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РУССКИЙ ЯЗЫК

РУКОВОДСТВО ПО УСТАНОВКЕ

КОНДИЦИОНЕР

Перед установкой изделия полностью прочитайте данное руководство.
Монтажные работы должны быть выполнены только авторизованным специалистом в соответствии с национальными стандартами электропроводки.
Внимательно прочитайте и сохраните эту инструкцию для использования в будущем.

Применение (центральный кондиционер)
ПЛАТА УПРАВЛЕНИЯ ИСПАРИТЕЛЕМ

EAC 001

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ВАЖНЫЕ ИНСТРУКЦИИ ПО ТЕХНИКЕ БЕЗОПАСНОСТИ

ПРОЧИТАЙТЕ ВСЕ ИНСТРУКЦИИ ПЕРЕД ИСПОЛЬЗОВАНИЕМ УСТРОЙСТВА.

Всегда принимайте следующие меры предосторожности, чтобы избежать опасных ситуаций и гарантировать оптимальную производительность изделия.

⚠ ПРЕДУПРЕЖДЕНИЯ

Несоблюдение указаний может привести к серьезным травмам или смерти.

⚠ ВНИМАНИЕ

Несоблюдение указаний может привести к незначительным травмам или повреждению изделия.

⚠ ПРЕДУПРЕЖДЕНИЯ

- Установка или ремонт, выполненные неквалифицированным персоналом, могут представлять опасность для пользователя и других людей.
- При отсутствии местных норм установка ДОЛЖНА соответствовать местным строительным нормам.
- Приведенная в руководстве информация предназначена для использования квалифицированным сервисным специалистом, знакомым с процедурами техники безопасности и владеющим необходимыми инструментами, а также испытательным оборудованием.
- Невнимательное прочтение и несоблюдение всех инструкций, приведенных в данном руководстве, могут привести к неправильной работе оборудования, нанесению материального ущерба, травмам и (или) смерти.

Установка

- Всегда выполняйте заземление.
  - В противном случае это может привести к поражению электрическим током.
- Не используйте кабель питания, вилку или розетку, если они повреждены.
  - В противном случае это может привести к пожару или поражению электрическим током.
- Для установки изделия всегда обращайтесь в сервисный центр или в специализированную монтажную организацию.
  - В противном случае это может вызвать пожар, поражение электрическим током, взрыв или травму.
- Надежно установите на коммуникационную часть центрального кондиционера крышку, закрывающую электрические части.
  - Если крышка коммуникационной части центрального кондиционера установлена ненадежно, это может привести к возгоранию или поражению электрическим током из-за пыли, воды и т. д.
- Всегда устанавливайте прерыватель цепи при утечке воздуха и специальную коммутационную панель.
  - В противном случае это может привести к пожару или поражению электрическим током.
- Не храните и не используйте рядом с устройством воспламеняющиеся газы или горючие материалы.
  - В противном случае это может привести к пожару или повреждению изделия.
- Не устанавливайте, не демонтируйте и не переустанавливайте блок самостоятельно.
  - В противном случае это может вызвать пожар, поражение электрическим током, взрыв или травму.

- Не разбирайте и не ремонтируйте изделие случайным образом.
  - Это может привести к пожару или поражению электрическим током.
- Не устанавливайте изделие там, где оно может упасть.
  - В противном случае это может привести к травмам.
- Будьте осторожны при распаковке и установке.
  - Острые края могут стать причиной травмы.

Использование

- Используйте для устройства отдельную розетку.
  - В противном случае это может привести к поражению электрическим током или пожару в результате повышенного тепловыделения.
- Не используйте поврежденный кабель питания.
  - В противном случае это может привести к пожару или поражению электрическим током.
- Не пытайтесь модифицировать или удлинять кабель питания.
  - В противном случае это может привести к пожару или поражению электрическим током.
- Не допускайте натяжения кабеля питания при эксплуатации.
  - В противном случае это может привести к пожару или поражению электрическим током.
- Отключите устройство от электросети при возникновении странных звуков, запаха или дыма.
  - В противном случае это может привести к поражению электрическим током или возгоранию.
- Держите источники пламени подальше.
  - В противном случае это может привести к пожару.
- В случае необходимости отсоедините кабель питания от источника питания, держась за вилку. Не прикасайтесь к вилке мокрыми руками.
  - В противном случае это может привести к пожару или поражению электрическим током.
- Не располагайте кабель питания рядом с нагревательными устройствами.
  - В противном случае это может привести к возгоранию или поражению электрическим током.
- Не допускайте попадания воды в электрические части.
  - В противном случае это может привести к повреждению устройства или поражению электрическим током.
- При отсоединении вилки питания придерживайте ее за основание.
  - В противном случае это может привести к поражению электрическим током или повреждению устройства.
- Не допускайте попадания воды внутрь изделия.
  - В противном случае это может привести к пожару, поражению электрическим током или повреждению изделия.
- Не становитесь на внутренний или наружный блок и не размещайте на них какие-либо предметы.
  - Это может привести к травмам из-за падения.
- Не ставьте тяжелые предметы на кабель питания.
  - В противном случае это может привести к пожару или поражению электрическим током.
- После попадания устройства в воду всегда обращайтесь в сервисный центр.
  - В противном случае это может привести к пожару или поражению электрическим током.

ПЕРЕД УСТАНОВКОЙ

⚠ ВНИМАНИЕ

• **Не устанавливайте и не используйте блок в помещениях, указанных ниже.**
① В местах, где имеются нефтепродукты, такие как смазочное масло.
② В местах, где воздух содержит большое количество соли, например возле океана.
③ В местах, где присутствует сернистый газ, например возле горячих источников.
④ В транспортных средствах или судах.
⑤ В местах с сильными перепадами напряжения, например на заводах.
⑥ В местах с высокой концентрацией пара.
⑦ В местах расположения устройств, генерирующих электромагнитные волны.
⑧ В местах скопления кислотных или щелочных газов.
⑨ Дополнительные коробки должны быть установлены входами вниз.

• **Проверьте указанное ниже при использовании центрального кондиционера (в комплекте).**

① Если центральный кондиционер (в комплекте), имеющийся на месте, предназначен исключительно для нагрева, не изменяйте режим работы на режим охлаждения с помощью пульта ДУ. В противном случае это может привести к поражению электрическим током, травме или смерти. Для использования в режиме охлаждения центральный кондиционер (в комплекте) должен соответствовать следующим характеристикам.
(Следующие)
- Уровень изоляции двигателя центрального кондиционера (в комплекте) должен быть «F» или выше, а уровень защиты должен соответствовать классу IP54.
- Центральный кондиционер (в комплекте) должен быть оснащен сливным поддоном.

② Кнопка скорости вращения вентилятора на проводном пульте ДУ не используется.
③ Для прокладки трубопровода хладагента наружного блока см. руководство по установке, прилагаемое к наружному блоку.
④ Для установки проводного пульта ДУ см. прилагаемое к нему руководство.
⑤ Для защиты контура хладагента при обогреве температура воздуха на входе теплообменника должна быть выше 5 °C.
⑥ Комплект терморегулирующего клапана или термостатического расширительного клапана должен быть установлен на центральный кондиционер как можно ближе к теплообменнику.

• **Коммуникационный набор центрального кондиционера**

① Кабели терморезистора и дистанционного пульта ДУ должны быть расположены не ближе 50 мм от кабелей электропитания и друг от друга. Несоблюдение этих рекомендаций может привести к возникновению неисправностей из-за электрических помех.
② Используйте только указанные провода и надежно подключайте провода к клеммам. Держите провода в аккуратном порядке, чтобы они не мешали другому оборудованию. Ненадежные соединения могут привести к перегреву, а в худшем случае к поражению электрическим током или пожару.

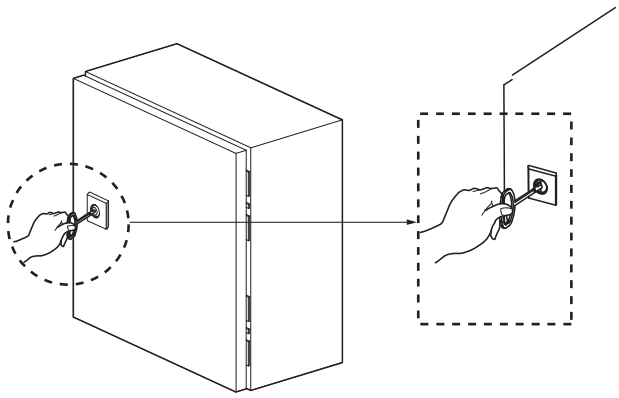
• Рабочие диапазоны центрального кондиционера
- При установке комнатного терморезистора всегда устанавливайте его на входное отверстие теплообменника. В противном случае он может не работать надлежащим образом.
- Температура воздуха на входе в теплообменник должна находиться в диапазоне от 18 до 40 °C при охлаждении и от 5 до 30 °C при обогреве. Если температура ниже 18 °C при охлаждении и выше 30 °C при обогреве, система может включаться и выключаться из-за срабатывания защиты.

№	Условие подключения	Комбинация
1	Центральный кондиционер забора 100 % свежего воздуха подключаются только к наружным блокам.	1) Общая мощность центрального кондиционера забора 100 % свежего воздуха должна составлять 50–100 % от мощности наружного блока.

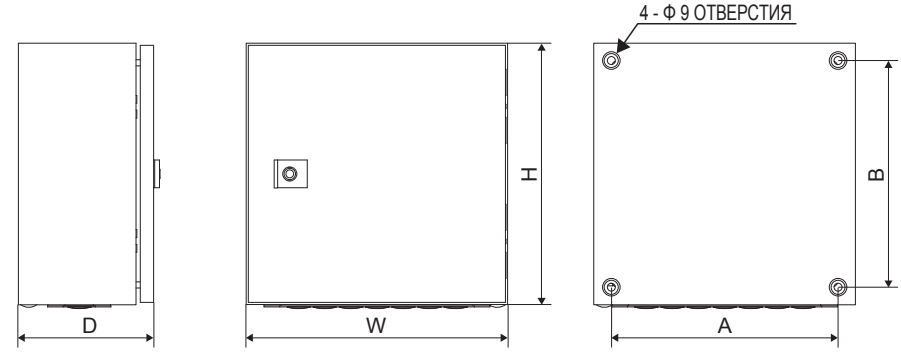
УСТАНОВКА ПЛАТЫ УПРАВЛЕНИЯ ИСПАРИТЕЛЕМ

Механический монтаж

1 Откройте дверцу с помощью ключа.



2 Просверлите четыре отверстия в соответствующих местах и надежно зафиксируйте плату с помощью четырех винтов (в комплекте) через отверстия Ø 9 мм (11/32") [Справочный размер отверстий Ø 9 (11/32)]

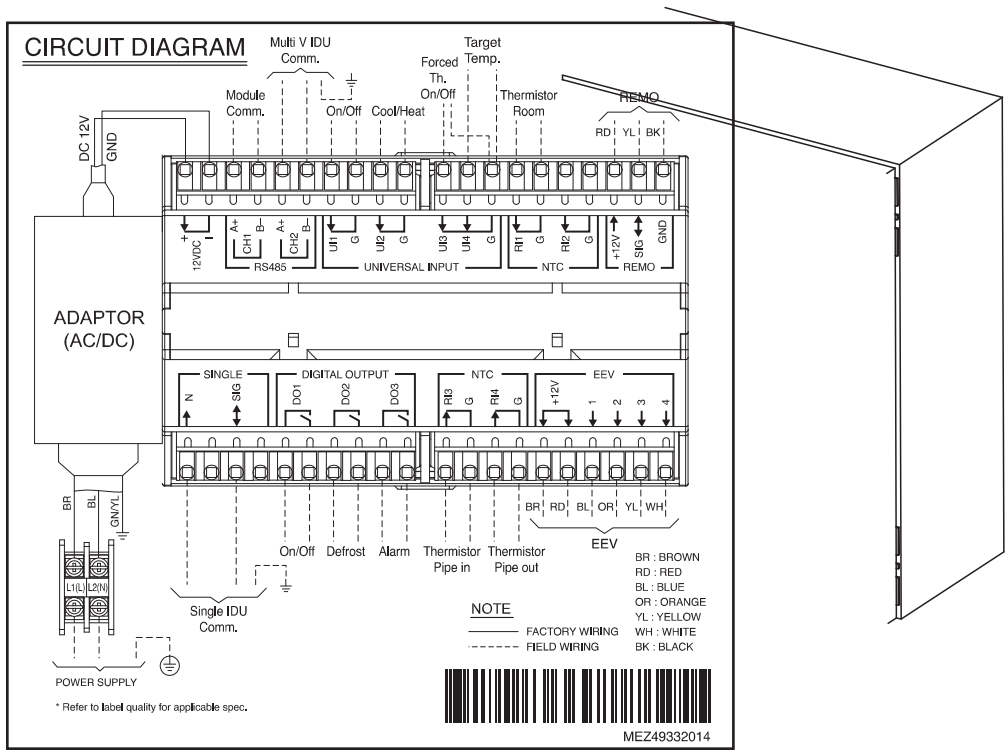


<Боковая сторона> **<Передняя сторона>** **<Задняя сторона>**

Модель	Размер				
	W	D	H	A	B
PAHCMR000	300	155	300	260	260
PAHCMS000	380	155	300	340	260

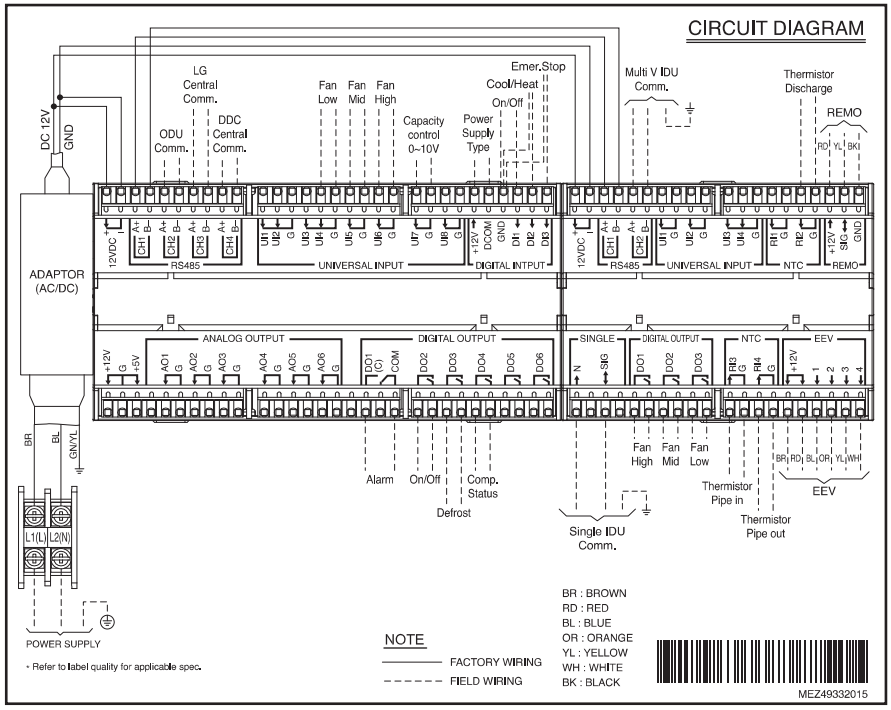
Монтаж электропроводки (PAHCMR000)

Схема подключения



Монтаж электропроводки (PAHCMS000)

Схема подключения



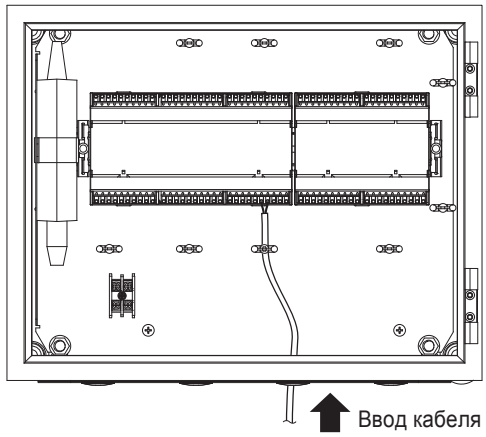
Электромонтажные работы

Подключение проводов

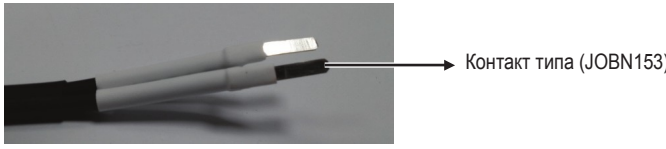
1 Подключение к наружному блоку и контроллеру (в комплекте).
Протяните провода внутрь через кабельный ввод и плотно затяните гайку, чтобы обеспечить хорошее сопротивление вытягиванию и защиту от воды.

2 Для проводов требуется дополнительное ослабление натяжения. Закрепите провода с помощью стяжки.

(Вид спереди)



3 Снимите изоляцию с концов провода пульта дистанционного управления и коммуникационного провода наружного блока и используйте контакт типа (JOBN153) для подключения к клеммной колодке..

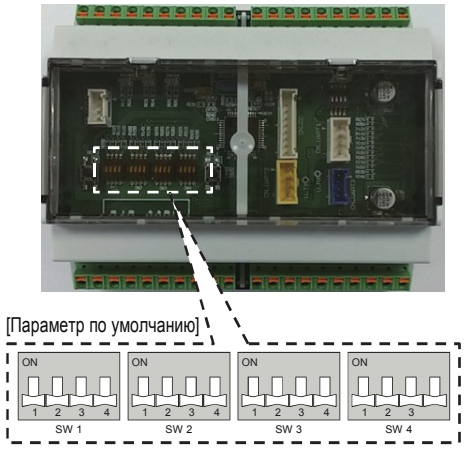


⚠ ВНИМАНИЕ

- Все детали, материалы и электромонтажные работы на месте установки должны соответствовать местным нормам.
- Используйте только медные провода.
- Все электромонтажные работы должны выполняться квалифицированным электриком.
- Главный выключатель или другие устройства защитного отключения с размыканием всех контактов должны быть установлены в цепь согласно соответствующему местному и национальному законодательству.
- См. руководство по установке, прилагаемое к наружному блоку, для уточнения информации о размере провода электропитания наружного блока, характеристиках устройства защитного отключения и особенностях электромонтажных работ.

Настройка DIP-переключателя

PAHCMR000



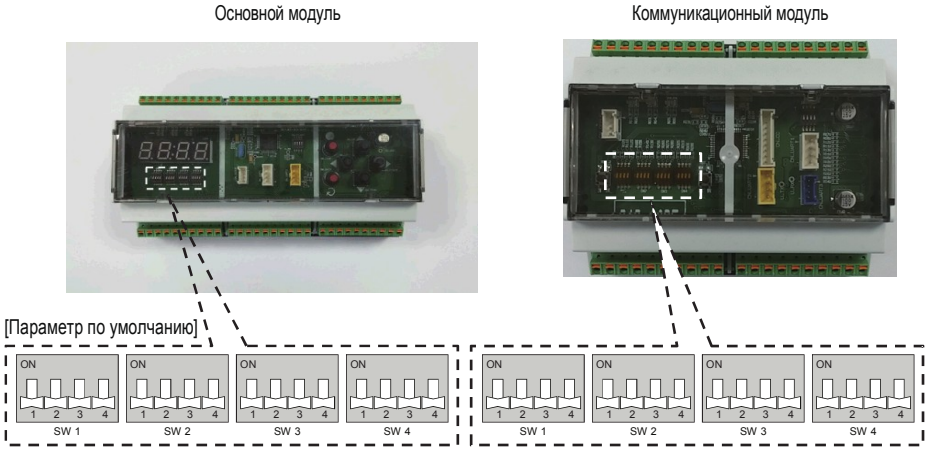
• Далее приведены подробные действия по установке значения DIP-переключателя.

SW1	ВКЛ	ВЫКЛ	Функция
1	Одиночный	Multi V	Система наружного блока
2	Связь	Контакт	Настройка управления

SW3	ВКЛ	ВЫКЛ	Функция
1	Ведомый	Ведущий	Ведущий/ведомый
2	C/O	H/P	Тип наружного блока

SW4				Емкость [кБте]	
1	2	3	4	Multi V	Одиночный
ВЫКЛ	ВЫКЛ	ВЫКЛ	ВЫКЛ	12	5
ВЫКЛ	ВЫКЛ	ВЫКЛ	ВКЛ	15	7
ВЫКЛ	ВЫКЛ	ВКЛ	ВЫКЛ	18	9
ВЫКЛ	ВЫКЛ	ВКЛ	ВКЛ	24	12
ВЫКЛ	ВКЛ	ВЫКЛ	ВЫКЛ	28	15
ВЫКЛ	ВКЛ	ВЫКЛ	ВКЛ	36	18
ВЫКЛ	ВКЛ	ВКЛ	ВЫКЛ	42	24
ВЫКЛ	ВКЛ	ВКЛ	ВКЛ	48	30
ВКЛ	ВЫКЛ	ВЫКЛ	ВЫКЛ	54	36
ВКЛ	ВЫКЛ	ВЫКЛ	ВКЛ	76	42
ВКЛ	ВЫКЛ	ВКЛ	ВЫКЛ	96	48
ВКЛ	ВЫКЛ	ВКЛ	ВКЛ	115	60
ВКЛ	ВКЛ	ВЫКЛ	ВЫКЛ	134	70
ВКЛ	ВКЛ	ВЫКЛ	ВКЛ	153	85
ВКЛ	ВКЛ	ВКЛ	ВЫКЛ	172	Зарезервировано
ВКЛ	ВКЛ	ВКЛ	ВКЛ	192	Зарезервировано

PAHCMS000



• Далее приведены подробные действия по установке значения DIP-переключателя.

1) Основной модуль DIP-переключателя

SW1	ВКЛ	ВЫКЛ	Функция
1	Связь	Контакт	Настройка управления
2	Авто (контроль температуры)	Вручную (контроль емкости)	Контроль температуры приточного воздуха
3	Одновременная работа	Последовательная работа	Последовательное управление наружным блоком

2) DIP-переключатель платы управления испарителем
Установите то же значение, что и для модели «PAHCMR000» (см. стр. 9).

УСТАНОВКА ТЕРМОРЕЗИСТОРА

Установка терморезистора трубопровода

Расположение терморезистора трубопровода

Для надлежащей работы изделия необходимо правильно установить терморезисторы.

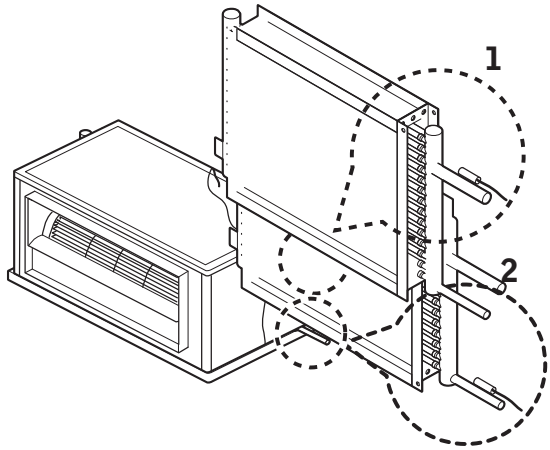
1 Вход трубопровода
: Установите терморезистор за распределителем на самом холодном участке теплообменника (обратитесь к поставщику теплообменника).

2 Выход трубопровода
: Установите терморезистор на выходе из теплообменника как можно ближе к нему.

Необходимо оценить степень защиты испарителя от замерзания.
Выполните пробный запуск и проверьте на предмет замерзания.

1 Вход трубопровода (всасывающий трубопровод)

2 Выход трубопровода (сливной трубопровод)

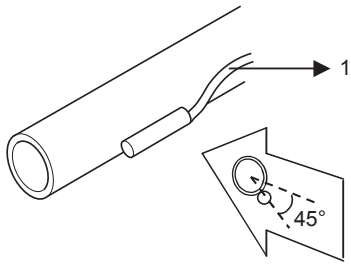


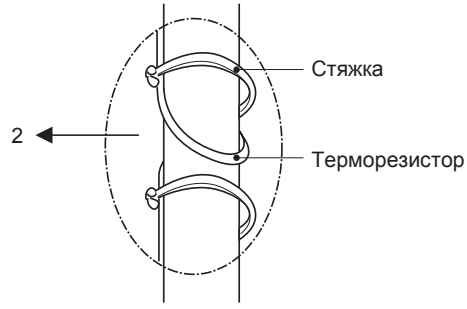
(Центральный кондиционер)

Установка кабеля терморезистора трубопровода

1 Поместите кабель терморезистора в отдельную защитную трубку.

2 Всегда немного ослабляйте натяжение кабеля терморезистора, чтобы избежать ослабления контакта с ним. Натяжение кабеля терморезистора или ослабление терморезистора может привести к плохому контакту и неправильному измерению температуры.





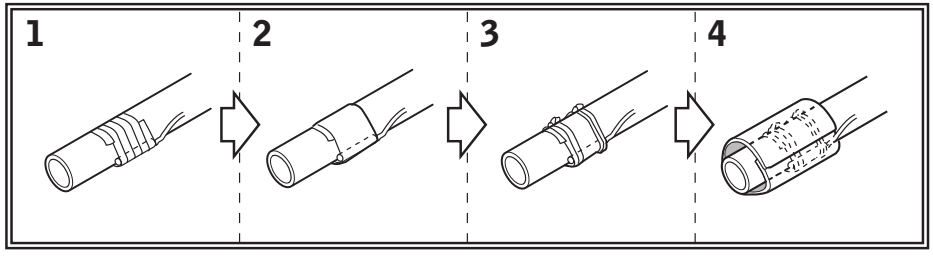
Фиксация терморезисторов трубопровода (на месте)

1 Зафиксируйте терморезистор с помощью изоляционной алюминиевой ленты (в комплекте), чтобы обеспечить хорошую теплопередачу.

2 Оберните прилагаемый кусок резины вокруг терморезистора, чтобы избежать ослабления терморезистора через несколько лет.

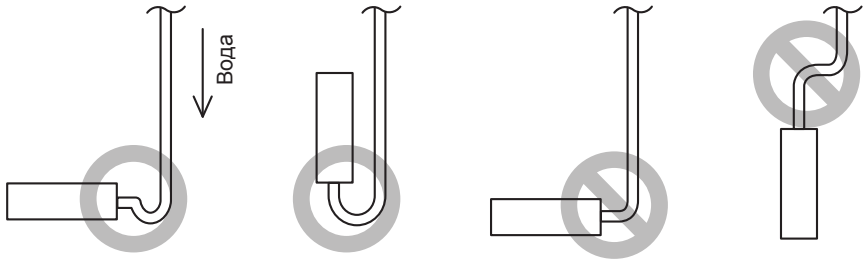
3 Затяните терморезистор с помощью 2 стяжек (в комплекте).

4 Изолируйте терморезистор с помощью изоляционного листа (более 5 раз, в комплекте).

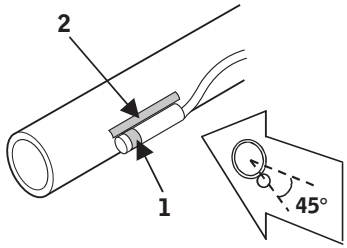


ИНСТРУКЦИЯ

• Расположите провод терморезистора немного выше, чтобы избежать накопления воды под терморезистором.



• Для определения температуры испарителя в терморезисторе поместите верхний порт терморезистора на испаритель — это наиболее чувствительная точка терморезистора.

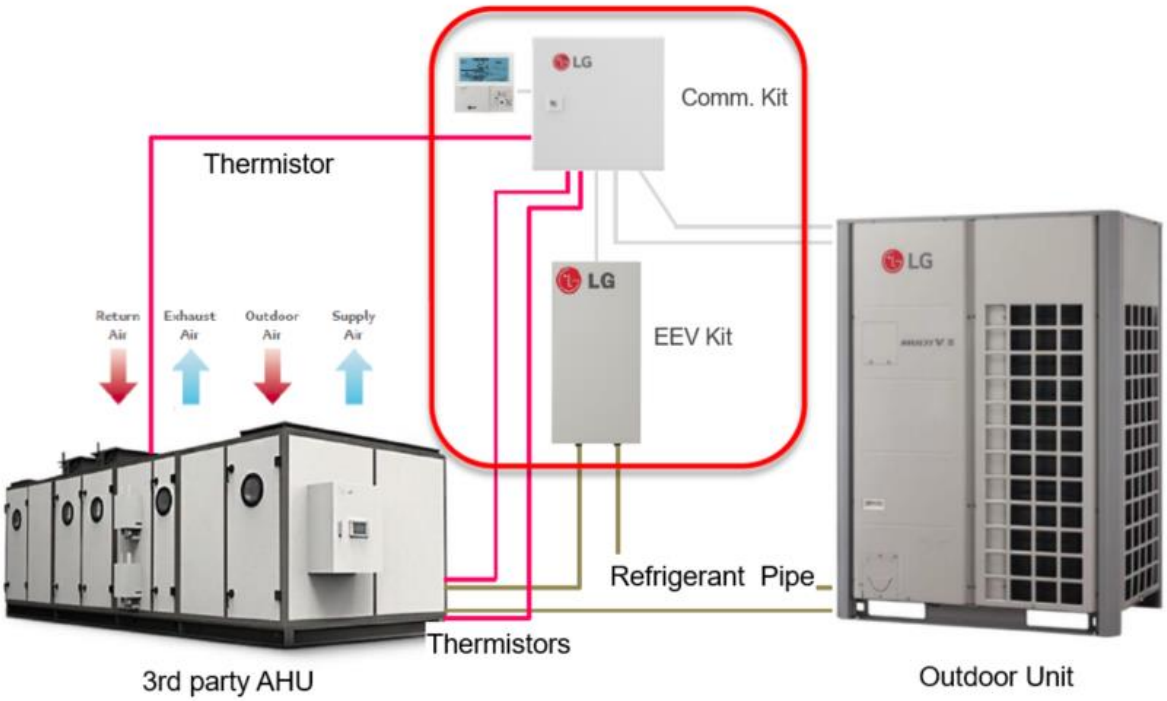


1 Наиболее чувствительная точка терморезистора

2 Максимальный контакт


LG
Life's Good

AHU Conversion Kit Application Guide



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Why use LG's AHU Conversion Kit?

Energy Saving: LG vs. the Rest



LG's AHU Conversion Kit can offer energy savings over conventional condensing units used with DX split systems. It allows connection of an LG Multi V inverter compressor condensing units to any third party AHU.

Compared to other conventional condensing units, LG's Multi V5 unit has a higher EER rating and almost twice the IEER rating as the competitors below.

Brand	Series	Model #	Capacity	EER	IEER
LG	Multi V5	ARUM121BTE5	10 tons	**12.5**	**24.6**
Carrier [1]	Gemini	38AUQA12A0B5-0A0A0	10 tons	11	12
Trane [2]	Precedent	YSC120ED	10 tons	9.5	10.97
York [3]	Predator	XP120	10 tons	11	12.4

1 Information taken from Carrier's Product Page: http://www.carrierenterprise.com/carrier-10-ton-heat-pump-condensing-unit-with-puron-refrigerant-38auqa12a0b5-0a0a0

2 Information taken from Trane's Product Page: https://www.trane.com/commercial/north-america/us/en/products-systems/equipment/unitary/rooftop-systems/precedent-3-to-10-tons.html

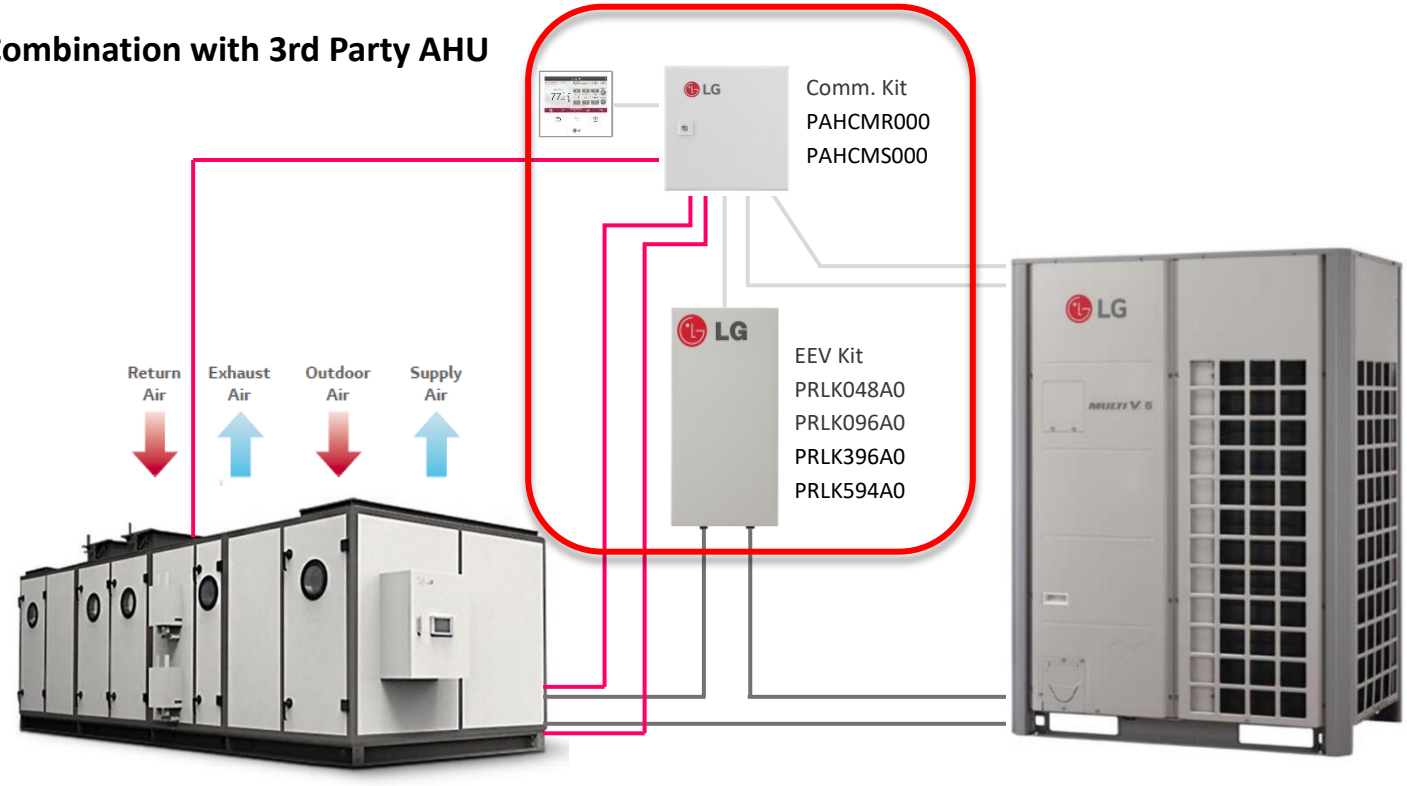
3 Information taken from York's Product Page: http://www.york.com/for-your-workplace/packaged-and-split-dx-systems/packaged-heat-pumps/xp-predator

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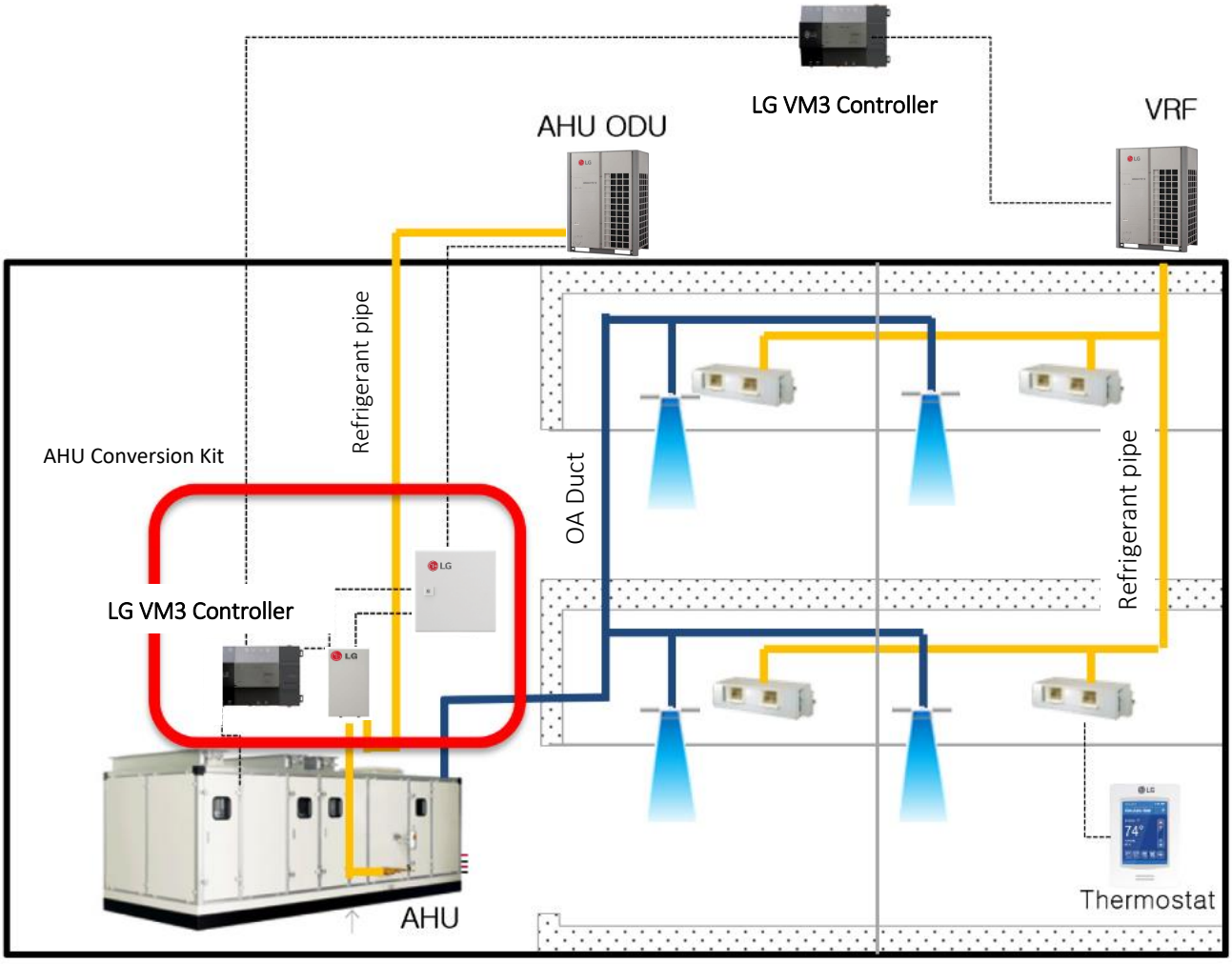
3rd Party Support

Versatile: Allows for any air handling unit to connect with LG's outdoor units

Combination with 3rd Party AHU



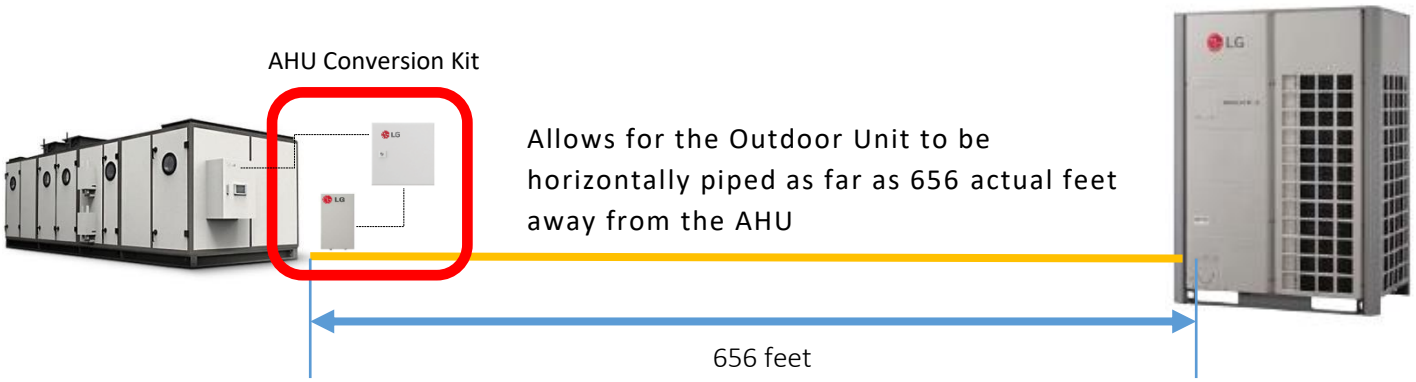
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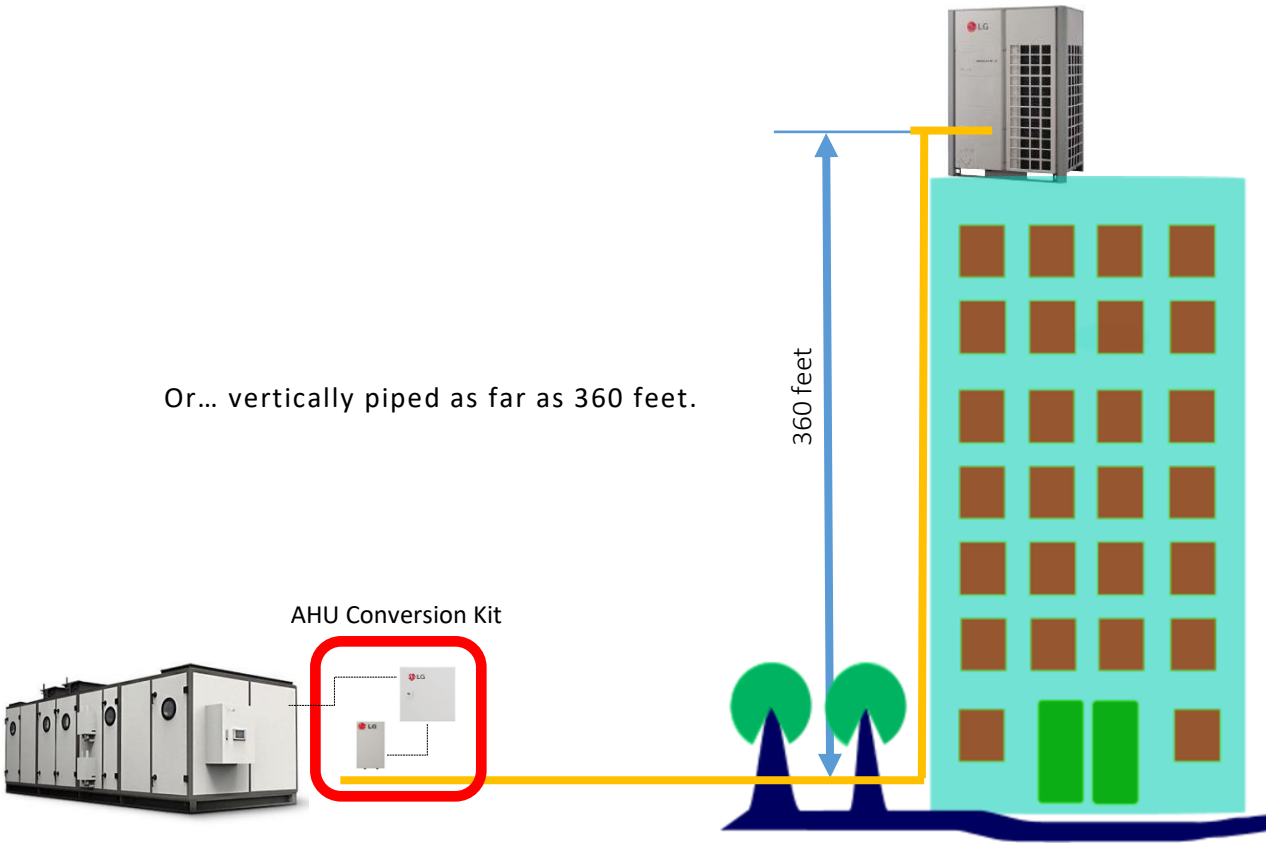


The AHU Conversion Kit also allows communication between the AHU and LG's VRF Systems.

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Large Piping Distance





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Definitions

EEV Kit - Models PRLK048A0, PRLK096A, PRLK396A0 and PRLK594A0

Communication Kit (Return Air) - Model PAHCMR000

Communication Kit (Supply Air) - Model PAHCMS000

AHU Conversion Kit - Consists of an EEV Kit and a Communication Kit

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Components and Features: EEV Kits

PRLK048A0

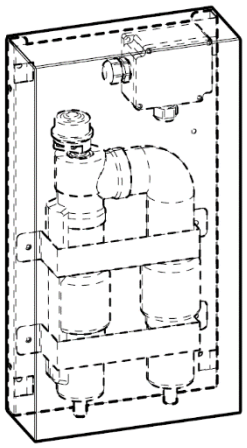
Components:	EEV Kit	Installation Manual
Shape:		
Quantity (EA):	1	1

Figure 1. PRLK048A0 EEV Kit Contents

Standard Features:

- Max Ton Capacity: 8 Tons
- Btu Capacity: 12 – 96 kBtu/h
- System Compatibility: Heat Pump or Heat Recovery
- Controls refrigerant flow between Multi V air or water source units and a 3rd party AHU
- Minimum coil entering air temperature in heating mode is 41°F
- Maximum distance between EEV and Comm. kit is 32 feet
- Maximum of (1) EEV kit can be connected to Comm. kit
- Designed for indoor installations (field supplied water-proof enclosure must be used when installing outdoors)

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PRLK096A0

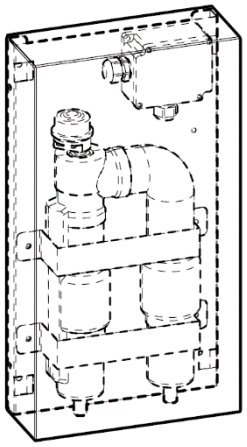
Components:	EEV Kit	Installation Manual
Shape:		
Quantity (EA):	1	1

Figure 2. PRLK096A0 EEV Kit Contents

Standard Features:

- Max Ton Capacity: 16 Tons
- Btu Capacity: 115 – 192 kBtu/h
- System Compatibility: Heat Pump only
- Controls refrigerant flow between Multi V air or water source units and a 3rd party air handling unit.
- Minimum coil entering air temperature in heating mode is 41°F
- Maximum distance between EEV and Comm. kit is 32 feet
- Maximum of (1) EEV kit can be connected to Comm. kit
- Designed for indoor installations (field supplied water-proof enclosure must be used when installing outdoors)

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PRLK396A0

Components:	EEV Kit	Installation Manual
Shape:		
Quantity (EA):	1	1

Figure 3. PRLK396A0 EEV Kit Contents

Standard Features:

- Max Ton Capacity: 32 Tons
- Btu Capacity: 216 – 384 kBtu/h
- System Compatibility: Heat Pump only
- Controls refrigerant flow between Multi V air or water source units and a 3rd party air handling unit
- Minimum coil entering air temperature in heating mode is 41°F
- Maximum distance between EEV and Comm. kit is 32 feet
- Maximum of (1) EEV kit can be connected to Comm. kit
- Designed for indoor installations (field supplied water-proof enclosure must be used when installing outdoors)

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PRLK594A0

Components:	EEV Kit	Installation Manual
Shape:		
Quantity (EA):	1	1

Figure 4. PRLK594A0 EEV Kit Contents

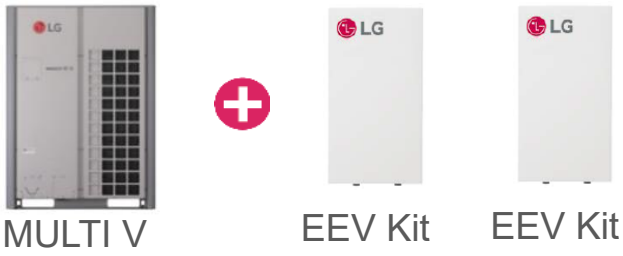
Standard Features:

- Max Ton Capacity: 48 Tons
- Btu Capacity: 408 - 576 kBtu/h
- System Compatibility: Heat Pump only with PAHCMS000 (requires EEV module)
- Controls refrigerant flow between Multi V air or water source units and a 3rd party air handling unit
- Minimum coil entering air temperature in heating mode is 41°F
- Maximum distance between EEV and Comm. kit is 32 feet
- Maximum of (1) EEV kit can be connected to Comm. kit
- Designed for indoor installations (field supplied water-proof enclosure must be used when installing outdoors)

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Outdoor Unit + EEV Kit Combinations

- 1 Multi V + multiple EEV Kits



- Multiple Multi V's + multiple EEV Kits



- Single Split does not require expansion valves



➔ Basic rule: 1 DX coil required 1 Expansion Valve

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Recommended 3rd Party Coil Volume

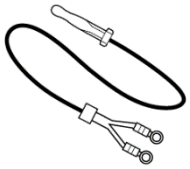
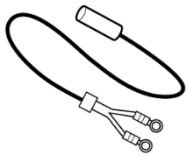
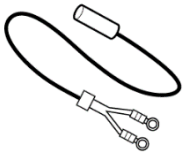
EEV Model	Capacity (kBTU/h)	Recommended 3rd Party Coil Volume	
		MIN (in.^{3})	MAX (in.^{3})
PRLK048A0	12	67.1	234.9
	15	85.4	299.0
	18	109.8	384.4
	24	134.3	469.9
	28	164.8	576.7
	36	189.2	662.1
	42	207.5	726.2
	48	244.1	854.3
	54	250.2	875.7
	76	329.5	1,153.3
	96	384.4	1,345.6
PRLK096A0	115	445.5	1,559.2
	134	518.7	1,815.5
	153	567.5	1,986.3
	172	640.7	2,242.6
	192	683.5	2,392.1
PRLK396A0	216	768.9	2,691.1
	240	854.3	2,990.2
	264	939.8	3,289.2
	288	1,025.2	3,588.2
	312	1,110.6	3,887.2
	336	1,196.1	4,186.2
	360	1,281.5	4,485.2
	384	1,366.9	4,784.3
PRLK594A0	408	1,452.4	5,083.3
	432	1,543.9	5,403.6
	456	1,623.2	5,681.3
	480	1,708.7	5,980.3
	504	1,800.2	6,300.7
	528	1,879.5	6,578.4
	552	1,971.1	6,898.7
	576	2,050.4	7,176.4

Table 1. Recommended 3rd Party Coil Volume

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Components and Features: Communication Kits

PAHCMR000

Part	Quantity	Image
Communication Kit - Return Air	One (1)	
Return Air (Room) Thermistor	One (1)	
Pipe Out Thermistor	One (1)	
Pipe In Thermistor	One (1)	

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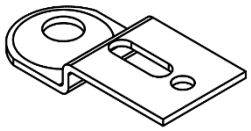
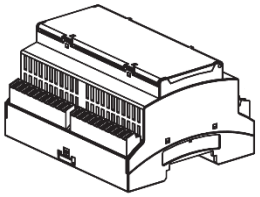
Bracket	One (1)	
Controller Assembly (Comm. PCB)	One (1)	

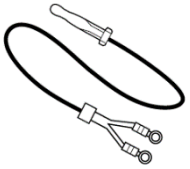
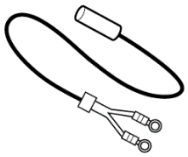
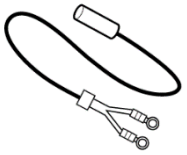
Figure 5. PAHCMR000 Contents

Standard Features:

- Function: Allows communication between third-party air handling units and LG air source and water source units
- Can connect with multiple AHU's with indoor units
- Control Options: LG Wired Controller (required for LG controls), LG Central Controller, 3rd Party AHU Controller
- System Compatibility: Heat Recovery, Heat Pump
- AHU Coil Capacities 12 – 384 kBtu/h for Multi V and 5-85 kBtu/h for Single Zone (41°F minimum entering air temp)
- 3 Thermistors (Pipe in, pipe out, and return air. 16.4 ft. length each)
- AHU Fan Control H/M/L
- EEV Control
- Designed for indoor installation (field-supplied waterproof enclosure required for outdoor installation)
- Can control 3 speed or single speed 3rd party fan motor (requires relays or motor starter)
- Requires 208-230 VAC, 1 phase power

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PAHCMS000

Part	Quantity	Image
Communication Kit - Supply Air	One (1)	
Return Air (Room) Thermistor	One (1)	
Pipe Out Thermistor	One (1)	
Pipe In Thermistor	One (1)	

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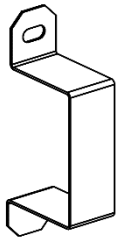
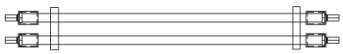
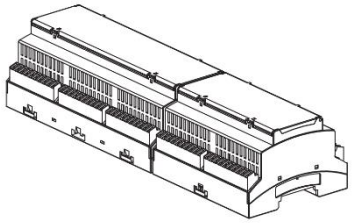
Bracket	One (1)	
Harness, Multi	One (1)	
Controller Assembly (Comm. PCB and Main PCB)	One (1) Each	

Figure 6. PAHCMS000 Contents

Standard Features:

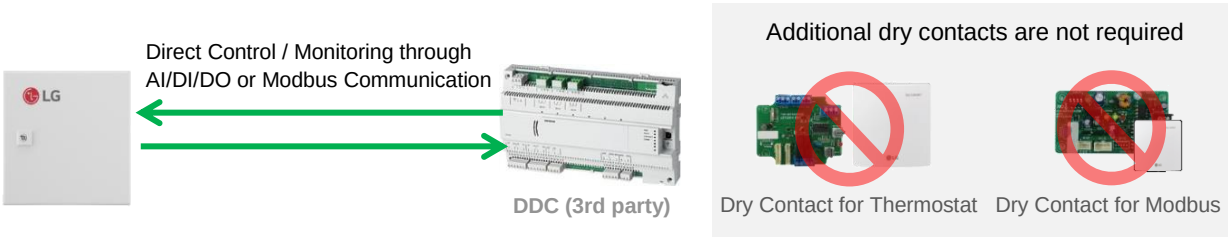
- Function: Allows communication between third-party air handling units and LG air source and water source units
- Can connect with one AHU (one DX Coil) and cannot connect with indoor units
- Control Options: LG Wired Controller (required for LG Controls), LG Central Controller, 3rd Party AHU Controller
- System Compatibility: Heat Pump
- AHU Coil Capacities 12 – 594 kBtu/h for Multi V and 5 – 85 kBtu/h for Single Zone (41°F minimum entering air temp)
- 3 Thermistors (Pipe in, pipe out, and return air. 16.4 ft. length each)

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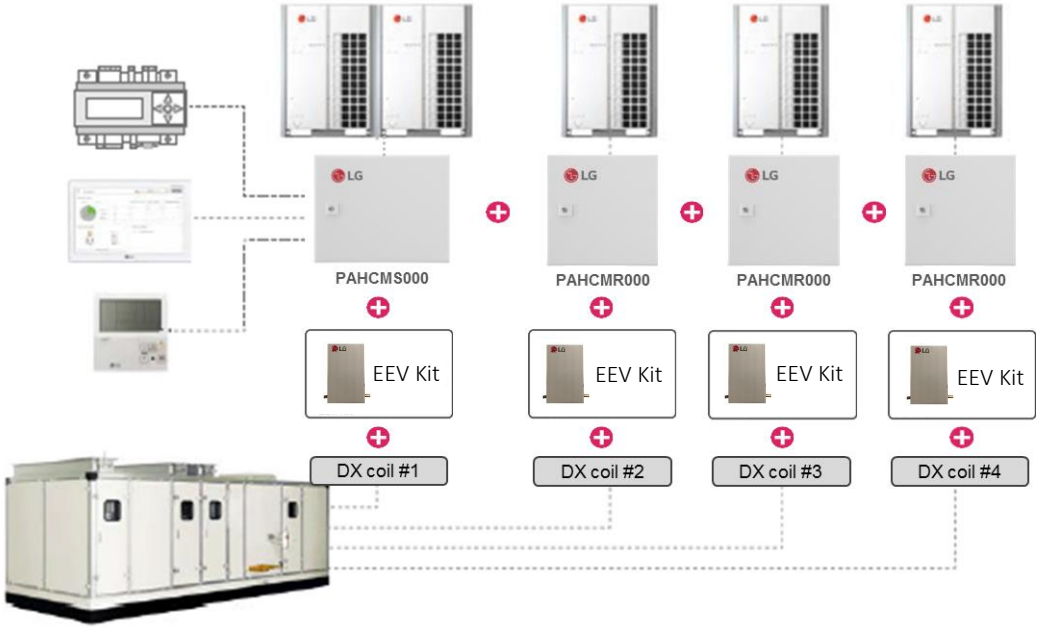
- EEV Control
- Designed for indoor installation (field-supplied waterproof enclosure required for outdoor installation)
- Requires 208-230 VAC, 1 phase power

Communication Kit Features

- Dry contact function is embedded in the communication kits
- Modbus Communication is possible without applying extra devices



- Multiple DX coil installation is possible for discharge air control



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DIP Switch: Communication Kits

DIP Switch Settings – PAHCMR000

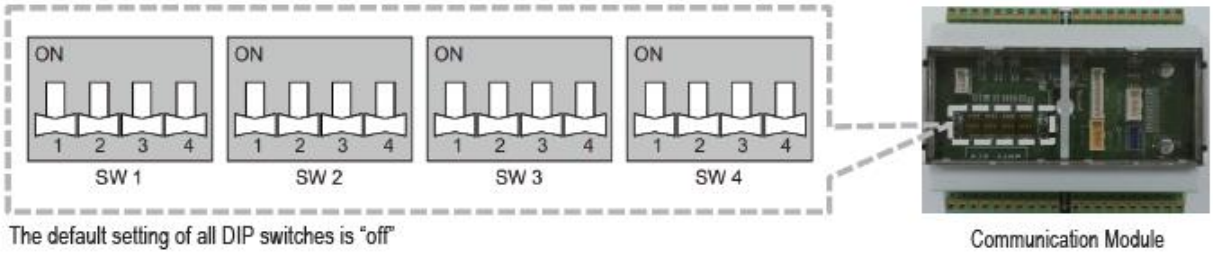


Figure 7. DIP Switch – PAHCMR000

S/W name	No	Item	Setting		Note
SW1	1	ODU Type	On	Single Comm.	Using Single Split outdoor unit
			Off	MULTI V Comm.	Using MULTI V outdoor unit
	2	Control Type	On	Communication	Controlled by DDC through Modbus and LG centralized controller
			Off	Contact signal	Controlled by DDC through Contact signal (AI, DI) LG Centralized controller can only monitor status
	3	DO Type	On	Fan Speed	DO1 : High, DO2 : Middle, DO3 : Low
			Off	Status	DO1 : On/Off, DO2 : Defrost, DO3 : Alarm
	4	Fan Speed (TH. On/Off)	On	Fixed	Fan Speed doesn't change when TH. On/Off (Cooling/Heating)
			Off	Change	Fan Speed change to LOW when Th. Off in Cooling Mode Fan Speed change to STOP when Th. Off in Heating Mode
SW2	1	Reserved	-	-	-
	2	Reserved	-	-	-
	3/4	UI Setting	Off/Off	UI Setting #1	UI1 : Operation On/Off, UI2 : Heating/Cooling UI3 : Forced Thermo On/Off, UI4 : Target air temperature
			Off/On	UI Setting #2	UI1 : Operation On/Off, UI2 : Cooling only/Off UI3 : Heating only/Off, UI4 : Forced Thermo On and Off
			On/Off	Reserved	-
			On/On	Reserved	-
SW3	1	Master/Slave	On	Slave mode	Please see "9.3 Multiple module installation guide" in the Installation Manual for more detail
			Off	Master mode	Master mode is default for single AHU Controller installation. Please see "9.3 Multiple module installation guide" in the Installation Manual for more detail
	2/3		Off/Off	Heat Pump	Cooling or Heating operation mode is available

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		Operation Mode Setting	Off/On	Heating Only	Operation mode is Heating only (Heating / Fan)
			On/Off	Cooling Only	Operation mode is Cooling only (Cooling / Fan)
			On/On	Reserved	-
	4	Reserved	-	-	-
SW4	1-4	Capacity Index Setting	-	-	According to ODU Type, you can setup the capacity index of MULTI V or Single Split

Table 2. Table of SW1 – SW4

NOTE: When coil entering air temperature is lower than $41^{o}F$, the following strategies can be used:

- Preheat entering air with an ERV or heating coil
- Mixed outdoor air with return air to raise the coil entering temperature
- Add a gas furnace or electric heating section to the AHU to provide heat in lieu of the DX coil

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Set DIP switch SW4 as appropriate for the capacity of your air handling unit.

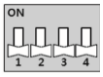
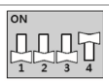
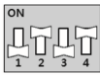
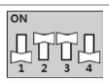
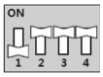
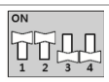
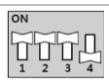
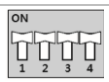
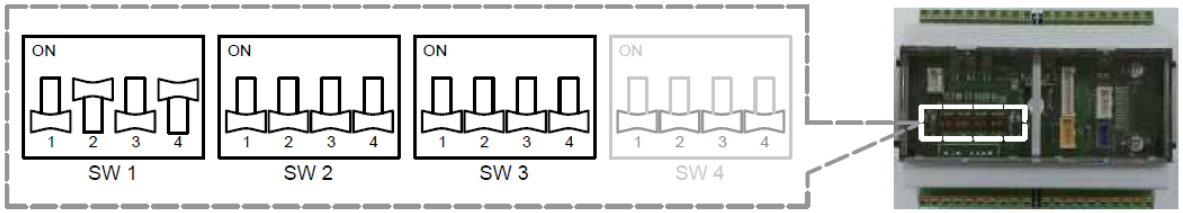
Switch Number	SW4 DIP switches	Capacity (kBTU/h)	
		MULTI V	Single Zone
1		12	5
2		15	7
3		18	9
4		24	12
5		28	15
6		36	18
7		42	24
8		48	30
9		54	36
10		76	42
11		96	48
12		115	60
13		134	70
14		153	85
15		172	Reserved
16		192	Reserved

Table 3. Capacity Index

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DIP Switch Applications with Thermostats – PAHCMR000

The figure below shows the DIP switch settings of the return air comm. kit when the LG controls is used. When the LG controls method is used, an LG wired controller is required and LG central controller is optional.

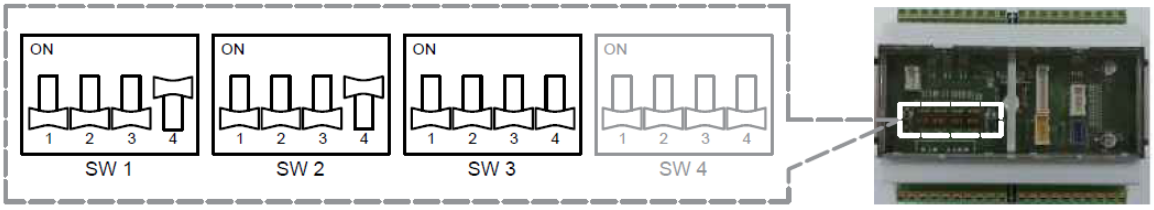


Return Air Kit Application Using LG Thermostat		
DIP Switch	Switch Number	Setting
SW1	1	OFF
	2	ON
	3	OFF
	4	ON
SW2	1	OFF
	2	OFF
	3	OFF
	4	OFF
SW3	1	OFF
	2	OFF
	3	OFF
	4	OFF

Figure 8. Return Air Kit DIP Switch Application Using LG Thermostat

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The figure below shows the DIP switch settings for the return air comm. kit when a 3rd party thermostat is used. When a 3rd party thermostat is used, LG wired controller and LG central controllers are optional.



Return Air Kit Application Using 3rd Party Thermostat		
DIP Switch	Switch Number	Setting
SW1	1	OFF
	2	OFF
	3	OFF
	4	ON
SW2	1	OFF
	2	OFF
	3	OFF
	4	ON
SW3	1	OFF
	2	OFF
	3	OFF
	4	OFF

Figure 9. Return Air Kit DIP Switch Application Using 3rd Party Thermostat

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DIP Switch Settings – PAHCMS000

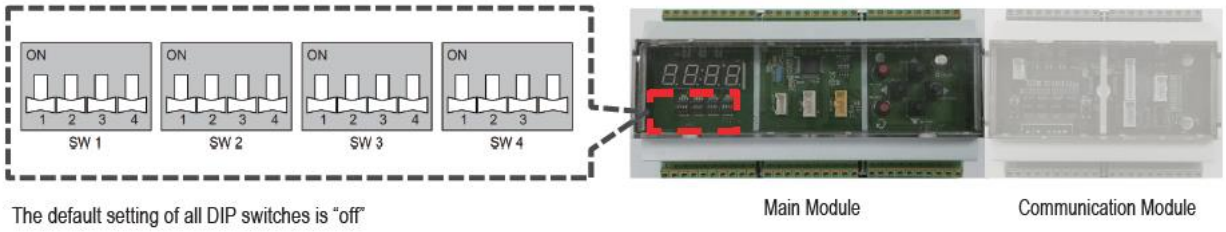


Figure 10. Main Module DIP Switches

S/W name	No	Item	Setting		Note
SW1	1	Control Type	On	Communication	Controlled by DDC through Modbus or LG centralized controller
			Off	Contact Signal	Controlled by DDC through Contact signal AI and DI LG Centralized controller can only monitor status
	2	Discharge Temp. Control Type	On	Stand alone	Discharge temp. control by LG controller using own discharge temp. sensor
			Off	Manual by DDC	Discharge temp. control by DDC using field supplied discharge temp. sensor
	3	Defrost Operation Type	On	Normal	In case of multiple outdoor units, Defrost operation can be operated simultaneously
			Off	Sequential Start up	In case of multiple outdoor units, the outdoor unit is sequentially started at intervals of 10 minutes
	4	Central Communication Type	On	LG Central Comm	Modbus Communication
			Off	-	Not Used
SW2	1	ODU Capacity Control(1)	On	ODU Capacity Setting #2	ODU capacity control #2
			Off	ODU Capacity Setting #1	ODU capacity control #1
	2	Reserved	-	-	-
	3	Reserved	-	-	-
	4	Reserved	-	-	-
SW3	1	Reserved	-	-	-
	2	Reserved	-	-	-
	3	Reserved	-	-	-
	4	Reserved	-	-	-
SW4	1	Reserved	-	-	-
	2	Reserved	-	-	-
	3	Reserved	-	-	-
	4	Reserved	-	-	-

Notes: (1) Refer to the Installation Manual for ODU Capacity Controls

Table 4. Main Module DIP Switch Settings

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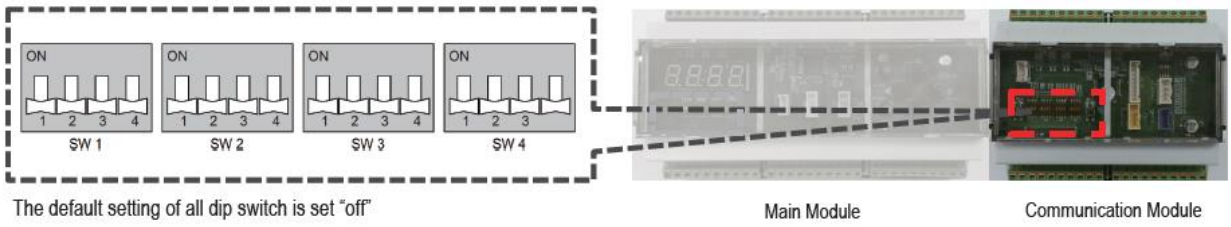


Figure 11. Communications Module DIP Switches

S/W name	No	Item	Setting		Note
SW1	1	ODU Type	On	Single Comm	Using Single Split outdoor unit
			Off	Multi V Comm	Using Multi V outdoor unit
	2	Control Type	On	Communication	Controlled by Modbus between modules
			Off	Contact signal	Not used
	3	DO Type	On	Fan Speed	Not used
			Off	Status	Not used
	4	Fan Speed (TH. On/Off)	On	Fixed	Not used
			Off	Change	Not used
SW2	1	Reserved	-	-	-
	2	Reserved	-	-	-
	3/4	UI Setting(1)	Off/Off	UI Setting #1	Not used
			Off/On	UI Setting #2	Not used
			On/Off	-	-
			On/On	-	-
SW3	1	Master/Slave	On	Slave mode	Not used
			Off	Master mode	Master is default
	2/3	Operation mode setting	Off/Off	Heat Pump	Cooling or Heating operation mode is available
			Off/On	Heating Only	Operation mode is Heating only (Heating/Ventilation)
			On/Off	Cooling Only	Operation mode is Cooling only (Cooling/Ventilation)
			On/On	Reserved	-
	4	Reserved	-	-	-
SW4	1-4	Capacity Index Setting	-	-	According to ODU Type, you can setup the capacity index of Multi V or Single Split

Notes: (1) Refer to the Installation Manual for UI settings

Table 5. Communications Module DIP Switch Settings

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DIP Switch Application with Thermostats – PAHCMS000



Supply Air Kit Application Using 3rd Party Controller - Main Module DIP Switches		
DIP Switch	Switch Number	Setting
SW1	1	OFF
	2	OFF
	3	OFF
	4	OFF
SW2	1	OFF
	2	OFF
	3	OFF
	4	OFF
SW3	1	OFF
	2	OFF
	3	OFF
	4	OFF
SW4	1	OFF
	2	OFF
	3	OFF
	4	OFF

Note: Outdoor unit central control address must be set to “01”

Figure 12. Supply Air Kit Application Using 3rd Party Controller (Main Module)

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Supply Air Kit Application Using 3rd Party Controller - Comm. Module DIP Switches		
DIP Switch	Switch Number	Setting
SW1	1	OFF
	2	ON
	3	OFF
	4	OFF
SW2	1	OFF
	2	OFF
	3	OFF
	4	OFF
SW3	1	OFF
	2	OFF
	3	OFF
	4	OFF
SW4	1	See capacity chart
	2	
	3	
	4	

Note: Outdoor unit central control address must be set to “01”

Figure 13. Supply Air Kit Application Using 3rd Party Controller (Comm. Module)

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Comm Kit Combinations

Combination Options

Model		Multi V				Multi V Water		
		5	IV	III	S	IV	II	Mini
Communication Kit	PAHCMR000	O	O	O	O	O	O	O
	PAHCMS000	O	O	O	O	O	O	X

Model		Single Split					
Capacity Index	kBtu/h	9	12	18	24	36	42
Communication Kit	PAHCMR000	O	O	O	O	O	O
	PAHCMS000	X	X	O	O	X	X

Table 6. Compatibility with Outdoor Units

Table 6 shows the compatibilities of the communication kits with different outdoor units. The return air communication kit (PAHCMR000) is compatible with Multi V 5, IV, III, S, Multi V Water IV, II and Mini. The supply air communication kit (PAHCMS000) is compatible with Multi V 5, IV, III, S, Multi V Water IV and II. The supply air communication kit is not compatible with Multi V Water Mini. The table also presents the compatibilities of the communication kits with Single Split models of different capacities.



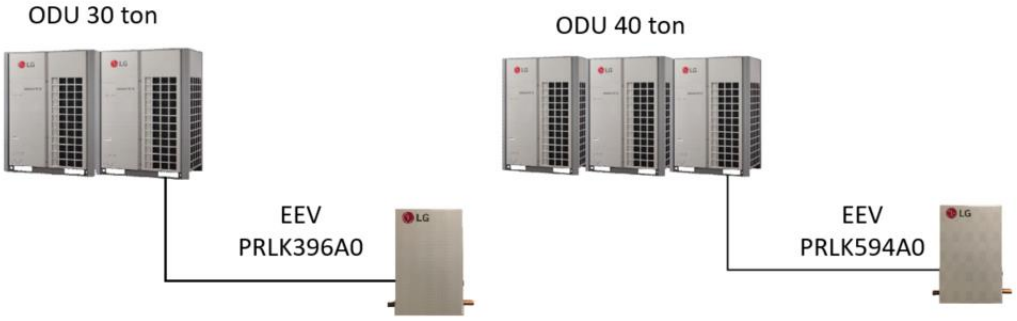
Figure 14. Communication Kit Combination

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EEV Kit Combinations

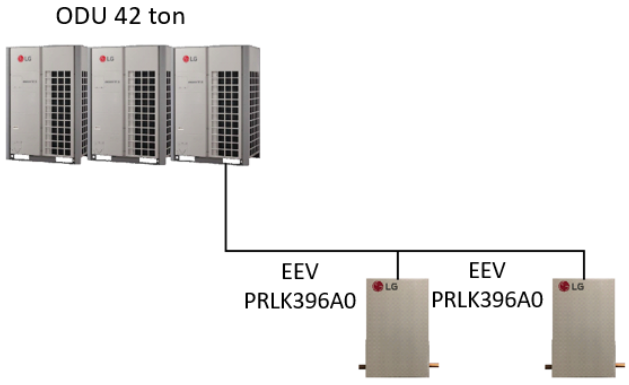
1:1 Combination

ODU	EEV Kit
-8 ton HP	(1) PRLK048A0
10-16 ton HP	(1) PRLK096A0
18-32 ton HP	(1) PRLK396A0
34-48 ton HP	(1) PRLK594A0



1:2 Combination

Example ODU	EEV Kit
16 ton HP	(2) PRLK048A0
32 ton HP	(2) PRLK096A0
42 ton HP	(2) PRLK396A0



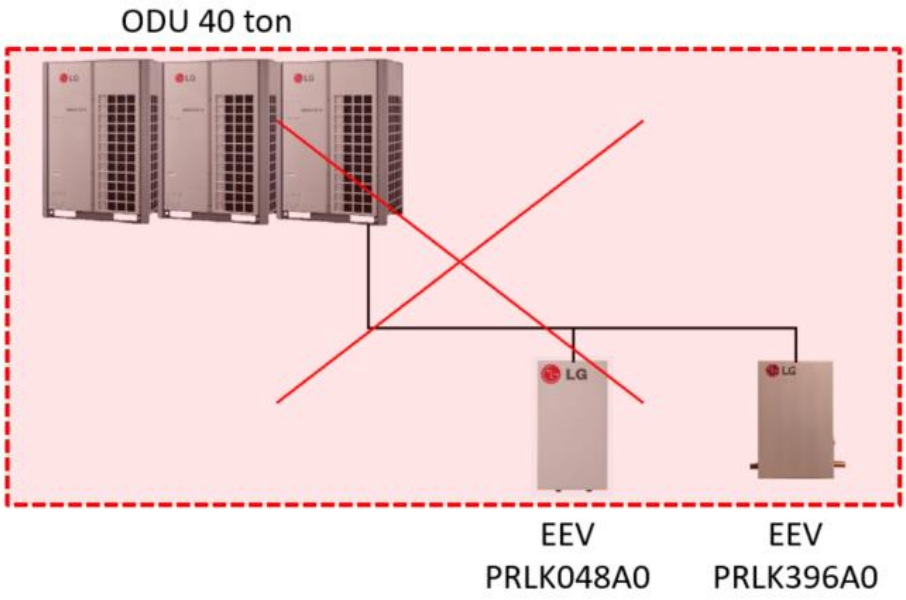
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PRLK048/096A0 + PRLK396/594A0 Combination – Not Possible

➔ PRLK048/096A0 + PRLK396/594A0 combination is not allowed

- PRLK048A0 + PRLK396A0
- PALK048A0 + PRLK594A0
- PRLK096A0 + PALK396A0
- PRLK096A0 + PRLK594A0

Example ODU	EEV Kit
40 ton Heat Pump	PRLK048A0 + PRLK396A0

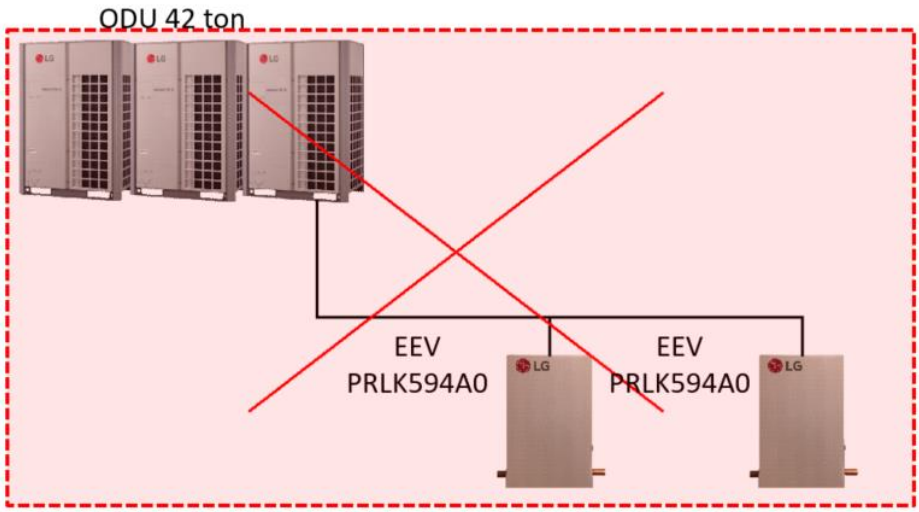


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PRLK594A0 + PRLK594A0 Combination – Not Possible

➔ PRLK594A0 + PRLK594A0 combination is not allowed

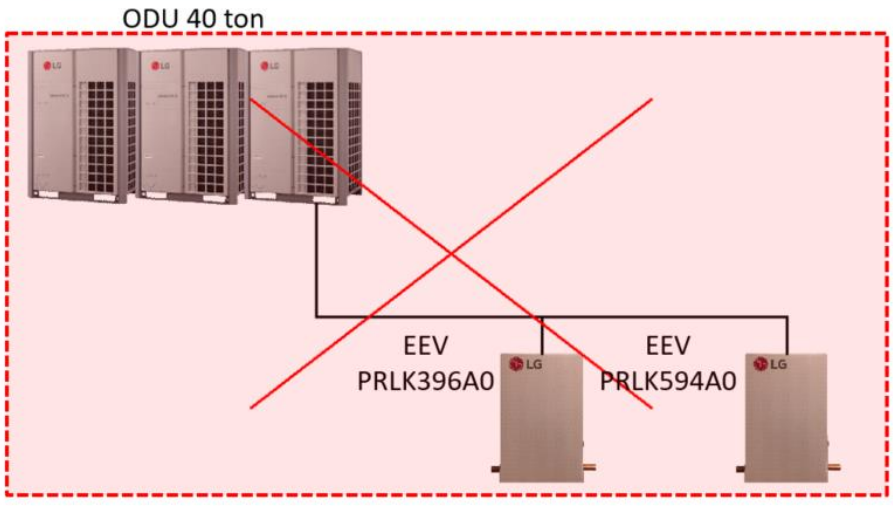
Example ODU	EEV Kit
42 ton Heat Pump	PRLK594A0 + PRLK594A0



PRLK396A0 + PRLK594A0 Combination – Not Possible

➔ PRLK396A0 + PRLK594A0 combination is not allowed

Example ODU	EEV Kit
40 ton Heat Pump	PRLK396A0 + PRLK594A0

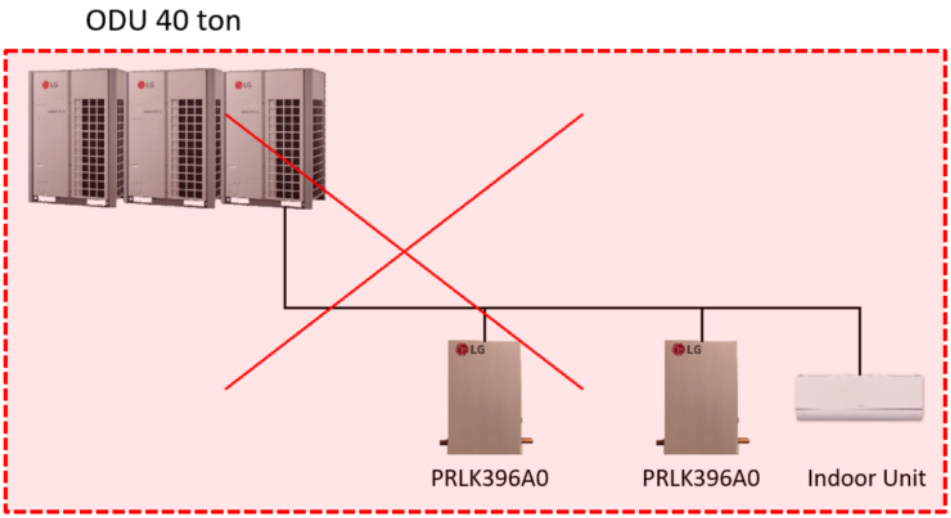


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EEV + IDU Combination – Not Possible

➔ PRLK396/594A0 + Indoor Unit combination is not allowed

Example ODU	EEV Kit
40 ton Heat Pump	PRLK396/594A0 + Standard IDU



EEV Kit Combination Ratio

- Heat pump system

Combination	Total	AHU	Indoor units	Expansion kit type
Pair (1 ODU to 1 AHU)	90 - 105%	-105%	-	EEV kit
Multiple (1 ODU to multiple AHUs)	90 - 110%	-110%	-	EEV kit
Multiple (1 ODU to multiple AHUs + indoor units)	50 - 110%	-50%	50 - 110%	EEV kit
	50 - 130%	-30%	50 – 130%	EEV kit

Note: 1. Combination ratio (%) = Sum of total capacity index / Outdoor unit rated cooling capacity
2. A DX coil capacity should be less than or equal to 100% of the outdoor unit capacity

Table 7. EEV Kit Combination Ratio for Heat Pump System

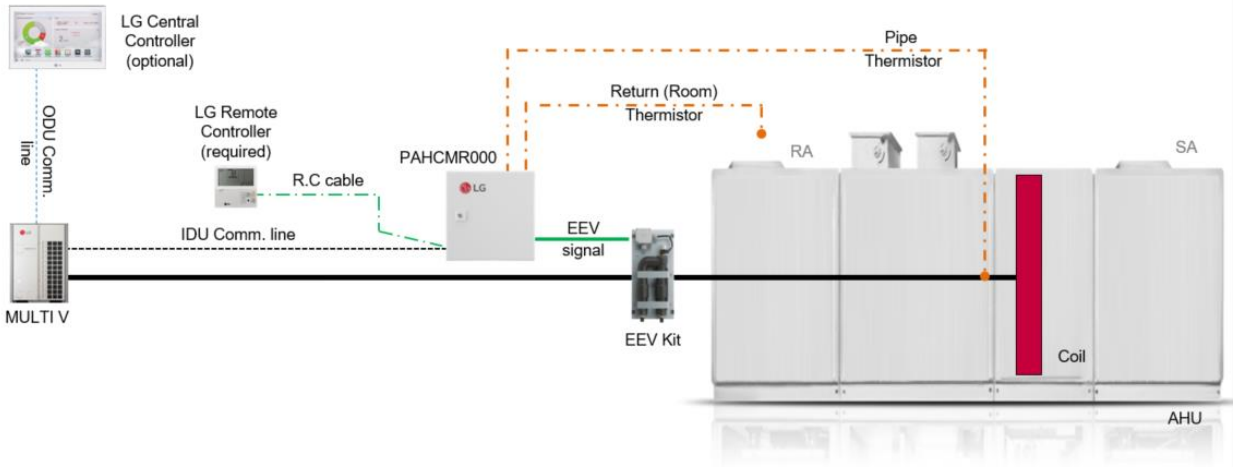
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Application Cases for Communication Kits

Return Air Control – 1-ODU System + 1 AHU (1 coil) + Controls

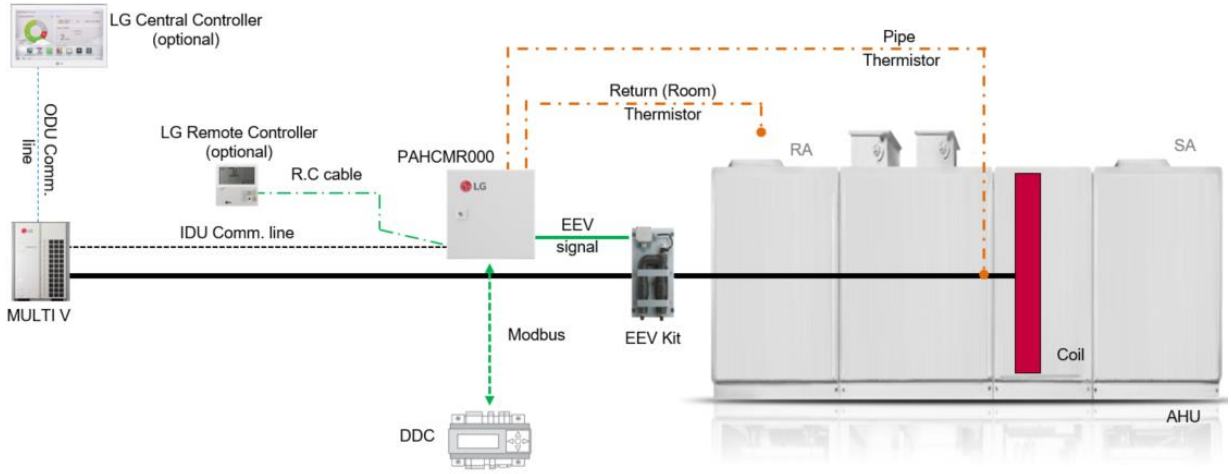
*LG thermostats with AHU conversion kit can only do single setpoint
LG thermostats with AHU conversion kit cannot do auto switchover mode

1. 1-ODU System + 1 AHU (1 coil) + LG Control



- 1 ODU can be connected with multiple EEV kits
- EEV kit should be connected with communication kit 1:1

2. 1-ODU System + 1 AHU (1 coil) + DDC (Modbus)



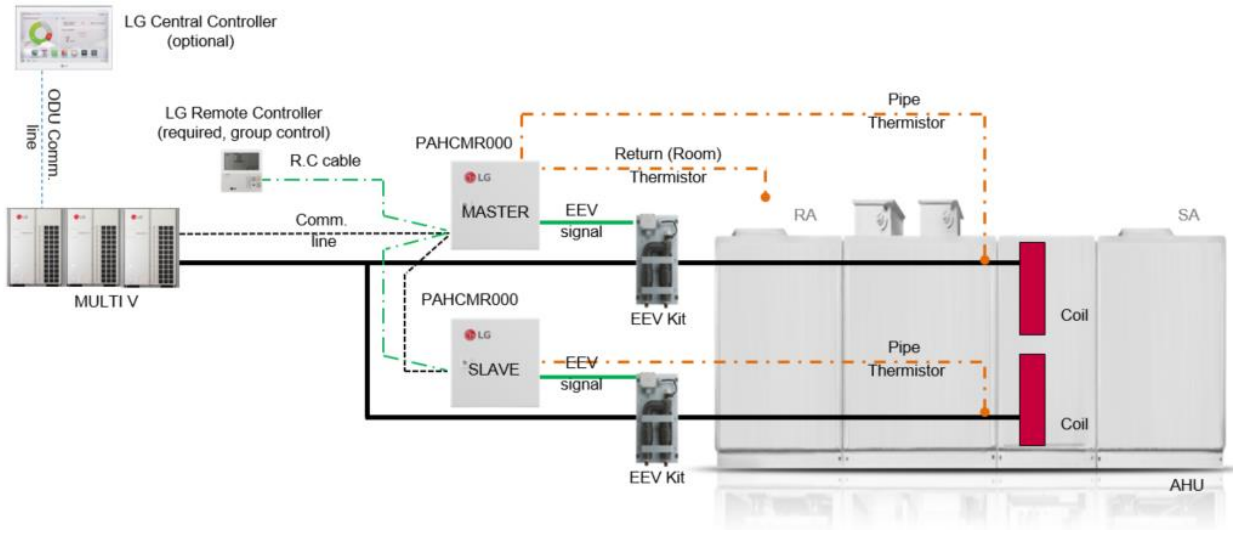
- 1 ODU can be connected with multiple EEV kits
- EEV kit should be connected with communication kit 1:1
- LG Remote Controller and LG Central Controller are optional

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Return Air Control – 1-ODU System + 1 AHU (2 coil) + Controls

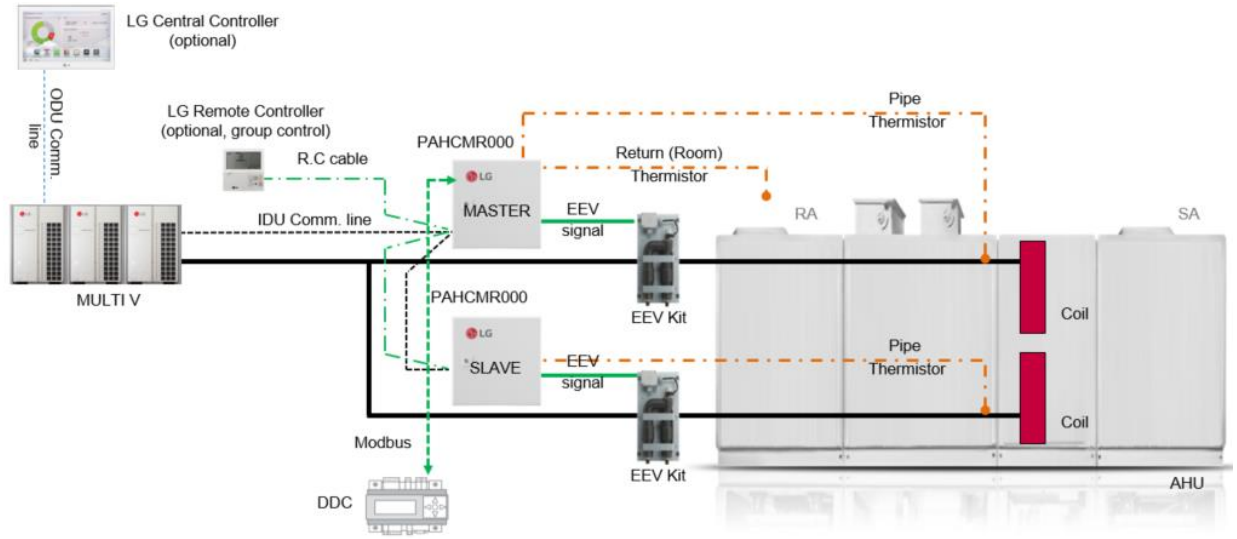
*LG thermostats with AHU conversion kit can only do single setpoint
LG thermostats with AHU conversion kit cannot do auto switchover mode

1. 1-ODU System + 1 AHU (2 coils) + LG Control



- 1 ODU can be connected with multiple EEV kits
- 1 Communication kit & 1 EEV kit are necessary for each coil
- Group control of coils is needed normally

2. 1-ODU System + 1 AHU (2 coils) + DDC (Modbus)



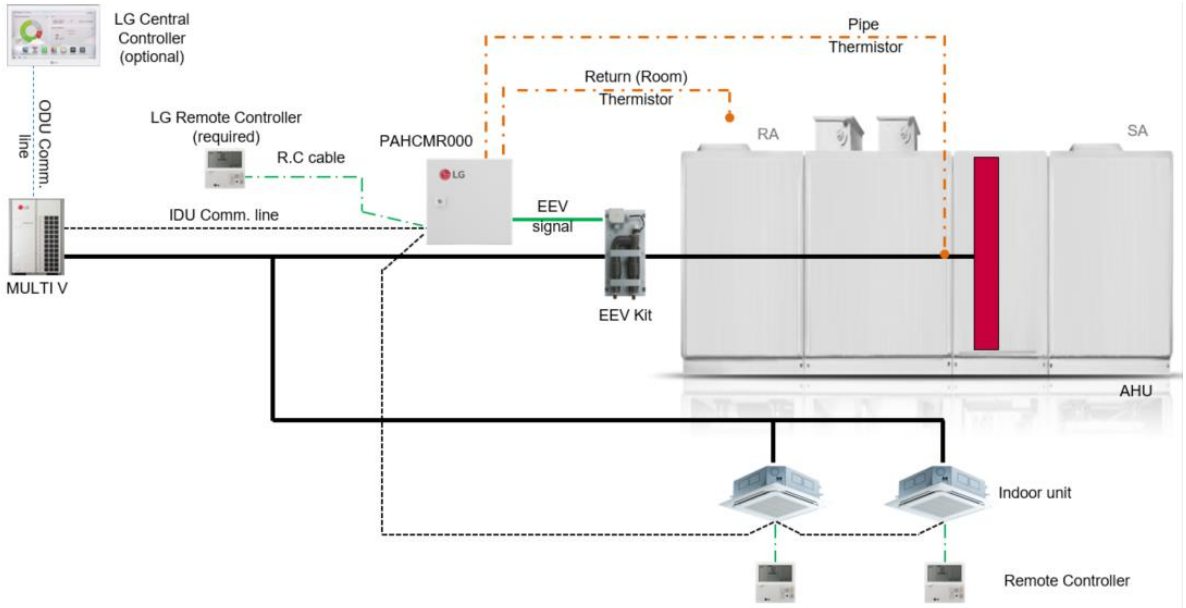
- 1 ODU can be connected with multiple EEV kits
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- Group control of coils is need normally

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Return Air Control – 1-ODU System + 1 AHU (1 coil) + IDU + Controls

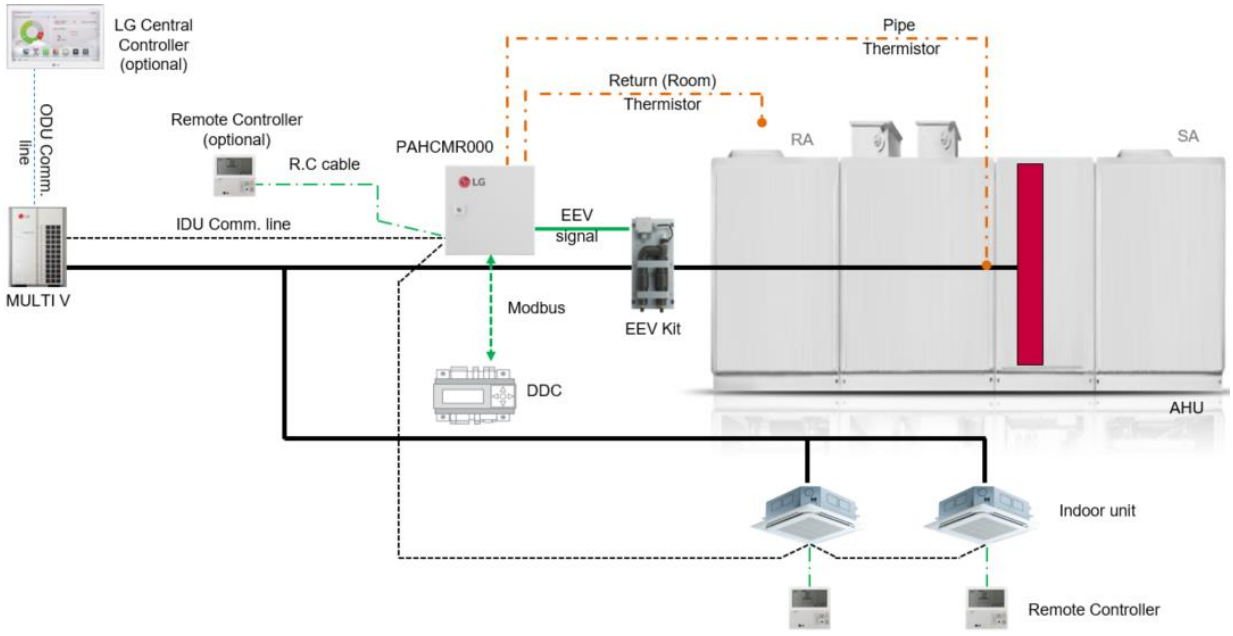
*LG thermostats with AHU conversion kit can only do single setpoint
LG thermostats with AHU conversion kit cannot do auto switchover mode

1. 1-ODU System + 1 AHU (1 coil) + Indoor Units + LG Control



- 1 ODU can be connected with multiple EEV kits
- EEV kit can be used with other indoor units
- 1 communication kit & 1 EEV kit are necessary for each coil

2. 1-ODU System + 1 AHU (1 coil) + Indoor Units + DDC (Modbus)



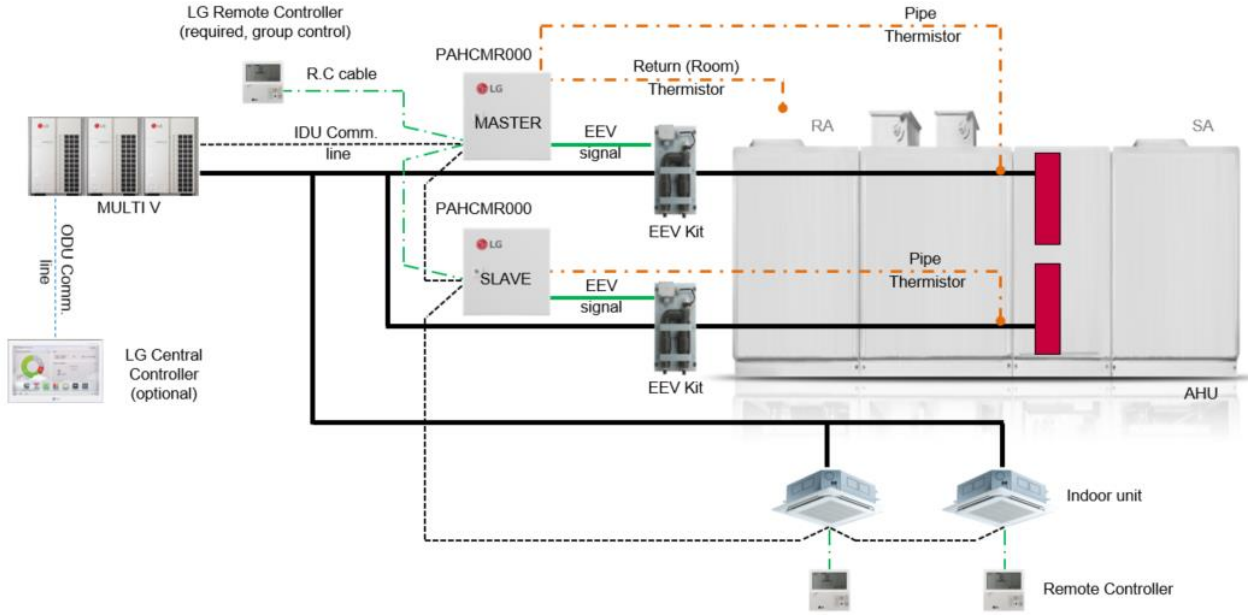
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- 1 ODU can be connected with multiple EEV kits
- EEV kit can be used with other indoor units
- 1 communication kit & 1 EEV kit are necessary for each coil

Return Air Control – 1-ODU System + 1 AHU (2 coil) + IDU + Controls

*LG thermostats with AHU conversion kit can only do single setpoint
LG thermostats with AHU conversion kit cannot do auto switchover mode

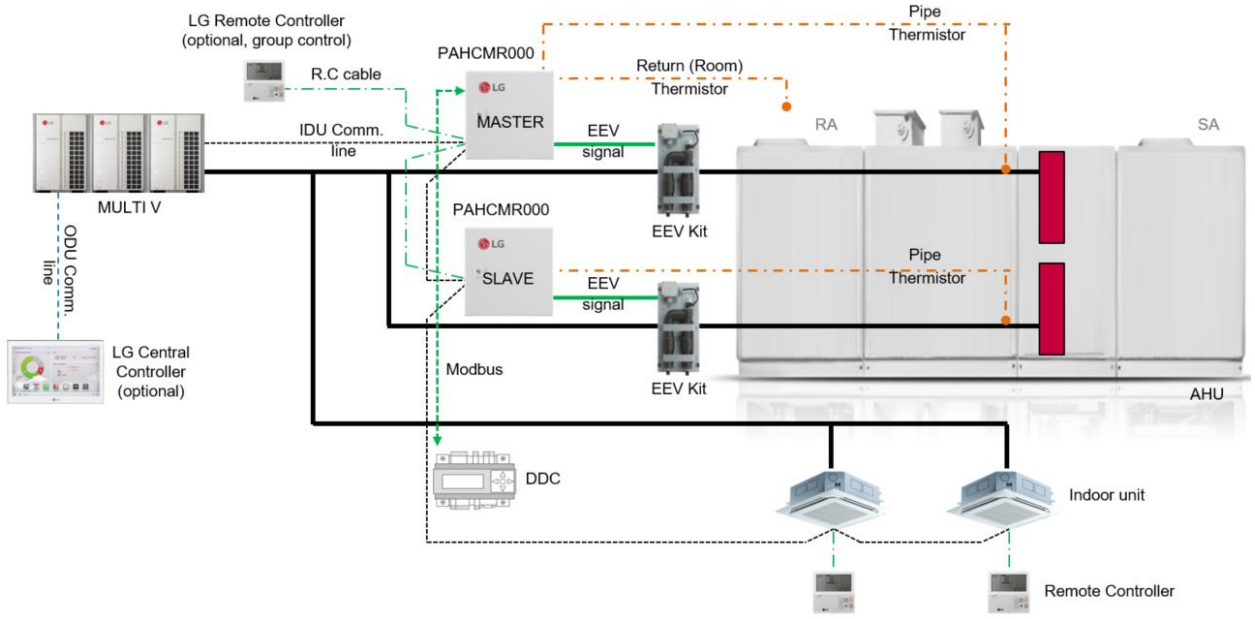
1. 1-ODU System + 1 AHU (2 coils) + Indoor Units + LG Control



- 1 ODU can be connected with multiple EEV kits
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2. 1-ODU System + 1 AHU (2 coils) + Indoor Units + DDC (Modbus)

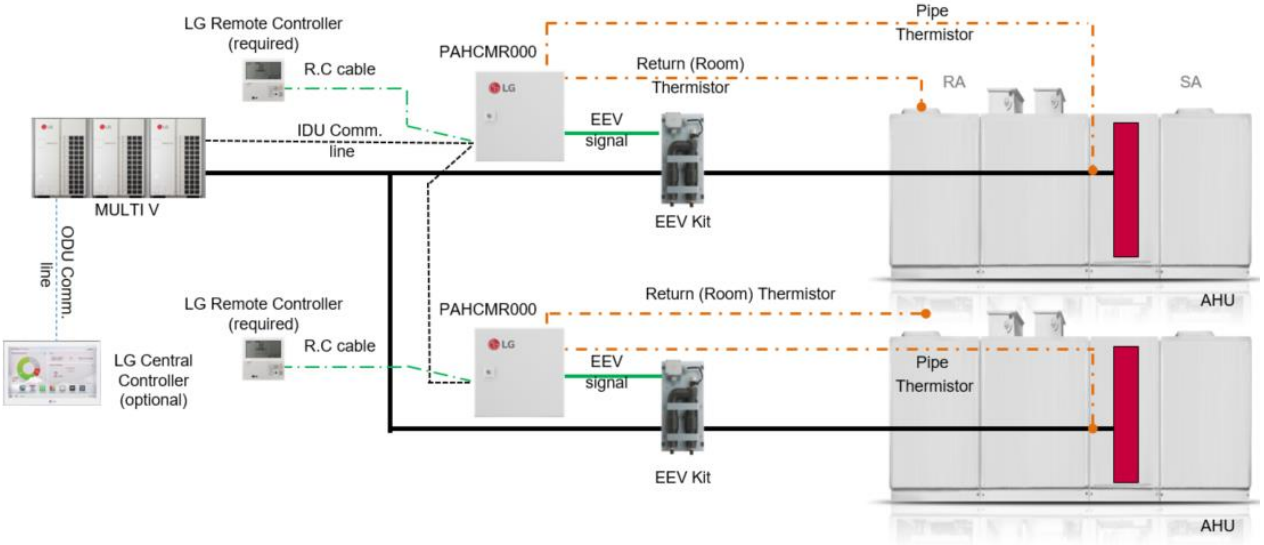


- 1 ODU can be connected with multiple EEV kits
- EEV kit can be used with other indoor units
- 1 communication kit & 1 EEV kit are necessary for each coil

Return Air Control – 1-ODU System + Multiple AHU's + Controls

*LG thermostats with AHU conversion kit can only do single setpoint
LG thermostats with AHU conversion kit cannot do auto switchover mode

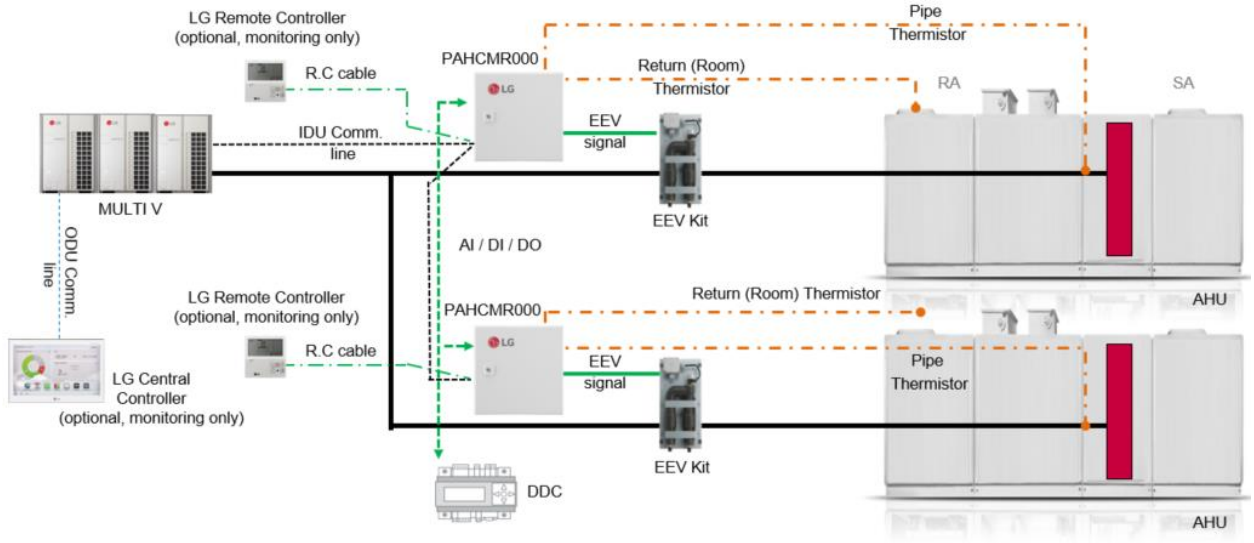
1. 1-ODU System + Multiple AHU's + LG Control



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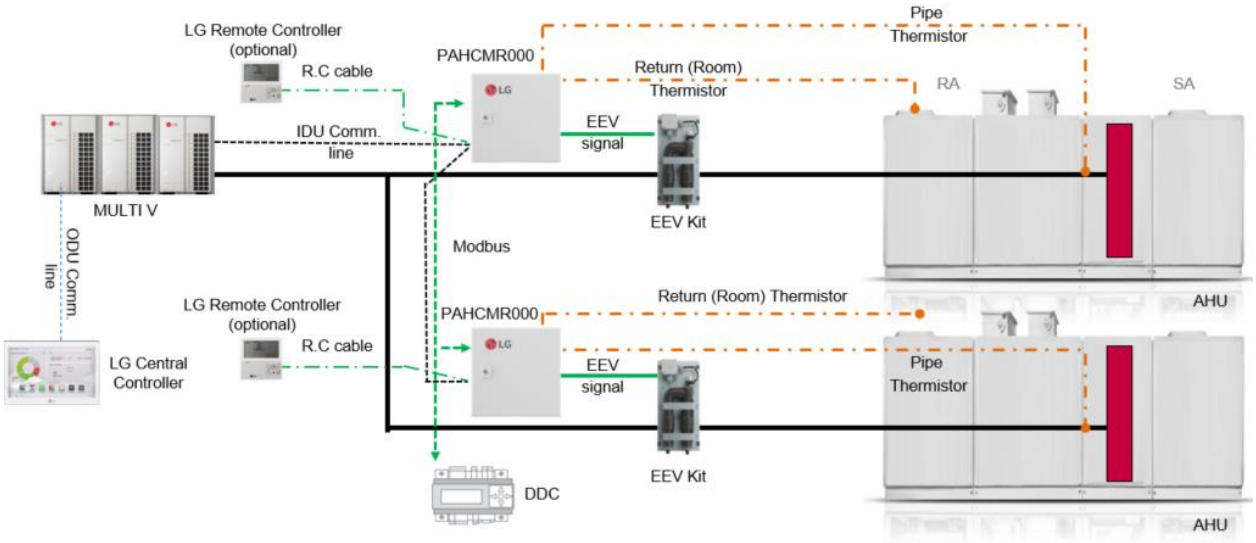
- 1 ODU can be connected with multiple EEV kits
- EEV kits can be used with other indoor units
- 1 communication kit & 1 EEV kit are necessary for each coil

2. 1-ODU System + Multiple AHU's + DDC (Contact)



- 1 ODU can be connected with multiple EEV kits
- EEV kits can be used with other indoor units
- 1 communication kit & 1 EEV kit are necessary for each coil
- LG Remote Controller and LG Central Controller can be used for monitoring only

3. 1-ODU System + Multiple AHU's + DDC (Modbus)



- 1 ODU can be connected with multiple EEV kits

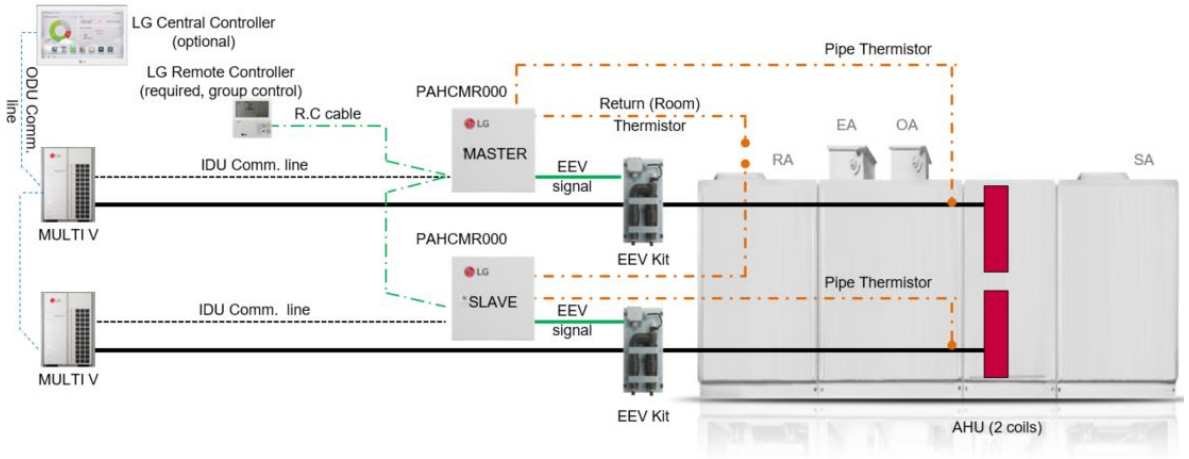
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- EEV kits can be used with other indoor units
- 1 communication kit & 1 EEV kit are necessary for each coil

Return Air Control – 2-ODU System + 1 AHU (2 coils) + Controls

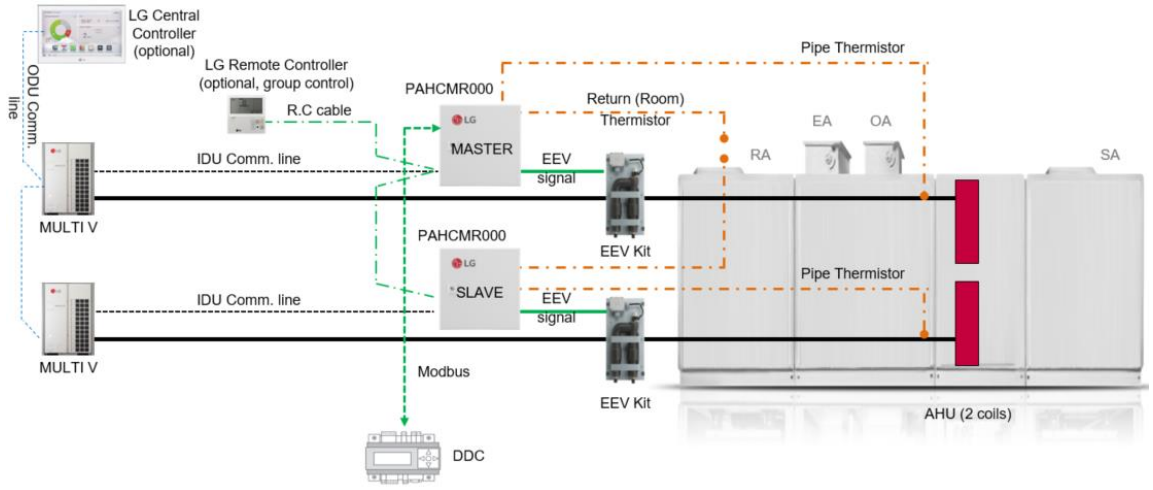
*LG thermostats with AHU conversion kit can only do single setpoint
LG thermostats with AHU conversion kit cannot do auto switchover mode

1. 2-ODU System + 1 AHU (2 coils) + LG Control



- 1 ODU can be connected with multiple EEV kits
- 1 communication kit & 1 EEV kit are necessary for each coil

2. 2-ODU System + 1 AHU (2 coils) + DDC (Modbus)



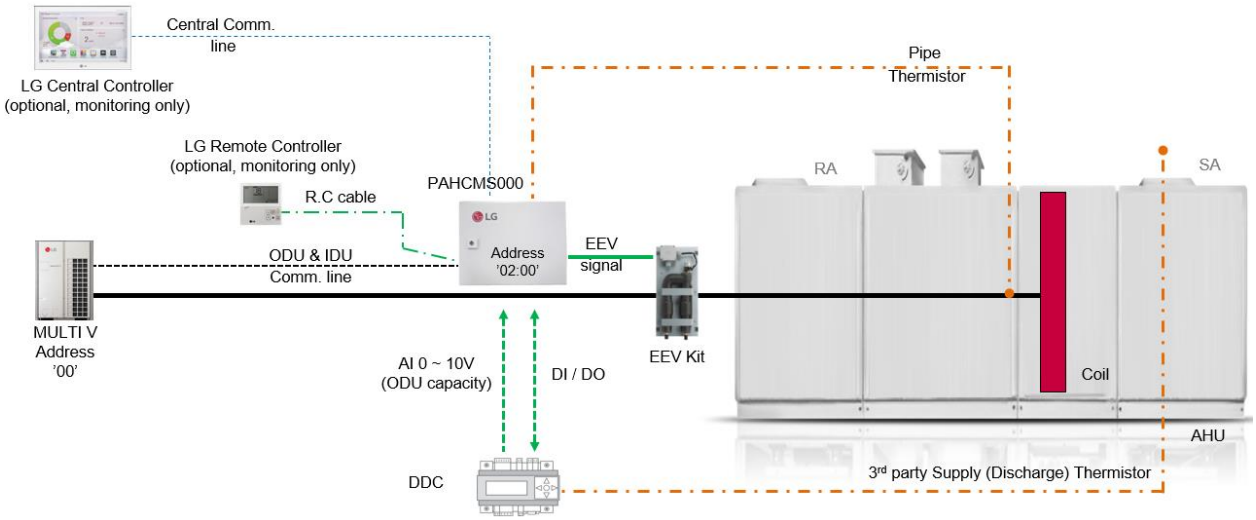
- 1 ODU can be connected with multiple EEV kits

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- 1 communication kit & 1 EEV kit are necessary for each coil

Supply Air Control – 1-ODU System + 1 AHU (1 coils) + Controls

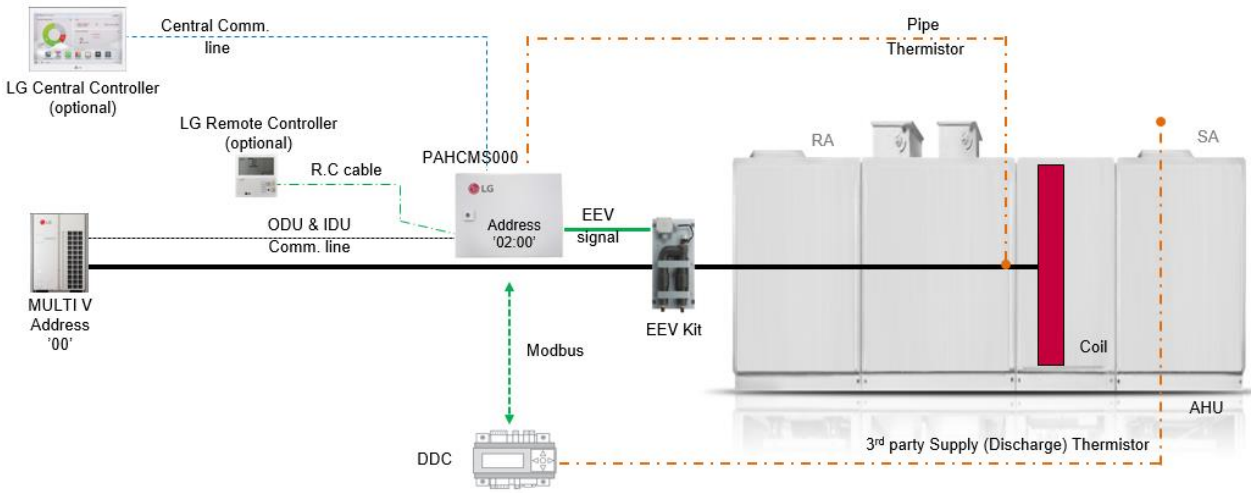
1. 1-ODU System + 1 AHU (1 coil) + DDC (Contact)



- DDC controls ODU capacity through the communication kit to meet required discharge air temperature
- 3rd party discharge thermistor is required to feedback ODU capacity to the communication kit
- LG Central Controller is connected directly to the communication kit, not to ODU
- Multi V ODU and communication kit (right side module) address should match for capacity control and can only be set as “00”, “01”, “02”, “03”
- LG Remote Controller and LG Central Controller can be used for monitoring only
- LG Central Control address must match Communication Kit (left side module) address which can be set using communication kit Tact buttons

2. 1-ODU System + 1 AHU (1 coil) + DDC (Modbus)

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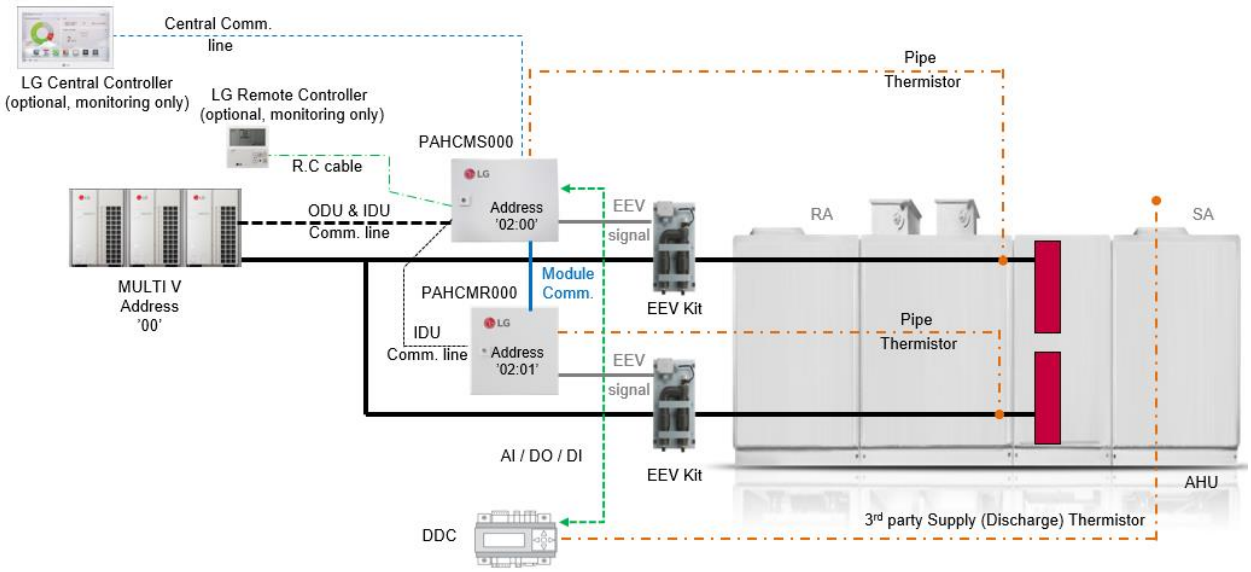


- With Modbus control, discharge air can be controlled in 2 methods
  1) ODU Capacity Control (3rd party discharge thermistor is required)
     a) DDC controls ODU capacity through communication kit to meet required discharge air temperature
     b) 3rd party discharge thermistor is required to feedback ODU capacity to communication kit
- LG Central Controller is connected directly to the communication kit, not to ODU
- Multi V and communication kit address should be kept as “00” (default “00”)
- Multi V ODU and communication kit (right side module) address should match for capacity control and can only be set as “00”, “01”, “02”, “03”
- LG Central Control address must match Communication Kit (left side module) address which can be set using communication kit Tact buttons

Supply Air Control – 1-ODU System + 1 AHU (2 coils) + Controls

1. 1-ODU System + 1 AHU (2 coils) + DDC (Contact)

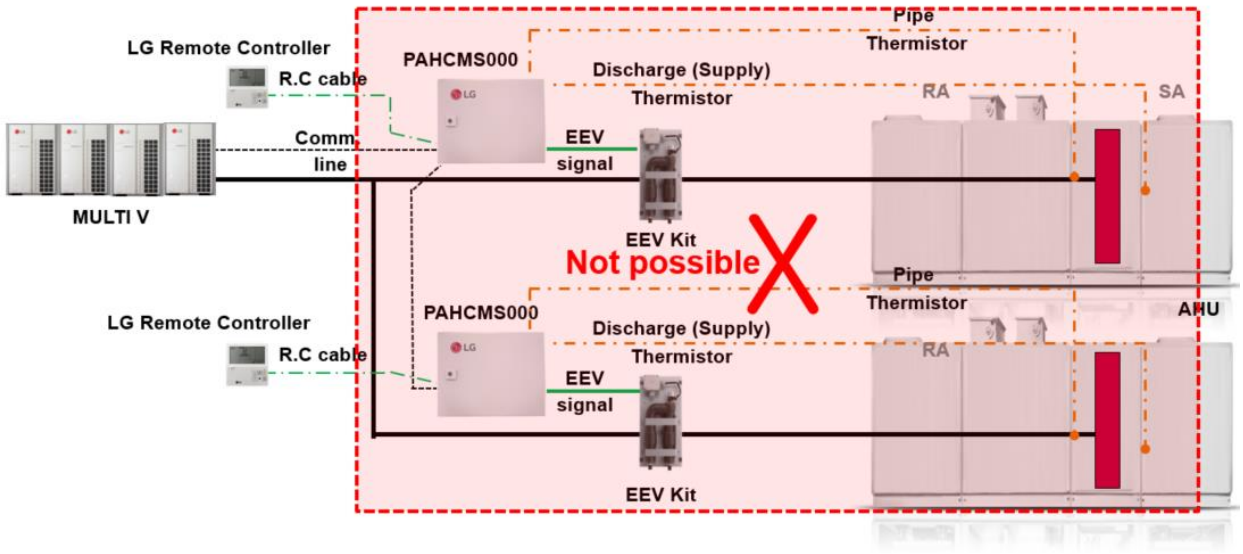
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- LG Central Controller is connected directly to communication kit (PAHCMS000), not to ODU
- EEV kits should be connected with communication kits 1:1
- Additional PAHCMR000 can be connected to expand the number of DX coil. Maximum of 3 return air communication kits can be used for 1 supply air communication kit – maximum applicable DX coil for 1 ODU system is 4
- LG Remote Controller and LG Central Controller can be used for monitoring only
- Multi V ODU and communication kit (right side module) address should match for capacity control and can only be set as “00”, “01”, “02”, “03”
- LG Central Control address must match Communication Kit (left side module) address which can be set using communication kit Tact buttons

Supply Air Control – 1-ODU System + Multiple AHU’s

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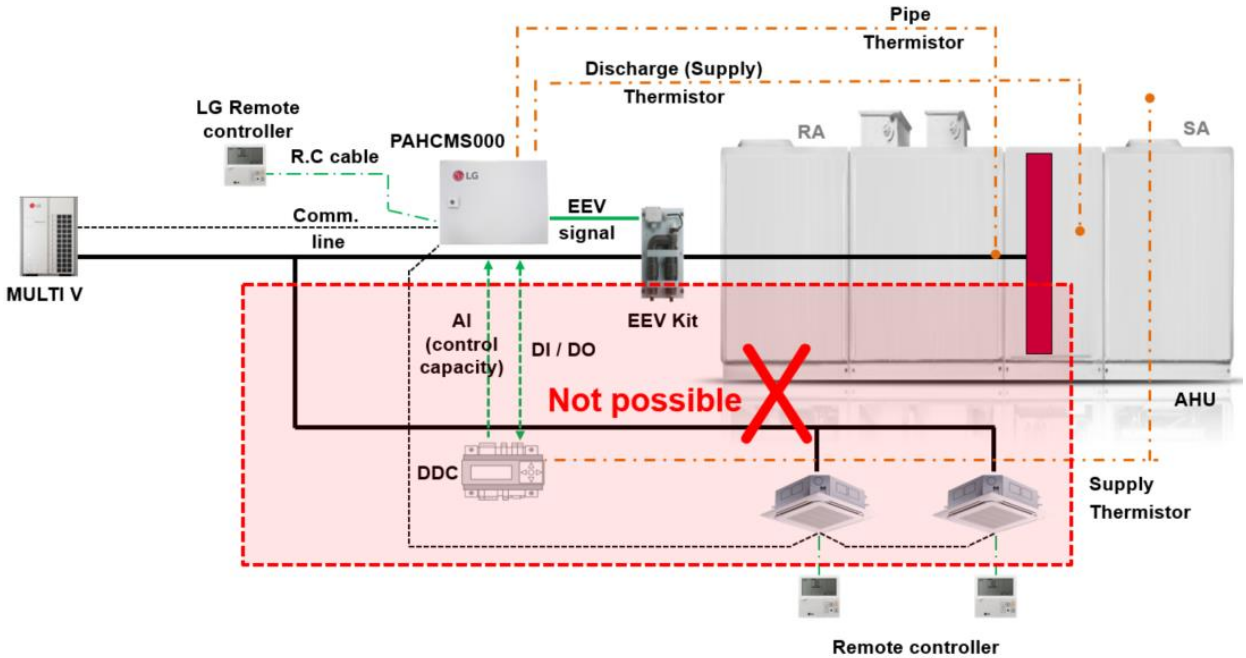


- For supply air control, single connection without another IDU or AHU is recommended

  : Supply air temperature control kit adjusts pressure (or AHU coil temperature) so 2 AHU's have the same coil temperature

- It is not possible to have different coil temperatures

Supply Air Control – 1-ODU System + 1 AHU (1 coil) + IDU's



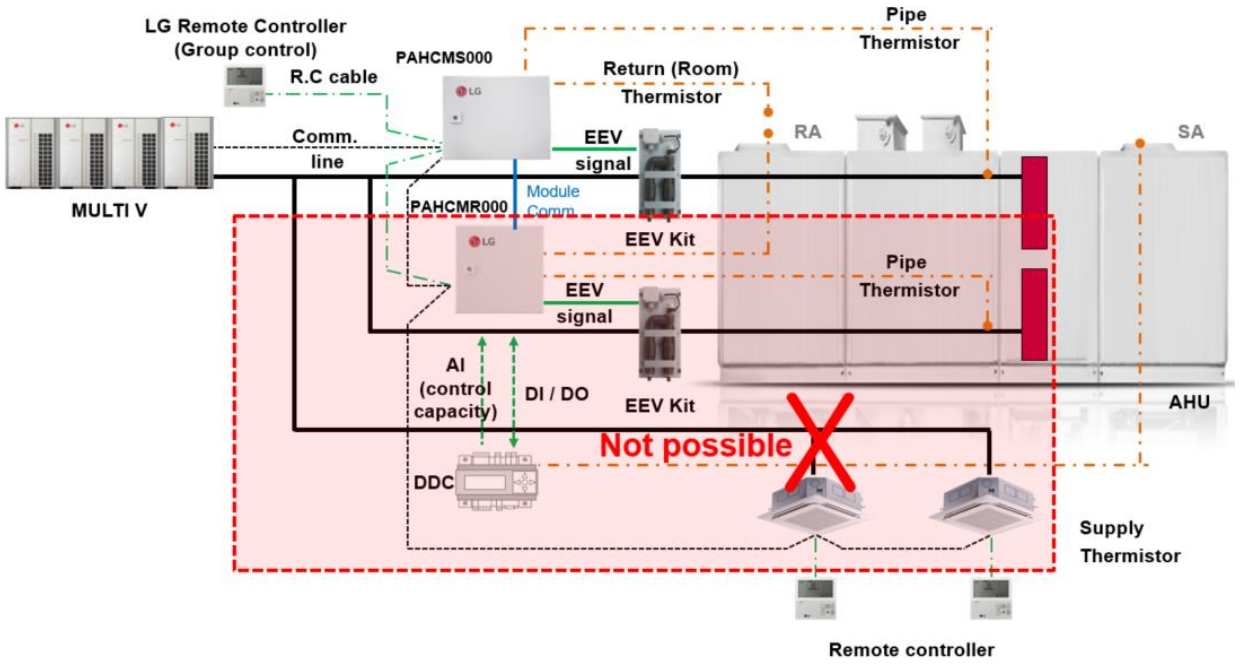
- For supply air control, single connection without another IDU or AHU is recommended

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: Supply air temperature control kit adjusts pressure (or AHU coil temperature)

- IDU capacity could be changed when supply air control kit controls AHU

Supply Air Control – 1-ODU System + 1 AHU (2 coils) + IDU's



- For supply air control, single connection without another IDU or AHU is recommended

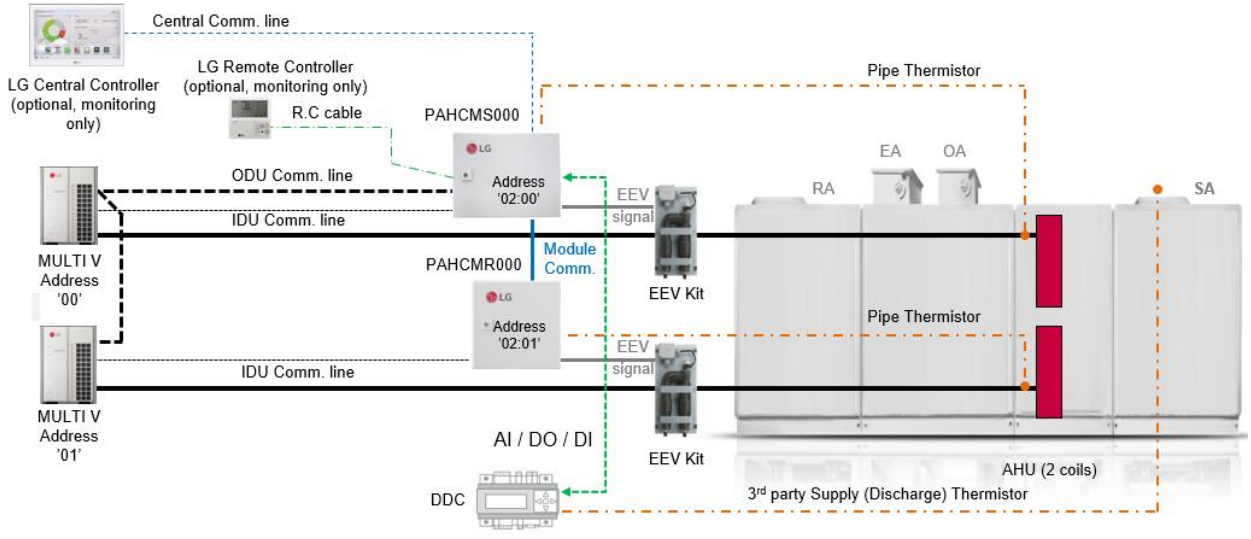
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: Supply air temperature control kit adjusts pressure (or AHU coil temperature)

- IDU capacity could be changed when supply air control kit controls AHU

Supply Air Control – 2-ODU System + 1 AHU (2 coils)

1. 2-ODU System + 1 AHU (2 coils) + DDC (Contact)

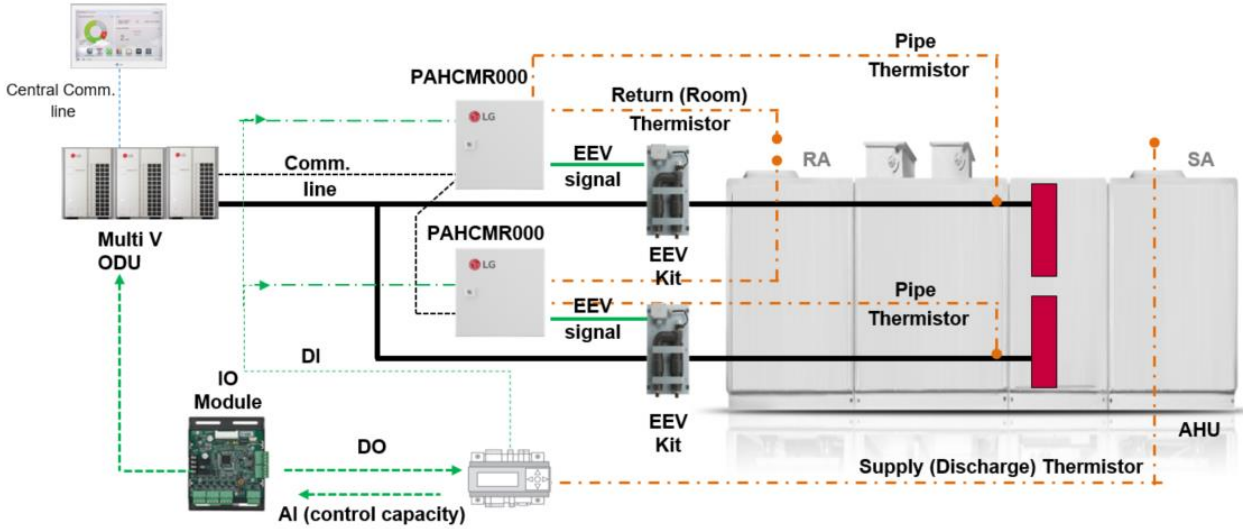


- LG Central Controller is connected directly to the communication kit (PAHCMS000), not to ODU
- EEV kits should be connected with communication kits 1:1

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- Additional PAHCMR000 can be connected to expand the number of DX coil. Maximum of 3 return air communication kits can be used for 1 supply air communication kit – maximum applicable DX coil for 1 ODU system is 4
- LG remote controller and LG central controller can be used for monitoring only
- Multi V ODU and communication kit (right side module) address should match for capacity control and can only be set as “00”, “01”, “02”, “03”
- LG Central Control address must match Communication Kit (left side module) address which can be set using communication kit Tact buttons

Supply Air Control – 1-ODU System + 1 AHU (2 coils) + I/O Module + DDC Control



- I/O Modules (PRVC2 and PWFCKN000) have capacity control feature built-in

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- LG Central controller can be connected to ODU

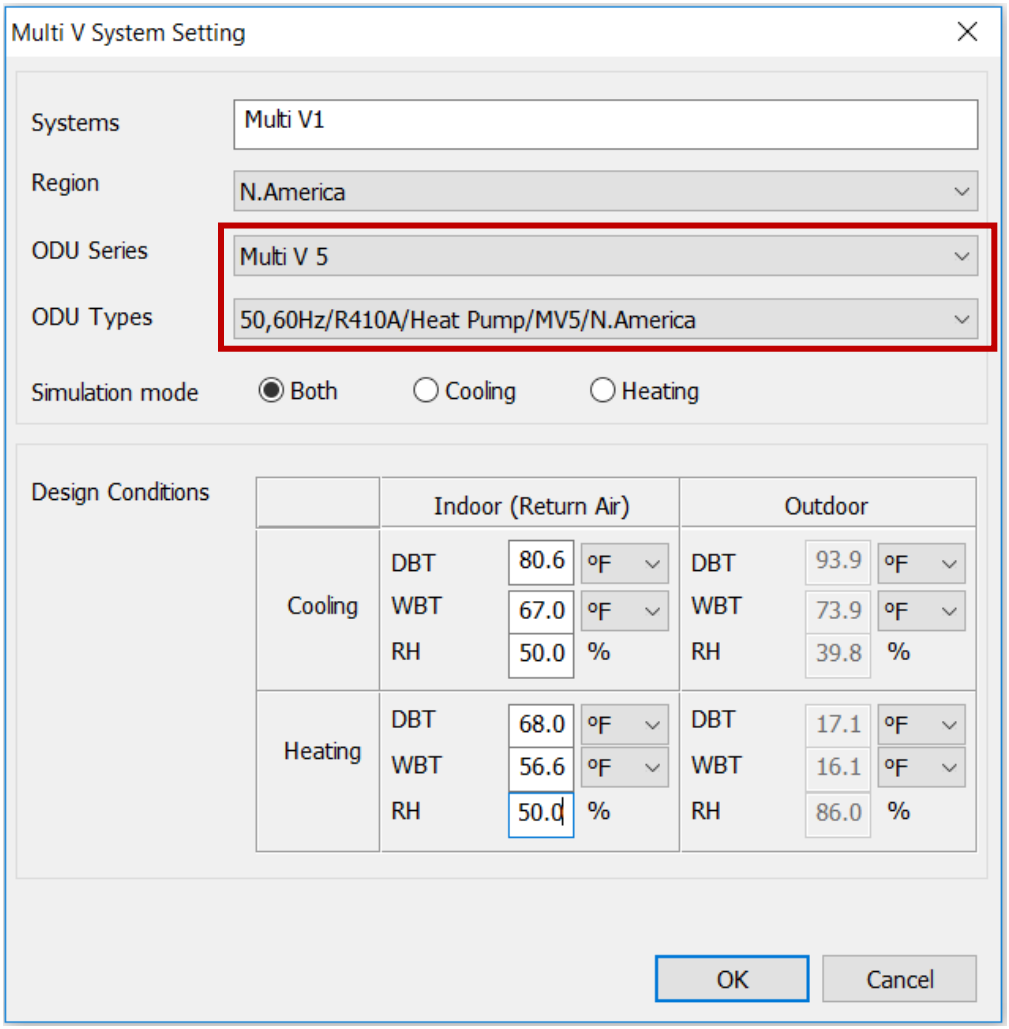
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Example AHU Kit for Large AHU

Components Required

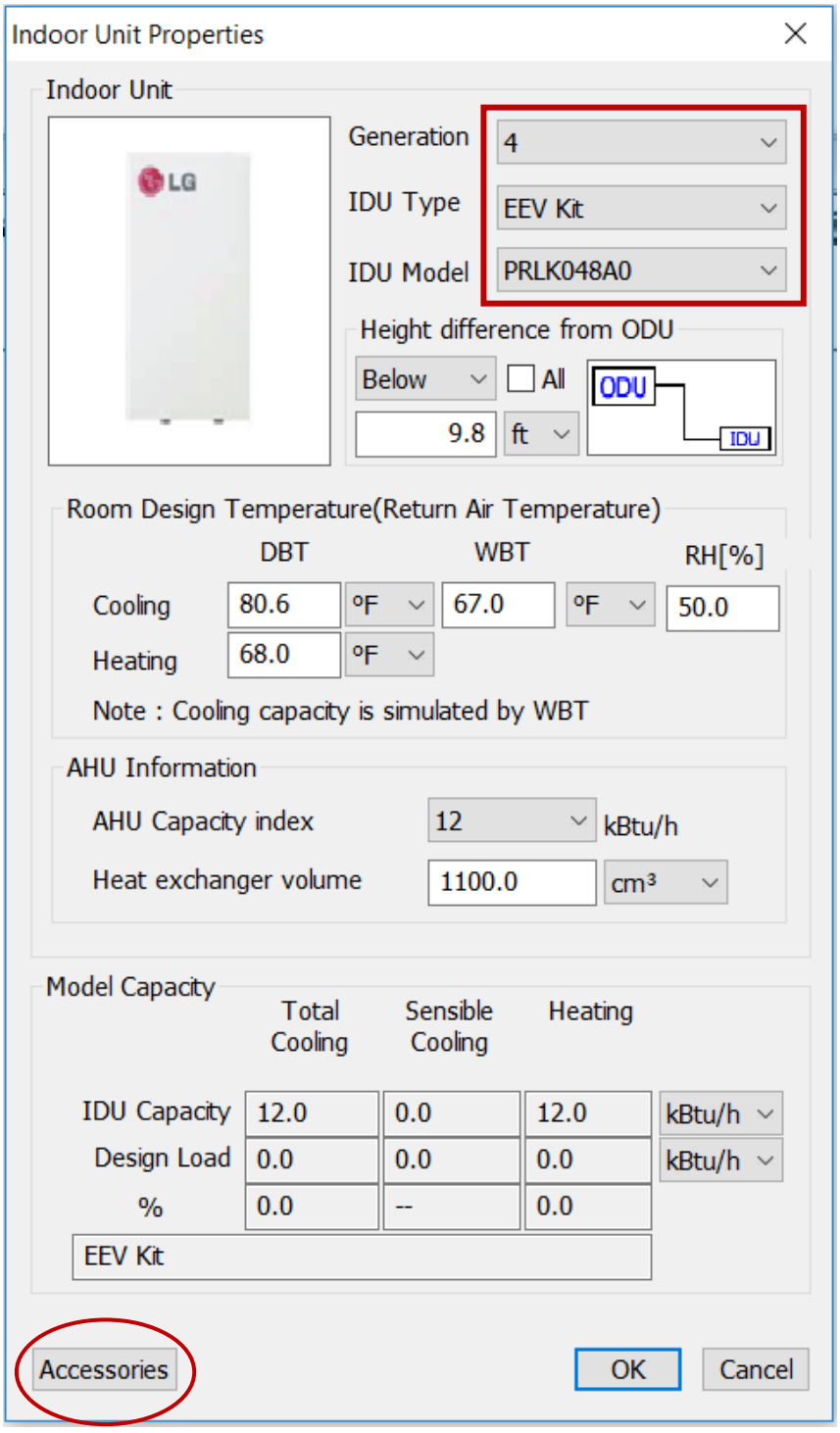
- LG Wired Controller
- PAHCMS000 Communication Kit (Supply Air)
- EEV Kit
- Multi V ODU
- 3rd Party AHU

Selecting in LATS HVAC



When creating your LATS HVAC project, make sure to choose a Multi V Outdoor Unit. Note that PAHCMS000 Units are only compatible with Heat Pump systems.

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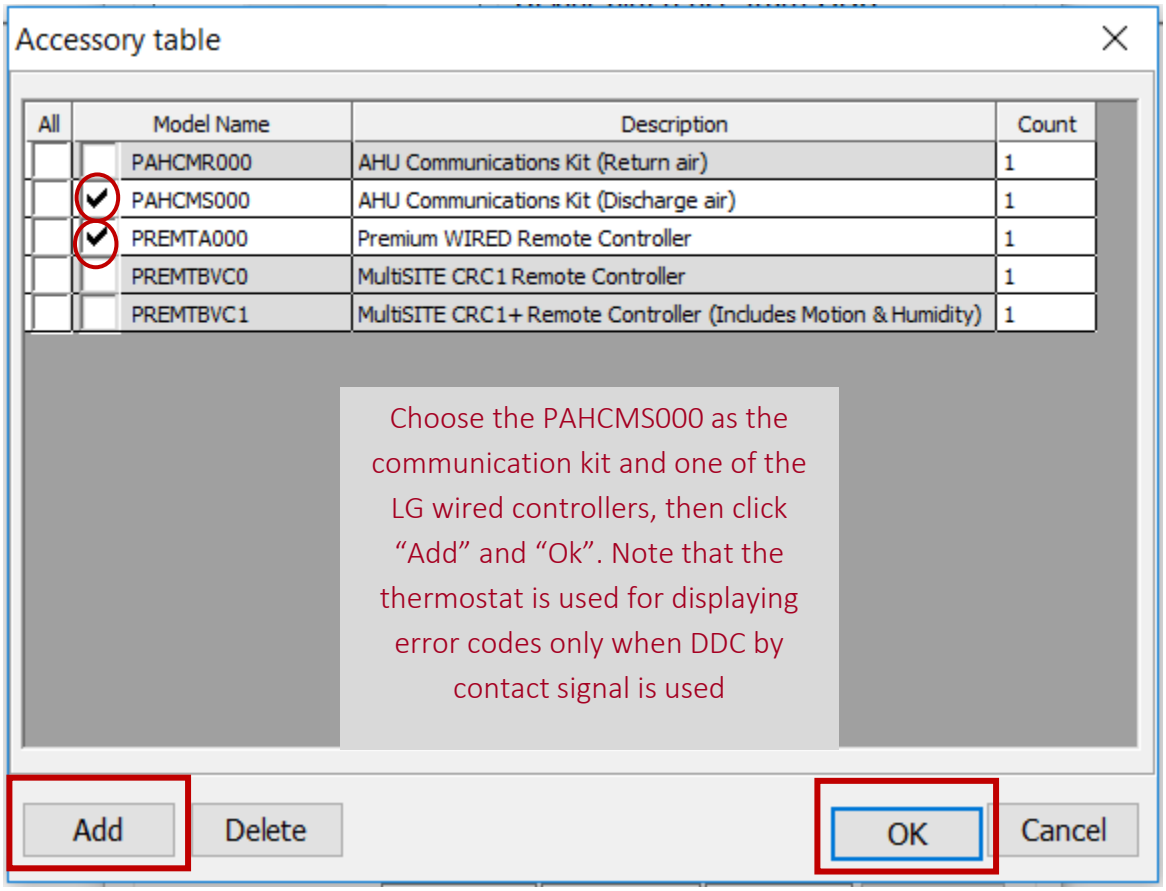


When selecting an indoor Unit, choose “EEV Kit” under IDU Type.

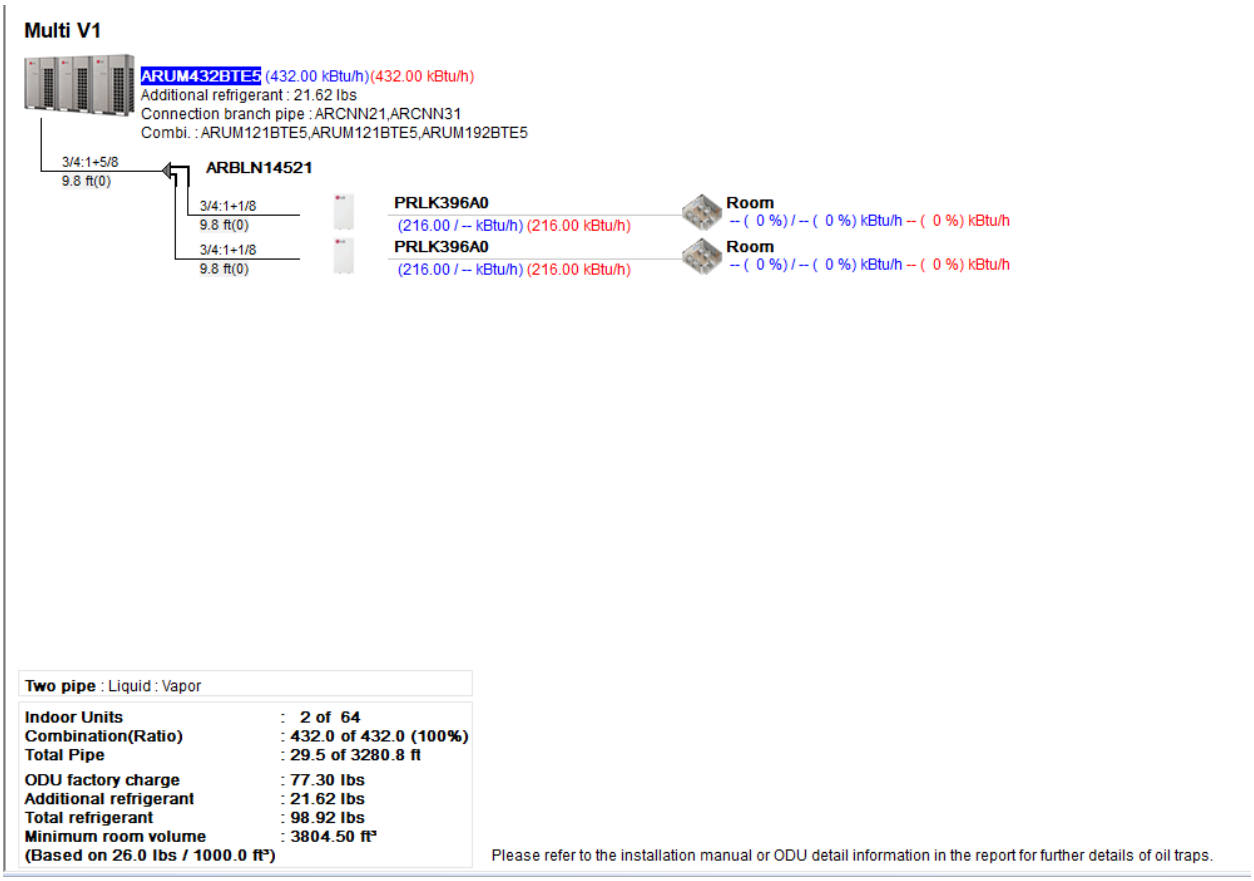
PRLK048A0, PRLK096A0, PRLK396A0 and PRLK594A0 are available EEV kit choices

After selecting the EEV Kit, click on “Accessories” to add the Comm. Kit and thermostat

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Here's an example of a Large AHU system in LATS HVAC. The combination ratios in Table 6 should be followed when designing with the AHU kits.

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Application Types



Figure 15. VAV/Central Station Air Handler



Figure 16. Rooftop Air Handler

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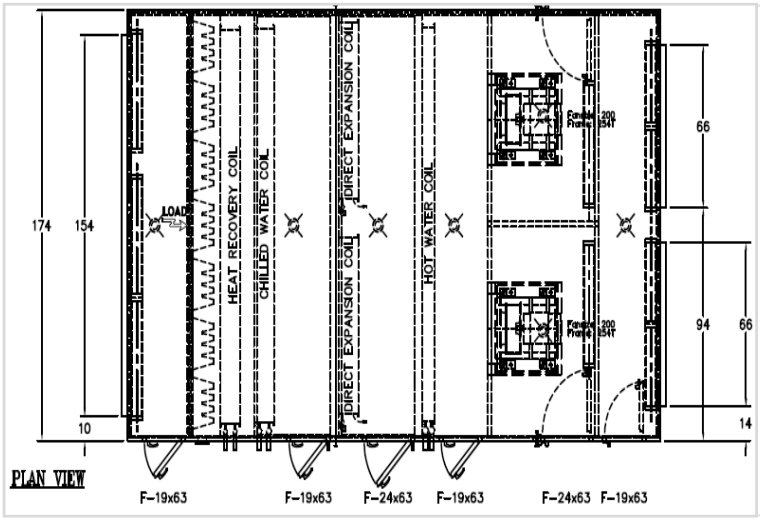


Figure 17. Custom Air Handler

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Application Examples

Office Building





Outdoor Unit	Indoor Units	Controller
MV-V Water IV HP (64 Tons)	33,000 CFM AHU x 1	3rd Party BMS

- PAHCMS000 Comm. Kit for outside air pre-conditioning to meet specific discharge air temperature.
- MV-Water IV units mounted, piped, and wired at AHU manufacturer.

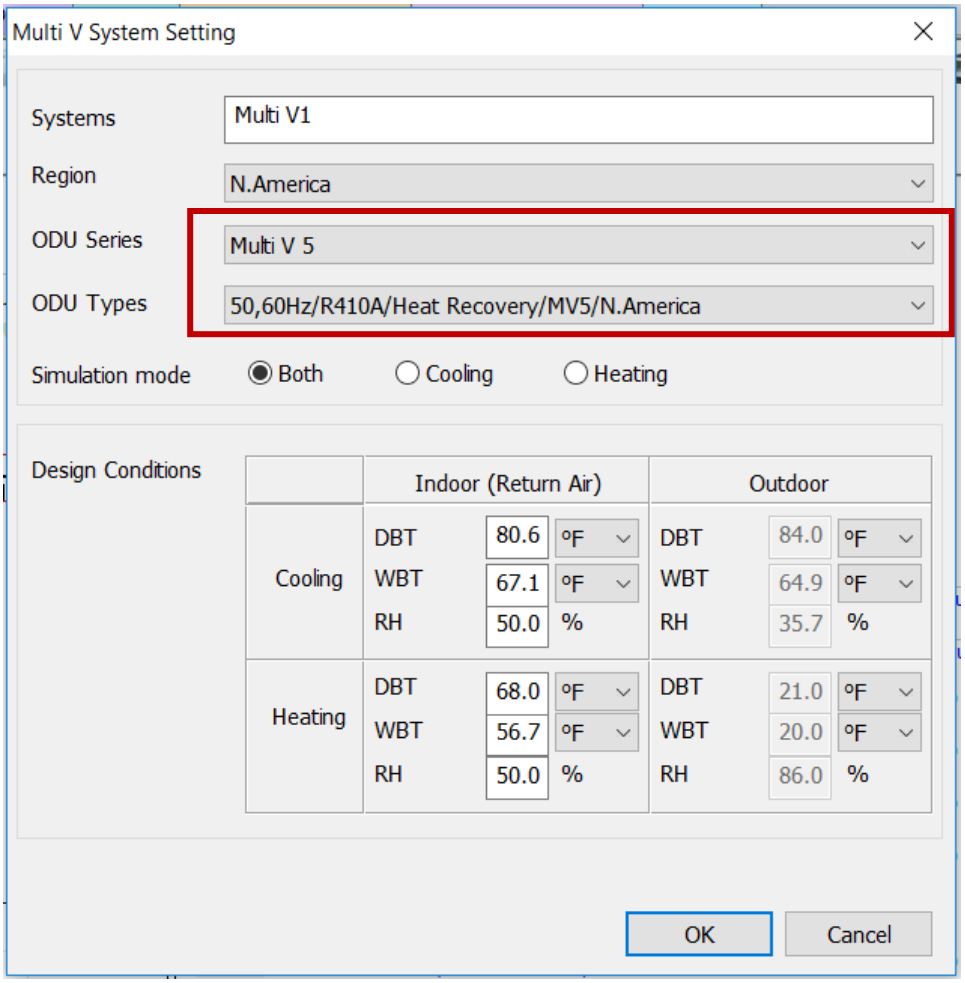
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AHU Conversion Kit for Small AHU

Components Required

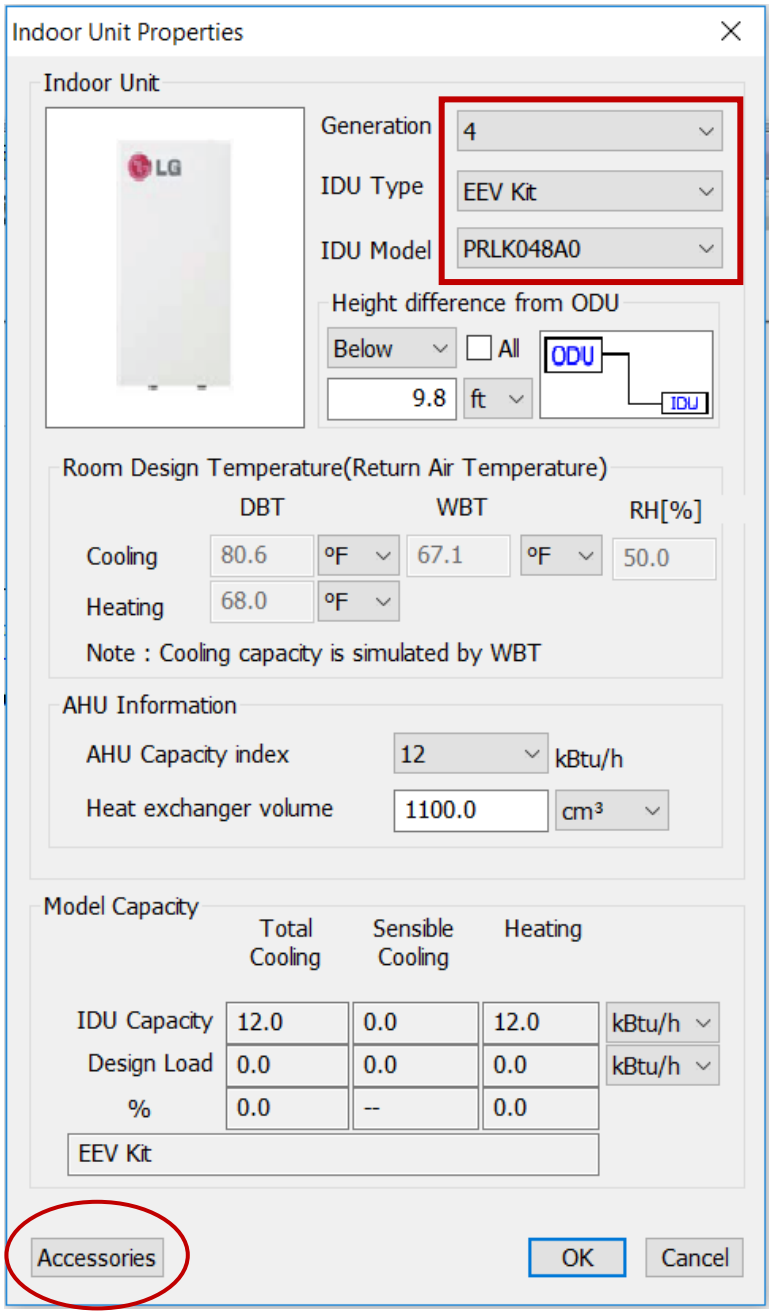
- PAHCMR000 Communication Kit (Return Air)
- EEV Kit
- Multi V ODU
- LG wired controller
- 3rd Party AHU

Selecting in LATS HVAC



When creating your LATS-HVAC project, make sure to choose a Multi V Outdoor Unit. Note that both PAHCMR000 and PAHCMS000 units are compatible with both Heat Recovery and Heat Pump systems.

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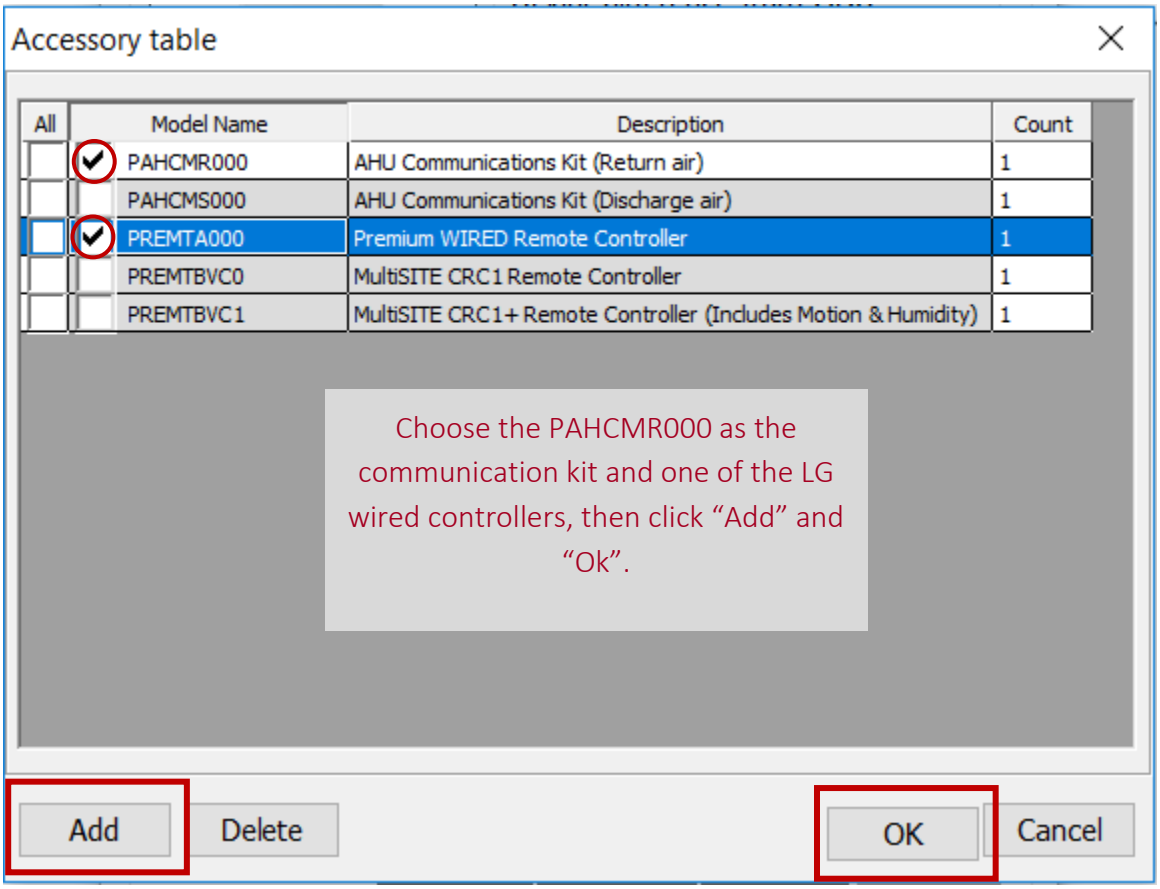


When selecting an indoor Unit, choose “EEV Kit” under IDU Type.

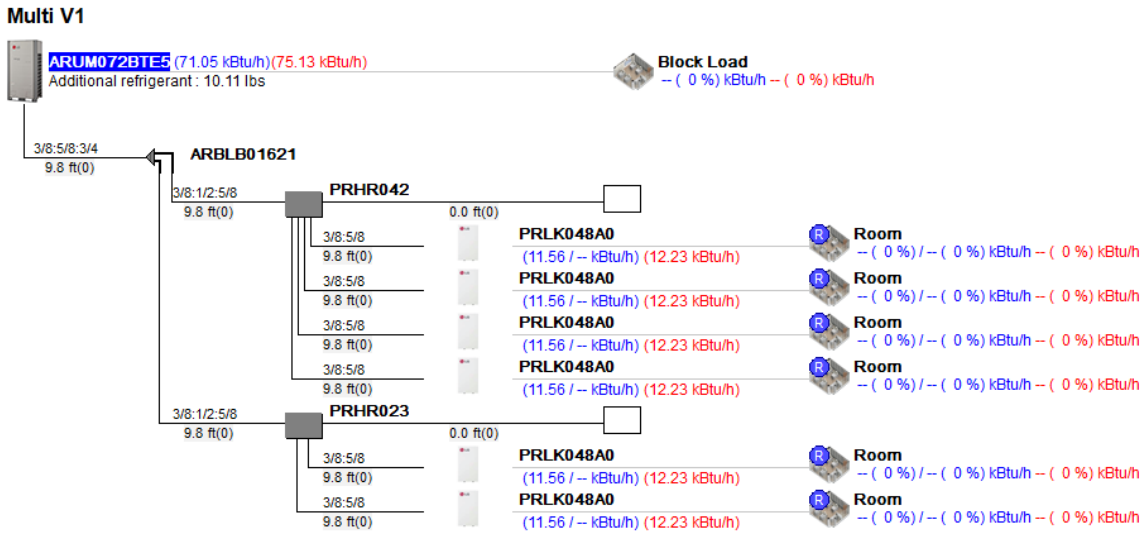
For Heat Recovery systems, only PRLK48A0 can be used.

After selecting the EEV Kit, click on “Accessories” to add the Comm. Kit and thermostat

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Here's an example of a Small AHU system in LATS-HVAC. The combination ratio should follow the rules in the combination ratio table (Table 6).

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Application Types

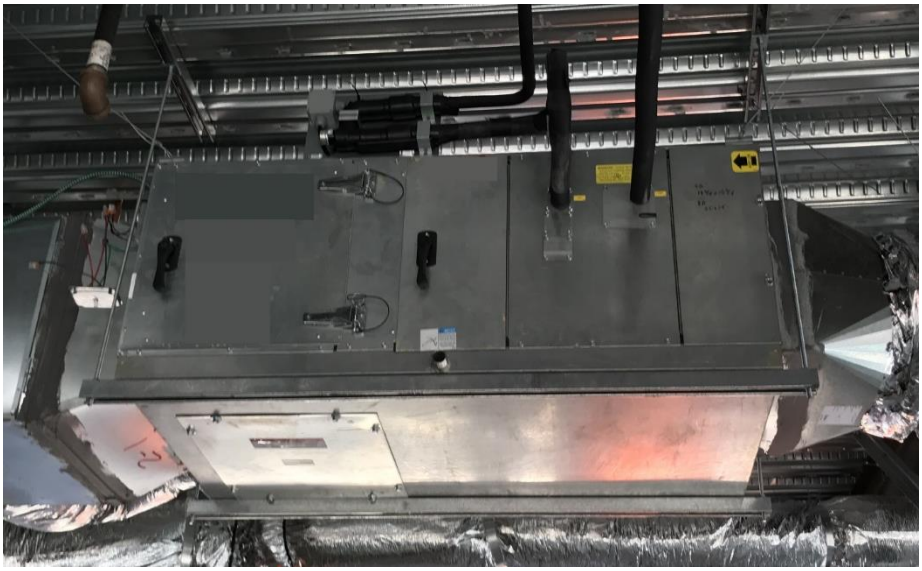


Figure 18. High Filtration

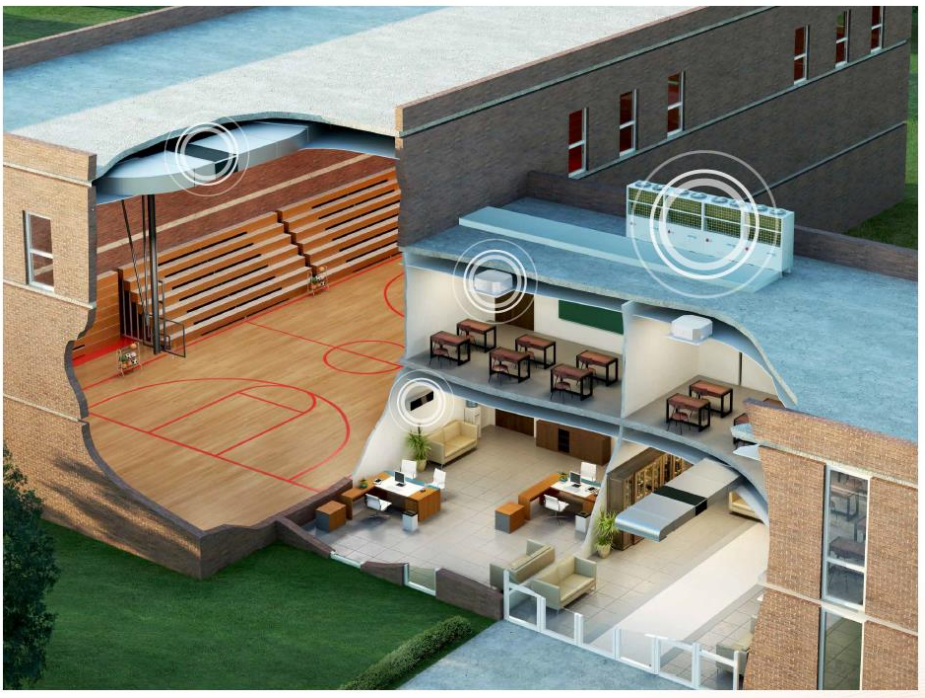


Figure 19. Large Gym Area

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Application Examples

Restaurant

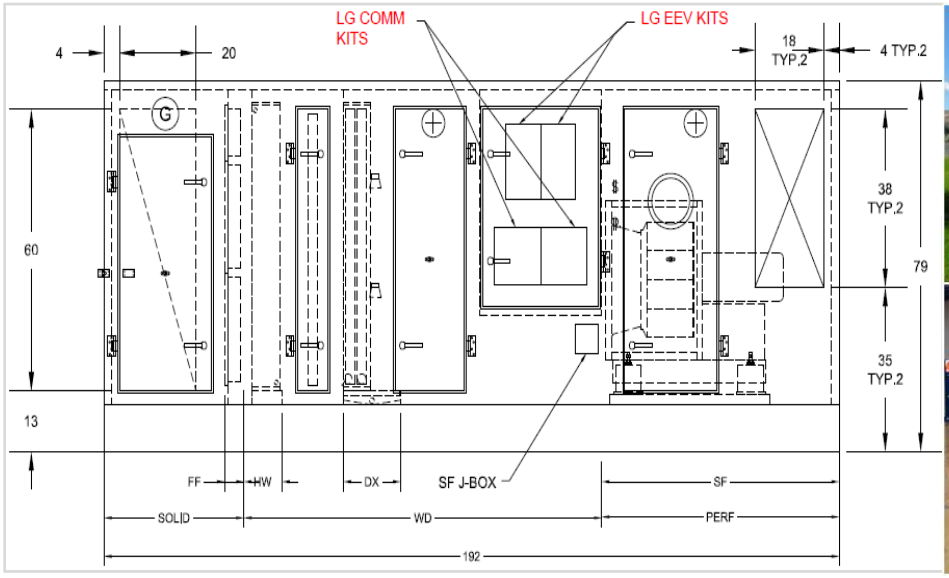


Outdoor Unit	Indoor Units	Controller
MV 5 HR (28 Tons)	3700 CFM AHU x 1 Ducted x 9 High Wall x 3	AC Smart IV

- PAHCMR000 Comm. Kit for outside air pre-conditioning.
- Standard LG IDU used for space conditioning.
- AC Smart Central Controller schedules LG systems. 3rd Party BMS controls AHU fan speed.

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Elementary/High School





Outdoor Unit	Indoor Units	Controller
MV Water IV HR MV Water IV HP MV 5 Air HR (128 Tons)	Ducted x 21 High-Wall x 1 12,000 CFM AHU x 1	BMS & 3rd Party Thermostat

- VRF equipment replacing WSHP to reduce site maintenance costs and reduce classroom noise.
- PAHCMR000 Comm. Kit applied to Gym/Multipurpose Space AHU.
- LG AHU Kits installed and piped at AHU factory.

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Coil Design Parameters

AHU Module – Design Tips (Do's)

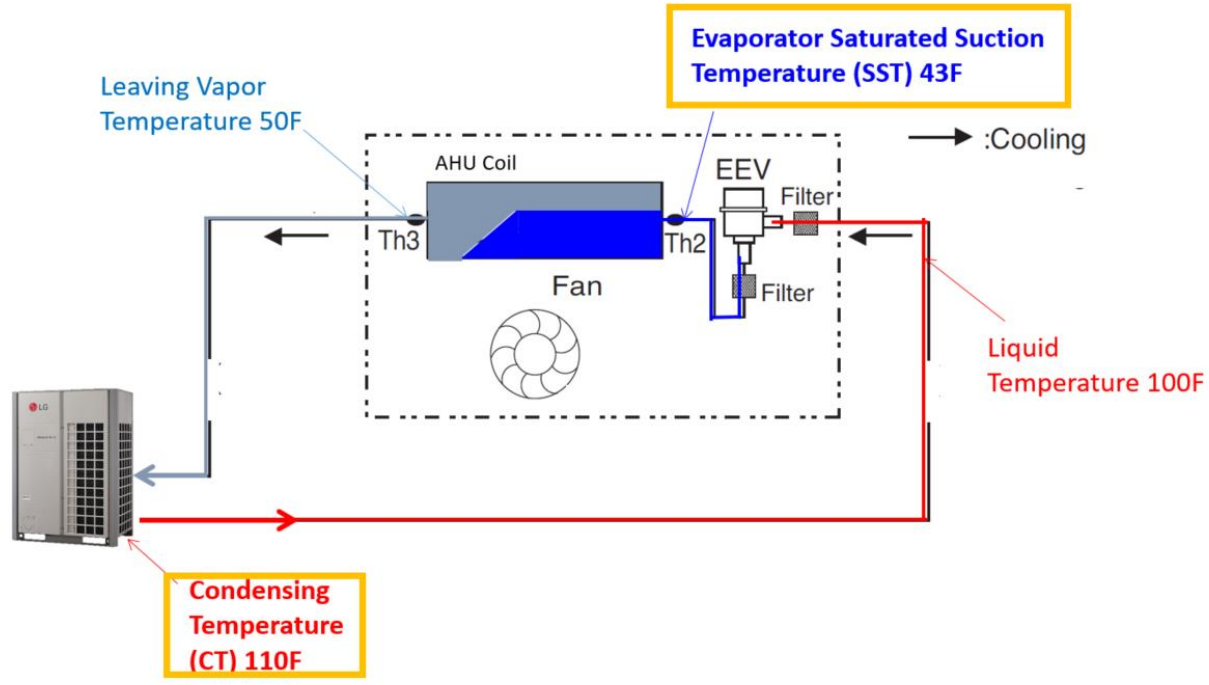
- Minimum coil entering temperature is 41°F for heating mode.
- AHU coil sizing parameters
  - Cooling Mode
    - Suction (evap) temperature for coil sizing is 41 - 43°F
    - Condensing (liquid) temperature for coil sizing is 110°F
  - Heating Mode
    - Hot gas temperature at AHU coil is 113°F (range is 104 - 122°F)
    - Recommended coil tube sizes are 3/8" or 1/2"
    - Refrigerant pressure drop is 7.25 psi to 14.5 psi
    - Coil volume data is needed from coil manufacturer to calculate refrigerant trim charge amount
    - Coils larger than 42 tons should be divided into multiple circuits to allow connection of EEV kit
    - Heat recovery systems are limited to 8 ton maximum coil size (can only tie 2 HRU ports together)
- Pipe sizing rules are same rules as the connected ODU (see ODU Engineering Manual or updated LATS version)
- Maximum recommended combination ratio is 100%
- Comm Kits and EEV Kits are not weather proof and must be protected from rai, snow, etc.

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AHU Module – Design Tips (Dont's)

- Do not design AHU coil
  - Rows, fins per inch, coil area, coil velocity are determined by coil manufacturer or specifying engineer
- Do not directly connect AHU fan motor (load) to AHU Comm Kit
  - Fan motor control center (relays or starter) is required
- Do not exceed outdoor design temperature limits for outdoor units
  - 14°F minimum outdoor temperature for simultaneous operation of Multi V 5
  - 60°F maximum on heating mode
- Avoid using (1) cooling coil and (1) heating coil for reheat in same AHU (control setup is very complicated)
- Do not exceed air velocity of 550 FPM (feet per minute) to avoid blow off of condensate water into airstream

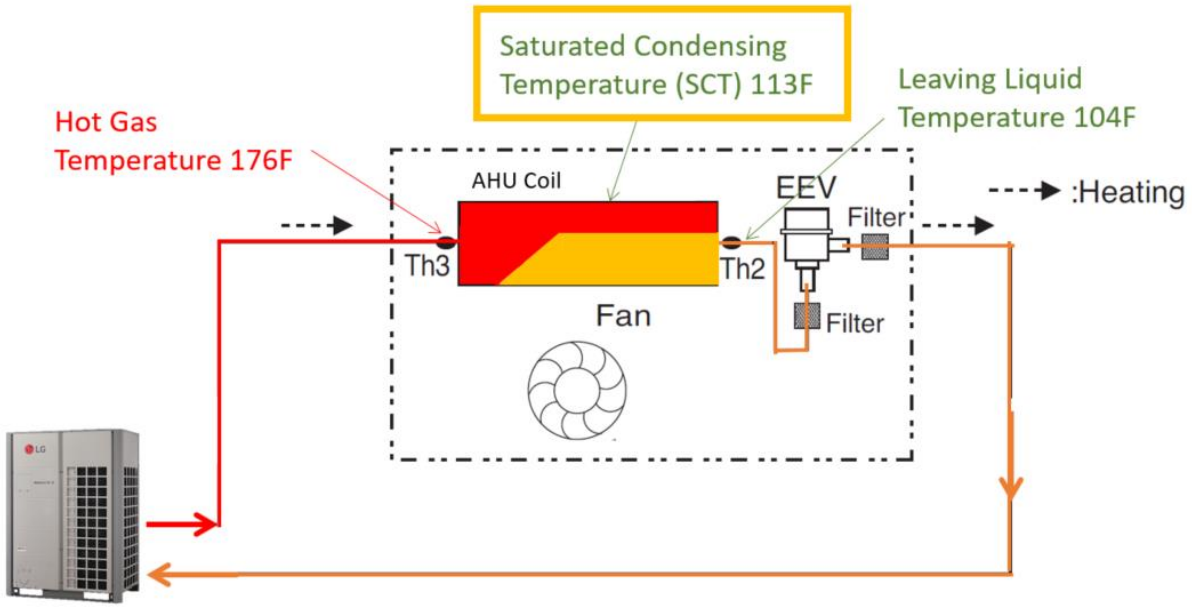
AHU Module DX Coil Sizing Parameters – Cooling



Superheat (Cooling Mode) = Th3 (pipe out temperature) – Th2 (pipe in temperature) = 7F

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AHU Module DX Coil Sizing Parameters – Heating

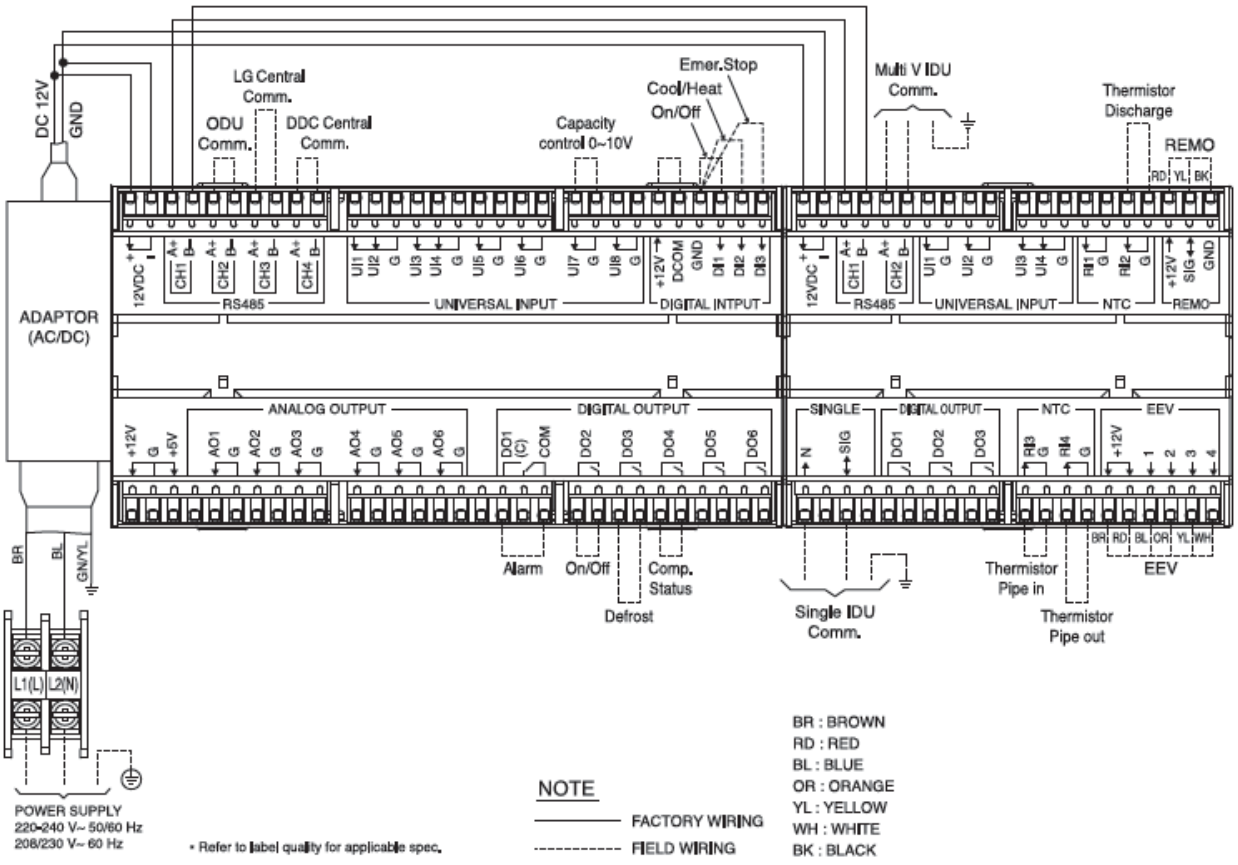


Subcooling (Heating mode) = SCT – Leaving Liquid Temperature (Th2) = 9F

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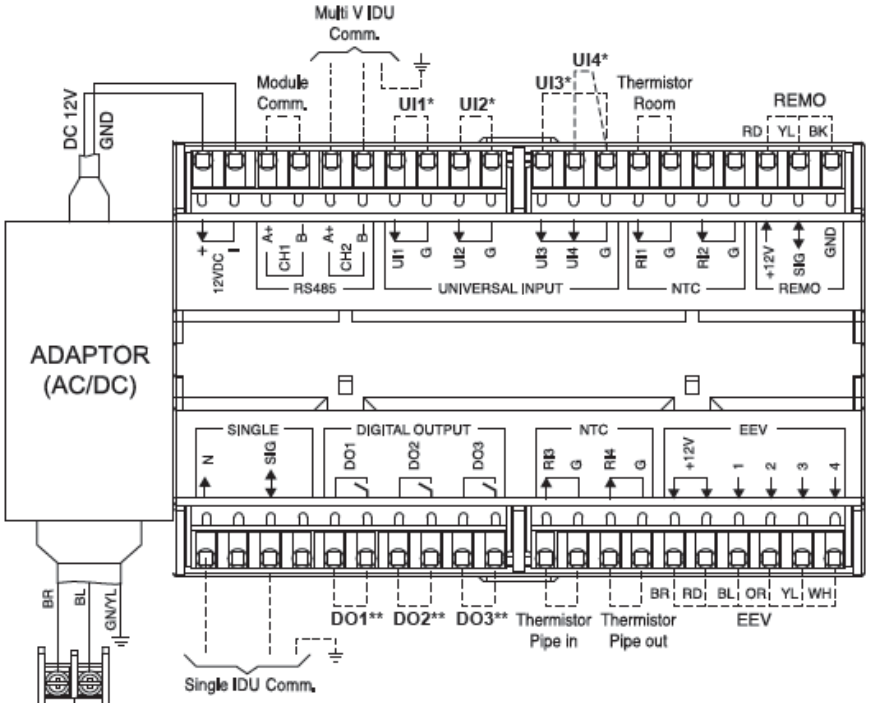
Circuit Diagram

Supply Air Communication Kit - PAHCMS000



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Return Air Communication Kit - PAHCMR000



* Set the UI1, UI2, UI3, and UI4 ports DIP switches as appropriate for your system

SW2 3/4	UI Setting	Off/Off	UI Setting #1	UI1 : Operation On/Off UI2 : Heating/Cooling UI3 : Forced Thermo On/Off UI4 : Target air temperature
		Off/On	UI Setting #2	UI1 : Operation On/Off UI2 : Cooling only/Off UI3 : Heating only/Off UI4 : Forced Thermo On and Off

** Set the DO1, DO2, and DO3 ports DIP switches as appropriate for your system

SW1 3	DO Type	On	Fan speed	DO1 : High DO2 : Middle DO3 : Low
		Off	Status	DO1 : On/Off DO2 : Defrost DO3 : Alarm

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