HORNER SHIFRIN

THE POWER HOUSE AT UNION STATION ● 401 S. 18th ST., STE. 400 ● SAINT LOUIS, MISSOURI 63103-2296
314-531-4321 ● FAX 314-531-6966 ● www.HornerShifrin.com

Shop Drawing Review

To: Peter Steuterman c/o Hastings & Chivetta	From: Dave Lauver
Project name and number: 2217700 – Jeff Co Crime Lab	Date: 08/16/2024
Subject: Split Systems	

Review is for general compliance with contract documents.

No responsibility is assumed for correctness of dimensions, quantities, or details.

REVIEWER'S RESPONSE:	**ACTIONS REQUIRED:**
☒ NO EXCEPTIONS TAKEN ☐ MAKE CORRECTIONS NOTED ☐ REJECTED- SEE REMARKS ☐ ACCEPTED AS INFORMATION ONLY	☒ NO RESUBMITTAL REQUIRED ☐ PARTIAL RESUBMITTAL REQUIRED ☐ RESUBMITTAL REQUIRED

Horner & Shifrin inc.

DATE: 08/16/2024 BY: DEL

1. Only CU/FCU 02 and 03 reviewed.

K&S Associates Inc

12963 Maurer Industrial Dr St Louis, MO 63127 Ph : 314-647-3535 Fax: 314-647-5302

www.ksgcstl.com

Submittal

Job: KS 4830

JEFFERSON COUNTY CRIME LAB
1177 MASON CIRCLE
PEVELY, MO 63070

Spec Section No: 238126
Submittal No: 2
Revision No: 1
Sent Date: 8/16/2024

Spec Section Title: SPLIT SYSTEM AIR-CONDITIONERS

Submittal Title: Split-Systems Air-Conditioners Product Data

Contractor:
K&S Associates Inc

Contractor's Stamp

K&S Associates, Inc.
12963 Maurer Industrial Drive
St. Louis, MO 63127

GENERAL CONTRACTOR REVIEW

☑ REVIEWED ☐ REVISE & RESUBMIT ☐ REJECTED

BY snicolas DATE 8/16/2024

This review is only for general conformance of the submittal with the documents. Corrections or comments made on this submittal during review do not relieve Subcontractor/Supplier from compliance with the requirements of the plans and/or specifications. Subcontractor/Supplier is responsible for verifying all dimensions and quantities. Fabrication is to be confirmed and correlated with actual field dimensions by Subcontractor/Supplier.

Other:
HASTINGS+CHIVETTA ARCHITECTS
PETER STEUTERMAN

Architect's Stamp

Engineer's Stamp

AC SYSTEMS INCORPORATED

Jefferson County Crime Lab

1177 Mason Cir
Pevely, MO

Architect:

Hastings + Chivetta

2464 Westport Plaza, Suite 200
St. Louis, MO

Mechanical Engineer:

Horner & Shifrin

401 S 18th St Suite 400
St. Louis, MO 63103

Mechanical Contractor:

Crystal Heating and Cooling

3 Cave Indsutrial Dr
Festus, MO

A. C. Systems, Inc.

Matthew S. Hickey P.E.
11724 Adie Rd.
Maryland Heights, MO 63043
phone: 314-569-1000

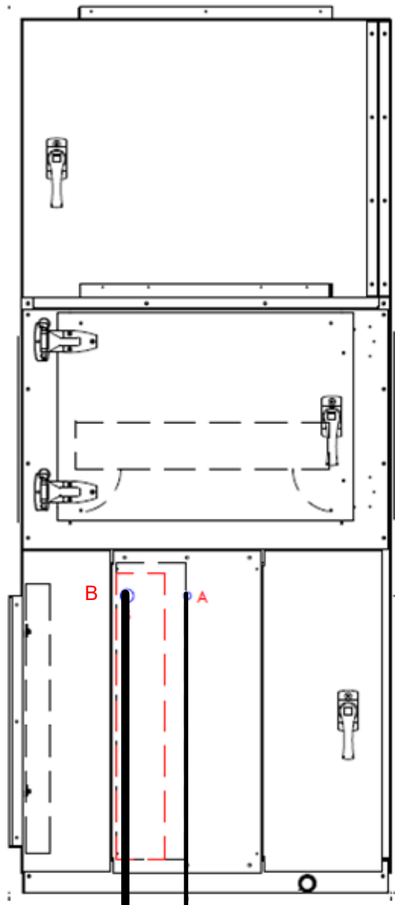
Equipment Submittals for:

Split Systems

Revision 1 (8/15/2024): Resubmitted Mitsubishi split systems for CU-02 and CU-03 to cool below 0°F ambient.

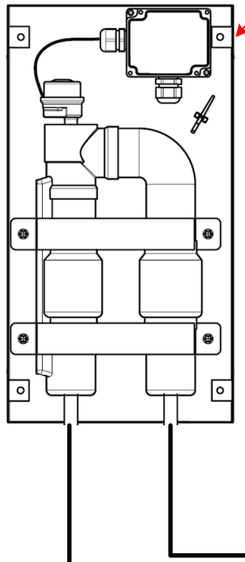
Date: 8/15/2024

AHU Coil Connection	Size (OD)
Liquid (A)	5/8"
Suction (B)	1-1/8"



Run pipe under filter access door if necessary

EEV Kit Connection	Size (OD)
Inlet	½"
Outlet	½"



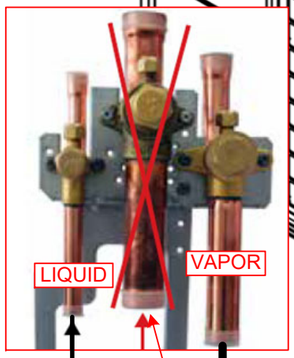
Mount on wall near AHU

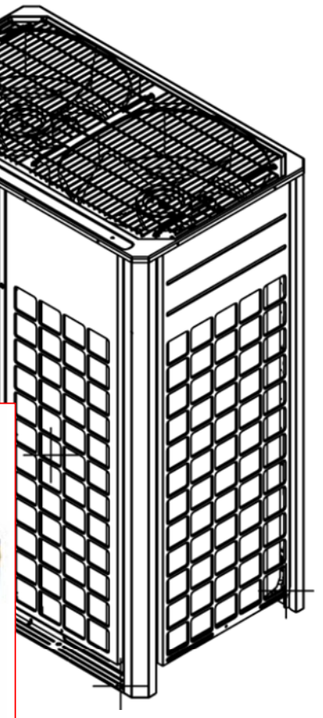
Building Envelope

Liquid Line. Slope towards AHU

8"x8" Inverted trap at top of rise before run to EEV kit

Suction line. Slope towards ODU





ODU Connection	Size (OD)
Suction (Vapor)	¾"
Liquid	3/8"

NOT USED IN HEAT PUMP. BRAZE END CAP ON

PIPE SIZES DETERMINED FROM FIELD MEASURED LENGTHS. CONTRACTOR TO COORDINATE MEASUREMENTS TO AC SYSTEMS

AC Systems Inc
11724 Adie Rd
Maryland Heights MO 63043
314-569-1000 ph, 314-569-0532 fx

Jefferson County Crime Lab

LG CU- 01 Piping Detail

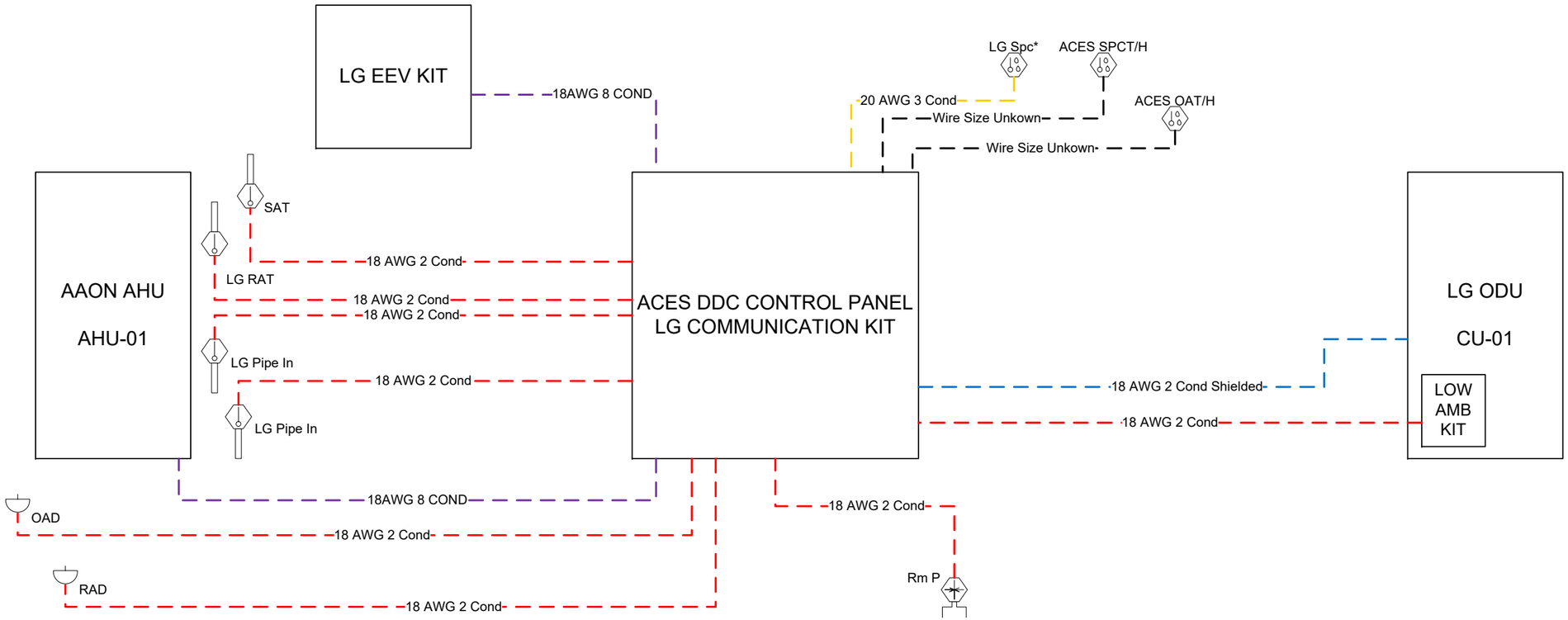
Drawn By – Matt Hickey

3/28/24

SIZE	FSCM NO	DWG NO	REV
		AHU-1 Page 2	0

SCALE NA

SHEET 1 OF 4



18 AWG 2 Cond Shielded

22 AWG 2 Cond Shielded

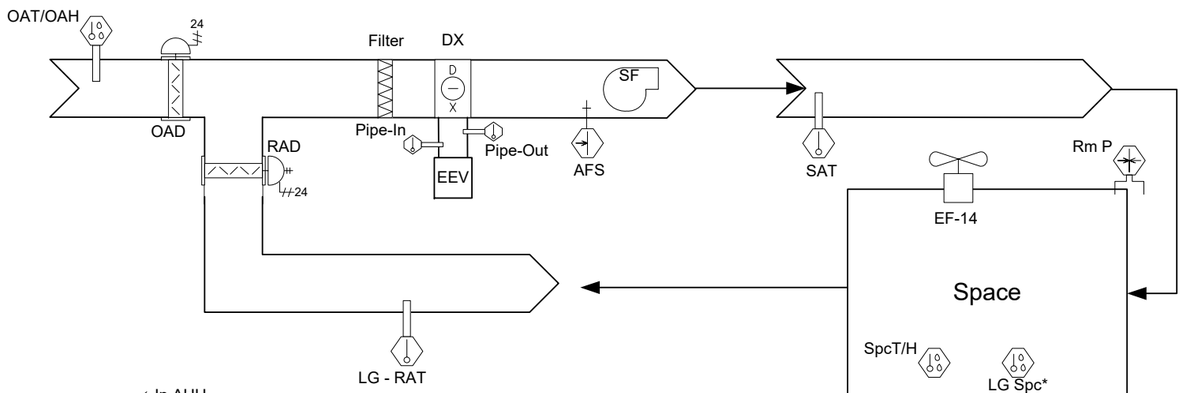
20 AWG 3 Cond

18 AWG 2 Cond

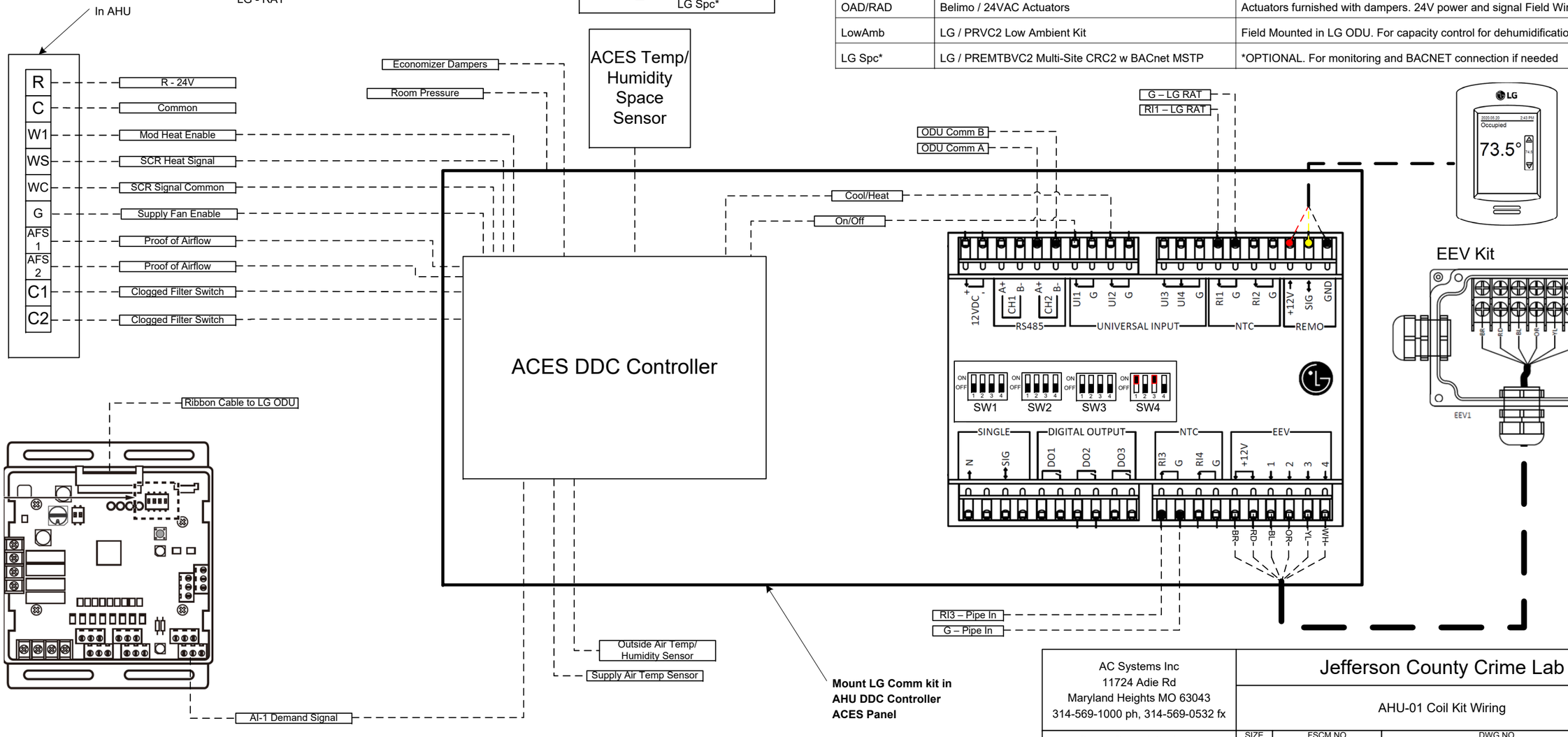
18AWG 6 COND

Wire Size Unkown

AC Systems Inc 11724 Adie Road MarylAnd Heights, MO 63043 Ph: 314-569-1000 Fx: 314-569-0532	Jefferson County Crime Lab
	Wire Pull
Drawn By: Matt Hickey	SIZE / FSCM NO / DWG NO / REV 1
	SCALE / SHEET



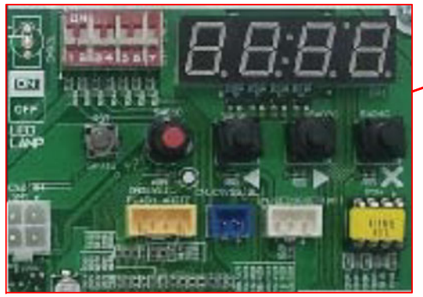
Tag	Mfr Name / Model	Notes
DDC	ACES DDC Controller	ACES I/O controller programmed by ACES
EEV	LG / PRLK048A0 Electronic Expansion Valve Kit	Field piped by mechanical contractor. EEV field wired to RA Comm kit by ACES
RA Comm	LG / PAHCMR000 AHU Communications Kit	LG Communication kit. Can be mounted inside ACES control panel with DDC
OAT/OAH	(Provided by ACES)	Mount in Outside air intake
SAT	(Provided by ACES)	Mount 5ft downstream
LG – RAT	LG / EBG62485901 Return Air Thermistor	Comes with AHU comm Kit
Pipe-In	LG / EBG62485902 Pipe In Thermistor	Comes with AHU Comm Kit
Pipe-Out	LG / EBG62485903 Pipe Out Thermistor	Comes with AHU Comm Kit – Red Cable
SpcT/H	(Provided by ACES)	Space Temperature and Humidity Sensor
RmP	(Provided by ACES)	Room Pressure sensor. Modulates amount of makeup air delivered to space
OAD/RAD	Belimo / 24VAC Actuators	Actuators furnished with dampers. 24V power and signal Field Wired by ACES
LowAmb	LG / PRVC2 Low Ambient Kit	Field Mounted in LG ODU. For capacity control for dehumidification sequence.
LG Spc*	LG / PREMTBVC2 Multi-Site CRC2 w BACnet MSTP	*OPTIONAL. For monitoring and BACNET connection if needed



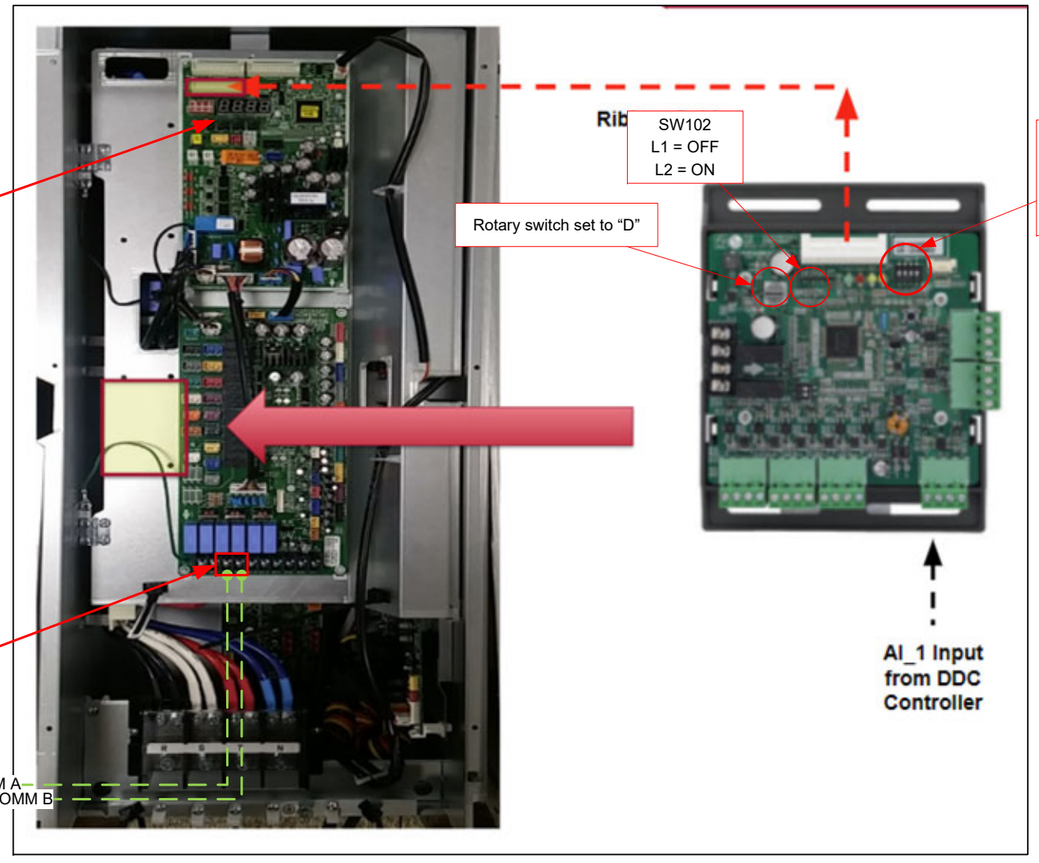
AC Systems Inc 11724 Adie Rd Maryland Heights MO 63043 314-569-1000 ph, 314-569-0532 fx	Jefferson County Crime Lab			
	AHU-01 Coil Kit Wiring			
Drawn By – Matt Hickey	SIZE	FSCM NO	DWG NO AHU-1	REV 0
3/28/24	SCALE NA		SHEET 3 OF 4	

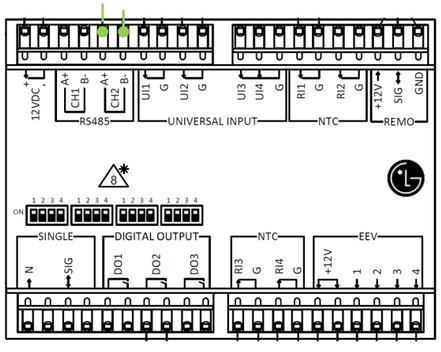
Tag	Mfr Name / Model	Notes
Low Amb	LG / PRVC2 Low Ambient Kit	Mount in Outside air intake
LG ODU	LG / ARUM096DTE5 Mutli V 5 Heat Pump Outdoor Unit	

Note: All components unless otherwise noted are furnished and/or installed by AAON. Dashed lines indicate field wiring. Solid lines indicate factory wiring.



LG Outdoor Unit Controller
DIP SW 4 = ON (Heat Pump)
DIP SW 5 = ON
Func 9 = ON (Low Amb Kit)
TURN OFF SW 5 WHEN COMPLETE
LEAVE SW 4 ON PERMANENTLY





LG ODU CONNECTIONS AND SETTINGS

Figure 11: Locations of the Pipe Thermistors.

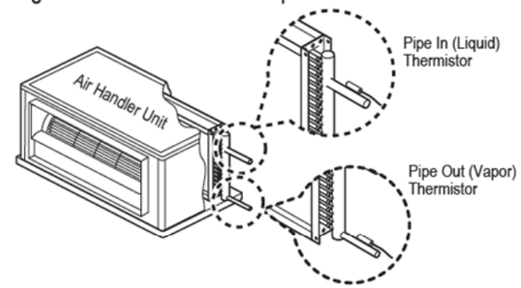


Figure 13: Attach Pipe Thermistors.

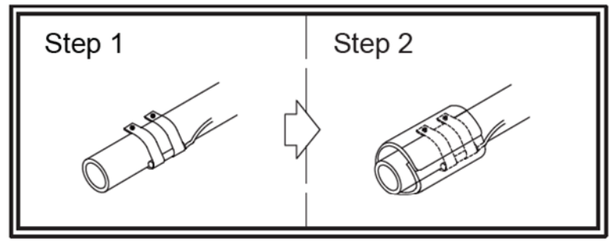
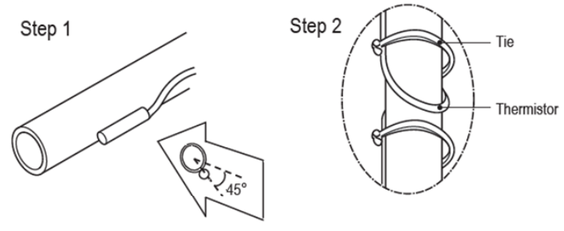


Figure 12: Securing the Thermistor Cable.



AC Systems Inc 11724 Adie Rd Maryland Heights MO 63043 314-569-1000 ph, 314-569-0532 fx	Jefferson County Crime Lab			
	LG CU- 01 Connection Detail			
Drawn By – Matt Hickey	SIZE	FSCM NO	DWG NO AHU-1 Page 2	REV 0
3/28/24	SCALE NA		SHEET 4 OF 4	

Unit Rating

2425 South Yukon Ave • Tulsa, OK 74107 • Ph: (918) 583-2266
Ecat Version: 345.0

B2 B3 1A 1B 1C 1D 2 3 4 5A 5B 5C 6A 6B 6C 7 8 9 10 11 12 13 14A 14B 15 16 17 18 19 20 21

V3-BRB-3-0-141D-7DS : EG1C-000-000-0A0-B0A00G0-00-D00000D00

Tag: AHU #1

Job Information

Job Name:	*Jefferson County Crime Lab*
Job Number:	*X30070MH*
Site Altitude:	*0 ft*
Refrigerant:	*R-410A*

Unit Information

Approx. Op./Ship Weights:	*640 lbs / 640 lbs (±5%)*
Ambient Temperature (DB/WB):	*95.0 °F / 78.0 °F*
Coil Filter FV / Qty:	*312.5 fpm / 1*
Supply Airflow/ESP:	*1250 SCFM / 1.00 in. w.g.*
Outside Airflow:	*1250 SCFM*
Return Temperature (DB/WB):	*75.0 °F / 62.0 °F*

Static Pressure

External:	*1.00 in. w.g.*	Economizer:	*0.00 in. w.g.*
Evaporator:	*0.41 in. w.g.*	Heating:	*0.03 in. w.g.*
Filters Clean:	*0.14 in. w.g.*	Cabinet:	*0.02 in. w.g.*
Dirt Allowance:	*0.15 in. w.g.*	Total:	*1.74 in. w.g.*
Reheat Coil:			

Cooling Section

	Gross	Net
Total Capacity:	*89.2 MBH*	*87.5 MBH*
Sensible Capacity:	*49.1 MBH*	*47.4 MBH*
Latent Capacity:	*40.1 MBH*	
Mixed Air Temp (DB/WB):	*95.0 °F*	*78.0 °F*
Entering Air Temp (DB/WB):	*95.0 °F*	*78.0 °F*
Lv Air Temp (Coil) (DB/WB):	*57.4 °F*	*56.8 °F*
Lv Air Temp (Unit) (DB/WB):	*58.6 °F*	*57.3 °F*

Heating Section

Preheat Type:	*Std (No Preheat)*
Auxiliary Heating Type:	*Electric Heat*
Heating Airflow:	*1250 SCFM*
Total Capacity:	*95.5 MBH*
Entering Air Temp (DB/WB):	*0.0 °F / 0.0 °F*
Leaving Air Temp (DB/WB):	*70.7 °F / 45.5 °F*
Electric Heat FLA:	*34*

Supply Air Fan:	*1 x RN150D70 @ 0.61 BHP Ea.*
SA Fan RPM / Width:	*1715 RPM / 2.352 in*
SA Fan FEI:	*1.52*
Evaporator Coil:	*3.7 ft² / 4 Rows / 14 FPI*
Evaporator Face Velocity:	*340.9 fpm*
Evaporator Suction Temp:	*45.0 °F*

Rating Information

Electrical Data

Circuit 1

Rating:	*460V/3Ø/60Hz*	*Minimum Circuit Amp:*	*44*
Unit FLA:	*35*	*Maximum Overcurrent:*	*45*

	Qty	HP	VAC	Phase	RPM	FLA	RLA
Supply Fan:	*1*	*1.00*	*460*	*3*	*1760*	*1.2*	

15" STAR Plenum

2425 South Yukon Ave • Tulsa, OK 74107 • Ph: (918) 583-2266
Ecat Version: 345.0

JOB INFORMATION:

Job Name:	*Jefferson County Crime Lab*
Job Tag:	*AHU #1*
Date:	*3/16/2024 12:00:00 AM*

WHEEL SPECIFICATION:

Max RPM:	*3200*
Diameter x Qty:	*15 in. x 1*
CFM:	*1250*
Inertia:	*3WR²*

OPERATING CONDITIONS

Air Flow:	*1250*
Fan Energy Index (FEI):	*1.52*
Static Pressure:	*1.74 in. Wg*
Relief Dampers DP:	*0 in. Wg*
TSP:	*1.74 in. Wg*
Site Altitude	*0 ft*
TSP @ Sea Level:	*1.74 in. Wg*

MOTOR SELECTION

Rated HP / Bypass:	*1 x 1 / No*
Frame Size:	*143T*
Nominal RPM:	*1760*
VAC/PH/HZ:	*460V/3Ø/60Hz*
Enclosure Type:	*TEFC*
Max Inertial Load:	*0 WR²*

FAN PERFORMANCE:

RPM:	*1715*
BHP:	*0.61*
Efficiency:	*56.21%*
Max Duct SP with Blocked Airway:	*0 in. Wg @1715 RPM*

Max Duct SP with Blocked Airway:

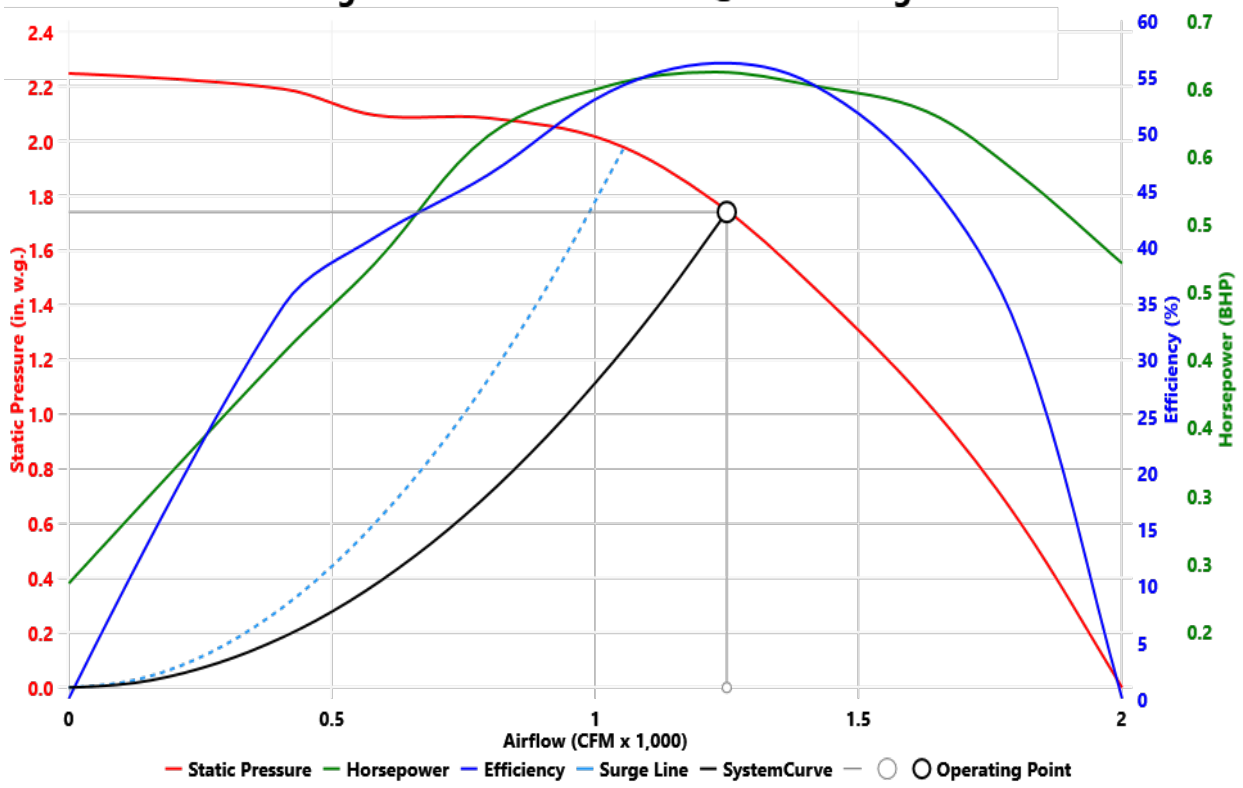
FAN SOUND POWER (Inlet/Outlet)

Octave Band: **(Re 10^-12 watts)**

1	2	3	4	5	6	7	8
77	74	78	75	69	67	65	59
77	74	78	75	69	67	65	59

SOUND POWER A-Weighted: 59 dB

Supply Fan Model: RN150D70 @ 1715 RPM and 100% Width
Design Conditions: 1250 CFM @ 1.74 in. w.g. SP



Unit Submittal

2425 South Yukon Ave • Tulsa, OK 74107 • Ph: (918) 583-2266
Ecat Version: 345.0

B2 B3 1A 1B 1C 1D 2 3 4 5A 5B 5C 6A 6B 6C 7 8 9 10 11 12 13 14A 14B 15 16 17 18 19 20 21

V3-BRB-3-0-141D-7DS:EG1C-000-000-0A0-B0A00G0-00-D00000D00

Tag: *AHU #1*

Job Name: *Jefferson County Crime Lab*

Job Number: *X30070MH*

Unit Worksheet For:

Unit Worksheet Date: *3/16/2024*

	Base Option	Description
V3	Generation	Vertical Unit
B	Unit Size	Up to 2,000 cfm
R	Unit Orientation	Right Hand Connections - Top Discharge, Back Intake (Vertical)
B	Revision	Second Revision
3	Voltage	460V/3φ/60Hz
0	Corrosion Protection	None
1	Cooling Type	R-410A DX Cooling
4	Cooling Rows	4 Row Coil
1	Cooling Stages	Single Circuit
D	Cooling FPI	14 fpi
7	Heating Type	Electric Heat
D	Heating Designation	28 kW (21.0 kW @ 208V)
S	Heating Stages	Modulating/SCR Electric

	Feature Option		Decription
E	F1A.	SA Blower Configuration	1 Blower + 1 Perm Magnet AC TEFC Motor+ 1 VFD
G	F1B.	SA Blower Model	15" Backward Curved Plenum , 70% Width
1	F1C.	SA Blower Motor	1 hp
C	F1D.	SA Blower Control/Contol Vendor	Field Installed Controls by Others
0	F2.	Refrigeration Options	Standard - None
0	F3.	Special Controls	Standard - None
0	F4.	Additional Controls 1	Standard - None
0	F5A.	RA Damper Position	Standard - None
0	F5B.	OA Damper Position	Standard - None
0	F5C.	Damper Control	Standard - None
0	F6A.	Filter Box - Pre Filter Box	Standard - None
A	F6B.	Filter Box - Unit Filter	2" Pleated - 30% Eff.
0	F6C.	Filter Box - Final Filter Box	Standard - None
B	F7.	Filter Options	Clogged Filter Switch
0	F8.	Coil Coating	Standard - None
A	F9.	Expansion Valve	Thermal Expansion Valves
0	F10.	Expansion Valve Controls	None
0	F11.	External Paint	Standard - None
G	F12.	Tonnage	8 ton Capacity
0	F13.	Energy Recovery Type	Standard - None
0	F14A.	Power Options	Standard Power Block
0	F14B.	Electrical Rating	Standard
D	F15.	Control Panel	Removable Internal Control Panel (Single Side Access)
0	F16.	Shipping Splits	Standard (No Shipping Split)
0	F17.	Energy Recovery Cabinet	Standard - None
0	F18.	Preheat	Standard - None
0	F19.	Exhaust Fan	Standard - None
0	F20.	Crating	Standard
D	F21.	Additional Controls 2	High Condensate Level Switch
0	F22.	Warranty	Standard - 1 Year Parts
0	F23.	Type	Standard

Terminals

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Ecat Version: 345.0

B2 B3 1A 1B 1C 1D 2 3 4 5A 5B 5C 6A 6B 6C 7 8 9 10 11 12 13 14A 14B 15 16 17 18 19 20 21

V3-BRB-3-0-141D-7DS:EG1C-000-000-0A0-B0A00G0-00-D00000D00

Tag: AHU #1

Job Name: *Jefferson County Crime Lab*

For:

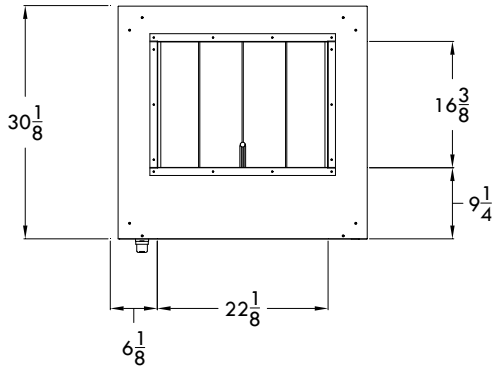
Job Number: *X30070MH*

Date: *March 16, 2024*

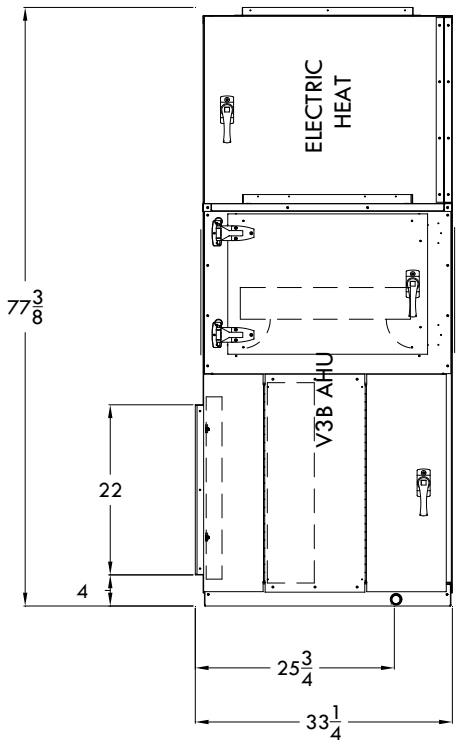
Terminals Available/Required for Controlling the Unit

Terminals	Decription
[R]	24 VAC
[C]	COMMON
[W1]	HEAT ENABLE STAGE 1
[WS]	SCR SIGNAL 1-6 CIRCUITS (HEATING SIGNAL 0-10VDC)
[WC]	SCR SIGNAL COMMON
[G]	FAN(S) ENABLE
[AFS1] & [AFS2]	PROOF OF AIR FLOW
[S1]	VFD FAN SIGNAL
[S2]	VFD SIGNAL COMMON
[C1] & [C2]	CLOGGED FILTER SWITCH
Supply Fan VFD Terminals	Yaskawa GA500 or Invertek Optidrive E3
[AC1] & [A1] or [6] & [7]	Speed Control Input (0-10VDC)
	[AC1] & [A1] terminals on Yaskawa GA500. [6] & [7] terminals on Invertek Optidrive E3.
[AC2] & [AM] or [8] & [9]	Current Feedback (0-10VDC = 0-100%)
	[AC2] & [AM] terminals on Yaskawa GA500. [8] & [9] terminals on Invertek Optidrive E3.
[C1] & [P1]	Run Status (5-48VDC, 2-50mA)
	Only available on Yaskawa GA500 VFD
[MA] & [MC]	Fault Status (NC)
	Only available on Yaskawa GA500 VFD

LEFT SIDE



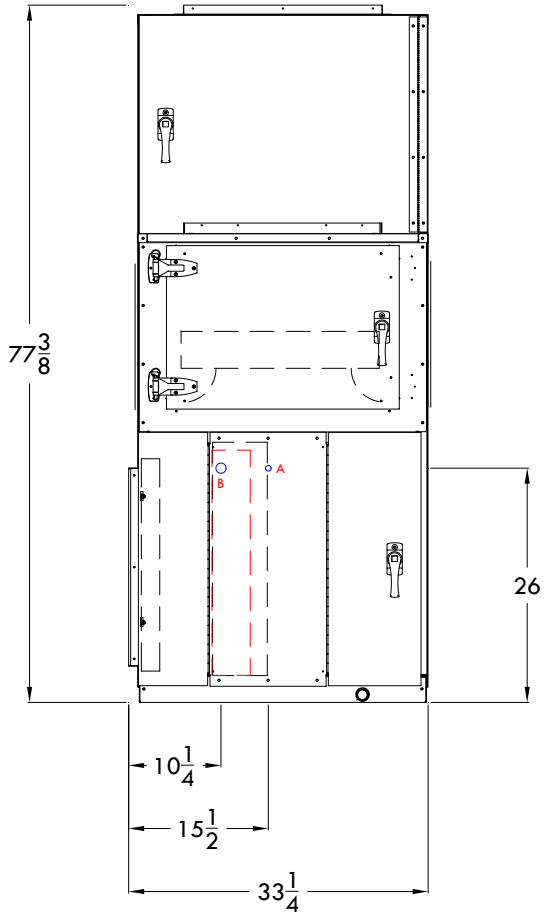
RIGHT SIDE



ALL DIMENSIONS IN INCHES

AAON	Job Name: Jefferson County Crime Lab		Unit Tag: AHU #1	
	Unit Configuration: V3-BRB-3-0-141D-7DS:EG1C-000-000-0A0-B0A00G0-00-D00000D00			
	Clearances (Back/Left/Right/Front/Top/Bottom): Duct/6/36/6/Duct/6			
	Weight (Shipping/Operating): 640/640 ±5% lbs	Date: 2024-03-16	Software Version:	Drawing Engine Version: 6.24.4.0

Connections				
Key	Description	ø	X	Y
A	Liq 1	0.62	15.50	26.00
B	Suct 1	1.12	10.25	26.00



ALL DIMENSIONS IN INCHES

Job Name: Jefferson County Crime Lab			Unit Tag: AHU #1	
Unit Configuration: V3-BRB-3-0-141D-7DS:EG1C-000-000-0A0-B0A00G0-00-D00000D00				
Clearances (Back/Left/Right/Front/Top/Bottom): Duct/6/36/6/Duct/6				
Weight (Shipping/Operating): 640/640 ±5% lbs	Date: 2024-03-16	Software Version:	Drawing Engine Version: 6.24.4.0	

Jefferson County Crime Lab(ver 1.8.14.16)

Model Selection - Summary

Date: 03/16/2024

1. Outdoor Units

No.	Model Name	Quantity	Description
1	ARUM096DTE5	1	MULTI V 5/50,60Hz/R410A/Heat Pump/MULTI V 5/N.America
Total		1	

2. Indoor Units

No.	Model Name	Quantity	Description
1	PRLK048A0	1	EEV KIT
Total		1	

3. Branch/Header

No.	Model Name	Quantity

4. Pipes

No.	Diameter(Liq:Gas,inch)	Length(ft)
1	3/8 : 7/8	80.0

5. Accessories

Model Name	Quantity	Description
PAHCMR000	1	AHU Communications Kit [Return air]
PREMTBVC2	1	MultiSITE CRC2 Remote Controller (Includes Humidity)

System Model Selection - ODU

System Name: Multi V1

Date: 03/16/2024

System No : 1/1

1. Design conditions - Outdoor

	Cooling			Heating		
	DBT(°F)	WBT(°F)	RH(%)	DBT(°F)	WBT(°F)	RH(%)
OAT	97.0	75.0	36.6	1.9	1.4	86.0
IAT	80.0	67.0	51.4	70.0	49.2	18.2

2. Outdoor Units

Model Name	No. of IDUs (Current / Max.) (EA)	Combination Ratio (Current / Max.) (%)	Corrected Capacity / Block Load (Cooling / Heating) (%)	Pre-charged Ref. amount (lbs)	Additional Ref. Amount (lbs)
ARUM096DTE5	1 / 16	100 / 130	0.0 / 0.0	23.20	3.99

Nominal/Corrected Capa. (kBtu/h)		Nominal/Corrected PI (kW)	
Cooling	Heating	Cooling	Heating
96.0/93.0	108.0/99.3	5.3/5.4	6.7/9.9

Efficiency(Btu/h/W)		Weight(lbs)	Dimension (WxHxD) (inch)	Electrical Characteristics				
Cooling	Heating			Volt	Phase	Hz	MCA (A)	MOP (A)
17.1	10.1	507x1	48-13/16x66-17/32x29-29/32	460	3	60	16.4	25

3. Pipes

Diameter(Liq:Gas,inch)	Length(ft)
3/8 : 7/8	80.0

4. Branch/Header

Model Name	Quantity
-	-

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.
The result can be slightly different from Product Data Book due to simulation.
Pipe lengths are estimations only.
Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

System Model Section - IDU

System Name: Multi V1

Date: 03/16/2024

System No : 1/1

5. Indoor Units(1)

Room	Room Load(kBtu/h)			Room Design Temp.(Return Air Temp.)(°F)				Model Name	Rated TC/Corrected TC(kBtu/h)			Corrected Capa/Room Load(%)		
	TC	SC	HC	Cooling		Heating			TC	SC	HC	TC	SC	HC
				DBT	WBT	DBT	WBT							
Floor001/Vehicle Exam Bay	-	-	-	80.0	67.0	70.0	49.2	PRLK048A0	95.9/95.9	-	95.9/95.9	-	-	-

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Model Section - IDU

System Name: Multi V1

Date: 03/16/2024

System No : 1/1

6. Indoor Units(2)

Tag	Model Name	Type	Est. Discharge Temp.(°F)		Air flow rate (CFM)	Remark
			Cooling	Heating		
1	PRLK048A0	EEV KIT	-	-	-	NA

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Model Section - IDU

System Name: Multi V1

Date: 03/16/2024

System No : 1/1

7. Indoor Units(3)

Tag	Model Name	Weight	Dimension (WxHxD)	Electrical Characteristics				
				Volt	Phase	Hz	MCA (A)	RLA (A)
1	PRLK048A0	kg	mm	220~240	1	50/60	0.10	

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

Jefferson County Crime Lab(ver 1.8.14.16)

System Validation Check

System Name: Multi V1

Date: 03/16/2024

System No : 1/1

8. System Validation Check - General Condition

Contents	Limit	Current(Max value : connected unit)
Total pipe length	3280.8 ft	80.0 ft
Longest equivalent pipe length	574.1 ft	80.0 ft : PRLK048A0[1]
Height difference [Above: IDU, Below: ODU]	360.9 ft	0.0 ft
Height difference [Above: ODU, Below: IDU]	360.9 ft	9.8 ft : PRLK048A0[1]
Height difference [IDU to IDU]	131.2 ft	0.0 ft : PRLK048A0[1]-PRLK048A0[1]
Longest actual pipe length	492.1 ft	80.0 ft : PRLK048A0[1]

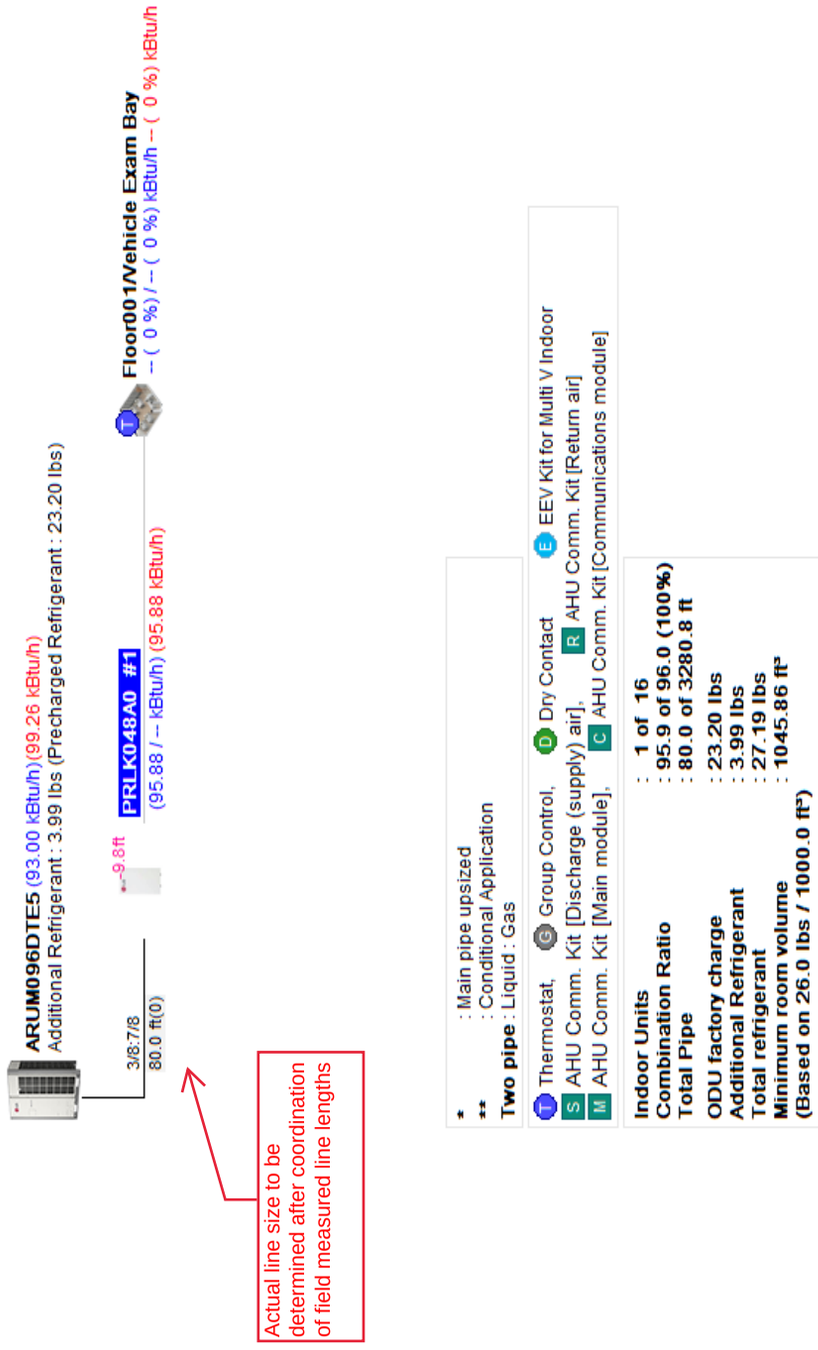
Note 1 : Except "Longest equivalent pipe length", the other pipe length limitations are actual length.

System Tree Diagram

System Name: Multi V1

Date: 03/16/2024

System No : 1/1



System Schematic Diagram

System Name: Multi V1

Date: 03/16/2024

System No : 1/1

Note :
Power wiring, breaker size, and disconnects should follow local code and NEC.
Multi-frame outdoor units require a separate power connection for each frame.
Refer to the most up-to-date submittal sheets for applicable electrical data.
See EEV Kit Installation Manual for wiring.

Job Name/Location: Jefferson County Crime Lab **Tag No.:**

Date: 3/16/24

For: File Resubmit Approval Other

PO No.:

Architect: Hastings + Chivetta **GC:**

Engr: Horner Shifrin **Mech:** Crystal

Rep: AC Systems Inc (Company) Matt Hickey (Project Manager)

ARUM096DTE5

Multi V™ 5 with LGRED° 460V ODU

8 Ton Single Frame Heat Pump and Heat Recovery

LG Life's Good

Performance:

Cooling Mode:

Nominal Capacity (Btu/h)	96,000
Power Input (kW)	5.33

Heating Mode:

Nominal Capacity (Btu/h)	108,000
Power Input (kW)	6.74

Rated capacity is certified under AHRI Standard 1230-2023. Ratings are subject to change without notice. Current and past certified ratings are available at www.ahridirectory.org.

Electrical:

Frame	ARUM096DTE5
Power Supply (V/Hz/Ø)[1]	460/60/3
MOP (A)	25
MCA (A)	16.4
Rated Amps (A)	14.1
Compressor A (A)	9.1
Compressor B (B)	-
Fan (A)	5.0

Piping:[2]

Frame	ARUM096DTE5
Refrigerant Charge (lbs.)	23.2
Liquid (in., O.D.)	3/8 Braze
High Pressure Vapor (in, O.D.)	3/4 Braze
Low Pressure Vapor (in., O.D.)	7/8 Braze

Standard Features:

- Advanced Smart Load Control
- Intelligent Heating
- HiPOR (High Pressure Oil Return)
- Smart Oil Control
- Night Quiet Operation
- Fault Detection and Diagnosis
- Active Refrigerant Control
- Variable Heat Path Exchanger
- Subcooling and Vapor Injection Control
- Liquid Cooled Inverter Controller
- Advanced Comfort Cooling

Optional Accessories:

- ☐ Air Guide - ZAGDKA52A
- ☒ Hail Guard Kit - ZHGDKA52A
- ☐ Low Ambient Baffle Kit - ZLABKA52A , Control Kit - PRVC2 (1 per system)
- ☐ Base Pan Heater - ZPLT2A51A

**Cooling range with the Low Ambient Baffle Kit (sold separately) is -9.9°F to +122°F and is achieved only when all indoor units are operating in cooling mode. Does not impact heat recovery system synchronous operating range.

Operating Range:

Cooling (°F DB)**	5 - 122
Heating (°F WB)	-22 - 61
Synchronous	
Cooling Based (°F DB)	14 - 81
Heating Based (°F WB)	14 - 61

Unit Data:

Refrigerant Type	R410A
Refrigerant Control	EEV
Max. Number of Indoor Units[3]	16
Sound Pressure[4] dB(A)	58.0
Weight	
Frame	ARUM096DTE5
Net (lbs.)	507
Shipping (lbs.)	534
Communication Cable (No x AWG)[5]	2 x 18
Heat Exchanger Coating	Black Fin II

Compressor:

Type	HSS DC Scroll
Quantity	1
Oil / Type	PVE / FVC68D

Fan:

Type	Propeller
Quantity	2
Motor Drive	Brushless Digitally Controlled Direct
Air Flow Rate (rated/max, CFM)	7,400 / 11,300

Notes:

1. Power wiring cable size must comply with the applicable local and national codes. Cables terminate at each frame.
2. For main pipe segment size, refer to the LATS Multi V tree diagram.
3. The combination ratio must be between 50-130%.
4. Sound pressure levels are tested in an anechoic chamber under ISO Standard 3745 for the combination of outdoor units.
5. Communication cable between ODU and IDUs must be 2-conductor, 18 AWG, twisted, stranded, and shielded. Ensure the communication cable shield is properly grounded to the Main ODU chassis only. Do not ground the communication cable at any other point. Wiring must comply with all applicable local and national codes.
6. Acceptable operating voltage: 414 - 528V
7. SCCR rating: 65 kA RMS symmetrical 460V maximum.
8. Fan ESP (in wg) selectable range is 0.16 to 0.32.

LGRED° Powerful Heat Technology

C SA US Inverter

AHRI CERTIFIED™ www.ahridirectory.org Variable Refrigerant Flow (VRF) Multi-Split AC and HP AHRI Standard 1230

Job Name/Location: Jefferson County Crime Lab

ARUM096DTE5

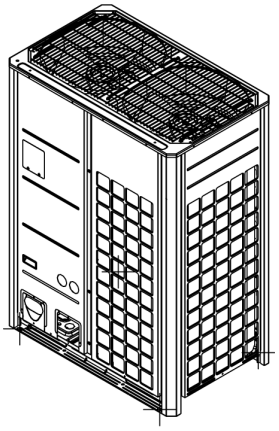
Multi V™ 5 with LGRED° 460V ODU

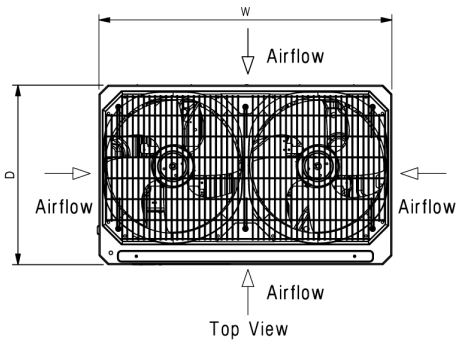
8 Ton Single Frame Heat Pump and Heat Recovery

Tag No.:

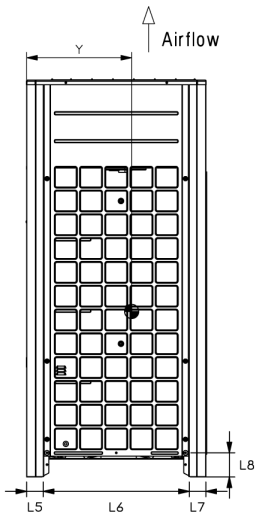
Date: 3/16/24

PO No.:

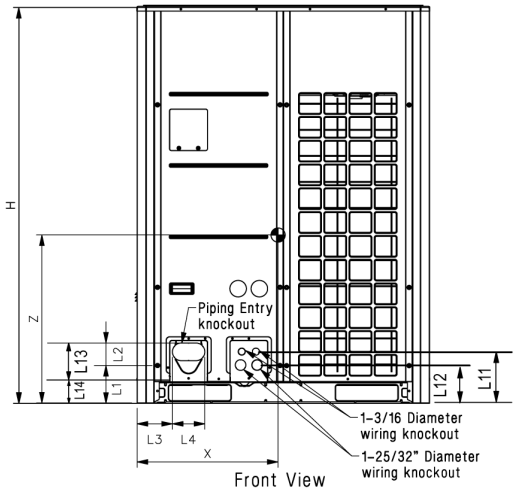




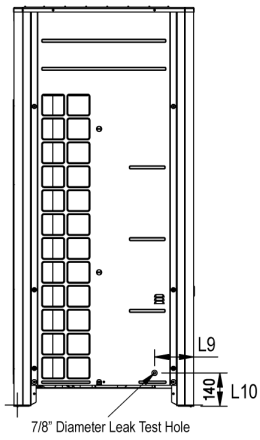
Top View



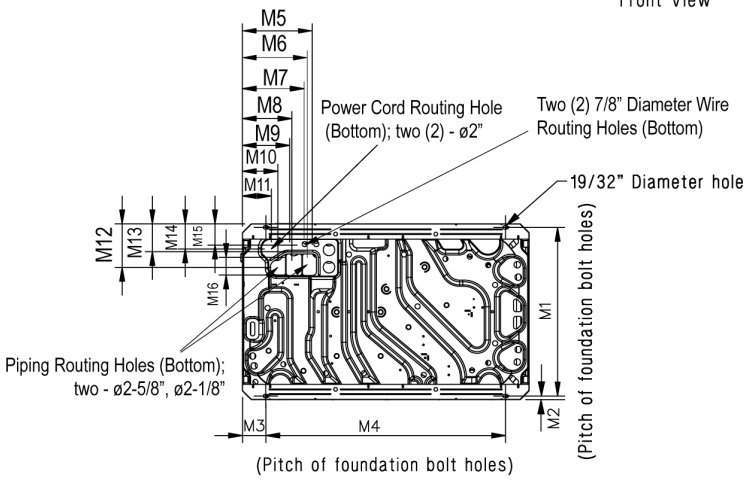
Right Side View



Front View



Left Side View



Bottom Mounting Holes

W	48-13/16"
H	66-17/32"
D	29-29/32"
L1	6-5/16"
L2	3-3/4"
L3	5-29/32"
L4	5-13/32"
L5	2-25/32"
L6	24-9/32"
L7	2-25/32"
L8	4-1/32"
L9	6 - 1/2"
L10	5 - 9/16"
L11	8 - 5/8"
L12	6 - 7/16"
L13	9 - 15/16"
L14	3 - 5/8"

M1	28-25/32"
M2	5/8"
M3	3-15/16"
M4	40-15/16"
M5	11 - 15/16"
M6	11 - 1/16"
M7	10 - 1/2"
M8	8 - 7/16"
M9	8 - 1/8"
M10	6 - 1/16"
M11	4 - 15/16"
M12	7 - 1/2"
M13	4 - 13/16"
M14	4 - 5/16"
M15	3 - 5/8"
M16	3"

Center of Gravity

X	23-7/32"
Y	15-5/8"
Z	25-9/16"

All dimensions have a tolerance of ±0.25 in.

[Unit: inch]

= Center of Gravity

Job Name/Location: Jefferson County Crime Lab

ARUM096DTE5

Multi V™ 5 with LGRED° 460V ODU

8 Ton Single Frame Heat Pump and Heat Recovery

Tag No.:

Date: 3/16/24

PO No.:

AHRI Data:

Reference Number	Indoor Type	Cooling Capacity (95°F)	EER (95°F)	IEER	SCHE	High Heating Capacity (47°F)	High COP (47°F)	Low Heating Capacity (17°F)	Low COP (17°F)
213916291	Ducted Indoor Units	92,000	11.9	20.1	24.30	103,000	3.66	67,000	2.73
213916289	Non-Ducted Indoor Units	92,000	10.4	26.6	28.80	103,000	4.33	67,000	2.85

Rated capacity and efficiency data are certified under AHRI Standard 1230-2023. Ratings are subject to change without notice. Current and past certified ratings are available at www.ahridirectory.org.

Job Name/Location: Jefferson County Crime Lab **Tag #:**

Date: 3/16/24

PO No.:

For: ☐ File ☐ Resubmit ☐ Approval ☐ Other _____

Architect: Hastings + Chivetta

GC:

Engr: Horner Shifrin

Mech: Crystal

Rep: AC Systems Inc (Company)

Matt Hickey (Project Manager)

PRLK048A0
Electronic Expansion Valve Kit
for AHU Communications Kit

LG Life's Good

Electrical:

Power Supply	Powered by AHU Comm Kit (12 VDC)

Environmental Data:

Operating Temperature	-4 -149 °F
Humidity	0-98 % (non-condensing)

Communications Cabling Specifications:

Type	Stranded, shielded copper cable
Size	AWG 18 x 6

AWG - American Wire Gauge

Unit Data:

Dimensions (inch)	8-5/8 W x 15-15/16 H x 3-5/16 D
Net Weight (lb)	6.8
Shipping Weight (lb)	7.9

Refrigerant

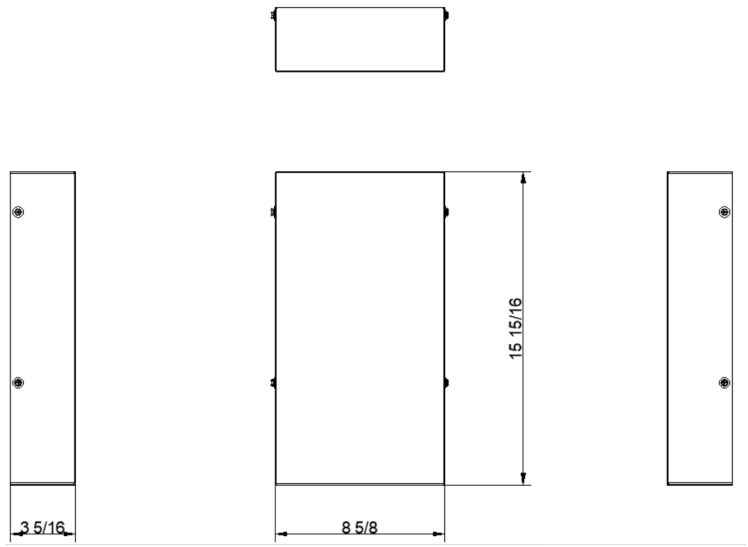
Refrigerant Type	R410A

Capacity:

Maximum AHU Capacity (Btu/h)	96,000

Standard Features:

- Controls refrigerant flow between Multi V air or water source units and a 3rd party air handling unit
- Minimum coil entering temperature is 41°F
- Maximum distance between EEV and Comm kit is 32 feet
- Maximum of (1) EEV kit can be connected to Comm kit
- When brazing to EEV kit, use wet cloth to ensure main EEV body temperature does not exceed 248°F
- Designed for indoor installations (field supplied water-proof enclosure must be used when installing outdoors)
- Includes (1) Pipe In and (1) Pipe Out temperature sensor



Notes:

1.Must follow installation instructions in the applicable LG installation manual.

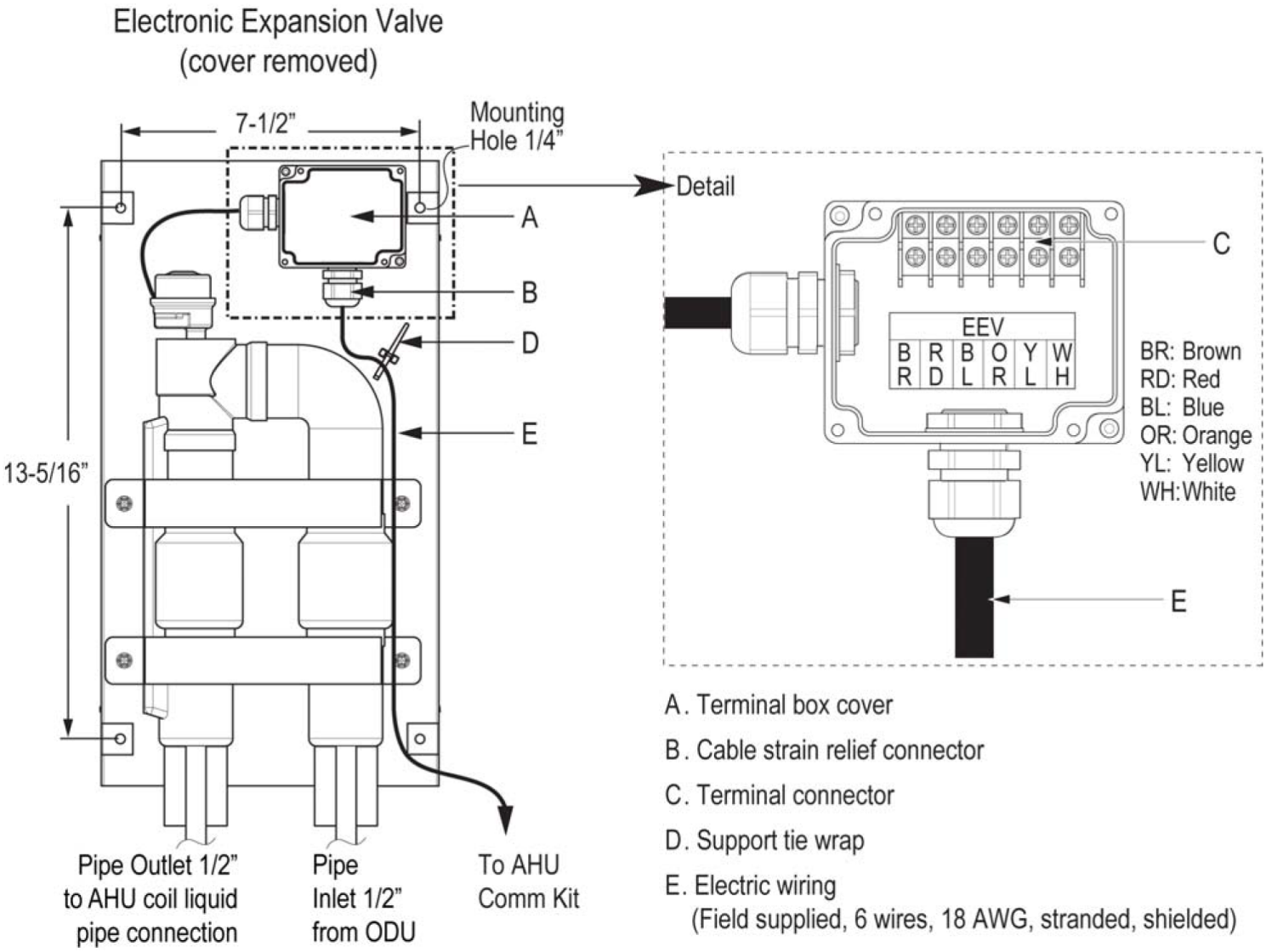
Job Name/Location: Jefferson County Crime Lab

PRLK048A0
Electronic Expansion Valve Kit
for AHU Communications Kit

Tag #:

Date: 3/16/24

PO No.:



A. Terminal box cover

B. Cable strain relief connector

C. Terminal connector

D. Support tie wrap

E. Electric wiring
(Field supplied, 6 wires, 18 AWG, stranded, shielded)

Job Name/Location: Jefferson County Crime Lab

Tag No.:

Date: 3/16/24

For: File Resubmit Approval Other_____

PO No.:

Architect: Hastings + Chivetta

GC:

Engr: Horner Shifrin

Mech: Crystal

Rep: AC Systems Inc

Matt Hickey

(Company)

(Project Manager)

PAHCMR000

AHU Communications Kit

Return Air

LG Life's Good

Electrical:

Power Supply	208-230VAC, 60Hz, 1Ph
Rated Current	0.1A

Environmental Data:

Operating Temperature	-4 to +149°F
Humidity	0-98% (Non-condensing)

Unit Data:

Dimensions (inch)	11-13/16 W x 11-13/16 D x 6-3/32 H
Net Weight (lb.)	13.7
Shipping Weight (lb.)	16.4

Standard Features:

- Allows communication between third-party air handling unit controllers and LG air source and water source units
- AHU Coil Capacities
  - 41°F minimum entering air temperature
  - 12-384 kBtu/h for Multi V

- One Thermistor (Return air; 16.4 ft. in length.)
- EEV Control
- Analog input (0-10V) for capacity control
- Digital Inputs for On/Off and Mode control
- Digital Outputs for ODU running status (heat/cool/off), ODU defrost signal
- Designed for outdoor installation

Required Accessories (Sold Separately):

One of the following wired controllers:

☐ MultiSITE Remote Controller CRC1 - PREMTBVC0
☐ MultiSITE Remote Controller CRC1+ - PREMTBVC1
☐ Premium Remote Controller - PREMTA000
☐ Simple Remote Controller - PREMTC00U

One of the following Electronic Expansion Valves:

☐ AHU EEV Kit PRLK048A0
☐ AHU EEV Kit PRLK096A0
☐ AHU EEV Kit PRLK396A0
☐

Notes:

1. Must follow installation instructions in the applicable LG installation manual.

Connectivity:

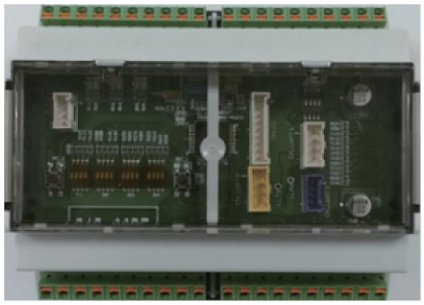
LG Communications	RS-485 (Connects to IDU A/B Communications Terminals on ODU)

Communications Cabling Specifications:

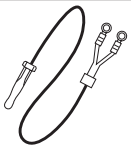
Type	Stranded, Shielded Copper Cable
Size	18 x 2

AWG - American Wire Gauge

Communications Module



Return Air Thermistor (1)

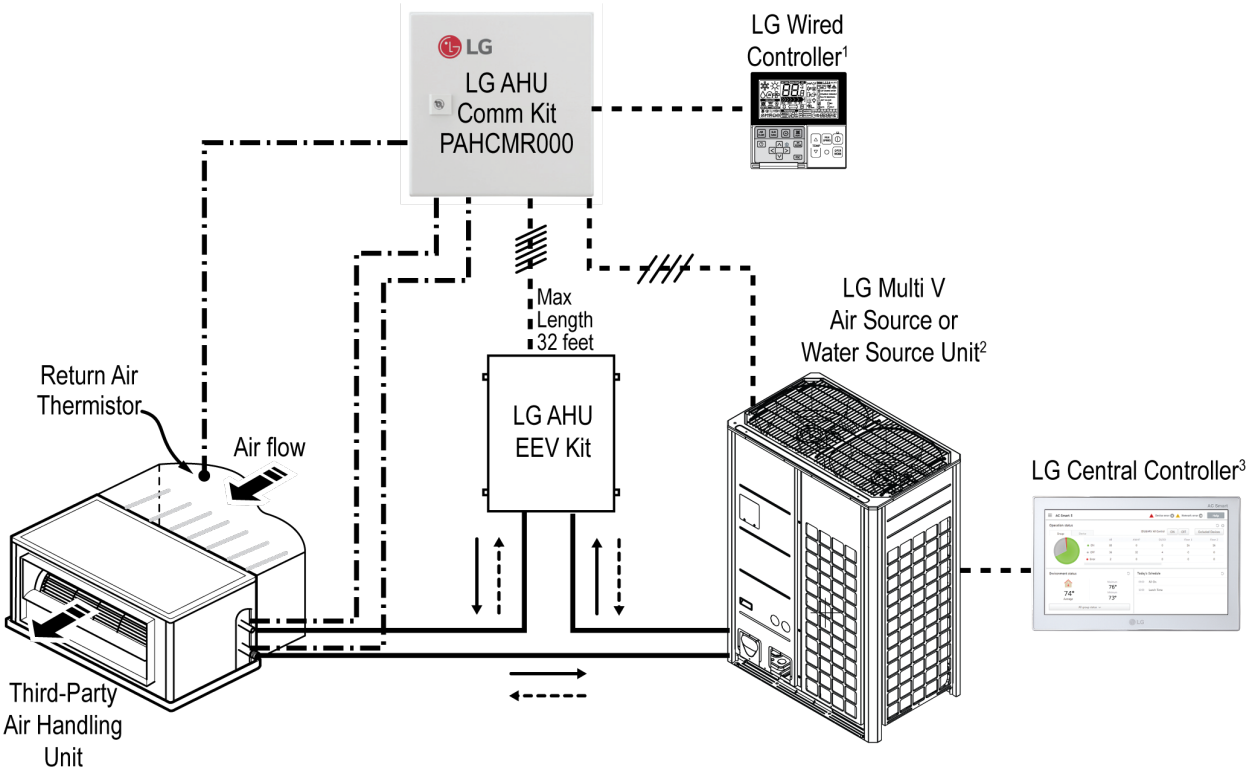


AHU Capacity Multi V (kBtu/h)
12
15
18
24
28
36
42
48
54
76
96
115
134
153
172
192
216
240
264
288
312
336
360
384

Job Name/Location: Jefferson County Crime Lab

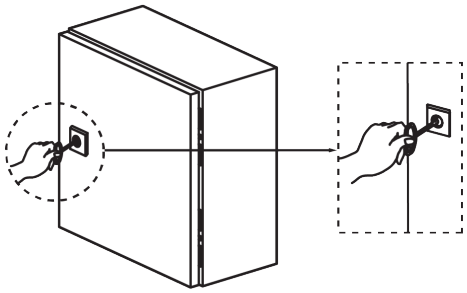
PAHCMR000
AHU Communications Kit
Return Air

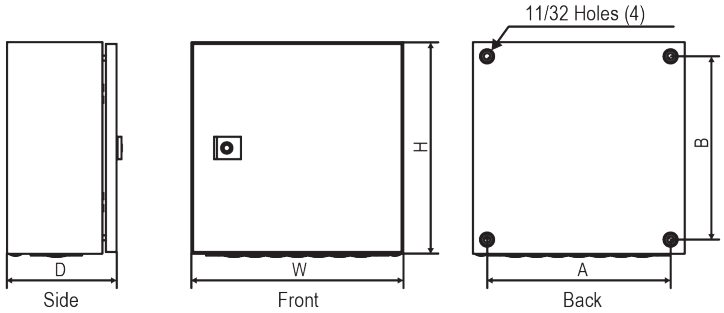
Tag No.:
Date: 3/16/24
PO No.:



[1]LG wired controller is required.
[2]Compatible units are Multi V.
[3]Compatible central controllers are AC Smart V and ACP V.

AHU Communications Kit Installation





Model	Size (inch)				
	W	D	H	A	B
PAHCMR000	11-13/16	6-3/32	11-13/16	10-1/4	10-1/4

Job Name/Location: Jefferson County Crime Lab **Tag #:**

Date: 3/16/24

PO No.:

For: ☐ File ☐ Resubmit ☐ Approval ☐ Other _____

Architect: Hastings + Chivetta

GC:

Engr: Horner Shifrin

Mech: Crystal

Rep: AC Systems Inc (Company)

Matt Hickey (Project Manager)

PRVC2

Outdoor Unit Multi Application I/O Module

LG Life's Good

Electrical:

Power Supply	24VDC

Environmental:

Operating Temp Ranges (°F)	
Cooling	
Outdoor:	95
Indoor:	81
Heating	
Outdoor:	45
Indoor:	68

Unit Data:

Dimensions	4" W x 5" H x 1" D
Net Weight	3
Shipping Weight	4

Applications:

Low Ambient Control

- Allows control of louvers on top elbow vent of low ambient baffle kit
- Controls from one to three low ambient baffle kits
- Field supplied 24 volt damper actuator (Required)

Variable Water Flow Valve Control

- Allows variable water flow based on indoor unit demand as needed to work with variable water pumping systems
- Sends 0-10 volt signal to a modulating valve
- One control kit per each frame
- Field supplied 24 volt water control valve (required)

ODU Capacity Control (AHU or System)

- Control capacity of ourdoor unit
- Accepts 0-10 volt signal
- Field supplied third party controller (required)

Connectivity:

Outdoor Unit	Power and communication
Inputs	
Digital	Dry contact
Analog	0 to 10VDC
Outputs	
Digital	Operating and error status relay (250V, 1A)
Analog	0 to 10VDC

Cabling Specifications:

Type	stranded, shielded copper cable
Size	AWG 22

AWG - American Wire Gauge

Required Accessories (sold separately)

Low Ambient Control

One or more of the following Low Ambient Baffle Kits.

- ☐ Low Ambient Baffle Kit - ZLABKA01A
- ☐ Low Ambient Baffle Kit - ZLABKA03A
- ☐ Low Ambient Baffle Kit - ZLABKA51A
- ☐ Low Ambient Baffle Kit - ZLABKA52A

Variable Water Flow Valve Control

- ☐ Variable water flow kit. PWFCKNOOO (Includes PRVC2 controller)

AHU Capacity Control

- ☐ Communications Kit

One of the following:

- ☐ PAHCMROOO Return Air
- ☐ PAHCMSOOO Supply Air

- ☐ Electronic Expansion Valve

One of the following:

- ☐ PRLK048AO (8 Ton)
- ☐ PRLK096AO (16 Ton)
- ☐ PRLK396AO (32 Ton)
- ☐ PRLK594AO (48 Ton)

Notes:

1.Must follow installation instructions in the applicable LG installation manual.

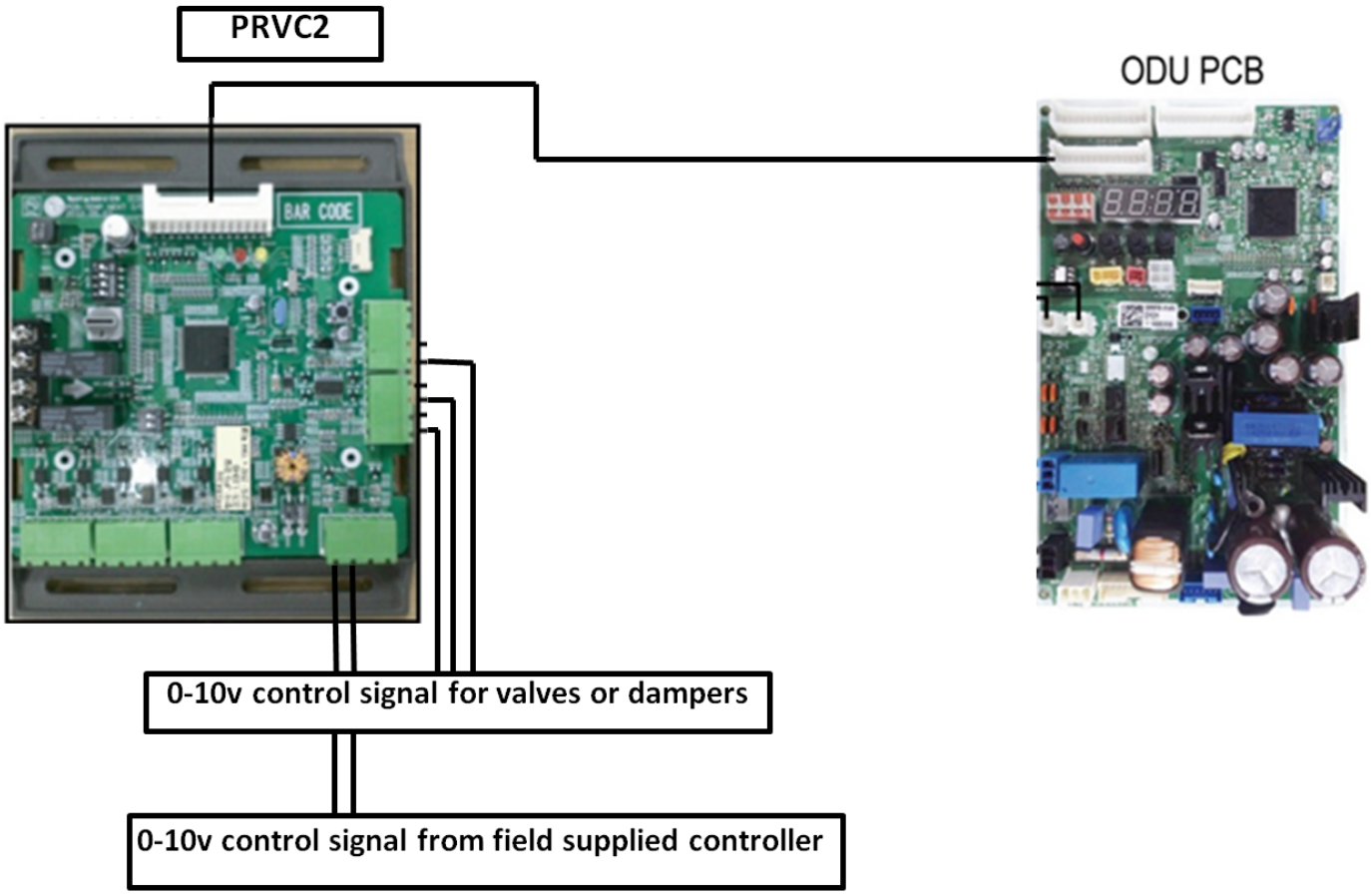
PRVC2

Outdoor Unit Multi Application I/O Module

Tag #:

Date: 3/16/24

PO No.:



Job Name/Location: Jefferson County Crime Lab **Tag #:**

Date: 3/16/24

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Architect: Hastings + Chivetta

GC:

Engr: Horner Shifrin

Mech: Crystal

Rep: AC Systems Inc (Company)

Matt Hickey (Project Manager)

PREMTBVC2
MultiSITE CRC2 Remote Controller

LG Life's Good

Electrical:

Power Supply	12VDC power from indoor unit

Surrounding Conditions:

Temperature	
Operating	32-122 °F
Storage	-22-122 °F
Humidity	
Operating	5-95% RH (non-condensing)
Storage	0-95% RH (non-condensing)

Features:

- Customizable color digital touch screen interface with Multilanguage support
- BACnet® Wireless IP (optional)
- ZigBee® Pro Wireless network (optional)
- Role based configuration (password protected)
- Lua scripting
- Function code settings
- Function Code Search Tool
- Date and Time Display
- Room temperature display (-9 °F ~ +9 °F adjustable)
- Humidity Display (-15% ~ +15% adjustable)
- Operation - On/Off
- Mode - Auto/Cool/Dry/Heat/Fan Only
- Occupied cooling and heating temperature setpoints
- Unoccupied cooling and heating temperature setpoints
- 7 day scheduling with mode
- Fan speed - Auto/Low/Med/High/Power
- Discharge vanes - Auto/Swing/Fixed
- Static pressure installer setting

Optional Accessories (sold separately):

- ☐ PZCWRCG3 - Group Control Cable Kit
- ☐ PZCWRC1 - Extension Cable (for IDUs without terminal blocks)
- ☐ ZVRCZPWC2 - ZigBee® Pro Wireless Module[3]
- ☐ ZVRCZDWC1 - Wireless Door Window Contact[3]
- ☐ ZVRCZMTH1 - Wireless Ceiling Mounted Occupancy, Temperature and Humidity Sensor[3]
- ☐ ZVRCZWOC1 - Wireless Wall Mounted Occupancy Sensor[3]
- ☐ SEDCO2G5045 - Wireless CO2, Temperature & Humidity Sensor[3]
- ☐ ZVRCZTRH1 - Wireless Temperature & Humidity Sensor[3]
- ☐ ZVRCZWLS1- Wireless Water Leak Sensor[3]
- ☐ VCM8002V504 - Wi-Fi Module (BACnet Wireless IP)

Notes:

1.Available functions/features may differ based on connected system.
2.Communication cable can be extended to a maximum of 164 feet.
3.Up to 20 ZigBee® sensors can be connected to the MultiSITE CRC2 Remote Controller.
4.Must follow installation instructions in the applicable LG installation manual.

Connectivity:

LG Communications	1 Channel/RS-485 V-Net
BACnet® wireless IP (optional)	
ZigBee® Pro wireless mesh network (P) (optional)	

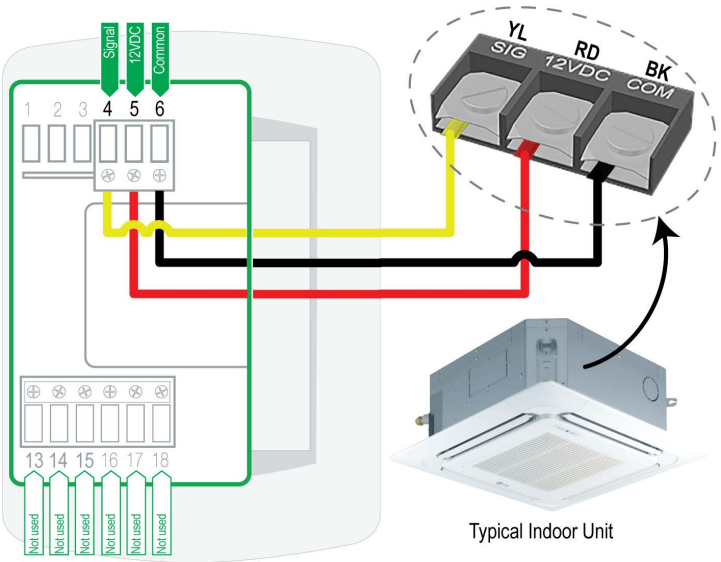
Communications Cabling Specifications (V-Net):

Type	3 conductor, stranded, twisted, unshielded
Size	AWG 22-3
Length[2]	up to 164 ft

AWG - American Wire Gage

Unit Data:

Dimensions	4.72" H x 3.39" W x 1.06" D
Maximum Number of Indoor Units (per controller)	16



Typical Indoor Unit

TERMINAL	DESCRIPTION
4 (S)	Tx - Rx Communication
5 (12V)	12 Volts DC
6 (G)	Common

Note: Terminals 1, 2, 3, 13, 14, 15, 16, 17, and 18 are unused.

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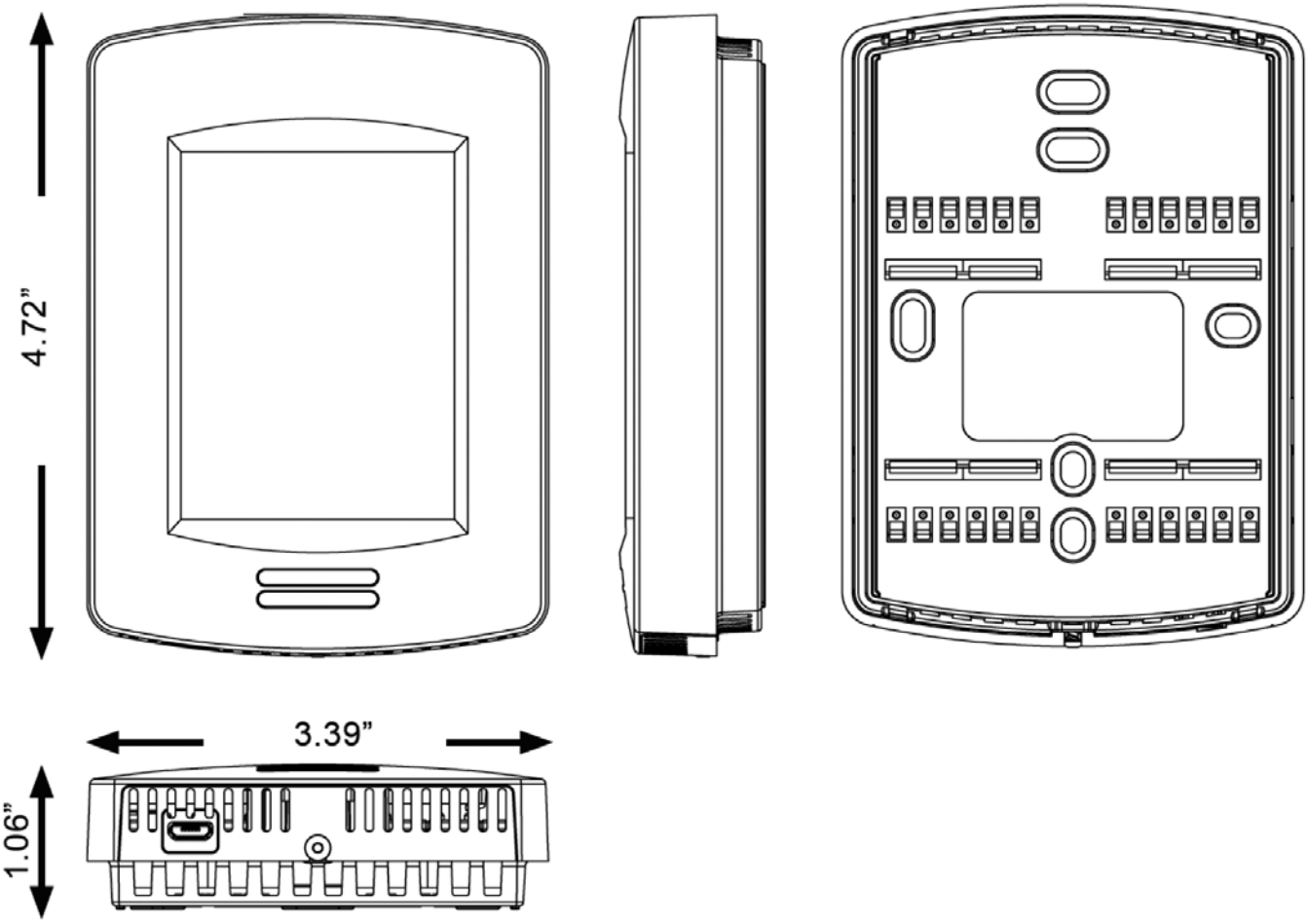
Dimensions: 4.72”H x 3.39”W x 1.06”D



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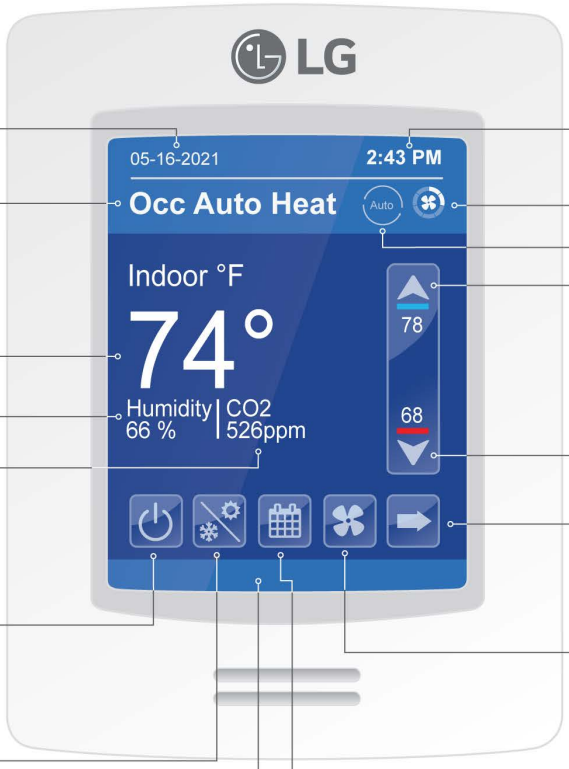

Current Date

Current Time

Occupancy Status
Occupied (Occ) or Unoccupied (Unocc)

Current Fan Speed Setting

Operation Mode Status

Up Arrow
Raise Temperature Setpoint

Room Indoor Temperature

Room Indoor Humidity

Room Indoor CO^2

Down Arrow
Lower Temperature Setpoint

More
Provides end user with access to less often used functions.

On/Off
Turn the display on or off

Fan Speed
Set fan to Slow, Low, Low-Med, Medium, Med-High, High, Power, Auto. (Available options depend on IDU model.)

Note: Long-press of the Fan Speed button when in cooling mode triggers Power Cooling mode. If in Power Cooling mode, segments surrounding fan icon turn purple and the text changes from “Fan” to “Power Cool.” This mode lasts for 30 minutes with a setpoint of 64°F and then reverts back to the previous fan speed and setpoint.

Operation Mode
Set Cool, Heat, Auto Cool, Auto Heat, Fan, Dry modes

Note: Pressing and holding the Operation Mode icon takes the user to the Operation Mode page.

Schedule
Set weekly schedule

Short Network Message

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MultiSITE Remote Controller BACnet® MONITOR Points			
√	**BACnet Object Name**	**Object Type**	**Description**
	ZB_Zone1Temperature_M	AI	Zigbee Zone1 Temperature
	ZB_Zone2Temperature_M	AI	Zigbee Zone2 Temperature
	ZB_Zone3Temperature_M	AI	Zigbee Zone3 Temperature
	ZB_Zone4Temperature_M	AI	Zigbee Zone4 Temperature
	ZB_Zone5Temperature_M	AI	Zigbee Zone5 Temperature
	ZB_Zone6Temperature_M	AI	Zigbee Zone6 Temperature
	ZB_Zone7Temperature_M	AI	Zigbee Zone7 Temperature
	ZB_Zone8Temperature_M	AI	Zigbee Zone8 Temperature
	ZB_Zone9Temperature_M	AI	Zigbee Zone9 Temperature
	ZB_Zone10Temperature_M	AI	Zigbee Zone10 Temperature
	Wi-Fi Network Signal Strength	AI	Wi-Fi Module Signal Strength
	Wi-Fi Module Boot Count	AI	Incremental Boot Count Of Wi-Fi Module
	ZB_Zone11Temperature_M	AI	Zigbee Zone11 Temperature
	ZB_Zone12Temperature_M	AI	Zigbee Zone12 Temperature
	ZB_Zone13Temperature_M	AI	Zigbee Zone13 Temperature
	ZB_Zone14Temperature_M	AI	Zigbee Zone14 Temperature
	ZB_Zone15Temperature_M	AI	Zigbee Zone15 Temperature
	ZB_Zone16Temperature_M	AI	Zigbee Zone16 Temperature
	ZB_Zone17Temperature_M	AI	Zigbee Zone17 Temperature
	ZB_Zone18Temperature_M	AI	Zigbee Zone18 Temperature
	ZB_Zone19Temperature_M	AI	Zigbee Zone19 Temperature
	ZB_Zone20Temperature_M	AI	Zigbee Zone20 Temperature
	ZB_Zone1Humidity_M	AI	Zigbee Zone1 Humidity (%)
	ZB_Zone2Humidity_M	AI	Zigbee Zone2 Humidity (%)
	ZB_Zone3Humidity_M	AI	Zigbee Zone3 Humidity (%)
	ZB_Zone4Humidity_M	AI	Zigbee Zone4 Humidity (%)
	ZB_Zone5Humidity_M	AI	Zigbee Zone5 Humidity (%)
	ZB_Zone6Humidity_M	AI	Zigbee Zone6 Humidity (%)
	ZB_Zone7Humidity_M	AI	Zigbee Zone7 Humidity (%)
	ZB_Zone8Humidity_M	AI	Zigbee Zone8 Humidity (%)
	ZB_Zone9Humidity_M	AI	Zigbee Zone9 Humidity (%)
	ZB_Zone10Humidity_M	AI	Zigbee Zone10 Humidity (%)
	ZB_Zone11Humidity_M	AI	Zigbee Zone11 Humidity (%)
	ZB_Zone12Humidity_M	AI	Zigbee Zone12 Humidity (%)
	ZB_Zone13Humidity_M	AI	Zigbee Zone13 Humidity (%)

Notes:
Available functions/features may differ based on the connected system.

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MultiSITE Remote Controller BACnet® MONITOR Points			
√	**BACnet Object Name**	**Object Type**	**Description**
	ZB_Zone14Humidity_M	AI	Zigbee Zone14 Humidity (%)
	ZB_Zone15Humidity_M	AI	Zigbee Zone15 Humidity (%)
	ZB_Zone16Humidity_M	AI	Zigbee Zone16 Humidity (%)
	ZB_Zone17Humidity_M	AI	Zigbee Zone17 Humidity (%)
	ZB_Zone18Humidity_M	AI	Zigbee Zone18 Humidity (%)
	ZB_Zone19Humidity_M	AI	Zigbee Zone19 Humidity (%)
	ZB_Zone20Humidity_M	AI	Zigbee Zone20 Humidity (%)
	ZB_Zone1CO2_M	AI	Zigbee Zone1 CO2 (PPM)
	ZB_Zone2CO2_M	AI	Zigbee Zone2 CO2 (PPM)
	ZB_Zone3CO2_M	AI	Zigbee Zone3 CO2 (PPM)
	ZB_Zone4CO2_M	AI	Zigbee Zone4 CO2 (PPM)
	ZB_Zone5CO2_M	AI	Zigbee Zone5 CO2 (PPM)
	ZB_Zone6CO2_M	AI	Zigbee Zone6 CO2 (PPM)
	ZB_Zone7CO2_M	AI	Zigbee Zone7 CO2 (PPM)
	ZB_Zone8CO2_M	AI	Zigbee Zone8 CO2 (PPM)
	ZB_Zone9CO2_M	AI	Zigbee Zone9 CO2 (PPM)
	ZB_Zone10CO2_M	AI	Zigbee Zone10 CO2 (PPM)
	ZB_Zone11CO2_M	AI	Zigbee Zone11 CO2 (PPM)
	ZB_Zone12CO2_M	AI	Zigbee Zone12 CO2 (PPM)
	ZB_Zone13CO2_M	AI	Zigbee Zone13 CO2 (PPM)
	ZB_Zone14CO2_M	AI	Zigbee Zone14 CO2 (PPM)
	ZB_Zone15CO2_M	AI	Zigbee Zone15 CO2 (PPM)
	ZB_Zone16CO2_M	AI	Zigbee Zone16 CO2 (PPM)
	ZB_Zone17CO2_M	AI	Zigbee Zone17 CO2 (PPM)
	ZB_Zone18CO2_M	AI	Zigbee Zone18 CO2 (PPM)
	ZB_Zone19CO2_M	AI	Zigbee Zone19 CO2 (PPM)
	ZB_Zone20CO2_M	AI	Zigbee Zone20 CO2 (PPM)
	FilterRemainTime_M	AI	Filter Time Remaining (Hours)
	CurrentErrorCode_M	AI	Current Error Code
	PipeInTemp_M	AI	Pipe In Temperature
	PipeOutTemp_M	AI	Pipe Out Temperature
	MiddlePipeTemp_M	AI	Middle Pipe Temperature
	ODUgivenAddrs_M	AI	Assigned Address By Outdoor Unit
	Effective Cool Setpoint	AI	Effective Dual Setpoint Cooling Setpoint When ADR Is Active

Notes:

Available functions/features may differ based on the connected system.

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MultiSITE Remote Controller BACnet® MONITOR Points			
√	BACnet Object Name	Object Type	Description
	Effective Heat Setpoint	AI	Effective Dual Setpoint Heating Setpoint When ADR Is Active
	Effective Single Setpoint	AI	Effective Single Setpoint Setpoint When ADR Is Active
	Effective Single Deadband	AI	Effective Single Setpoint Deadband When ADR Is Active
	PreviousErrorCode_M	AV	2nd Chronological Error Code
	ErrorCode3_M	AV	3rd Chronological Error Code
	ErrorCode4_M	AV	4th Chronological Error Code
	ErrorCode5_M	AV	5th Chronological Error Code
	ErrorCode6_M	AV	6th Chronological Error Code
	ErrorCode7_M	AV	7th Chronological Error Code
	ErrorCode8_M	AV	8th Chronological Error Code
	ErrorCode9_M	AV	9th Chronological Error Code
	ErrorCode10_M	AV	10th Chronological Error Code
	OldestErrorCode_M	AV	11th Chronological Error Code
	ZB_LowBattAlarm	BV	Global Zigbee Battery Sensor Alarm
	ADR Active	BV	Effective ADR Status
	FilterAlarm_M	BV	Filter Alarm Status
	MsgAddressLock_M	BV	Central Control Address Lock Status
	MsgOverrideActive	BV	Override Status
	ZB_Snsr_Wn_Interlock_M	BV	Zigbee Window Contact Interlock Status
	Wi-Fi Device Name	CSV	Wi-Fi Device Name
	Wi-Fi Firmware Version	CSV	Wi-Fi Module Firmware Version
	MAC Address	CSV	Wi-Fi Module MAC Address
	Wi-Fi Network SSID	CSV	Wi-Fi Network SSID
	Wi-Fi Network IP Address	CSV	Wi-Fi Network IP Address
	Zigbee Firmware Revision	CSV	Zigbee Firmware Version
	Zigbee IEEE Address	CSV	Zigbee MAC Address
	ZB_Zone1Address_M	CSV	Zigbee Zone1 Address
	ZB_Zone2Address_M	CSV	Zigbee Zone2 Address
	ZB_Zone3Address_M	CSV	Zigbee Zone3 Address
	ZB_Zone4Address_M	CSV	Zigbee Zone4 Address
	ZB_Zone5Address_M	CSV	Zigbee Zone5 Address
	ZB_Zone6Address_M	CSV	Zigbee Zone6 Address

Notes:
Available functions/features may differ based on the connected system.

MultiSITE Remote Controller BACnet® MONITOR Points			
√	BACnet Object Name	Object Type	Description
	ZB_Zone7Address_M	CSV	Zigbee Zone7 Address
	ZB_Zone8Address_M	CSV	Zigbee Zone8 Address
	ZB_Zone9Address_M	CSV	Zigbee Zone9 Address
	ZB_Zone10Address_M	CSV	Zigbee Zone10 Address
	ZB_Zone11Address_M	CSV	Zigbee Zone11 Address
	ZB_Zone12Address_M	CSV	Zigbee Zone12 Address
	ZB_Zone13Address_M	CSV	Zigbee Zone13 Address
	ZB_Zone14Address_M	CSV	Zigbee Zone14 Address
	ZB_Zone15Address_M	CSV	Zigbee Zone15 Address
	ZB_Zone16Address_M	CSV	Zigbee Zone16 Address
	ZB_Zone17Address_M	CSV	Zigbee Zone17 Address
	ZB_Zone18Address_M	CSV	Zigbee Zone18 Address
	ZB_Zone19Address_M	CSV	Zigbee Zone19 Address
	ZB_Zone20Address_M	CSV	Zigbee Zone20 Address
	ZB_Zone1Status_M	MSI	Zigbee Zone1 Status
	ZB_Zone1BattStatus_M	MSI	Zigbee Zone1 Battery Status
	ZB_Zone1PairingStatus_M	MSI	Zigbee Zone1 Pairing Status
	ZB_Zone2Status_M	MSI	Zigbee Zone2 Status
	ZB_Zone2BattStatus_M	MSI	Zigbee Zone2 Battery Status
	ZB_Zone2PairingStatus_M	MSI	Zigbee Zone2 Pairing Status
	ZB_Zone3Status_M	MSI	Zigbee Zone3 Status
	ZB_Zone3BattStatus_M	MSI	Zigbee Zone3 Battery Status
	ZB_Zone3PairingStatus_M	MSI	Zigbee Zone3 Pairing Status
	ZB_Zone4Status_M	MSI	Zigbee Zone4 Status
	ZB_Zone4BattStatus_M	MSI	Zigbee Zone4 Battery Status
	ZB_Zone4PairingStatus_M	MSI	Zigbee Zone4 Pairing Status
	ZB_Zone5Status_M	MSI	Zigbee Zone5 Status
	ZB_Zone5BattStatus_M	MSI	Zigbee Zone5 Battery Status
	ZB_Zone5PairingStatus_M	MSI	Zigbee Zone5 Pairing Status
	ZB_Zone6Status_M	MSI	Zigbee Zone6 Status
	ZB_Zone6BattStatus_M	MSI	Zigbee Zone6 Battery Status
	ZB_Zone6PairingStatus_M	MSI	Zigbee Zone6 Pairing Status
	ZB_Zone7Status_M	MSI	Zigbee Zone7 Status
	ZB_Zone7BattStatus_M	MSI	Zigbee Zone7 Battery Status

Notes:
Available functions/features may differ based on the connected system.

MultiSITE Remote Controller BACnet® MONITOR Points			
√	BACnet Object Name	Object Type	Description
	ZB_Zone7PairingStatus_M	MSI	Zigbee Zone7 Pairing Status
	ZB_Zone8Status_M	MSI	Zigbee Zone8 Status
	ZB_Zone8BattStatus_M	MSI	Zigbee Zone8 Battery Status
	ZB_Zone8PairingStatus_M	MSI	Zigbee Zone8 Pairing Status
	ZB_Zone9Status_M	MSI	Zigbee Zone9 Status
	ZB_Zone9BattStatus_M	MSI	Zigbee Zone9 Battery Status
	ZB_Zone9PairingStatus_M	MSI	Zigbee Zone9 Pairing Status
	ZB_Zone10Status_M	MSI	Zigbee Zone10 Status
	ZB_Zone10BattStatus_M	MSI	Zigbee Zone10 Battery Status
	ZB_Zone10PairingStatus_M	MSI	Zigbee Zone10 Pairing Status
	ZB_Zone11Status_M	MSI	Zigbee Zone11 Status
	ZB_Zone11BattStatus_M	MSI	Zigbee Zone11 Battery Status
	ZB_Zone11PairingStatus_M	MSI	Zigbee Zone11 Pairing Status
	Wi-Fi Module Status	MSI	Wi-Fi Module Status
	Wi-Fi Status	MSI	Wi-Fi Network Status
	BACnet IP Status	MSI	BACnet IP Network Status
	SMTP Server Status	MSI	Status Of SMTP Server Used For Email Notifications
	ZB_Zone12Status_M	MSI	Zigbee Zone12 Status
	ZB_Zone12BattStatus_M	MSI	Zigbee Zone12 Battery Status
	ZB_Zone12PairingStatus_M	MSI	Zigbee Zone12 Pairing Status
	ZB_Zone13Status_M	MSI	Zigbee Zone13 Status
	ZB_Zone13BattStatus_M	MSI	Zigbee Zone13 Battery Status
	ZB_Zone13PairingStatus_M	MSI	Zigbee Zone13 Pairing Status
	ZB_Zone14Status_M	MSI	Zigbee Zone14 Status
	ZB_Zone14BattStatus_M	MSI	Zigbee Zone14 Battery Status
	ZB_Zone14PairingStatus_M	MSI	Zigbee Zone14 Pairing Status
	ZB_Zone15Status_M	MSI	Zigbee Zone15 Status
	ZB_Zone15BattStatus_M	MSI	Zigbee Zone15 Battery Status
	ZB_Zone15PairingStatus_M	MSI	Zigbee Zone15 Pairing Status
	ZB_Zone16Status_M	MSI	Zigbee Zone16 Status
	ZB_Zone16BattStatus_M	MSI	Zigbee Zone16 Battery Status
	ZB_Zone16PairingStatus_M	MSI	Zigbee Zone16 Pairing Status
	ZB_Zone17Status_M	MSI	Zigbee Zone17 Status

Notes:
Available functions/features may differ based on the connected system.

MultiSITE Remote Controller BACnet® MONITOR Points			
√	**BACnet Object Name**	**Object Type**	**Description**
	ZB_Zone17BattStatus_M	MSI	Zigbee Zone17 Battery Status
	ZB_Zone17PairingStatus_M	MSI	Zigbee Zone17 Pairing Status
	ZB_Zone18Status_M	MSI	Zigbee Zone18 Status
	ZB_Zone18BattStatus_M	MSI	Zigbee Zone18 Battery Status
	ZB_Zone18PairingStatus_M	MSI	Zigbee Zone18 Pairing Status
	ZB_Zone19Status_M	MSI	Zigbee Zone19 Status
	ZB_Zone19BattStatus_M	MSI	Zigbee Zone19 Battery Status
	ZB_Zone19PairingStatus_M	MSI	Zigbee Zone19 Pairing Status
	ZB_Zone20Status_M	MSI	Zigbee Zone20 Status
	ZB_Zone20BattStatus_M	MSI	Zigbee Zone20 Battery Status
	ZB_Zone20PairingStatus_M	MSI	Zigbee Zone20 Pairing Status
	PipeTempCnfg_M	MSI	Pipe Temperature Configuration Status (Supported or Unsupported)
	ODUsilentMode_M	MSI	ODU Silent Mode Status
	SmartLoadCtrl_M	MSI	Smart Load Control Status
	OccStatus_M	MSI	Occupancy Status
	ODUstatus_M	MSI	Outdoor Unit Status
	ODUType_M	MSI	Outdoor Unit Type
	IDUType_M	MSI	Indoor Unit Type
	AirQuality_M	MSI	Air Quality Status

Notes:
Available functions/features may differ based on the connected system.

MultiSITE Remote Controller BACnet® CONTROL Points			
√	**BACnet Object Name**	**Object Type**	**Description**
	DisplayLowBacklight	AV	Display Brightness Setting For Low Backlight Conditions
	RoomTempCalibration	AV	Room Temperature Sensor Calibration Offset
	Calibrate Humidity Sensor	AV	Humidity Sensor Calibration Offset
	BACnetComAddr	AV	BACnet Communications Address
	BACnetStackPollRate	AV	BACnet Stack Poll Rate
	LuaParameterA (AV25)	AV	Lua ParamaterA
	LuaParameterB (AV26)	AV	Lua ParamaterB
	LuaParameterC (AV27)	AV	Lua ParameterC
	LuaParameterD (AV28)	AV	Lua ParameterD
	LuaParameterE (AV29)	AV	Lua ParameterE
	LuaParameterF (AV30)	AV	Lua ParameterF
	HeatingSP	AV	Heating SP Setting (Dual SP)
	CoolingSP	AV	Cooling SP Setting (Dual SP)
	ConfigPassword	AV	Configuration Password (Password protects Installer Settings)
	UserPassword	AV	User Password (Password protects all settings)
	DualSPdeadband	AV	Minimum Deadband Setting (Dual SP)
	RoomTemp	AV	Room Temperature
	RoomHumidity	AV	Room Humidity
	ADR Offset	AV	ADR Setpoint Offset Value
	LuaParameterG (AV225)	AV	Lua ParameterG
	LuaParameterH (AV226)	AV	Lua ParameterH
	LuaParameterI (AV227)	AV	Lua ParameterI
	LuaParameterJ (AV228)	AV	Lua ParameterJ
	LuaParameterK (AV229)	AV	Lua ParameterK
	LuaParameterL (AV230)	AV	Lua ParameterL
	SingleSP	AV	Setpoint Setting (Single SP)
	SingleSetpointMax	AV	Single Setpoint Maximum Setting
	SingleSetpointMin	AV	Single Setpoint Minimum Setting
	CoolingSPMax	AV	Dual Setpoint Cooling Maximum Setting
	CoolingSPMin	AV	Dual Setpoint Cooling Minimum Setting
	HeatingSPMax	AV	Dual Setpoint Heating Maximum Setting
	HeatingSPMin	AV	Dual Setpoint Heating Minimum Setting

Notes:
Available functions/features may differ based on the connected system.

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MultiSITE Remote Controller BACnet® CONTROL Points			
√	**BACnet Object Name**	**Object Type**	**Description**
	OverrideCoolingSP	AV	Cooling Override Setpoint Setting
	OverrideHeatingSP	AV	Heating Override Setpoint Setting
	SetbackCoolingSP	AV	Cooling Setback Setpoint Setting
	SetbackHeatingSP	AV	Heating Setback Setpoint Setting
	SingleSPdeadband	AV	Single Setpoint Deadband
	ForceHighBacklight	BV	Force Backlight
	DisplayLongScreenMsg	BV	Show Text Of MsgLongScreenMsgTxt On Main Screen
	PIR Local Motion	BV	Logical OR'd Instantaneous Status of All Motion Sensors
	Utility Signal	BV	ADR Request Signal From Utility
	FilterAlarmRelease	BV	Filter Alarm Reset
	MsgSetbackActive	BV	Setback Status
	TestModeOccupancy	BV	Reserved/Do Not Use
	MsgShortScreenMsgTxt	CSV	Location Message (Displays message at bottom of screen)
	MsgLongScreenMsgTxt	CSV	Description Message (Displays message on main screen)
	ZB_NetworkStatus_M	MSI	Zigbee Network Status
	ZB_Zone1SensorType_M	MSI	Zigbee Zone1 Sensor Type
	ZB_Zone2SensorType_M	MSI	Zigbee Zone2 Sensor Type
	ZB_Zone3SensorType_M	MSI	Zigbee Zone3 Sensor Type
	ZB_Zone4SensorType_M	MSI	Zigbee Zone4 Sensor Type
	ZB_Zone5SensorType_M	MSI	Zigbee Zone5 Sensor Type
	ZB_Zone6SensorType_M	MSI	Zigbee Zone6 Sensor Type
	ZB_Zone7SensorType_M	MSI	Zigbee Zone7 Sensor Type
	ZB_Zone8SensorType_M	MSI	Zigbee Zone8 Sensor Type
	ZB_Zone9SensorType_M	MSI	Zigbee Zone8 Sensor Type
	ZB_Zone10SensorType_M	MSI	Zigbee Zone10 Sensor Type
	ZB_Zone11SensorType_M	MSI	Zigbee Zone11 Sensor Type
	ZB_Zone12SensorType_M	MSI	Zigbee Zone12 Sensor Type
	ZB_Zone13SensorType_M	MSI	Zigbee Zone13 Sensor Type
	ZB_Zone14SensorType_M	MSI	Zigbee Zone14 Sensor Type
	ZB_Zone15SensorType_M	MSI	Zigbee Zone15 Sensor Type
	ZB_Zone16SensorType_M	MSI	Zigbee Zone16 Sensor Type

Notes:
Available functions/features may differ based on the connected system.

MultiSITE Remote Controller BACnet® CONTROL Points			
√	BACnet Object Name	Object Type	Description
	ZB_Zone17SensorType_M	MSI	Zigbee Zone17 Sensor Type
	ZB_Zone18SensorType_M	MSI	Zigbee Zone18 Sensor Type
	ZB_Zone19SensorType_M	MSI	Zigbee Zone19 Sensor Type
	ZB_Zone20SensorType_M	MSI	Zigbee Zone20 Sensor Type
	DisplayColor	MV	Display Background Color Setting
	DisplayLanguage	MV	Display Language Setting
	DisplayTimeFormat	MV	Time Format Setting
	BACnetNetworkUnits	MV	BACnet Network Units Setting
		MV	System Mode Setting
	FanSpeed	MV	Fan Speed Setting
	DisplayUseStandbyScreen	MV	Standby Screen Setting
	TempUnits	MV	Temperature Units Setting (°F or °C)
	Relative humidity sensor	MV	Humidity Sensor Input Selection
	CO2 source	MV	CO2 Sensor Input Selection
	ADR Enable	MV	ADR Enable/Disable
	ZB_Zone1SnsrType	MV	Zigbee Zone1 Sensor Type
	ZB_Zone2SnsrType	MV	Zigbee Zone2 Sensor Type
	ZB_Zone3SnsrType	MV	Zigbee Zone3 Sensor Type
	ZB_Zone4SnsrType	MV	Zigbee Zone4 Sensor Type
	ZB_Zone5SnsrType	MV	Zigbee Zone5 Sensor Type
	ZB_Zone6SnsrType	MV	Zigbee Zone6 Sensor Type
	ZB_Zone7SnsrType	MV	Zigbee Zone7 Sensor Type
	ZB_Zone8SnsrType	MV	Zigbee Zone8 Sensor Type
	ZB_Zone9SnsrType	MV	Zigbee Zone9 Sensor Type
	ZB_Zone10SnsrType	MV	Zigbee Zone10 Sensor Type
	ZB_Zone11SnsrType	MV	Zigbee Zone11 Sensor Type
	ZB_Zone12SnsrType	MV	Zigbee Zone12 Sensor Type
	ZB_Zone13SnsrType	MV	Zigbee Zone13 Sensor Type
	ZB_Zone14SnsrType	MV	Zigbee Zone14 Sensor Type
	ZB_Zone15SnsrType	MV	Zigbee Zone15 Sensor Type
	ZB_Zone16SnsrType	MV	Zigbee Zone16 Sensor Type
	ZB_Zone17SnsrType	MV	Zigbee Zone17 Sensor Type
	ZB_Zone18SnsrType	MV	Zigbee Zone18 Sensor Type
	ZB_Zone19SnsrType	MV	Zigbee Zone19 Sensor Type

Notes:
Available functions/features may differ based on the connected system.

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PO No.:

MultiSITE Remote Controller BACnet® CONTROL Points			
√	**BACnet Object Name**	**Object Type**	**Description**
	ZB_Zone20SnsrType	MV	Zigbee Zone20 Sensor Type
	DisplayShowOnOff	MV	Show or Hide On/Off Setting
	DisplayShowMode	MV	Show or Hide Mode Setting
	DisplayShowSchedule	MV	Show or Hide Schedule Setting
	DisplayShowMore	MV	Show or Hide More Setting
	DisplayShowSetTemp	MV	Show or Hide Set Temperature Setting
	DisplayShowSpaceTemp	MV	Show or Hide Space Temperature Value
	DisplayShowFanSpeed	MV	Show or Hide Fan Speed Setting
	DisplayShowHumidity	MV	Show or Hide Humidity Value
	DisplayShowAirQuality	MV	Show or Hide Air Quality (for unhealthy levels only)
	DisplayShowCO2	MV	Show or Hide CO2 Value
	TempSenseLoc	MV	Temperature Sensing Location Setting
	IDUonOff	MV	Indoor Unit On/Off Setting
	AirflowUpDown	MV	Airflow Up/Down Setting
	AirflowLeftRight	MV	Airflow Left/Right Setting
	AirflowCircular	MV	Airflow Circular Setting
	SingleDualSP	MV	Single or Dual Setpoint Setting
	OverrideMode	MV	Mode Override Setting
	OverrideFanSpeed	MV	Fan Speed Override Setting
	OverrideTimer	MV	Timer Override Setting
	SetbackMode	MV	Mode Setback Setting
	SetbackFanSpeed	MV	Fan Speed Setback Setting
	CntrlrOccSensor	MV	On-board Occupancy Sensor Enable/Disable (Only on models PREMTBVC3/PREMTBVC4)
	ControllerMinOccOnTime	MV	Minimum Occupancy Time Delay
	DisableSchedules	MV	Disable Local Schedules Setting
	ZB_Snsr_Wn_Delay	MV	Zigbee Window Contact Interlock Delay Setting
	ZB_Snsr_Win_Interlock	MV	Zigbee Window Contact Interlock Setting
	AirflowSmart	MV	Airflow Smart Setting
	AirflowRefresh	MV	Airflow Refresh Setting
	FloorTempSensing	MV	Enable Floor Temperature Sensing (Dual Vane 4-Way Cassette Only)
	HumanDetection	MV	Enable Human Detection (Dual Vane 4-Way Cassette Only)

Notes:

Available functions/features may differ based on the connected system.

PREMTBVC2
MultiSITE CRC2 Remote Controller

Tag #:
Date: 3/16/24
PO No.:

MultiSITE Remote Controller BACnet® CONTROL Points			
√	**BACnet Object Name**	**Object Type**	**Description**
	HumanSensingFreq	MV	Human Detection Sensing Frequency Adjustment (Dual Vane 4-Way Cassette Only)
	HumanSensitivity	MV	Human Detection Sensitivity Adjustment (Dual Vane 4-Way Cassette Only)
	DetectionArea	MV	Human Detection Area Adjustment (Dual Vane 4-Way Cassette Only)
	UnoccControl	MV	Human Detection Unoccupied Behavior (Dual Vane 4-Way Cassette Only)
	UnoccStepTime	MV	Human Detection Unoccupied Setpoint Step Timing (Dual Vane 4-Way Cassette Only)
	SetbackEnabled	MV	Enable/Disable Setback
	OverrideEnabled	MV	Enable/Disable Ovverride
	USB Logger	MV	Reserved/Do Not Use
	ADR Override	MV	Override Active ADR Event

Notes:
Available functions/features may differ based on the connected system.

PKA-A12LA1 & PUY-A12NKA7
12,000 BTU/H WALL MOUNT
12,000 BTU/H COOLING ONLY OUTDOOR

Job Name: Jefferson County Crime Lab
System Reference: CU-02/FCU-02 , CU-03/FCU-03 Date: 8/15/2024

Indoor Unit PKA-A12LA1

Outdoor Unit PUY-A12NKA7

INDOOR UNIT FEATURES

- Selectable high sensible vs high latent capacity mode
- UL 60335-2-40 compliant
- Sleek, compact design
- Simple installation
- Airflow direction control
- Auto fan mode
- Suitable for: server rooms, daycare centers, classrooms, churches, small offices, and more
- Multiple control options available:
  - kumo cloud® smart device app for remote access
  - Third-party interface options
  - Wired or wireless controllers

OUTDOOR UNIT FEATURES

- Variable speed INVERTER-driven compressor
- Pre-charged with refrigerant volume for piping length up to 70 ft
- Low ambient cooling down to -40°F providing 100% capacity (with wind baffles)
- 24-hour continuous operation (cooling mode)
- High pressure protection
- Fast restart
- Superior energy and operational efficiency
- Seacoast protection*
  - External Outer Panel: Phosphate coating + Acrylic-Enamel coating
  - Fan Motor Support: Epoxy resin coating (at edge face)
  - Separator Assembly Valve Bed: Epoxy resin coating (at edge face)
  - Blue Fin treatment is an anti-corrosion treatment that is applied to the Heat exchanger coil to protect it against airborne contaminants.
  - Heat exchanger coil and base panel rated for 2,000 hours in accordance with ASTM B117 testing

*Seacoast protection standard from 2022 production

SPECIFICATIONS: PKA-A12LA1 & PUY-A12NKA7

Cooling at 95°F[1]	Maximum Capacity	BTU/H	12,000
	Rated Capacity	BTU/H	12,000
	Minimum Capacity	BTU/H	4,400
	Maximum Power Input	W	900
	Rated Power Input	W	900
	Moisture Removal	Pints/h	2.7
	Sensible Heat Factor		0.88
	Power Factor [208V / 230V]	%	92.5 / 92.5
Efficiency	SEER2		21.3
	EER2[1]		13.3
	HSPF2 [IV]		—
	ENERGY STAR® Certified		Yes
Electrical	Voltage, Phase, Frequency		208/230, 1, 60
	Guaranteed Voltage Range	V AC	198 - 253
	Voltage: Indoor - Outdoor, S1-S2	V AC	208/230
	Voltage: Indoor - Outdoor, S2-S3	V DC	24
	Short-circuit Current Rating [SCCR]	kA	5
	Recommended Fuse/Breaker Size (Oudoor)	A	15
	Recommended Wire Size [Indoor - Outdoor]	AWG	14
	Power Supply		Indoor unit is powered by the outdoor unit
Indoor Unit	MCA	A	1.0
	Fan Motor Full Load Amperage	A	0.19
	Fan Motor Output	W	30
	Fan Motor Type		DC Motor
	Airflow Rate at Cooling, Dry	CFM	265–290–325–385
	Airflow Rate at Cooling, Wet	CFM	215–255–320–375
	Airflow Rate at Heating, Dry	CFM	265–290–325–385
	Sound Pressure Level [Cooling]	dB[A]	34–39–44–48
	Sound Pressure Level [Heating]	dB[A]	34–37–40–43
	Drain Pipe Size	In. [mm]	5/8 [16]
	Coating on Heat Exchanger		—
	External Finish Color		White Munsell 0.7PB 9.2/0.4
	Unit Dimensions	W x D x H: In. [mm]	35-23/64 x 9-11/32 x 11-25/32 [898 x 237 x 299]
	Package Dimensions	W x D x H: In. [mm]	38-3/16 x 13-25/64 x 14-11/64 [970 x 340 x 360]
	Unit Weight	Lbs. [kg]	28 [12.7]
	Package Weight	Lbs. [kg]	32 [14.4]
Indoor Unit Operating Temperature Range	Cooling Intake Air Temp [Maximum / Minimum]*	°F	90 DB, 73 WB / 66 DB, 59 WB
Outdoor Unit	MCA	A	11.0
	MOCP	A	28
	Fan Motor Full Load Amperage	A	0.5
	Fan Motor Output	W	46
	Airflow Rate [Cooling / Heating]	CFM	1590
	Refrigerant Control		LEV
	Defrost Method		Reverse Cycle
	Coating on Heat Exchanger		Blue Fin Coating***
	Sound Pressure Level, Cooling[1]	dB(A)	44
	Compressor Type		INVERTER-driven twin rotary
	Compressor Model		SNB092FQCMC
	Compressor Rated Load Amps	A	7
	Compressor Locked Rotor Amps	A	12.0
	Compressor Oil [Type // Charge]	oz.	FV50S // 12
	External Finish Color		Ivory Munsell 3Y 7.8/1.1
	Base Pan Heater		N/A
	Unit Dimensions	W x D x H: In. [mm]	31-13/16 (+2-7/16) x 11-13/16 x 24-13/16 [809 (+62) x 300 x 630]
	Package Dimensions	W x D x H: In. [mm]	37-1/16 x 16-3/16 x 27-7/16 [941 x 411 x 697]
	Unit Weight	Lbs. [kg]	92 [41]
	Package Weight	Lbs. [kg]	103 [46]
Outdoor Unit Operating Temperature Range	Cooling Air Temp [Maximum / Minimum]*	°F	115 DB / -40 DB

NOTES:
AHRI Rated Conditions [1]Cooling (Indoor // Outdoor) °F 80 DB, 67 WB // 95 DB, 75 WB

Select high sensible versus high latent capacity mode via function setting mode 08, “Fan speed” (accessible through Touch MA, Deluxe MA, kumo touch and kumo cloud app control options):
- ”High ceiling” mode = high sensible capacity
  - » Mode 08, setting 3 (factory default)
- ”Standard” mode = high latent capacity
  - » Mode 08, setting 2

*Indoor/Outdoor Unit Operating Temperature Range (Cooling Air Temp [Maximum / Minimum]):
- Wind baffles required to operate below 23°F DB in cooling mode.
- Heat pump system with wind baffle: 0°F - 115°F.
- Refer to wind baffle documentation for further information.

**Outdoor Unit Operating Temperature Range (Cooling Thermal Lock-out / Re-start Temperatures; Heating Thermal Lock-out / Re-start Temperatures):
- System cuts out in heating mode to avoid thermistor error and automatically restarts at these temperatures.

***Blue Fin Coating Standard from 2022 production:
- PU(Y/Z)-A(12/18)NKA7 - Beginning with serial number 12U*****
- PU(Y/Z)-A(24/30/36/42)NKA7 - Beginning with serial number 1ZU*****

SPECIFICATIONS: PKA-A12LA1 & PUY-A12NKA7

Refrigerant	Type		R410A
	Pre-Charged Refrigerant Amount	Lbs, oz	4.0, 7.0
	Maximum Pre-Charged Piping Length	Ft. [m]	70.0 [21.0]
	Additional Refrigerant Charge Per Additional Piping Length	oz./Ft. [g/m]	.1 [1]
Piping	Gas Pipe Size O.D. [Flared]	In.[mm]	1/2 [12.7]
	Liquid Pipe Size O.D. [Flared]	In.[mm]	1/4 [6.35]
	Maximum Piping Length	Ft. [m]	165 [50]
	Maximum Height Difference	Ft. [m]	100 [30]
	Maximum Number of Bends		15

NOTES:
AHRI Rated Conditions [1]Cooling (Indoor // Outdoor) °F 80 DB, 67 WB // 95 DB, 75 WB

Select high sensible versus high latent capacity mode via function setting mode 08, “Fan speed” (accessible through Touch MA, Deluxe MA, kumo touch and kumo cloud app control options):
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  - » Mode 08, setting 2

*Indoor/Outdoor Unit Operating Temperature Range (Cooling Air Temp [Maximum / Minimum]):
- Wind baffles required to operate below 23°F DB in cooling mode.
- Heat pump system with wind baffle: 0°F - 115°F.
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- PU(Y/Z)-A(12/18)NKA7 - Beginning with serial number 12U*****
- PU(Y/Z)-A(24/30/36/42)NKA7 - Beginning with serial number 1ZU*****

INDOOR UNIT ACCESSORIES: PKA-A12LA1

Control Interface	3-Pin Connector	PAC-715AD
	IT Extender	PAC-WHS01IE-E
	kumo station® for kumo cloud®	PAC-WHS01HC-E
	Procon BACnet® and Modbus® Interface	PAC-UKPRC001-CN-1
	Thermostat Interface	PAC-US445CN-1
	USNAP Adapter	PAC-WHS01UP-E
	Wireless Interface for kumo cloud®	PAC-USWHS002-WF-2
Remote Sensor	Flush Mount Remote Temperature Sensor	PAC-USSEN002-FM-1
	Flush Mount Temperature Sensor	PAC-USSEN001-FM-1
	Remote Temperature Sensor	PAC-SE41TS-E
	Wireless temperature and humidity sensor for kumo cloud®	PAC-USWHS003-TH-1
Wired Remote Controller	Deluxe Wired MA Remote Controller†	PAR-40MAAU
	Simple Ductless Wired Remote Controller	PAC-SDW01RC-1
	Simple MA Remote Controller†	PAC-YT53CRAU-J
	Touch MA Controller†	PAR-CT01MAU-SB
Wireless Remote Controller	kumo touch™ RedLINK™ Wireless Controller	MHK2
	Lockdown bracket for remote controller	RCMKP1CB
	Wireless MA Remote Controller	PAR-FL32MA-E
Condensate	Blue Diamond (Advanced) Mini Condensate Pump w/ Reservoir & Sensor (208/230V) [recommended]	X87-721
	Blue Diamond (MicroBlue) Mini Condensate Pump (110/208/230V) up to 18,000 BTU/H	X86-003
	Blue Diamond Sensor Extension Cable — 15 Ft.	C13-103
	Drain Pan Level Sensor/Control	SS610E
	Fascia Kit for MicroBlue Pump, mounts the MicroBlue and sensor directly beneath indoor unit	T18-016
	Refco Condensate Pump (100-240 VAC)	GOBI-II
	Refco Condensate Pump (100-240 VAC) up to 120,000 BTU/H	COMBI
	Sauermann Condensate Pump	SI30-230
Disconnect Switch	(30A/600V/UL) [fits 2” X 4” utility box] - Black	TAZ-MS303
	(30A/600V/UL) [fits 2” X 4” utility box] - White	TAZ-MS303W
Lineset	100’ x 1/4” x 100’ / 1/2” Lineset (Twin-Tube Insulation)	MLS141212T-100
	15’ x 1/4” x 15’ / 1/2” Lineset (Twin-Tube Insulation)	MLS141212T-15
	30’ x 1/4” x 30’ / 1/2” Lineset (Twin-Tube Insulation)	MLS141212T-30
	50’ x 1/4” x 50’ / 1/2” Lineset (Twin-Tube Insulation)	MLS141212T-50
	65’ x 1/4” x 65’ / 1/2” Lineset (Twin-Tube Insulation)	MLS141212T-65
Mini-Split Wire	14 Gauge, 4 wire MiniSplit Cable—250 ft. roll	SW144-250
	14 Gauge, 4 wire MiniSplit Cable—50 ft. roll	SW144-50
	16 Gauge, 4 wire MiniSplit Cable—250 ft. roll	SW164-250
	16 Gauge, 4 wire MiniSplit Cable—50 ft. roll	SW164-50

OUTDOOR UNIT ACCESSORIES: PUY-A12NKA7

Air Outlet Guide	Air Outlet Guide	PAC-SJ07SG-E
Centralized Drain Pan	Centralized Drain Pan	PAC-SG63DP-E
	Drain Pan	PAC-SG64DP-E
Control/Service Tool	Control/Service Tool	PAC-SK52ST
	M- & P-Series Maintenance Tool Cable Set	M21EC0397
	USB/UART Conversion Cable (Required for all laptop connection)	M21EC1397
Drain Socket	Drain Socket	MAC-871DS
Hail Guards	Hail Guard	HG-A5
M-NET Converter	M-NET Converter	PAC-SJ96MA-E
Mini-Split Wire	14 Gauge, 4 wire MiniSplit Cable—250 ft. roll	S144-250
	14 Gauge, 4 wire MiniSplit Cable—50 ft. roll	S144-50
	16 Gauge, 4 wire MiniSplit Cable—250 ft. roll	S164-250
	16 Gauge, 4 wire MiniSplit Cable—50 ft. roll	S164-50
Mounting Pad	Condensing Unit Mounting Pad: 16” x 36” x 3”	ULTRILITE1
Stand	18” Single Fan Stand	QSMS1801M
	24” Single Fan Stand	QSMS2401M
	Condenser Wall Bracket	QSWB2000M-1
	Condenser Wall Bracket - Stainless Steel Finish	QSWBSS
	Outdoor Unit Stand — 12” High	QSMS1201M
Wind Baffle	Front Wind Baffle	WB-PA4
	Rear Wind Baffle	WB-RE4
	Side Advanced Wind Baffle	WB-SD4

WB-PA4
Front Wind Baffle

MITSUBISHI ELECTRIC
HEATING & AIR CONDITIONING

Job Name:
System Reference: Date:

GENERAL FEATURES
- Front Wind Baffles allow outdoor units to operate at full capacity down to the temperature ranges shown in the table below.
- Prevents wind from reversing outdoor fan rotation when unenergized.
- Durable and low maintenance construction.

PLEASE NOTE
- Install outdoor units with the back surface facing wall side to eliminate the effects of external wind
- Outdoor units should not be installed in an orientation or site where the wind blows directly at the back of the unit
- Wind baffle should not be used where there is any obstacle at either side or above the outdoor unit as the discharged air will be blocked
- Refer to outdoor unit for detailed installation instructions

SPECIFICATIONS

Exterior			
Color	Surface Treatment	Material	Weight
Matches P-Series Outdoor Unit (Ivory Munsell 3Y 7.8/1.1)	Polyester Powder Coating	Alloy Hot-Dip Zinc Coated Carbon Steel Sheet	7 Lbs. 7.9 Oz.

APPLICATION
- The Wind Baffles are used to extend the cooling temperature operation range of the PUY, PUZ and MXZ models
- The information below outlines which wind baffles to utilize per required operation range
- Please refer to the installation manual of the appropriate outdoor unit for correct installation requirements

COOLING TEMPERATURE OPERATION RANGE WITH WIND BAFFLES

Model Series	Operation Range Without Wind Baffles	Front Wind Baffles	Front + Advanced Side + Advanced Rear Wind Baffles
PUZ-7	23ºF - 115ºF	0ºF	N/A
PUY-7	23ºF - 115ºF	0ºF	-40ºF
MXZ	23ºF - 115ºF	0ºF	N/A

**If unit is exposed without wall surfaces surrounding for protection from wind, then side and rear wind baffles will be required. Please refer to installation dimensions and outdoor unit installation manual for appropriate requirements.

COMPATIBILITY

Single Zone	WB-PA4 (Qty)
PUY-A12NKA7(-BS)	1
PUY-A18NKA7(-BS)	1
PUZ-A12NKA7(-BS)	1
PUZ-A18NKA7(-BS)	1

APPENDIX - PREVIOUS GENERATION COMPATIBILITY

Models	Front Wind Baffles				Advanced Side Wind Baffles			Advanced Rear Wind Baffles		
	WB-PA1	WB-PA2[1]	WB-PA3	WB-PA5	WB-SD1	WB-SD2[2]	WB-SD3	WB-RE1	WB-RE2[3]	WB-RE3
PUY/Z-A-A12NHA4	1									
PUY/Z-A-A18NHA4	1									
PUY/Z-A-A24NHA4		1								
PUY/Z-A-A30NHA4		1								
PUY/Z-A-A36NHA4		1								
PUY/Z-A-A42NHA4		2								
PUY/Z-A-A42NHA5		2								
PUZ-HA30NHA4		2								
PUZ-HA36NHA4		2								
PUMY-P36NHMU				2						
PUMY-P36NKMU1			2							
PUMY-P48NHMU				2						
PUMY-P48NKMU1			2							
PUMY-P60NKMU/1			2							
PUY/Z-A12NHA6	1				1			1		
PUY/Z-A18NHA6	1				1			1		
PUY/Z-A24NHA6		1				1			1	
PUY/Z-A30NHA6		1				1			1	
PUY/Z-A36NHA6		1				1			1	
PUY/Z-A42NHA6		2					1			1

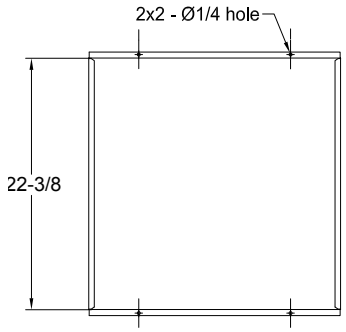
[1] WB-PA2 is replaced by WB-PA5
[2] WB-SD2 is replaced by WB-SD5
[3] WB-RE2 is replaced by WB-RE5

COOLING TEMPERATURE OPERATION RANGE WITH WIND BAFFLES

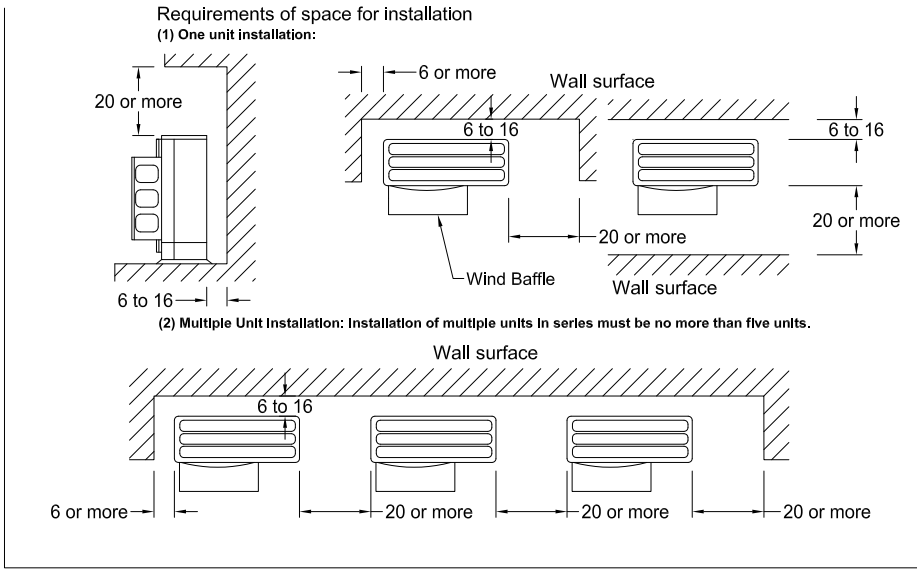
Model Series	Operation Range Without Wind Baffles	Front Wind Baffles	Front + Advanced Side + Advanced Rear Wind Baffles
PUZ-4	23ºF - 115ºF	0ºF	N/A
PUY-4	23ºF - 115ºF	0ºF	N/A
PUZ-5	23ºF - 115ºF	0ºF	N/A
PUY-5	23ºF - 115ºF	0ºF	N/A
PUZ-6	23ºF - 115ºF	0ºF	N/A
PUY-6*	23ºF - 115ºF	0ºF	-20ºF
PUMY**	23ºF - 115ºF	5ºF	N/A

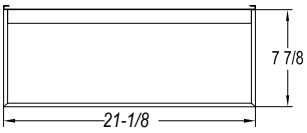
*PUY-A42NHA6 units do not have the extended cooling range below 0° F
**Operation range varies based on indoor unit connected, refer to service manual for applicable indoor units

DIMENSIONS: WB-PA4

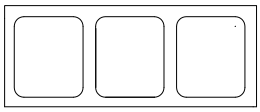


Back View





Side View



Top View

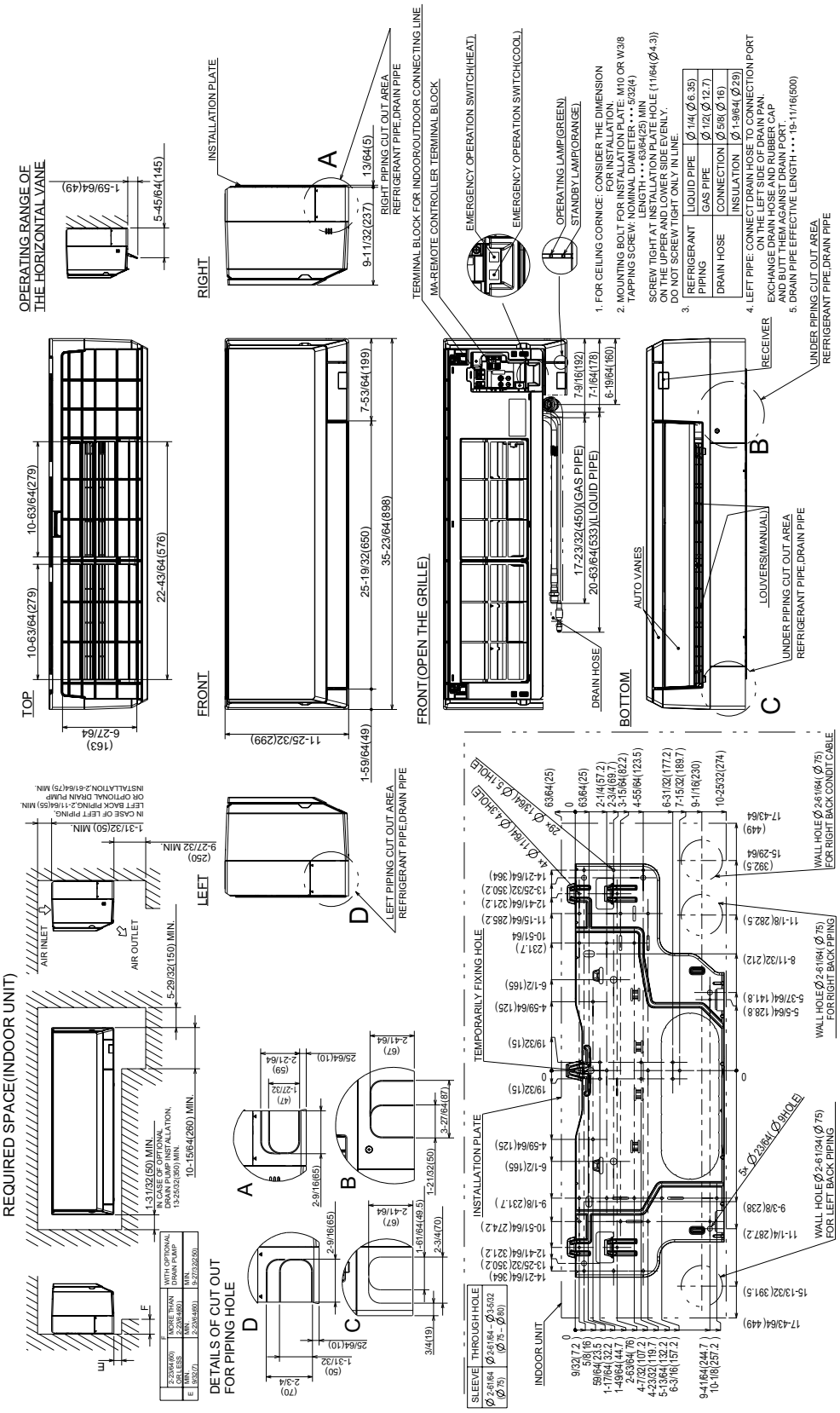
ALL DIMENSIONS IN INCHES
ALL DIMENSIONS ±1/32"

1340 Satellite Boulevard Suwanee, GA 30024
Toll Free: 800-433-4822 www.mehvac.com

FORM# WB-PA4 - 202208

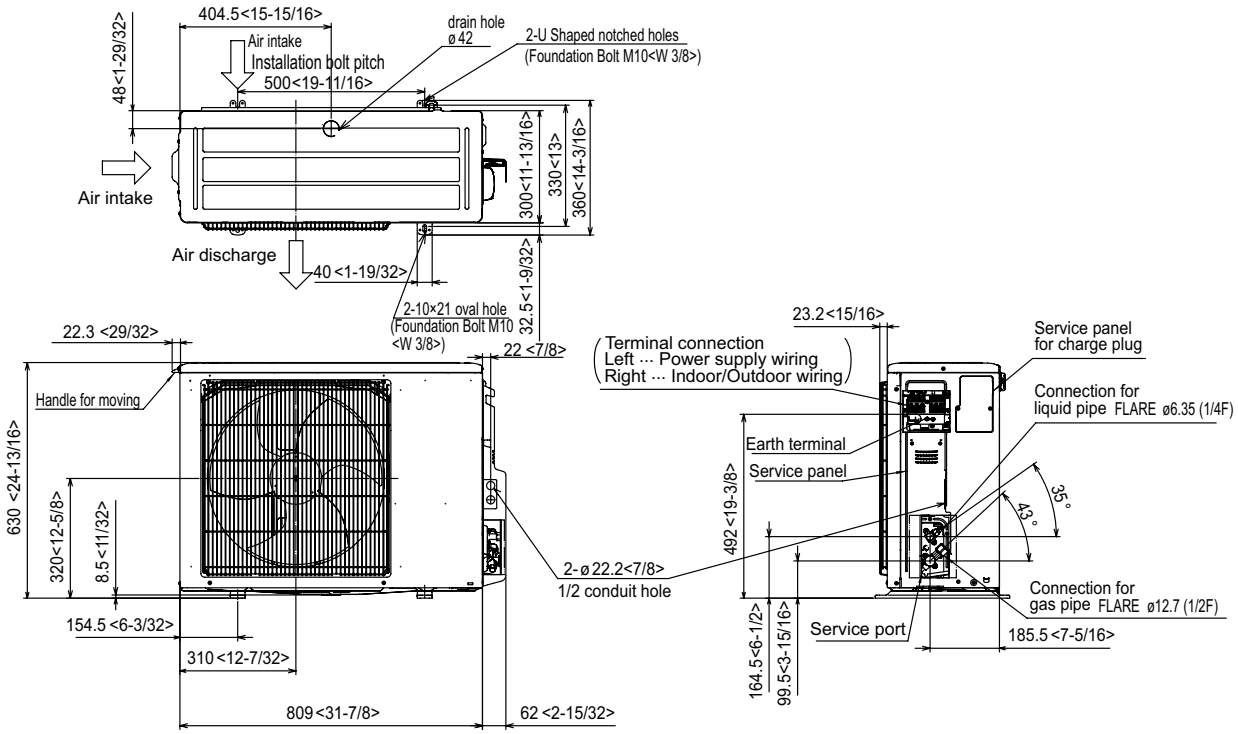
INDOOR UNIT DIMENSIONS: PKA-A12LA1

Unit: inch (mm)

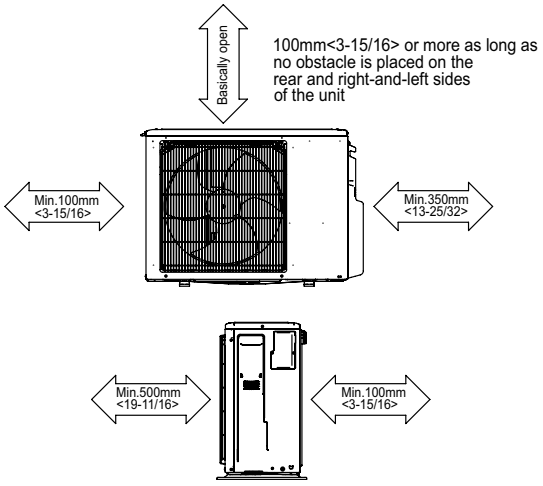


OUTDOOR UNIT DIMENSIONS: PUY-A12NKA7

Unit: mm<in>



Free space around the outdoor unit (basic example)

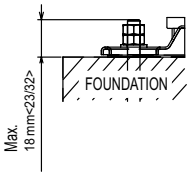


2 sides should be open in the right, left and rear side.

FOUNDATION BOLTS

Please secure the unit firmly with 4 foundation (M10<W3/8>) bolts. (Bolts, washers and nut must be purchased locally).

<Foundation bolt height>



PIPING-WIRING DIRECTION

Piping and wiring connection can be made from the rear direction only.

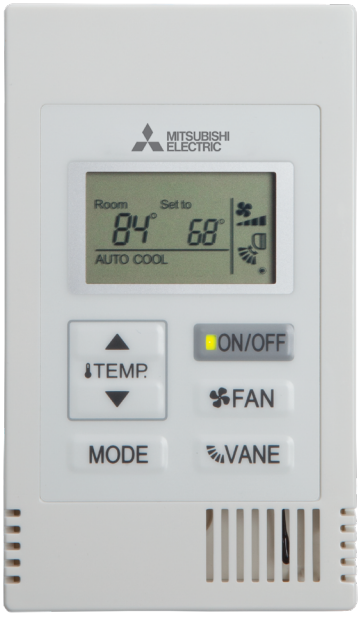
1340 Satellite Boulevard Suwanee, GA 30024
Toll Free: 800-433-4822 www.mehvac.com

FORM# PKA-A12LA1 & PUY-A12NKA7 - 202310

MODEL: PAC-YT53CRAU-J

Job Name:

System Reference: Date:

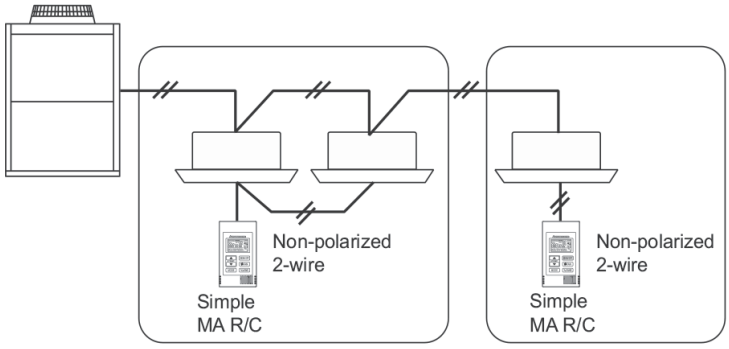


SIMPLE MA REMOTE CONTROLLER (PAC-YT53CRAU-J) SPECIFICATIONS

- Controls group operation for up to 16 indoor units in a single group
- Supports both Fahrenheit and Celsius
- User defined functions:
  - ON/OFF
  - Operation mode: AUTO (R2-Series only), COOL, HEAT, FAN, DRY, SETBACK, or ADD
  - Set temperature
  - Fan speed setting
  - Air flow direction
  - Set temperature range: depending on operation mode and indoor unit connected.
- Set temperature range limit: Simple MA allowable set temperature range can be reduced for cool and heat modes.
- LOSSNAY®: Simple MA for interlocked system can set high/low/Stop on LOSSNAY.
- Room temperature can be sensed either at the indoor unit (default) or at the remote controller.
- Diagnostics: Displays four-digit error code and error unit address.
- Grouping: Same group use only with other PAC-YT53CRAU-J Simple MA Controllers with up to two remote controllers per group.
- Addressing: No addressing required.
- Wiring: Uses two-wire, stranded, non-polar control wire for connecting TB15 connection terminal on the indoor unit.
- Requires crossover wiring for grouping across indoor units.
- Dimensions: 2-3/4 x 9/16 x 4-3/4" (70 x 14.5 x 120mm).

NOTE: A MAC-334IF-E may be needed in order to connect to the indoor unit. Please see the compatibility charts for more information.

SAMPLE SYSTEM

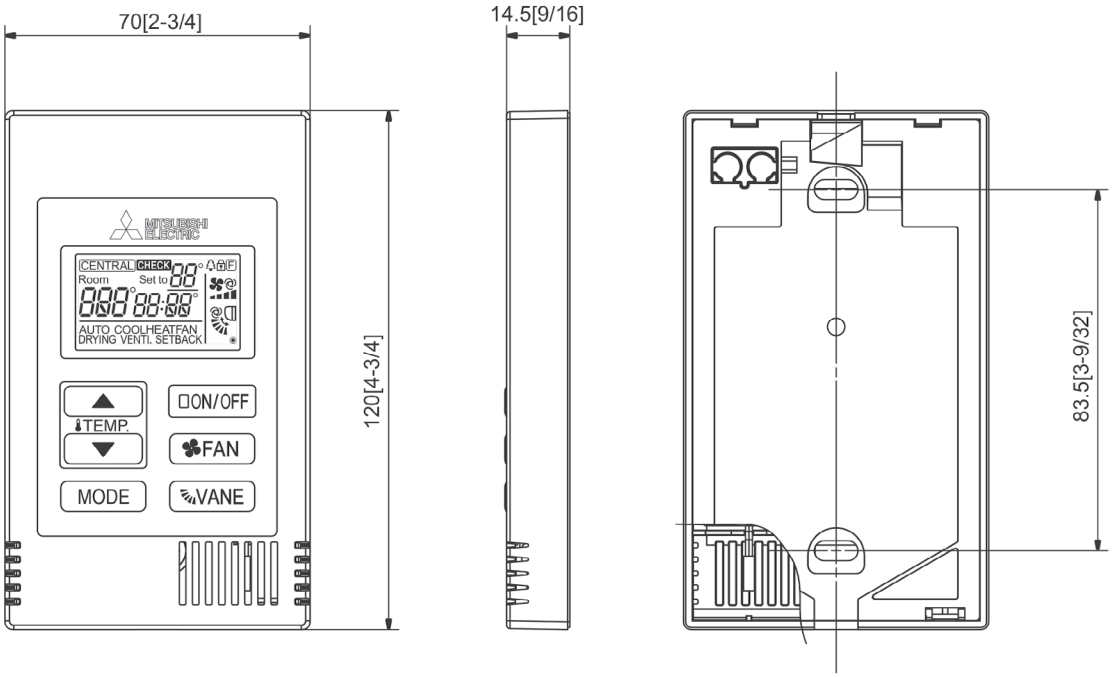


System example

NOTES:

DIMENSIONS: PAC-YT53CRAU-J

Unit:mm[in.]



1340 Satellite Boulevard. Suwanee, GA 30024
Toll Free: 800-433-4822 www.mehvac.com

PAC-UKPRC001-CN-1

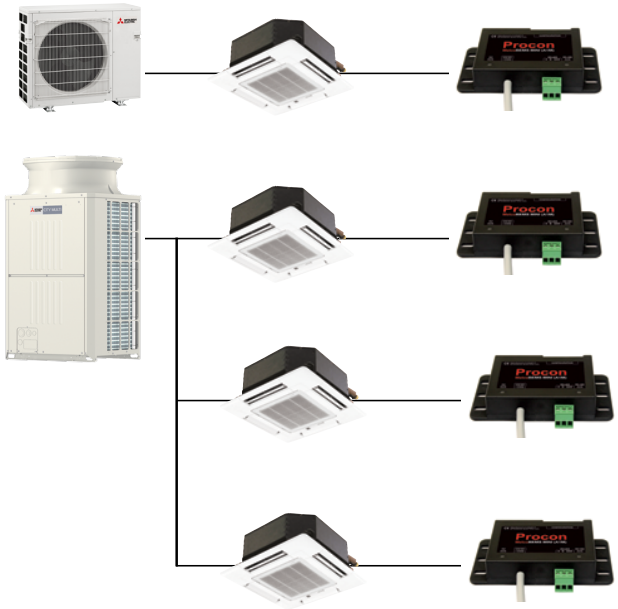
Job Name:
System Reference: Date:

PROCON MELCOBEMS MINI (A1M)

SPECIFICATIONS

- Allows for a third party building management system to control a Mitsubishi Electric CITY MULTI®, M-Series, or P-Series indoor unit
- One MelcoBEMS MINI (A1M) per indoor unit
- Indoor Unit Connection: CN105 – IT Terminal
- 12VDC power from indoor unit CN105 Connector
- Compatible with MAC-333IF connector CN505 IT
  *requires additional 12VDC power supply
- Communication protocols supported:
  - BACnet® MSTP (RS-485) with addressing 1-127
  - MODBUS RTU (RS-485) with addressing 1-247
- LED light notification status of valid communication between:
  - Procon and Indoor unit
  - Procon and BACnet®/MODBUS networks
- Approximate cable length is 37 in. (940 mm)
- Dimensions: 3.74 x 2 x 0.75 in. (95 x 51 x 19 mm)
- Weight: 3.0 oz (85 g)

SYSTEM DIAGRAM



MODBUS POINTS TABLE

Object Type	Object Name
Commandable Points	ON/OFF
	Mode
	Setpoint
	Fan Speed
	Air Direction
Monitor Only Points	Fault Codes
	Room Temperature

BACnet® POINTS TABLE

Object Type	Object Name
Commandable Points	Drive OFF/ON Setup
	Setpoint
	Mode Setup
	Fan Speed Setup
	Air Direction Setup
	Temperature Units
Monitor Only Points	Drive OFF/ON State
	Mode State
	Fan Speed State
	Air Direction State
	Inlet Temperature
	Fault Code

Specifications are subject to change without notice.

MODBUS POINTS TABLE

Configurable Settings	
Register Name	**Modicon Address**
Modbus Slave ID	40005
BACnet® Station ID	
Modbus RS-485 Baud Rate	40006
BACnet® RS-485 Baud Rate	
RS-485 Parity Type	40007
Drive On/Off	40008
Room Temperature [READ ONLY]	40009
Fault Code (hex) [READ ONLY]	40010
Firmware Version [READ ONLY]	40011
Modbus Comms Counter [READ ONLY]	40012
Fault Code (decimal) [READ ONLY]	40013
System Type Detected [READ ONLY]	40014
Deadband Enabled State [READ ONLY]	40015
BMS Room Temperature (signed)	40016
BMS Room Temperature	40017
BMS Virtual Setpoint	40018
Deadband Heating Setpoint	40019
Deadband Cooling Setpoint	40020
BACnet® Device Instance (most significant 16 bits)	40273
BACnet® Device Instance (least significant 16 bits)	40274
BACnet® Max Master	40275
BACnet® Max Info Frames	40276
BACnet® APDU Timeout	40277
BACnet® APDU Retries	40278

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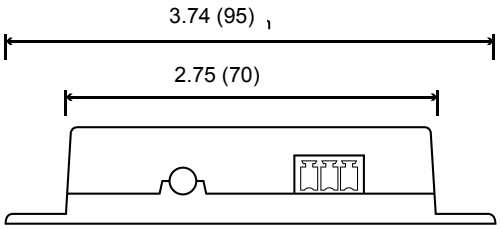
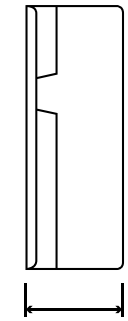
DIMENSIONS

Front View

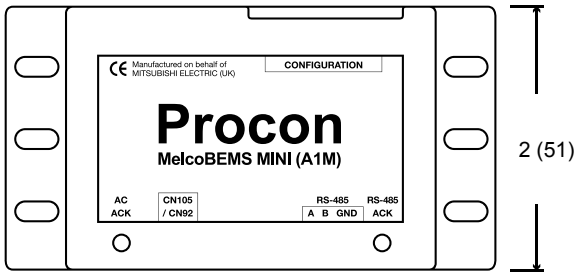


Side View



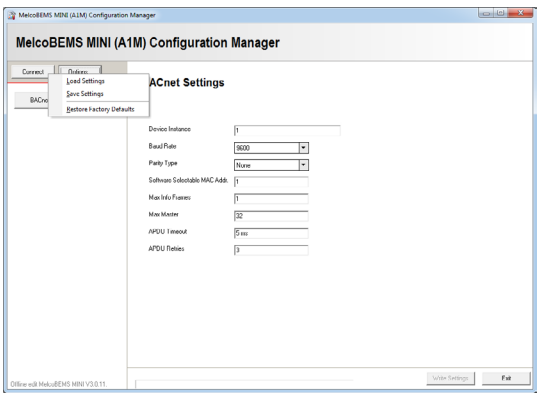
Units: in. (mm)

Top View



CONFIGURATION TOOL: MELCOBEMS MINI V1.0.1.0B.EXE

- Software downloadable from MyLinkDrive.com
- Software tool to setup BACnet® setting through Modbus Points Table
- Requires field supplied part: USB to RS-485 adapter



USB to RS-485

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