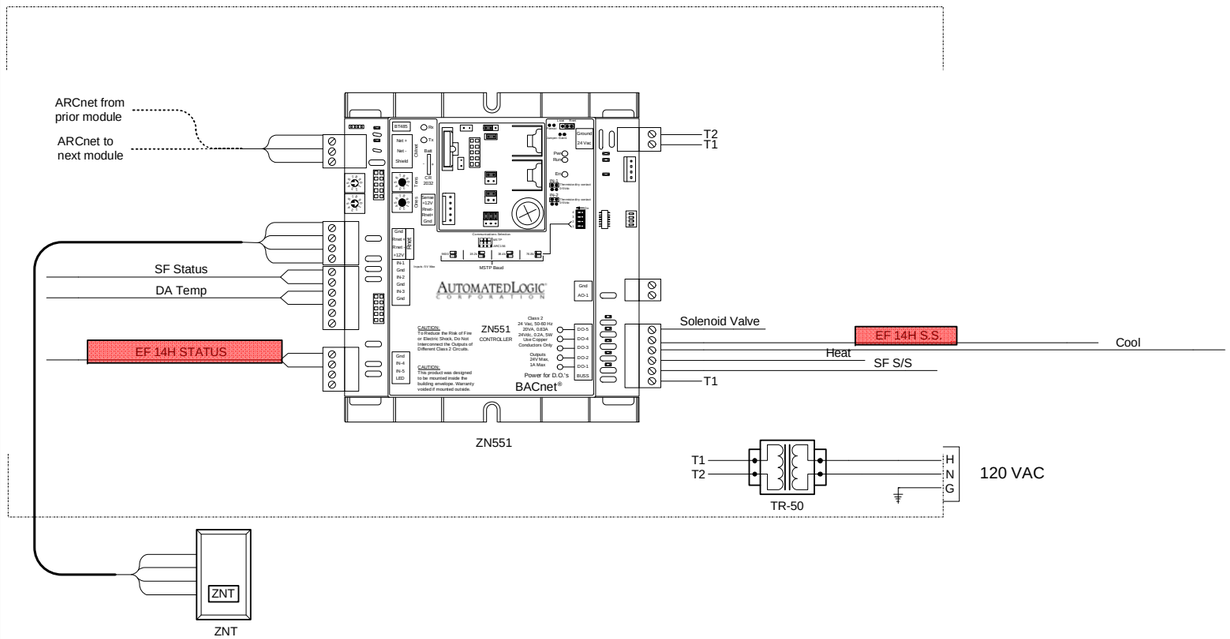
MASONVILLE

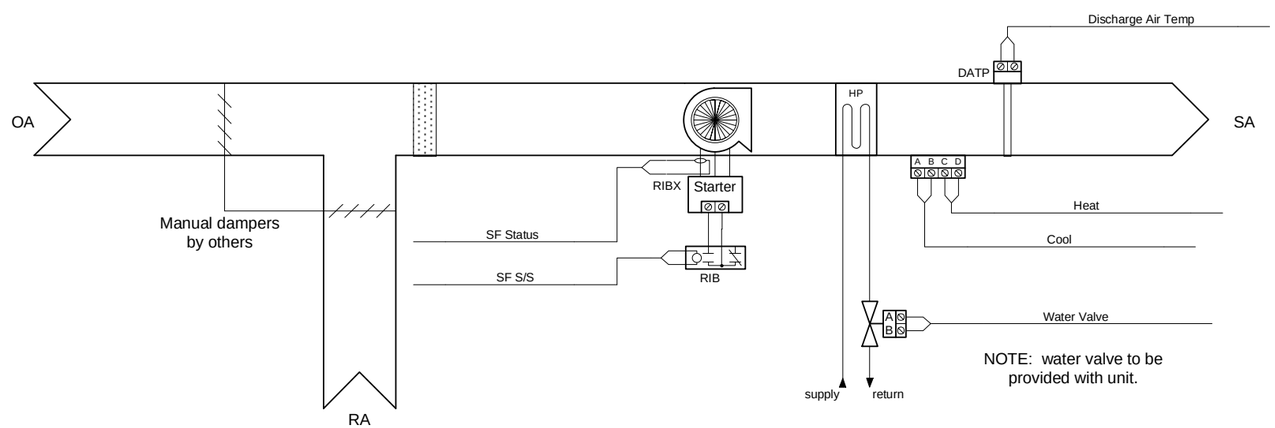
DCMO BOCES - Phase 1&2 AS BUILT
Norwich / Masonville, New York
Air Temp Heating & Air Conditioning, Inc.
HPHarold A212

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® *CONTRACTOR*			DSCODE:
			45 of 69

HPHarold A301 Bathrooms

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DATP	DISCHARGE AIR TEMP SENSOR	BAPI	BA/10K-2-RPP-8	102 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	102 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	102 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	102 ea
ZN551	CONTROL MODULE	AUTOMATED LOGIC	ZN551	102 ea
ZNT	ZONE TEMPERATURE SENSOR	AUTOMATED LOGIC	RS PLUS	102 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.

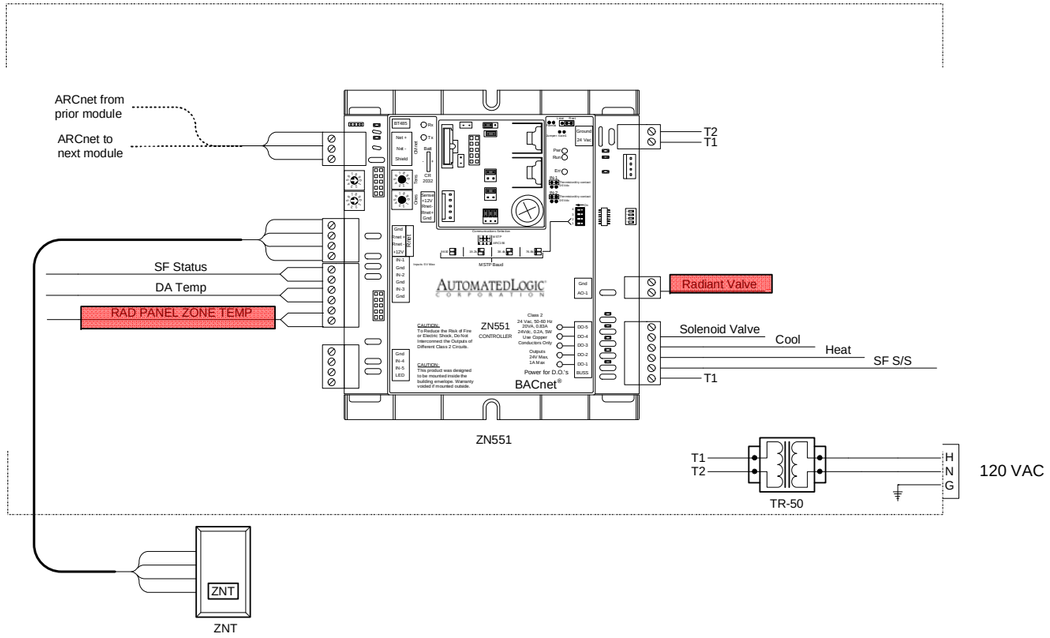
MASONVILLE

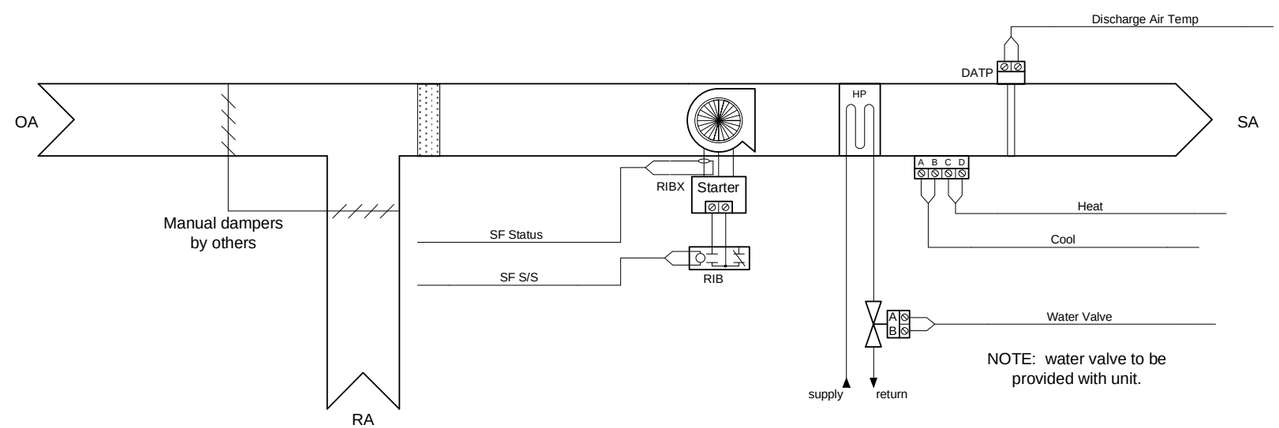
DCMO BOCES - Phase 1&2 AS BUILT
Norwich / Masonville, New York
Air Temp Heating & Air Conditioning, Inc.
HPHarold A301 Bathrooms

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® CONTRACTOR			DSCODE:
			46 of 69

HPHarold A16 Corridoor

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DATP	DISCHARGE AIR TEMP SENSOR	BAPI	BA/10K-2-RPP-8	102 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	102 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	102 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	102 ea
ZN551	CONTROL MODULE	AUTOMATED LOGIC	ZN551	102 ea
ZNT	ZONE TEMPERATURE SENSOR	AUTOMATED LOGIC	RS PLUS	102 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.

MASONVILLE

DCMO BOCES - Phase 1&2 AS BUILT

Norwich / Masonville, New York

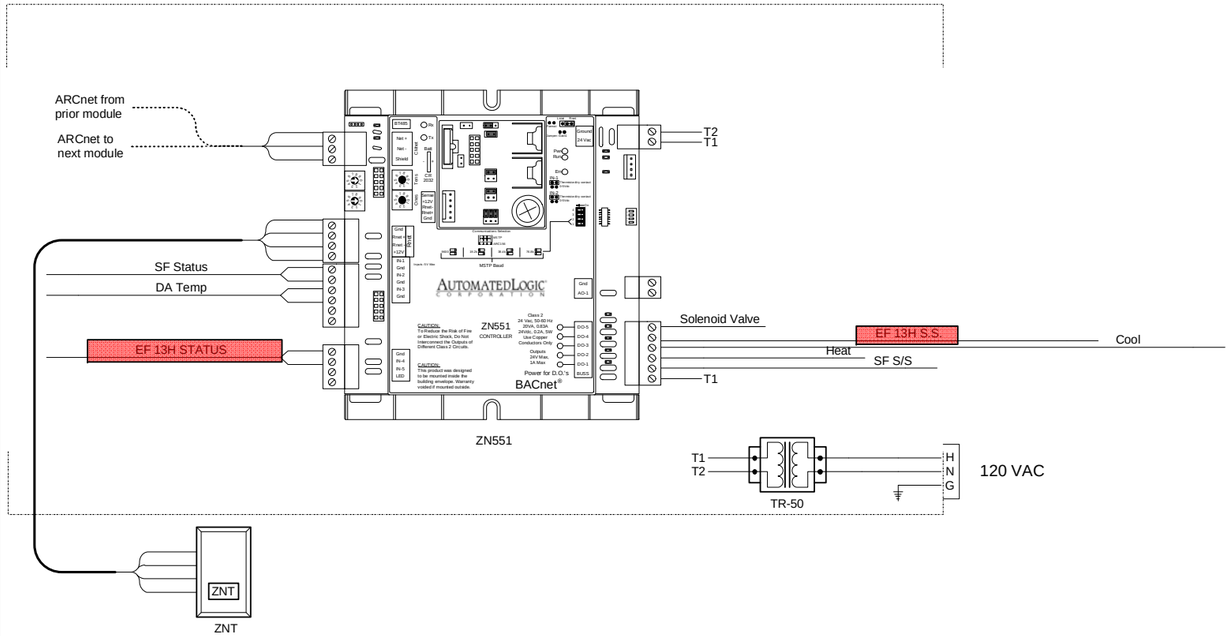
Air Temp Heating & Air Conditioning, Inc.

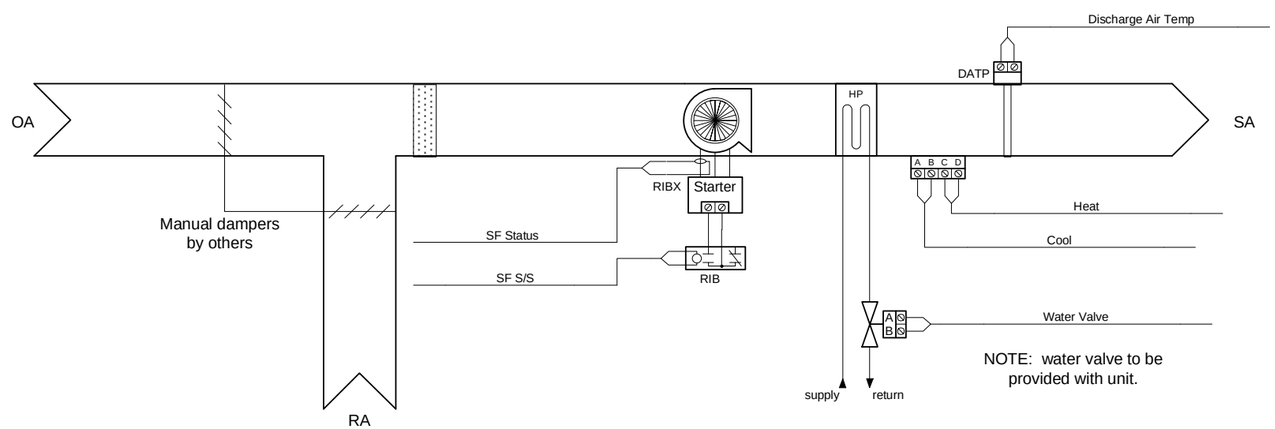
HPHarold A16 Corridoor

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® CONTRACTOR			DSCODE:
			47 of 69

HPHarold A226 Office

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DATP	DISCHARGE AIR TEMP SENSOR	BAPI	BA/10K-2-RPP-8	102 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	102 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	102 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	102 ea
ZN551	CONTROL MODULE	AUTOMATED LOGIC	ZN551	102 ea
ZNT	ZONE TEMPERATURE SENSOR	AUTOMATED LOGIC	RS PLUS	102 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.

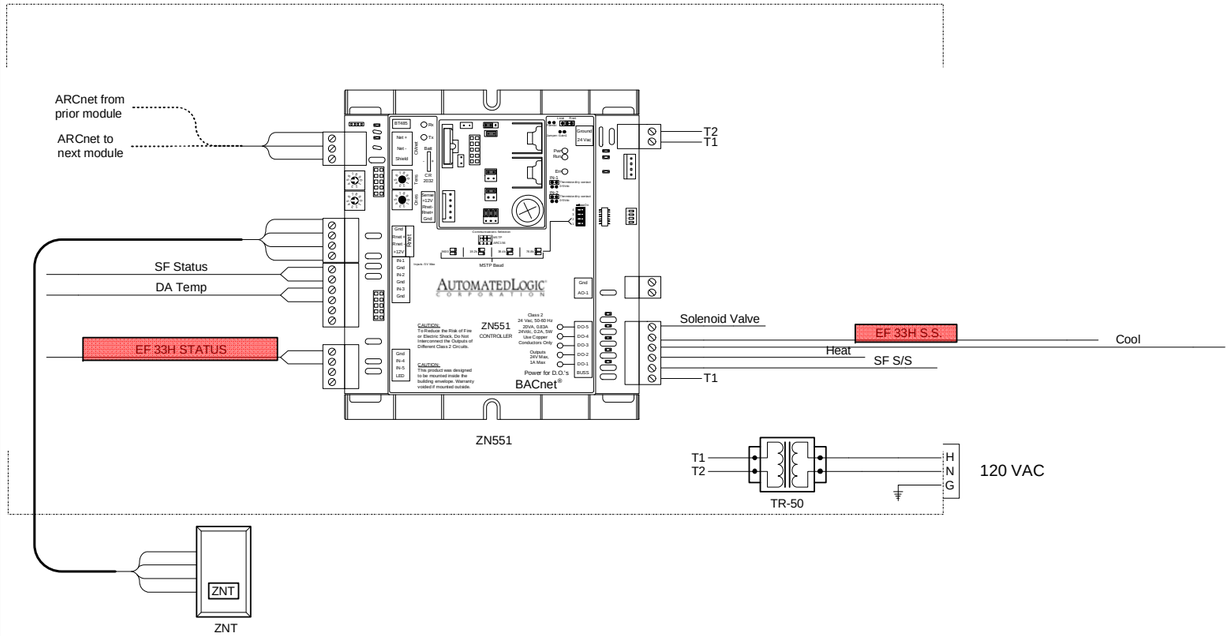
MASONVILLE

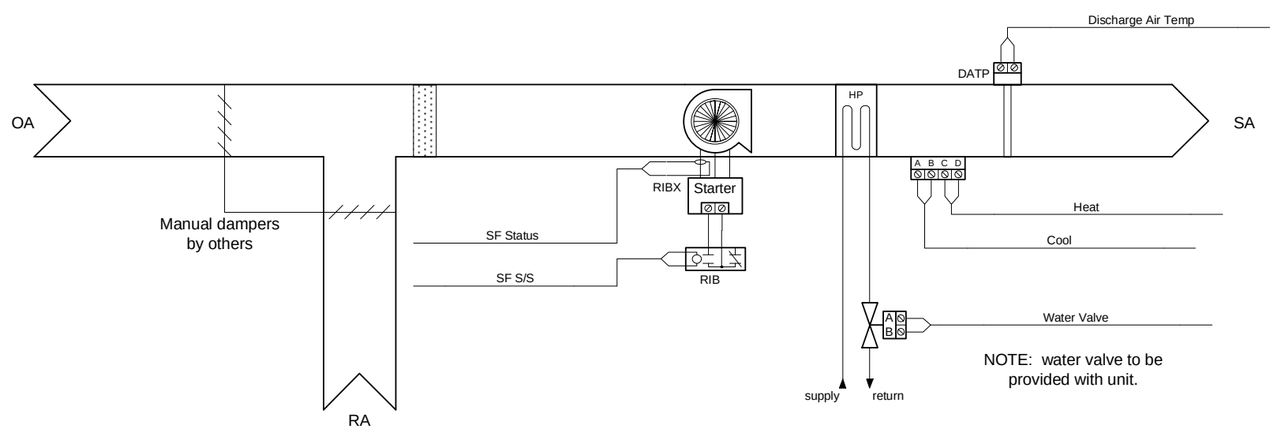
DCMO BOCES - Phase 1&2 AS BUILT
Norwich / Masonville, New York
Air Temp Heating & Air Conditioning, Inc.
HPHarold A226 Office

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® *CONTRACTOR*			DSCODE:
			48 of 69

HPHarold B312 Bathrooms

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DATP	DISCHARGE AIR TEMP SENSOR	BAPI	BA/10K-2-RPP-8	102 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	102 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	102 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	102 ea
ZN551	CONTROL MODULE	AUTOMATED LOGIC	ZN551	102 ea
ZNT	ZONE TEMPERATURE SENSOR	AUTOMATED LOGIC	RS PLUS	102 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.

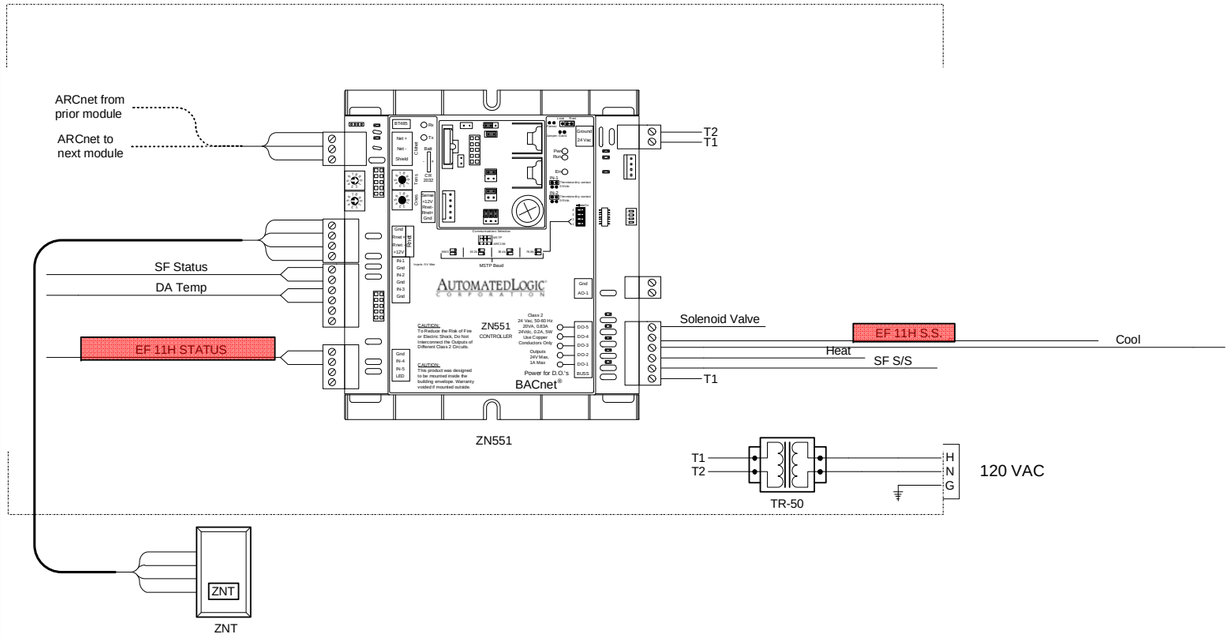
MASONVILLE

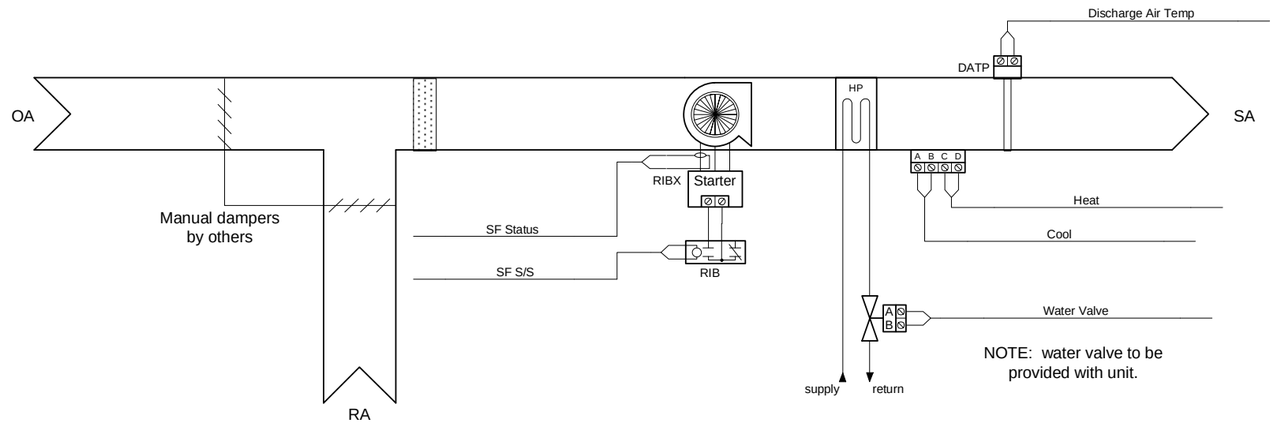
DCMO BOCES - Phase 1&2 AS BUILT
Norwich / Masonville, New York
Air Temp Heating & Air Conditioning, Inc.
HPHarold B312 Bathrooms

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® CONTRACTOR			DSCODE:
			49 of 69

HPHarold A215 Bathrooms

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DATP	DISCHARGE AIR TEMP SENSOR	BAPI	BA/10K-2-RPP-8	102 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	102 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	102 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	102 ea
ZN551	CONTROL MODULE	AUTOMATED LOGIC	ZN551	102 ea
ZNT	ZONE TEMPERATURE SENSOR	AUTOMATED LOGIC	RS PLUS	102 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.

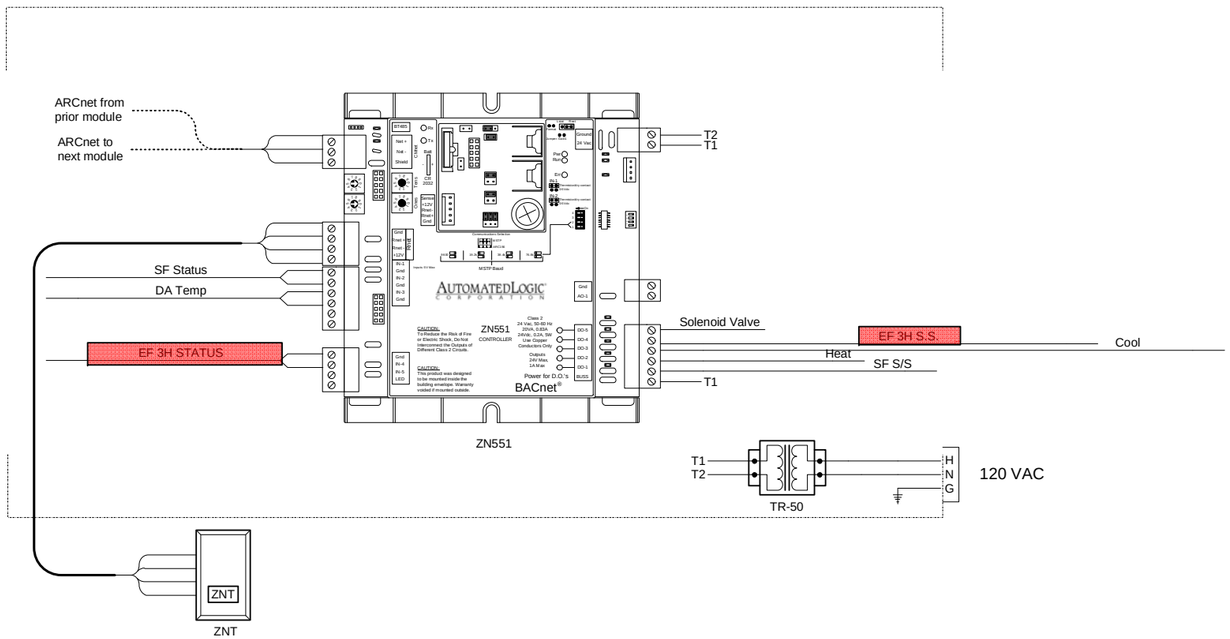
MASONVILLE

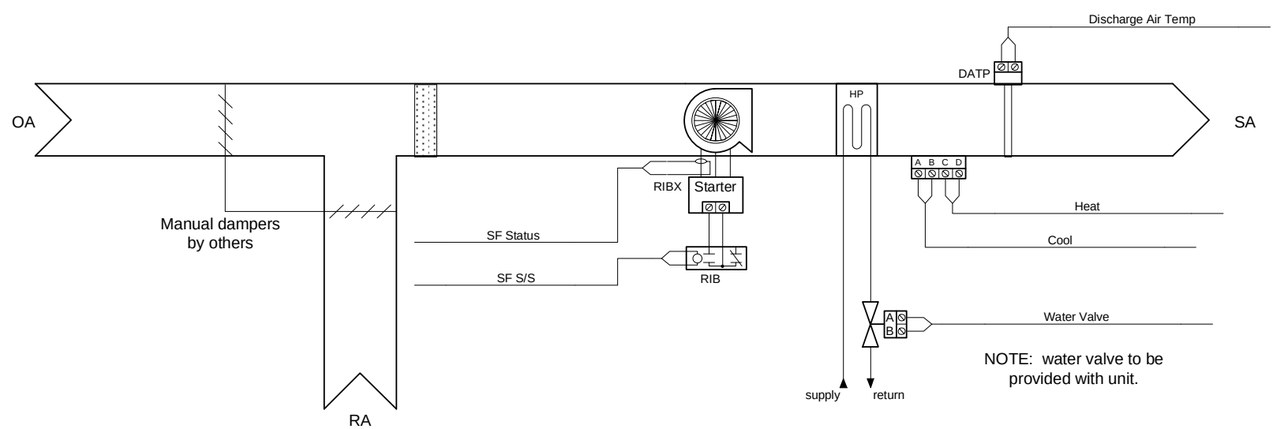
DCMO BOCES - Phase 1&2 AS BUILT
Norwich / Masonville, New York
Air Temp Heating & Air Conditioning, Inc.
HPHarold A215 Bathrooms

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® CONTRACTOR			DSCODE:
			50 of 69

HPHarold A227.3 Work Room

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DATP	DISCHARGE AIR TEMP SENSOR	BAPI	BA/10K-2-RPP-8	102 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	102 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	102 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	102 ea
ZN551	CONTROL MODULE	AUTOMATED LOGIC	ZN551	102 ea
ZNT	ZONE TEMPERATURE SENSOR	AUTOMATED LOGIC	RS PLUS	102 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.

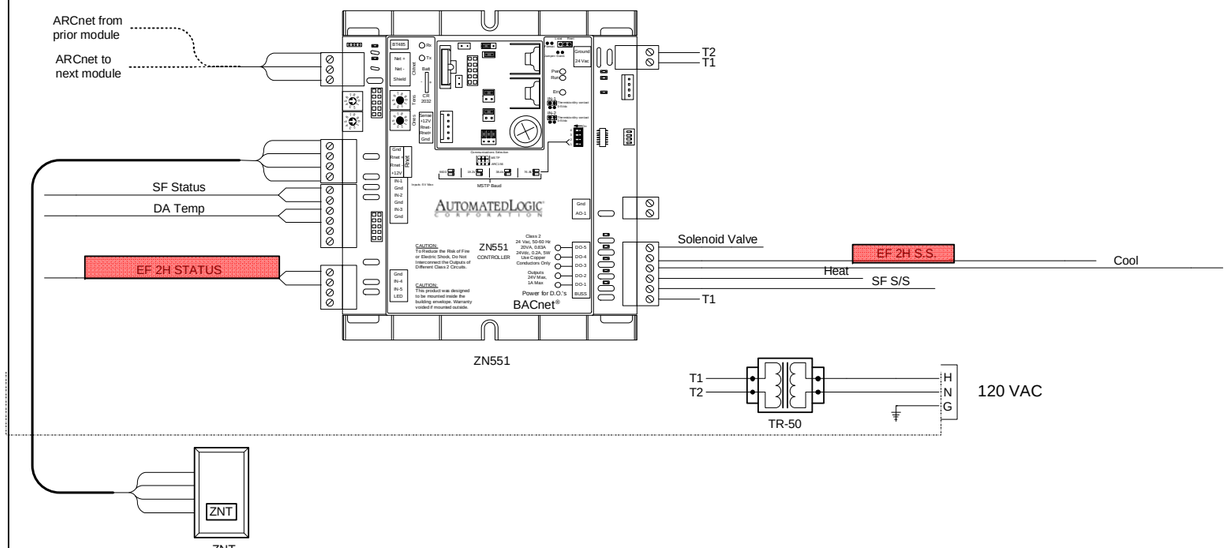
MASONVILLE

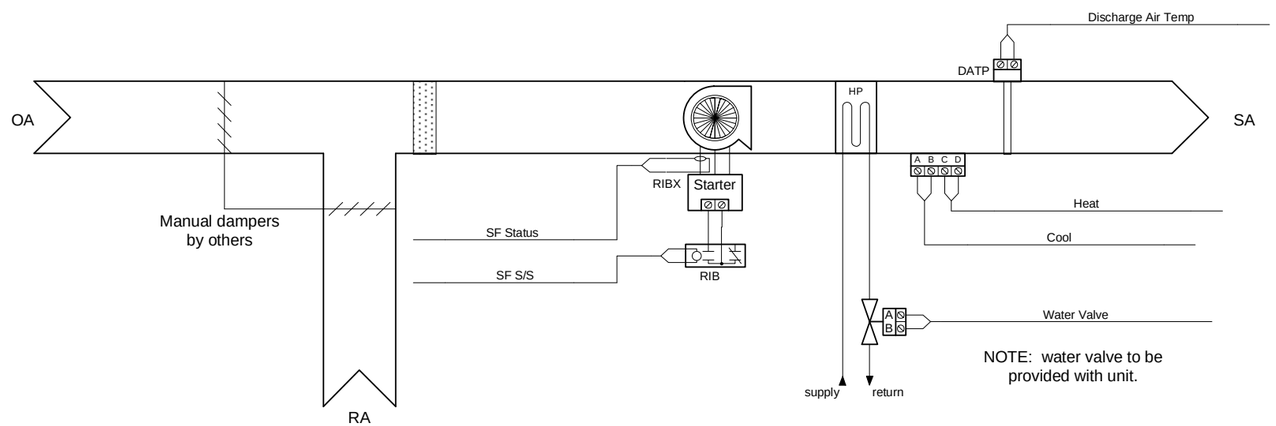
DCMO BOCES - Phase 1&2 AS BUILT
Norwich / Masonville, New York
Air Temp Heating & Air Conditioning, Inc.
HPHarold A227.3 Work Room

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® *CONTRACTOR*			DSCODE:
			51 of 69

HPHarold A222 Office

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DATP	DISCHARGE AIR TEMP SENSOR	BAPI	BA/10K-2-RPP-8	102 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	102 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	102 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	102 ea
ZN551	CONTROL MODULE	AUTOMATED LOGIC	ZN551	102 ea
ZNT	ZONE TEMPERATURE SENSOR	AUTOMATED LOGIC	RS PLUS	102 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.

MASONVILLE

DCMO BOCES - Phase 1&2 AS BUILT

Norwich / Masonville, New York

Air Temp Heating & Air Conditioning, Inc.

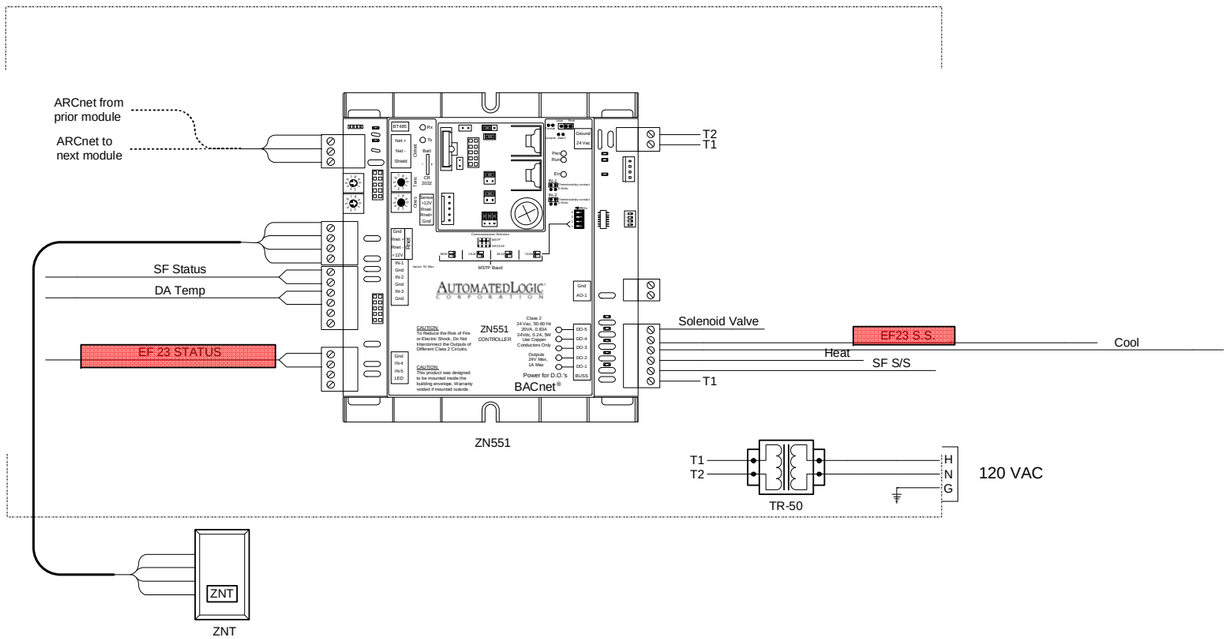
HPHarold A222 Office

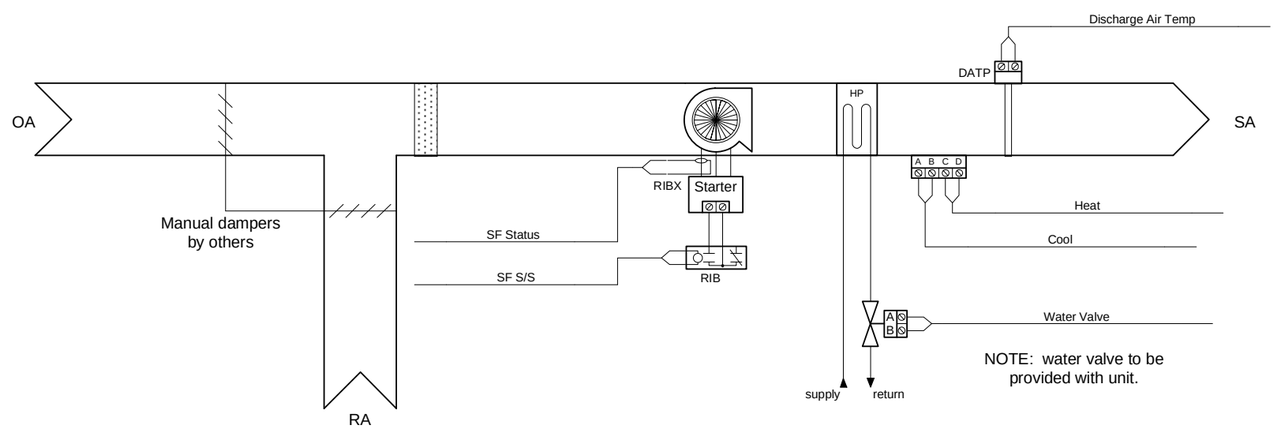
REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
			DSCODE:

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

HPHarold South Stairs Upper

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DATP	DISCHARGE AIR TEMP SENSOR	BAPI	BA/10K-2-RPP-8	102 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	102 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	102 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	102 ea
ZN551	CONTROL MODULE	AUTOMATED LOGIC	ZN551	102 ea
ZNT	ZONE TEMPERATURE SENSOR	AUTOMATED LOGIC	RS PLUS	102 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.

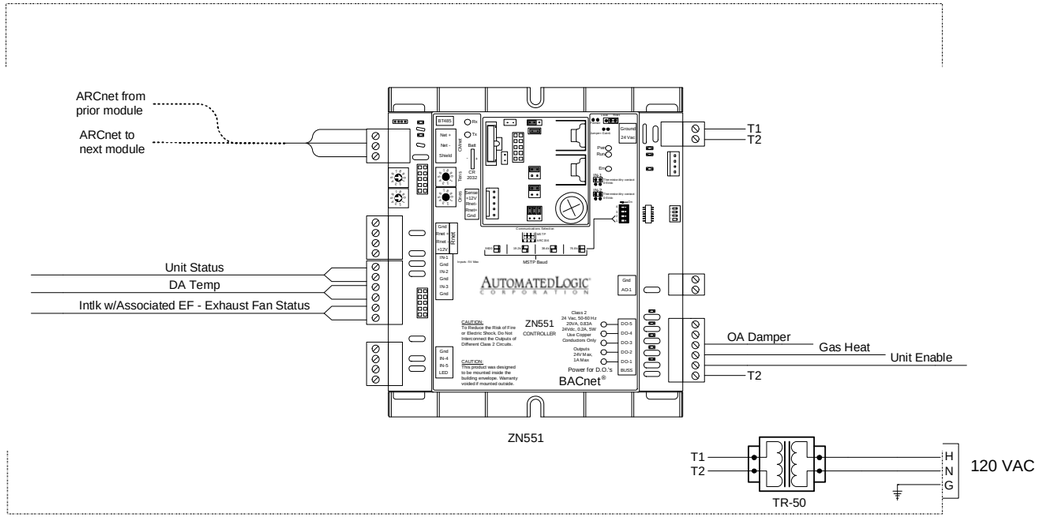
Routing of communications cabling and control module locations shall be field verified.

MASONVILLE

DCMO BOCES - Phase 1&2 AS BUILT
Norwich / Masonville, New York
Air Temp Heating & Air Conditioning, Inc.
HPHarold South Stairs Upper

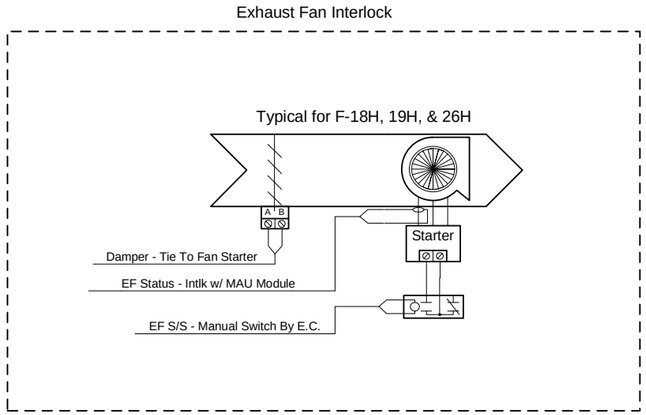
REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® CONTRACTOR			DSCODE:
			53 of 69

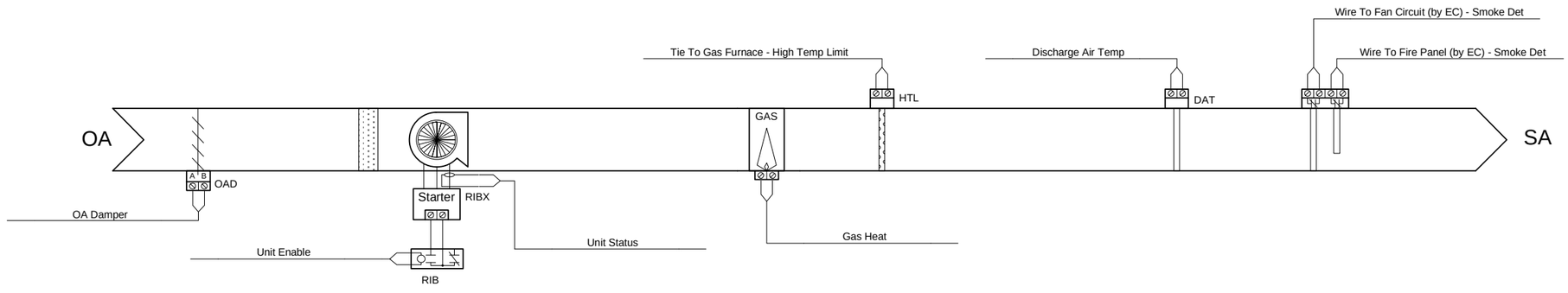
MAU - HC



Bill of Materials

DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DAT	DA TEMP SENSOR	BAPI	BA/10K-2-D-12	4 ea
HTL	HIGH TEMP SENSOR	SIEMENS	141-0530	4 ea
OAD	DAMPER ACTUATOR	BELIMO	NF24-US	4 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	4 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	4 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	4 ea
ZN551	CONTROL MODULE	AUTOMATED LOGIC	ZN551	4 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.

MASONVILLE

DCMO BOCES - Phase 1&2 AS BUILT

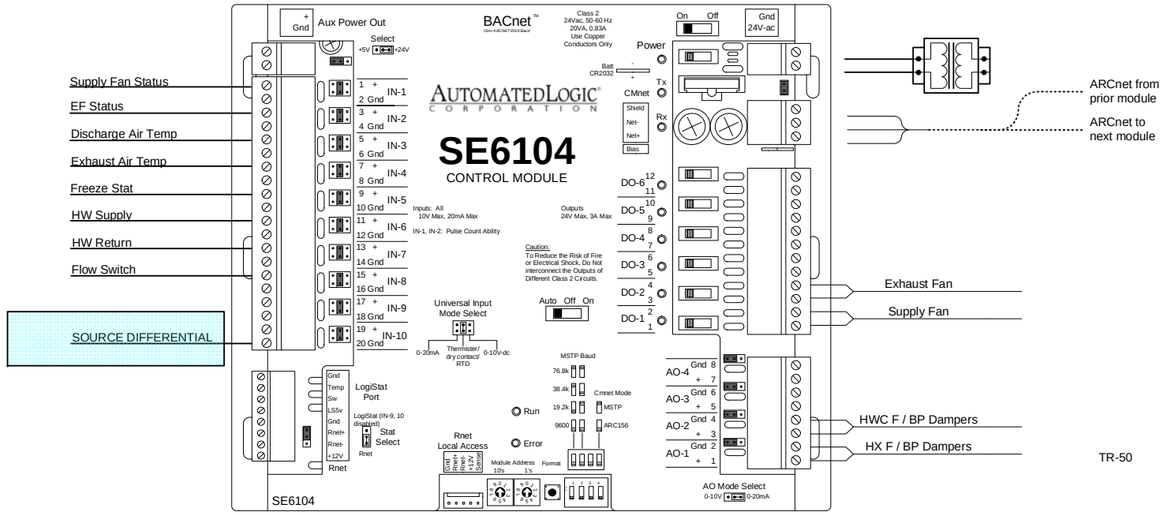
Norwich / Masonville, New York

Air Temp Heating & Air Conditioning, Inc.

MAU - HC

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® CONTRACTOR			DSCODE:
			54 of 69

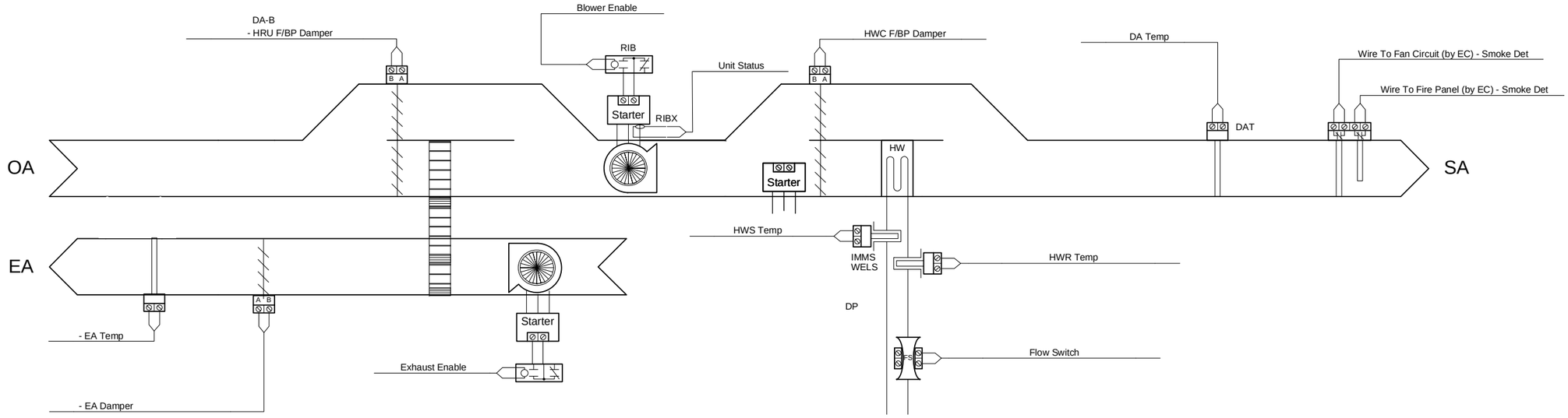
HRU - 3H



Bill of Materials

DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DA-B	SR PROPORTIONAL 133 IN-LB 2-10VDC	BELIMO	AF24-SR ALC	2 ea
DAT	DA TEMP SENSOR	BAPI	BA/10K-2-D-12	3 ea
DP	DIF WET	SETRA	SETRA	1 ea
IMMS	IMMERSION TEMP SENSOR	BAPI	BA/10K-2-I-2	2 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	2 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	4 ea
SE6104	SE6104	AUTOMATED LOGIC	SE6104	1 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	1 ea
WELS	IMMERSION TEMP SENSOR WELL	BAPI	BA/2	2 ea

MASONVILLE



DCMO BOCES - Phase 1&2 AS BUILT

Norwich / Masonville, New York

Air Temp Heating & Air Conditioning, Inc.

HRU - 3H

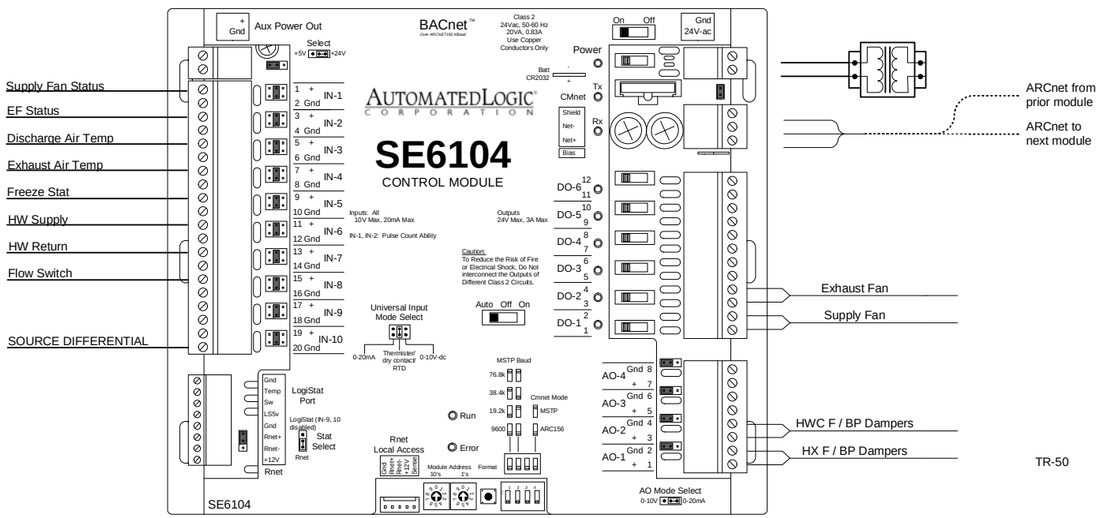
REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
			DSCODE:

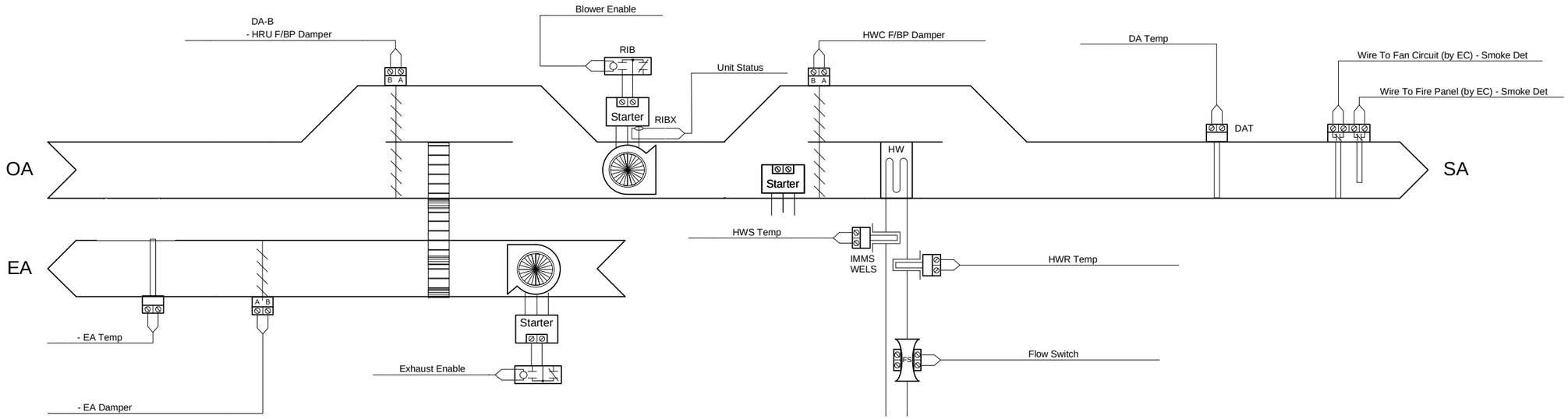
AIR TEMP HEATING & AIR CONDITIONING, INC.
A LINC SERVICE ® *CONTRACTOR*

HRU - 6H&4H

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DA-B	SR PROPORTIONAL 133 IN-LB 2-10VDC	BELIMO	AF24-SR ALC	4 ea
DAT	DA TEMP SENSOR	BAPI	BA/10K-2-D-12	6 ea
IMMS	IMMERSION TEMP SENSOR	BAPI	BA/10K-2-I-2	4 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	4 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	4 ea
SE6104	SE6104	AUTOMATED LOGIC	SE6104	2 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	2 ea
WELS	IMMERSION TEMP SENSOR WELL	BAPI	BA/2	4 ea

MASONVILLE





DCMO BOCES - Phase 1&2 AS BUILT

Norwich / Masonville, New York

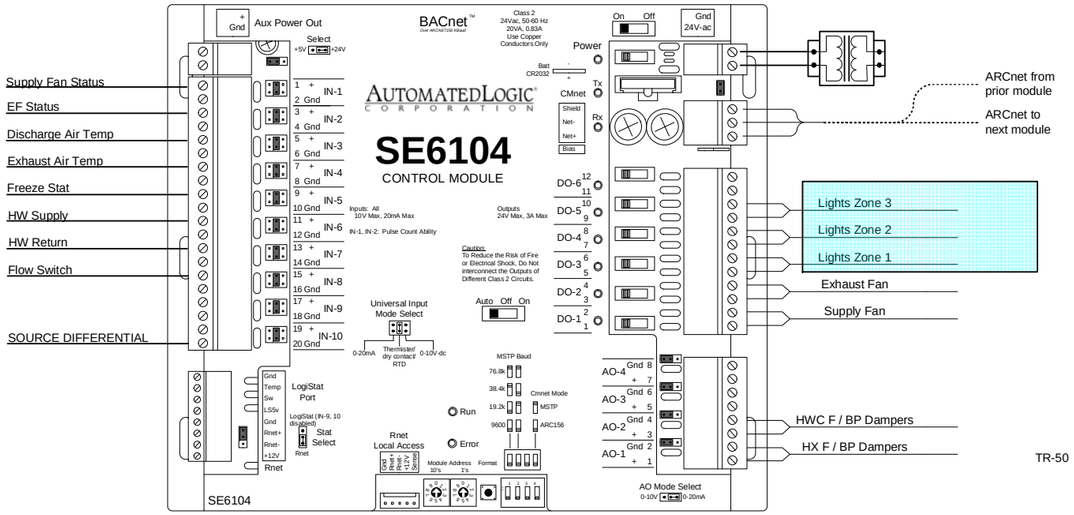
Air Temp Heating & Air Conditioning, Inc.

HRU - 6H&4H

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
			DSCODE:

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

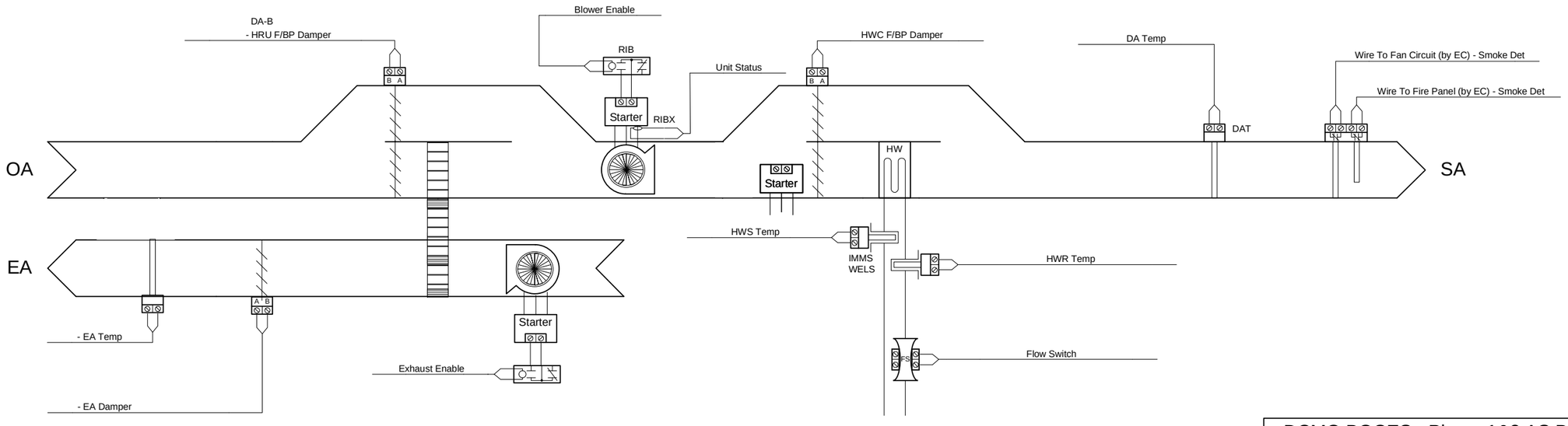
HRU - 5H



Bill of Materials

DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DA-B	SR PROPORTIONAL 133 IN-LB 2-10VDC	BELIMO	AF24-SR ALC	2 ea
DAT	DA TEMP SENSOR	BAPI	BA/10K-2-D-12	3 ea
IMMS	IMMERSION TEMP SENSOR	BAPI	BA/10K-2-I-2	2 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	2 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	4 ea
SE6104	SE6104	AUTOMATED LOGIC	SE6104	1 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	1 ea
WELS	IMMERSION TEMP SENSOR WELL	BAPI	BA/2	2 ea

MASONVILLE



DCMO BOCES - Phase 1&2 AS BUILT

Norwich / Masonville, New York

Air Temp Heating & Air Conditioning, Inc.

HRU - 5H

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
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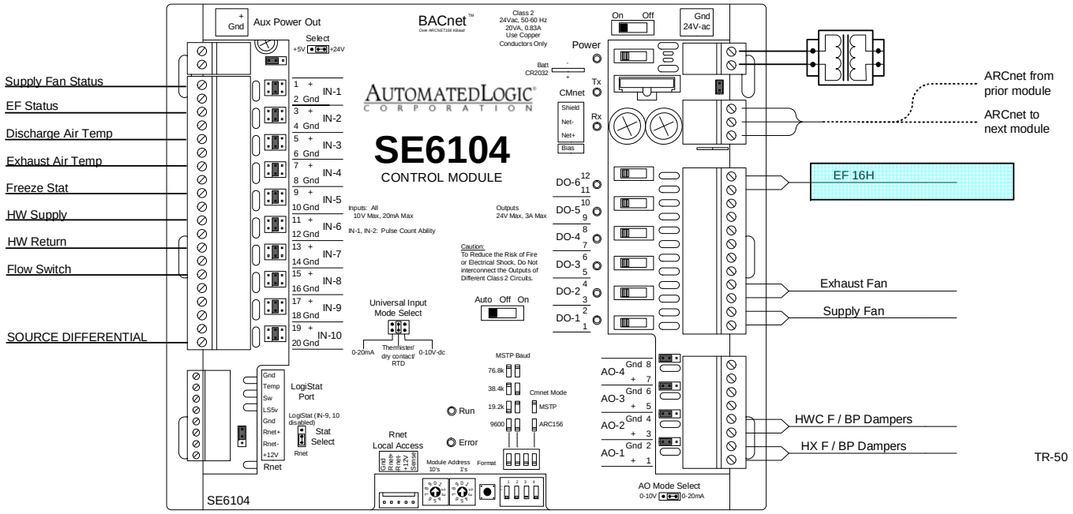
			DSCODE:

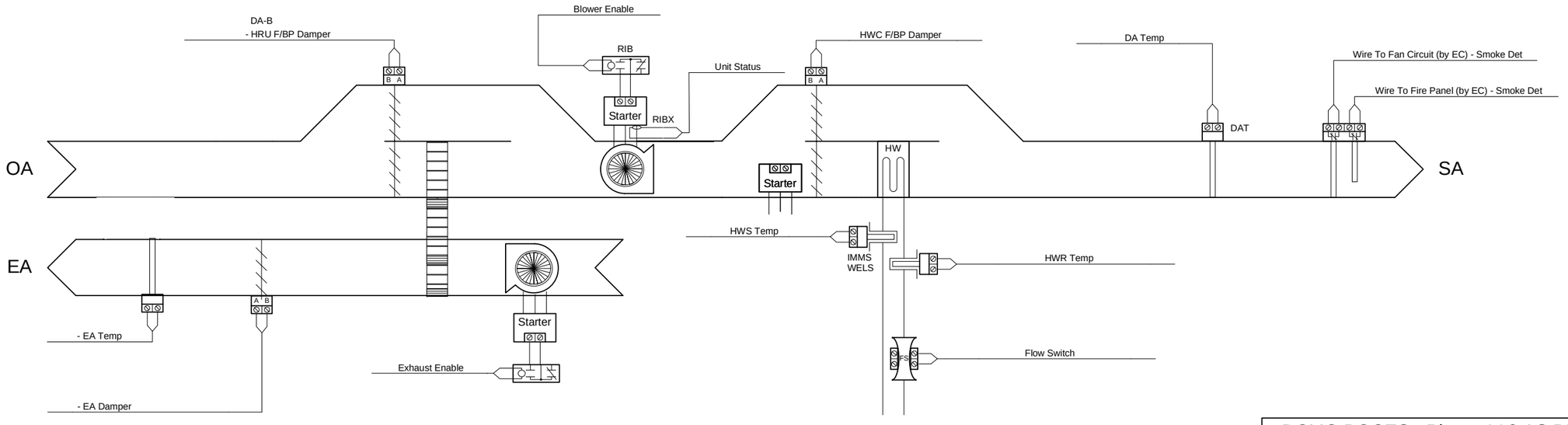
AIR TEMP HEATING & AIR CONDITIONING, INC.
A LINC SERVICE ® CONTRACTOR

HRU 7H GYM SOUTH

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DA-B	SR PROPORTIONAL 133 IN-LB 2-10VDC	BELIMO	AF24-SR ALC	2 ea
DAT	DA TEMP SENSOR	BAPI	BA/10K-2-D-12	3 ea
IMMS	IMMERSION TEMP SENSOR	BAPI	BA/10K-2-I-2	2 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	2 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	4 ea
SE6104	SE6104	AUTOMATED LOGIC	SE6104	1 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	1 ea
WELS	IMMERSION TEMP SENSOR WELL	BAPI	BA/2	2 ea

MASONVILLE





DCMO BOCES - Phase 1&2 AS BUILT

Norwich / Masonville, New York

Air Temp Heating & Air Conditioning, Inc.

HRU 7H GYM SOUTH

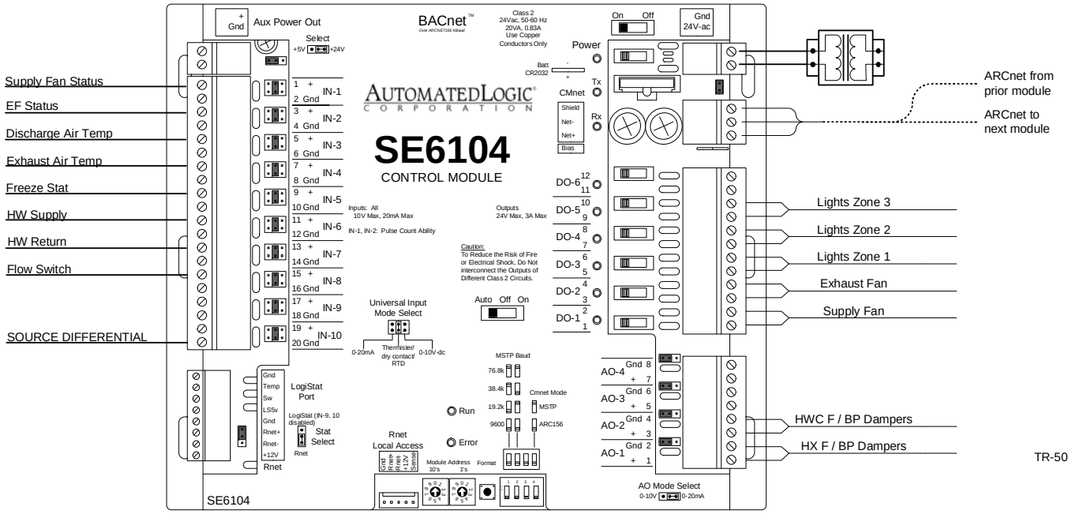
REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
			DSCODE:

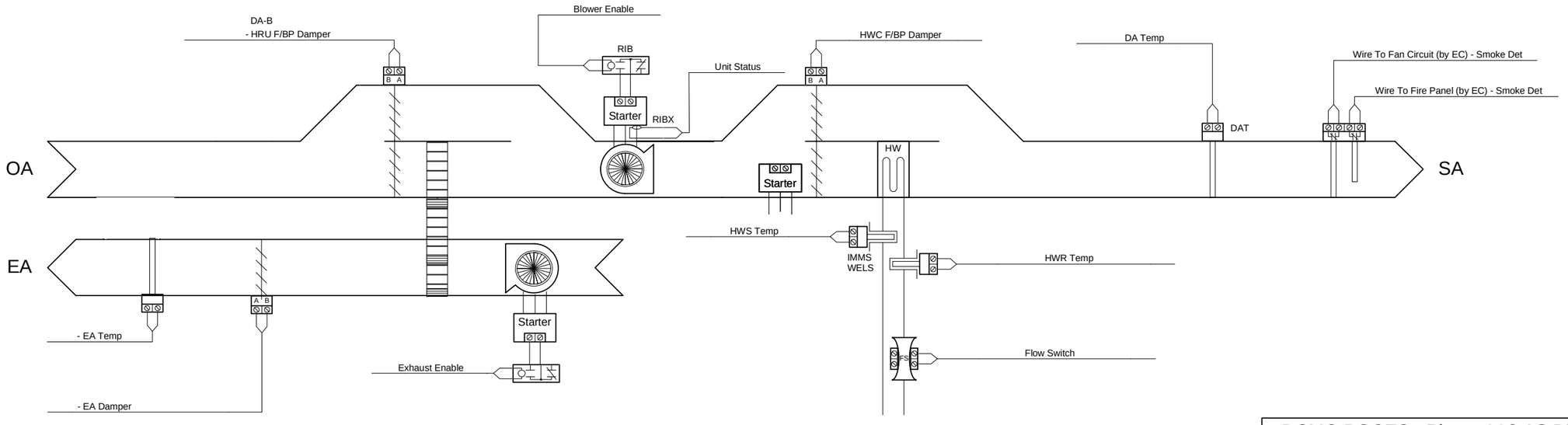
AIR TEMP HEATING & AIR CONDITIONING, INC.
A LINC SERVICE ® CONTRACTOR

HRU 8H GYM NORTH

Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DA-B	SR PROPORTIONAL 133 IN-LB 2-10VDC	BELIMO	AF24-SR ALC	2 ea
DAT	DA TEMP SENSOR	BAPI	BA/10K-2-D-12	3 ea
IMMS	IMMERSION TEMP SENSOR	BAPI	BA/10K-2-I-2	2 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	2 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	4 ea
SE6104	SE6104	AUTOMATED LOGIC	SE6104	1 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	1 ea
WELS	IMMERSION TEMP SENSOR WELL	BAPI	BA/2	2 ea

MASONVILLE





DCMO BOCES - Phase 1&2 AS BUILT

Norwich / Masonville, New York

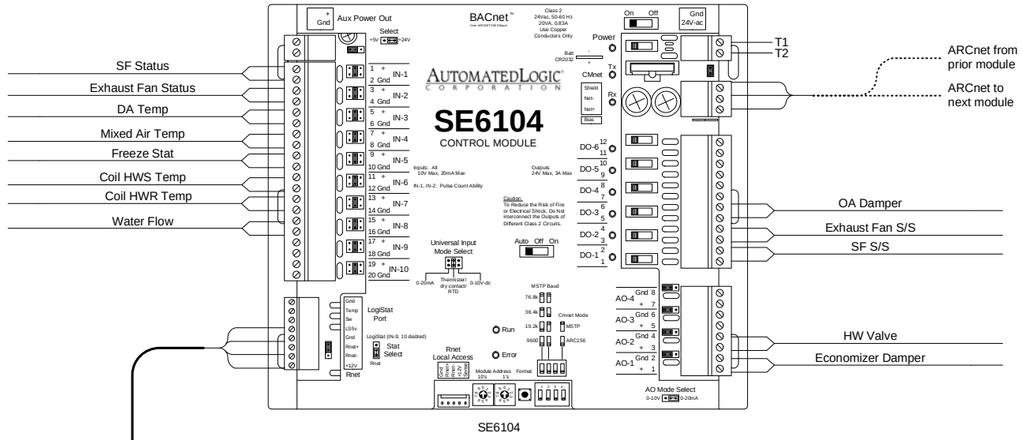
Air Temp Heating & Air Conditioning, Inc.

HRU 8H GYM NORTH

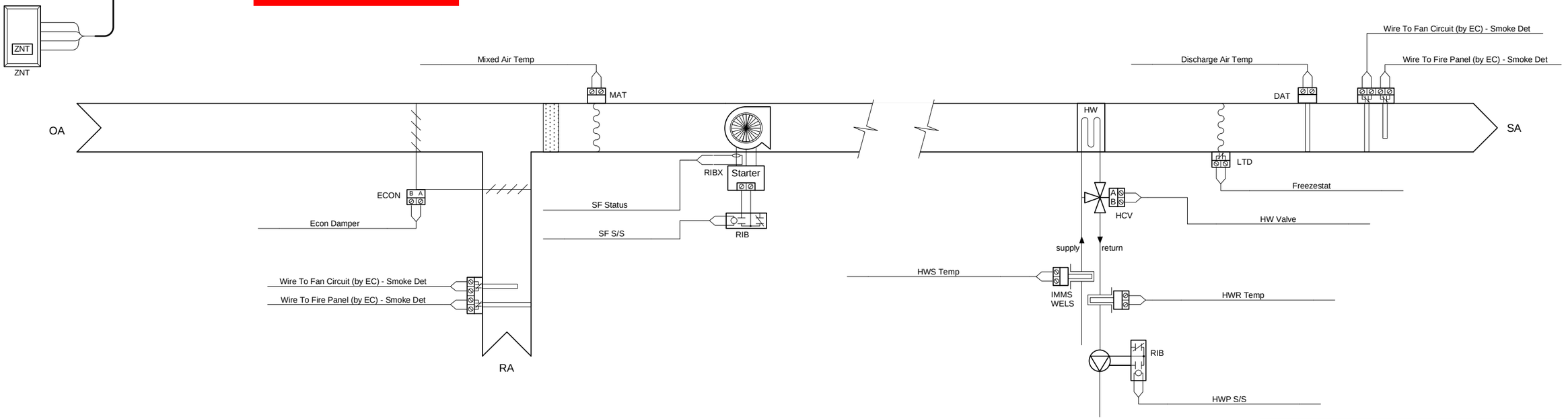
REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
			DSCODE:

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

AHU 1H MSN



Network 1 Address 26



Bill of Materials

DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DAT	DISCHARGE AIR TEMP SENSOR	BAPI	BA/10K-2-D-12	1 ea
ECON	DAMPER ACTUATOR	BELIMO	AF24-SR US	1 ea
HCV	HEATING CONTROL VALVE	BELIMO	SEE VALVE SCHEDULE	7 ea
IMMS	IMMERSION TEMP SENSOR	BAPI	BA/10K-2-I-2	2 ea
LTD	LOW AIR TEMP SENSOR	SIEMENS	134-1510	1 ea
MAT	MIXED AIR TEMP SENSOR	BAPI	BA/10K-2-A-12	1 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	2 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	1 ea
SE6104	CONTROL MODULE	AUTOMATED LOGIC	SE6104	3 ea
WELS	IMMERSION TEMP SENSOR WELL	BAPI	BA/2	2 ea
ZNT	ZONE TEMPERATURE SENSOR	AUTOMATED LOGIC	RS PLUS	1 ea

MASONVILLE

DCMO BOCES - Phase 1&2 AS BUILT

Norwich / Masonville, New York

Air Temp Heating & Air Conditioning, Inc.

AHU 1H MSN

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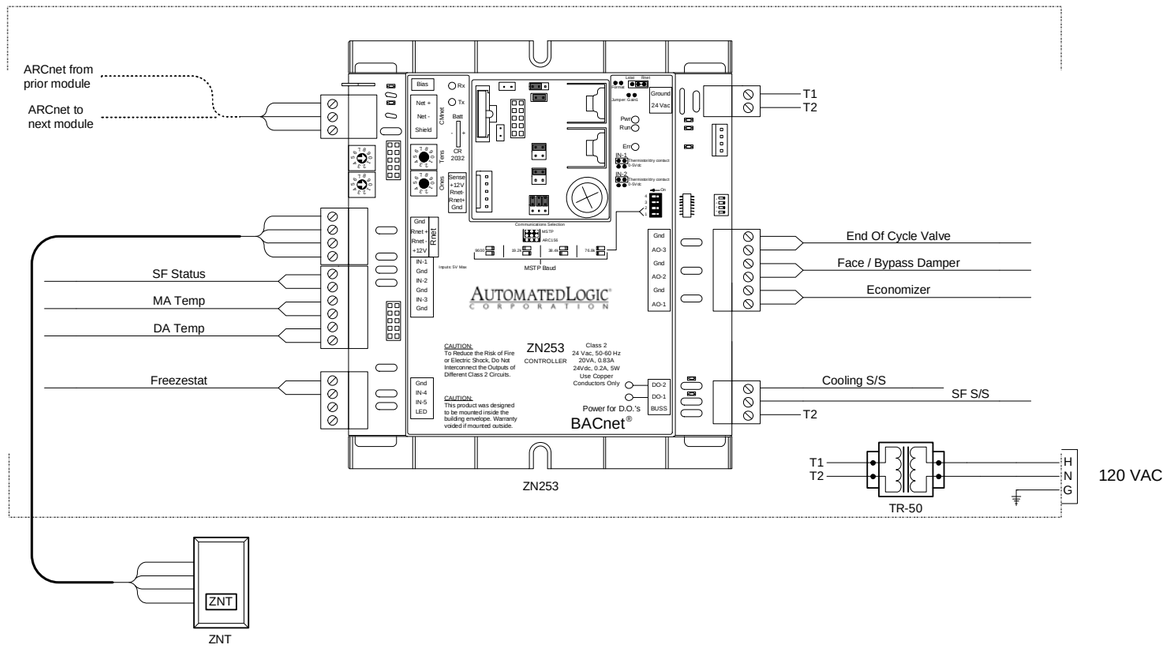
			CHECK BY: RSL
			DSCODE:

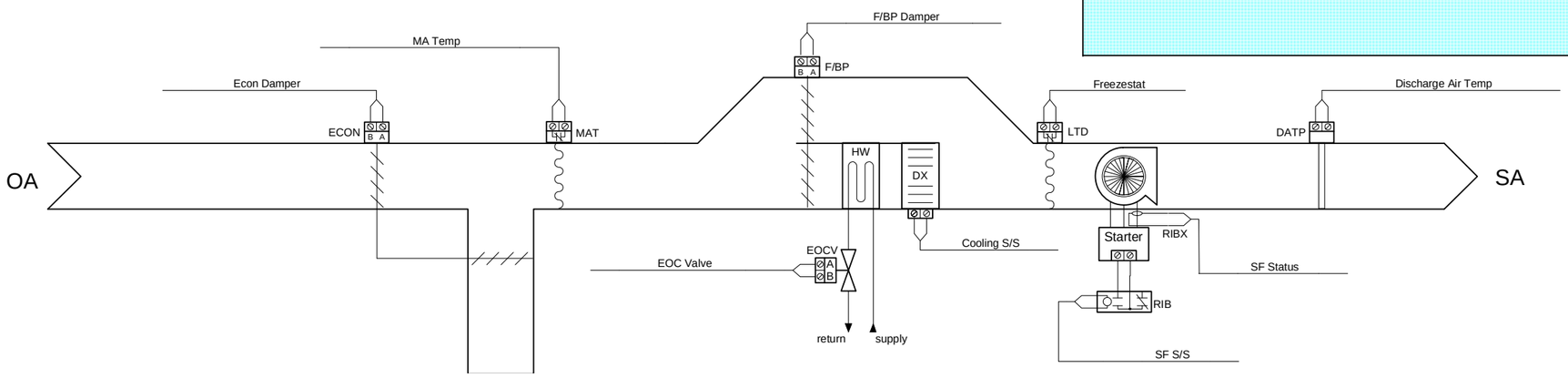
AIR TEMP HEATING & AIR CONDITIONING, INC.
A LINC SERVICE ® CONTRACTOR

UV - HC ZN 551



Bill of Materials				
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DATP	DISCHARGE AIR TEMP SENSOR	BAPI	BA/10K-2-RPP-8	3 ea
ECON	DAMPER ACTUATOR	BELIMO	LF24-SR US	3 ea
EOCV	CONTROL VALVE	BELIMO	SEE VALVE SCHEDULE	3 ea
F/BP	DAMPER ACTUATOR	BELIMO	LF24-SR US	3 ea
LTD	FREEZESTAT	SIEMENS	134-1510	3 ea
MAT	DUCT AVERAGING SENSOR	BAPI	BA/10K-2-A-12	3 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	3 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	3 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	3 ea
ZN253	CONTROL MODULE	AUTOMATED LOGIC	ZN253	3 ea
ZNT	ZONE TEMPERATURE SENSOR	AUTOMATED LOGIC	RS PLUS	3 ea

UV 1H ENGINEERING TECH 2403-43
UV 3H AUTO TECH 2403-40
UV AUTO REFINISHING 2403-45
UV B 401 2403-44



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.

MASONVILLE

DCMO BOCES - Phase 1&2 AS BUILT
Norwich / Masonville, New York
Air Temp Heating & Air Conditioning, Inc.
UV - HC ZN 551

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
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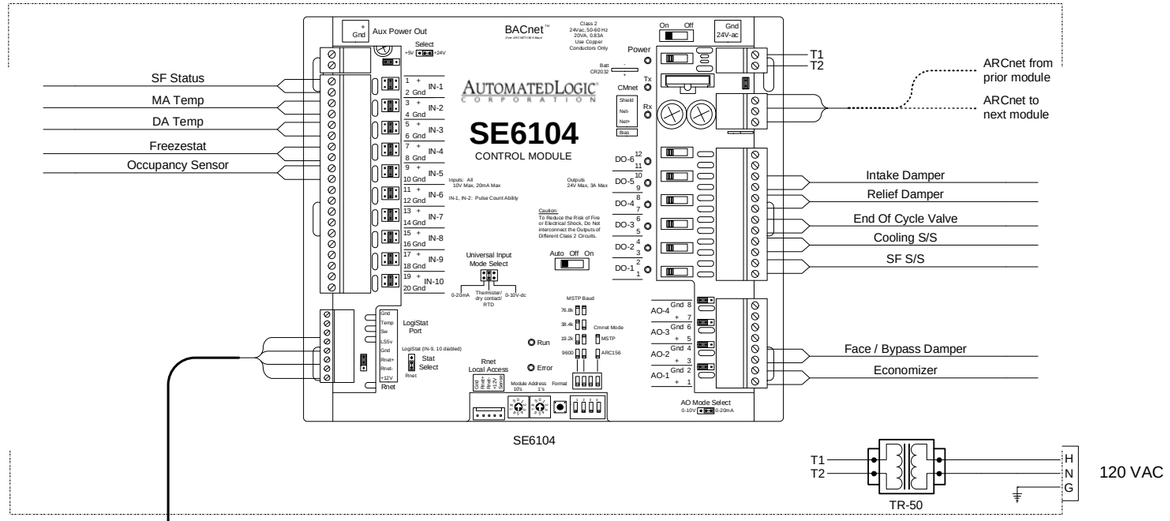
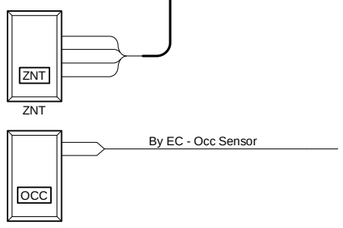
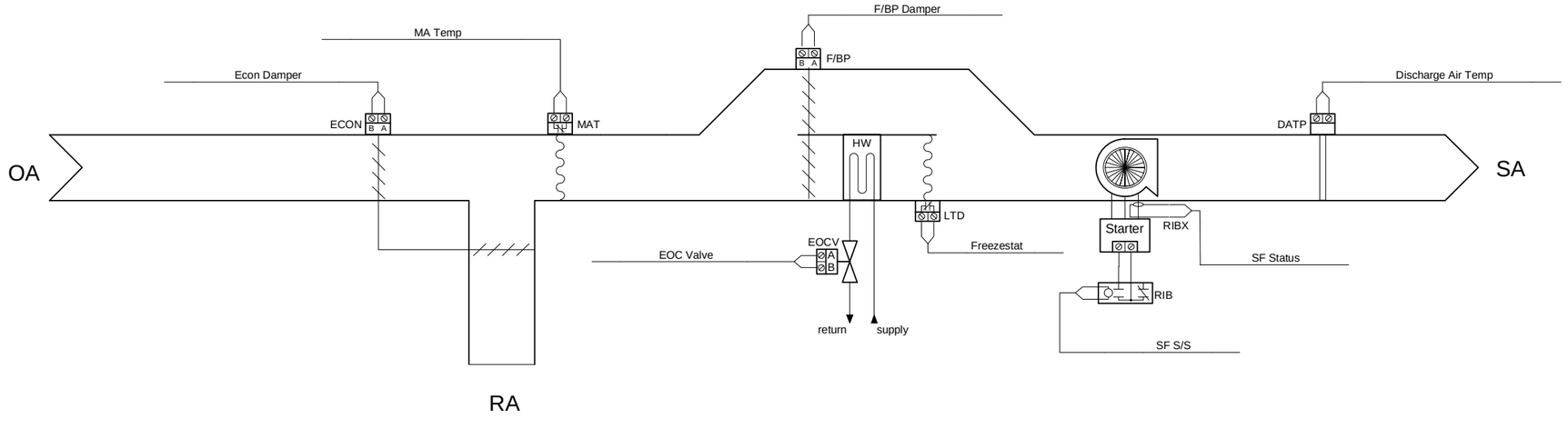
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® CONTRACTOR			DSCODE:
			61 of 69

UV-HC SE6104







Bill of Materials

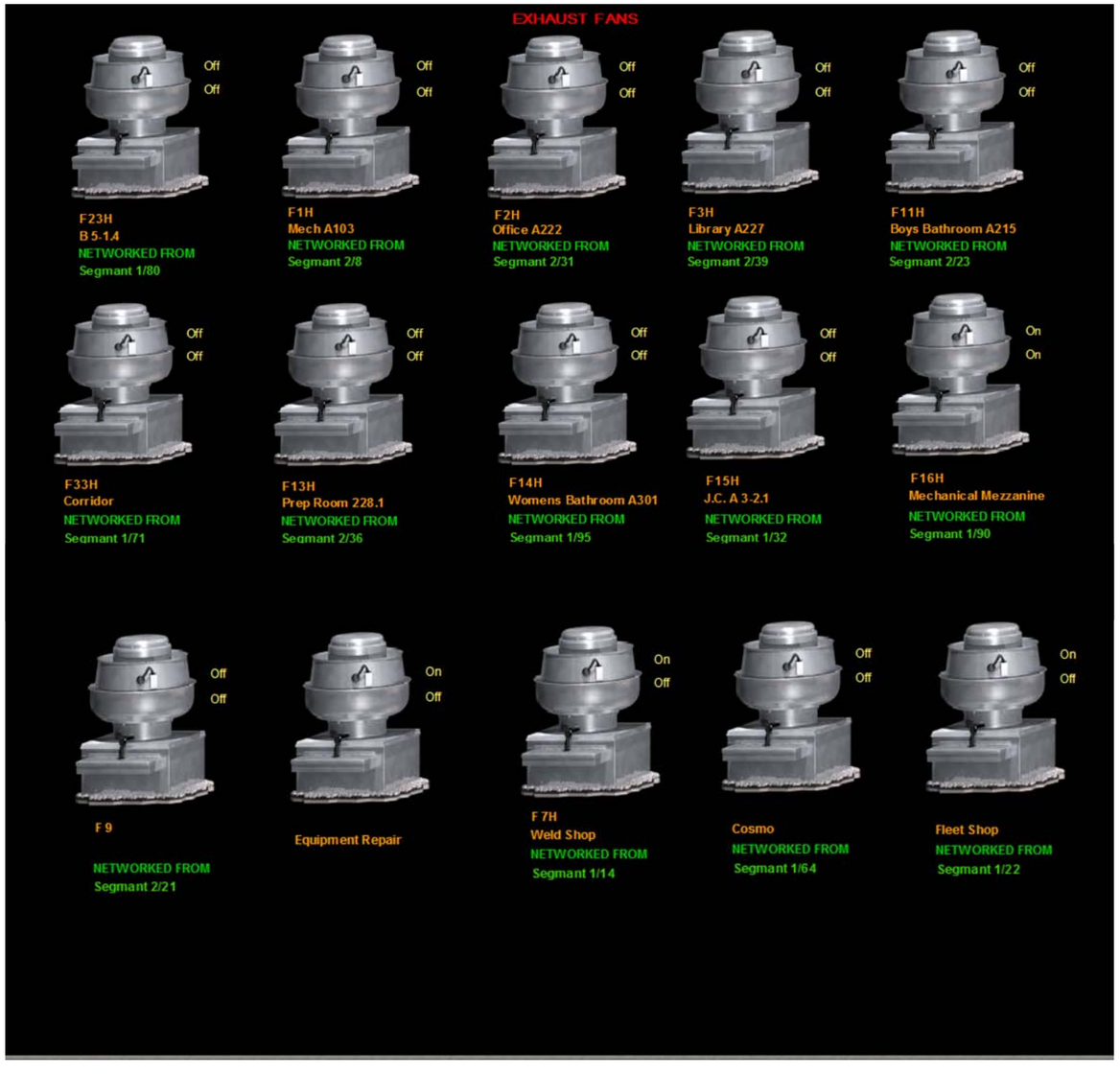
DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
DATP	DISCHARGE AIR TEMP SENSOR	BAPI	BA/10K-2-RPP-8	5 ea
ECON	DAMPER ACTUATOR	BELIMO	LF24-SR US	5 ea
EOCV	CONTROL VALVE	BELIMO	B207B+TFX24	5 ea
F/BP	DAMPER ACTUATOR	BELIMO	LF24-SR US	5 ea
INTD	DAMPER ACTUATOR	BELIMO	NF24 US	5 ea
LTD	FREEZESTAT	SIEMENS	134-1510	5 ea
MAT	DUCT AVERAGING SENSOR	BAPI	BA/10K-2-A-12	5 ea
RELD	DAMPER ACTUATOR	BELIMO	NF24 US	5 ea
RIB	RELAY	FUNCTIONAL DEVICES	RIBU1C	5 ea
RIBX	CURRENT SWITCH	FUNCTIONAL DEVICES	RIBXKF	5 ea
SE6104	CONTROL MODULE	AUTOMATED LOGIC	SE6104	5 ea
TR-50	TRANSFORMER, 120/24VAC, 50VA	FUNCTIONAL DEVICES	TR50VA002	5 ea
ZNT	ZONE TEMPERATURE SENSOR	AUTOMATED LOGIC	RS PLUS	5 ea

UV GREENHOUSE MANAGEMENT 2403-11
UV 3H EGUIP TECH 2403-10
UV CONSERVATION 2403-09
UV WELD SHOP 2403-08
UV BUILDINGS AND TRADES 2403-07

DCMO BOCES - Phase 1&2 AS BUILT
Norwich / Masonville, New York
Air Temp Heating & Air Conditioning, Inc.
UV-HC SE6104

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
			CHECK BY: RSL
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® CONTRACTOR			DSCODE:
			62 of 69

NETWORKED EF'S HAROLD



DCMO BOCES - Phase 1&2 AS BUILT Norwich / Masonville, New York			
Air Temp Heating & Air Conditioning, Inc.			
NETWORKED EF'S HAROLD			
REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® *CONTRACTOR*			CHECK BY: RSL
			DSCODE:
			63 of 69

Valve Schedule

AUTOMATEDLOGIC CORPORATION

Qty	TAG	Service Hot/Chilled Water or Steam	Valve Type 3 Way NO or NC	GPM/ PPH	Design PD (psi)	Calculated CV	Actual CV	Actual PD (psi)	Manufacturer	Model No.	Valve Size (in.)	Line Size (in.)	Closeoff (psi)*	Actuator Signal	Fail Position
2	Boiler V-1	Hot	2-way	300	5	135.0	170	3.2	Belimo	B680+AF24-MFT	3.00	4	100	0-10vdc	Open
7	AHU (4HC), (3CC)	Hot	3-way	22	5	10.0	10	4.5	Belimo	B315B+TF24-SR	0.75	0.75	200	0-10vdc	Open
3	UV-HC	Hot	2-way	3.5	5	1.6	1.9	3.4	Belimo	B211B+TF24-SR	0.50	0.75	200	0-10vdc	Open

DCMO BOCES - Phase 1&2 AS BUILT

Norwich / Masonville, New York

Air Temp Heating & Air Conditioning, Inc.

Valve Schedule

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® CONTRACTOR			CHECK BY: RSL
			DSCODE:
			64 of 69

Sequence Of Operation-pg.1

Exhaust Fan – BAS Control:

A. **General:**
- **Units shall be provided with field mounted controls.**
- **Fan shall be energized by a manual switch. BAS, on during occupied mode, off during un-occupied mode.**
- **Automatic damper shall open when fan energizes and shall remain closed when fan is off.**

B. **Control Interlock:**
- **When fan is energized, associated AHU/RTU/UV is to energize with outdoor air damper positioned to it's 100% open position.**
- **Refer to fan schedule for interlocks.**

Exhaust Fan – Thermostat Control:

A. **General:**
- **Units shall be provided with field mounted controls.**
- **Fan shall be energized by a thermostat.**
- **Automatic damper shall open when fan energizes and shall remain closed when fan is off.**

B. **Control Interlock:**
- **When fan is energized, associated AHU/RTU/UV is to energize with outdoor air damper positioned to it's 100% open position.**
- **Refer to fan schedule for interlocks.**

Exhaust Fan – Manual Switch Control:

A. **General:**
- **Units shall be provided with field mounted controls.**
- **Fan shall be energized by a manual switch.**
- **Automatic damper shall open when fan energizes and shall remain closed when fan is off.**

B. **Control Interlock:**
- **When fan is energized, associated AHU/RTU/UV is to energize with outdoor air damper positioned to it's 100% open position.**
- **Refer to fan schedule for interlocks.**

Boiler Room Equipment Control:

A. **General:**
- **All controls shall be field mounted.**

B. **Boiler Control:**
- **The boilers shall be sequenced to operate based on header mounted temperature sensor per the attached schedule. System shall be energized when outdoor air temperature is 60 degrees or below.**
- **Hot water temperature shall be reset linearly as follows: 170 degrees at 60 degrees OAT, and 190 degrees at 0 degrees OAT.**

C. **Boiler Emergency Shutdown:**
- **When emergency shutdown switches are broken, boilers and domestic hot water heaters shall be disabled.**

D. **Boiler room pumps:**
- **Boiler pumps shall be controlled by the BAS to run when respective boiler runs.**
- **P-1C or P-2C shall run with automatic standby (lead/lag) whenever heating is enabled. Pump speed shall vary to maintain a minimum 15psi at the remote differential pressure sensor.**
- **P-3C or P-4C shall run with automatic standby (lead/lag) whenever heating is enabled, or whenever any heat pump is scheduled to run, or overridden to run. Pump speed shall vary to maintain a minimum 15psi at the remote differential pressure sensor.**
- **P-5C or P-6C shall run with automatic standby (lead/lag) whenever heating is enabled, or whenever loop return temperature is below 42 degrees. Valve V-1 shall modulate to maintain a temperature of 42 degrees.**
- **P-7C or P-8C shall run with automatic standby (lead/lag) whenever any heat pump is enabled to run, or overridden to run, and when loop return temperature is above 65 degrees. Pump speed shall vary to maintain a bore hole loop temperature differential of 7 degrees.**
- **P-9C shall run whenever P-3C or P-4C run.**

E. **Boiler room alarms:**
- **Should any pump fail, or standby pump be energized due to failure of the lead pump, an alarm shall sound through the BAS.**
- **Should any alarm condition occur at the boiler panel, an alarm shall be sent to the BAS operator terminal.**
- **Should P-3C or P-4C fail to run, or flow not be sensed when any heat pump is running, an alarm shall sound and all heat pumps shall be disabled.**
- **Should carbon monoxide concentrations exceed 100ppm, an audible alarm shall sound, and an alarm messafe shall be sent to the BAS operator terminal.**

F. **Boiler room combustion air:**
- **Combustion air control panel shall start combustion air fan to introduce outside air into boiler room. Combustion air control panel shall modulate variable speed fan to maintain equalized boiler room pressure.**

DCMO BOCES - Phase 1&2 AS BUILT			
Norwich / Masonville, New York			
Air Temp Heating & Air Conditioning, Inc.			
Sequence Of Operation-pg.1			
REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® *CONTRACTOR*			CHECK BY: RSL
			DSCODE:
			65 of 69

Sequence Of Operation-pg.2

MAU Sequence:

A. General:
- **Units shall be provided with field mounted controls.**

B. Safeties:
- **High temperature limit shall de-energize unit when 120 degree discharge air is sensed.**
- **Fan shutdown shall be provided by the Electrical Contractor through the BAS.**

C. Occupied Cycle:

- **Whenever the exhaust serving the spaces is energized, the air handling unit supply fan shall be energized with outdoor air damper fully open.**

a. **Discharge air sensor shall cycle gas furnace to maintain a minimum discharge air temperature of 65 degrees.**

D. Un-occupied Cycle:
- **The outdoor air damper shall remain fully closed, return air damper fully open, with the gas furnace cycling in sequence with supply fan to maintain the unoccupied space temperature setpoint of 55 degrees.**

AHU Sequence:

A. General:
- **Units shall be provided with field mounted controls.**
- **Units shall be automatically indexed to heating or cooling cycle by the BAS.**
- **Economizer shall be disabled based on a single global system enthalpy sensor.**

B. Safeties:
- **High temperature limit shall de-energize unit when 120 degree discharge air is sensed.**
- **Low temperature limit shall de-energize unit when 37 degree discharge air is sensed.**
- **Fan shutdown shall be provided by the Electrical Contractor.**

C. Occupied Heating Cycle:
- **Supply fan shall run continuously.**
- **Outdoor air damper shall position to it's scheduled minimum position, with return air damper positioning reverse correspondingly. Outdoor air damper is never positioned below minimum scheduled position for ventilation purposes.**
- **Space sensor shall modulate heating valve to maintain occupied cycle setpoint of 72 degrees. Outdoor air & return air dampers shall modulate to reduce overheating.**
- **Discharge air sensor shall modulate outdoor air & return air dampers to maintain a minimum discharge air temperature of 60 degrees.**
- **Hot water coil pump shall operate whenever the outside air temperature is below 60 degrees.**

D. Un-occupied Heating Cycle:
- **The outdoor air damper shall remain fully closed, return air damper fully open, with the heating valve modulating in sequence with supply fan to maintain the unoccupied space temperature setpoint.**

E. Warm-up Cycle:
- **The unit shall perform an optimized warm-up prior to the start of the occupied mode.**
- **During the warm-up cycle, the outdoor air damper shall be closed. The unit shall modulate the heating valve and re-circulate 100% return air until the space temperature reaches the occupied temperature setpoint.**

F. Exhaust Fan Interlock:
- **Where called for, whenever the exhaust serving the spaces is energized, the air handling unit shall be returned to occupied mode (if not already in occupied mode) with outdoor air damper positioned to 100%. Refer to fan schedule.**

DCMO BOCES - Phase 1&2 AS BUILT			
Norwich / Masonville, New York			
Air Temp Heating & Air Conditioning, Inc.			
Sequence Of Operation-pg.2			
REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® CONTRACTOR			CHECK BY: RSL
			DSCODE:

Sequence Of Operation-pg.3

Heat Pump Sequence:

A. General:
- **Units shall be provided with field mounted controls.**
- **Units shall be automatically indexed to occupied or un-occupied cycle by the BAS.**
- **Units shall be automatically indexed to heating or cooling cycle by the BAS.**
- **A five degree deadband shall be maintained between heating and mechanical cooling space temperature setpoints.**

B. Safeties:
- **Low temperature limit shall de-energize unit when low temperature of 45 degrees is sensed.**
- **Factory mounted freezestat shall shut unit down when 35 degree SLR temperature is sensed at heat pump.**

C. Occupied Heating Cycle:
- **Supply fan shall run continuously, outdoor air damper shall be open to minimum position, valve fully open.**
- **Outdoor air damper shall position to it's scheduled minimum position, with return air damper positioning reverse correspondingly. Discharge temperature sensor shall modulate damper to maintain 55 degree minimum DAT.**
- **Space sensor shall cycle unit to maintain occupied setpoint of 72 degrees.**

D. Un-occupied Heating Cycle:
- **The outdoor air damper shall remain fully closed, return air damper fully open, with the unit cycling to maintain the unoccupied space temperature setpoint of 62 degrees.**
- **Valve shall be fully open when unit is operating.**

E. Warm-up Cycle:
- **The unit shall perform an optimized warm-up prior to the start of the occupied mode.**
- **During the warm-up cycle, the outdoor air damper shall be closed. The unit shall open the control valve 100% and re-circulate 100% return air until the space temperature reaches the occupied temperature setpoint.**
- **Valve shall be fully open.**

F. Occupied Cooling Cycle:
- **Supply fan shall run continuously, valve shall be open.**
- **Outdoor air damper shall position to it's scheduled minimum position, with return air damper positioning reverse correspondingly.**
- **Space sensor shall cycle the unit to maintain occupied cycle setpoint of 75 degrees.**

G. Un-occupied Cooling Cycle:
- **The outdoor air damper shall remain fully closed, return air damper fully open, with the unit cycling to maintain an un-occupied space temperature setpoint of 80 degrees.**
- **Valve shall be fully open when unit is operating.**

H. Cool-down Cycle:
- **The unit shall perform an optimized cool-down prior to the start of the occupied mode.**
- **During the cool-down cycle, the outdoor air damper shall be closed. The unit shall cycle and re-circulate 100% return air until the space temperature reaches the occupied temperature setpoint.**
- **Valve shall be fully open when unit is operating.**

I. Economizer:
- **Unit shall utilize outdoor air for free cooling whenever possible based on a global system enthalpy sensor.**

CUH / UH Control:

A. General:
- **Units shall be provided with field mounted controls.**
- **Aquastat shall de-energize unit when water temperature of 110 degrees or less is sensed.**

B. Occupied Mode:
- **The supply fan shall cycle to maintain an occupied temperature of 72 degrees.**

DCMO BOCES - Phase 1&2 AS BUILT
Norwich / Masonville, New York
Air Temp Heating & Air Conditioning, Inc.
Sequence Of Operation-pg.3

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® CONTRACTOR			CHECK BY: RSL
			DSCODE:
			67 of 69

Sequence Of Operation-pg.4

Unit Ventilator Sequence:

A. General:

- **Units shall be provided with field mounted controls.**
- **Units shall be automatically indexed to occupied or un-occupied cycle by the BAS.**
- **Units shall be automatically indexed to heating or cooling cycle by the BAS.**
- **Economizer shall be disabled based on a single global system enthalpy sensor.**

A. Safeties:

- **Discharge air sensor shall indicate alarm when high temperature of 130 degrees is sensed.**
- **Factory mounted low temperature limit shall de-energize unit when low temperature of 36 degrees is sensed.**
- **Discharge air sensor shall assume control of the dampers as required to maintain minimum discharge air temperature of 60 degrees.**

B. Occupied Cycle:

- **Supply fan shall run continuously.**
- **Outdoor air damper shall position to it's scheduled minimum position, with return air damper positioning reverse correspondingly. Outdoor air damper is never positioned below minimum scheduled position for ventilation purposes.**
- **Space sensor shall modulate face and bypass damper to maintain occupied cycle setpoint of 72 degrees. Outdoor air & return air dampers shall modulate to reduce overheating when outdoor air temperature is below 80 degrees.**
- **Condensing unit shall cycle to maintain occupied cooling setpoint of 76 degrees. OA damper shall position to minimum position during cooling cycle.**

C. Un-occupied Cycle:

- **The outdoor air damper shall remain fully closed, return air damper fully open, with the face and bypass damper modulating in sequence with supply fan to maintain the unoccupied space temperature setpoint of 62 degrees.**

D. Warm-up Cycle:

- **The unit shall perform an optimized warm-up prior to the start of the occupied mode.**
- **During the warm-up cycle, the outdoor air damper shall be closed. The unit shall position face and bypass damper to 100% face and re-circulate 100% return air until the space temperature reaches the occupied temperature setpoint.**

DCMO BOCES - Phase 1&2 AS BUILT

Norwich / Masonville, New York

Air Temp Heating & Air Conditioning, Inc.

Sequence Of Operation-pg.4

REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
AIR TEMP HEATING & AIR CONDITIONING, INC. A LINC SERVICE ® *CONTRACTOR*			CHECK BY: RSL
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Sequence Of Operation-pg.5

HRU Sequence:

A. General: The factory provided controller shall be wired to control the following functions (based on specified unit):

- **Outside & re-circulation dampers based on return air dewpoint.**
- **Exhaust fan VFD shall track outside air damper and offset based on space differential pressure to maintain space negative pressure. Sensor is provided by unit manufacturer and field installed by TC contractor.**
- **Outside air heat exchanger face/bypass damper based on heat exchanger exhaust temperature (defrost).**
- **Cooling modulation based on return air dewpoint, return temperature, supply discharge low limit, and the CW low limit temperature sensors.**
- **Heating modulation based on return air temperature and discharge high/low limits.**
- **Summer/Winter changeover based on outside air temperature.**
- **Supply and exhaust fan enable/disable & remote enable/disable.**
- **Freezestat input in the supply air discharge (freezestat is factory supplied and installed).**
- **Purge mode start/stop by digital input, or button on remote user terminal.**
- **Alarm indication output.**

B. Winter Mode:

- **Humidity control - The outside and re-circulation air dampers modulate to maintain return air dewpoint (winter setpoint = 63.7 degrees dewpoint {82 degrees F, 55% RH}..**
- **When the outside air damper is at minimum, the re-circulation air damper is at maximum, and the exhaust fan VFD is at minimum exhaust.**
- **Cooling shall be locked out.**
- **Heating shall be controlled to maintain return air temperature setpoint (winter setpoint = 82 degrees F).**
- **Pressure control - Exhaust fan VFD shall track outside air damper and offset based on space differential pressure to maintain space negative pressure (0.04" WC).**

C. Summer Mode:

- **Humidity control - The outside and re-circulation air dampers modulate to maintain return air dewpoint (summer setpoint = 69.4 degrees dewpoint {85 degrees F, 60% RH}..**
- **When the outside air damper is at minimum, the re-circulation air damper is at maximum, and the exhaust fan VFD is at minimum exhaust. Maximum outside air shall be maintained while the cooling is energized for return dewpoint or temperature control (outside air damper is in its maximum position, return air damper is in its minimum position).**
- **Heating coil face/bypass dampers shall be controlled to maintain discharge air temperature setpoint of 80 degrees.**
- **Pressure control - Exhaust fan VFD shall track outside air damper and offset based on space differential pressure to maintain space negative pressure (0.04" WC).**

D. Summer / Winter Changeover:

- **The controller shall perform summer/winter changeover at 60 degrees outside air temperature with a +/-20 degree deadband.**
- **Changeover shall include setpoint changes, cooling lockout, heating lockout (heating lockout only if summer heating & re-heat functions are disabled).**

E. Outside Air Heat Exchanger Face/Bypass Dampers:

- **Winter defrost mode (exhaust air temperature leaving the heat exchanger below 38 degrees) – controller shall modulate the heat exchanger face/bypass damper to prevent the exhaust air temperature from dropping below 38 degrees. The damper modulates to prevent frost from forming on the exhaust side of the heat exchanger.**
- **Energy recovery mode (exhaust air temperature leaving the heat exchanger above 38 degrees) - outside air heat exchanger face/bypass damper modulates to full face so all air flow is across the heat exchanger.**

F. Heating High / Low Limits:

- **The controller shall have a temperature sensor located in the supply air discharge duct. Supply high limit of 120 degrees shall decrease heat output. Supply low limit of 60 degrees shall increase heat output (winter mode only).**
- **If the supply air temperature drops below 40 degrees, the freezestat shall signal the controller to de-energize the unit.**

G. Purge Mode:

- **A digital input or a button on the remote user terminal can be used to energize/de-energize the purge mode. In purge mode the outside air damper fully opens, re-circulation damper fully closes. Humidity control shall be disabled and the temperature controls shall maintain their respective setpoints. The purge mode has an adjustable time limit factory set to 240 minutes.**

H. Alarm Indication:

- **The controller shall have one digital output for remote indication of an alarm condition (i.e. blower current/differential pressure switch, damper end switches, freezestat, fire/smoke stat…).**

DCMO BOCES - Phase 1&2 AS BUILT			
Norwich / Masonville, New York			
Air Temp Heating & Air Conditioning, Inc.			
Sequence Of Operation-pg.5			
REV: 1	As-Built	11/19/2007	JOB NO: P7425-7290
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