Installation Guide

CoolMaster / CoolMasterPRO

COOLAUTOMATION

Rev . 1.0.3
21-Aug-2025

Table of content

General

Table of content 2
Safety Precautions 3
Caution 4
Caution 5
Devices Models 6
What's in the Box 7
CoolMaster Mounting 8
CoolMaster Layout and connectivity 9
Dip switch settings 10
CoolMaster Power Supply 11
CoolMaster - Local & Cloud Apps 12
CoolMaster – GPIO Connection 13
Device Units Screen 14
How To Change VRF Brand 15

VRF Brand Specific

Daikin VRV 3,4,5 – Outdoor Connection 16
Daikin VRV 6 – Outdoor Connection 17
Daikin Non VRV - Indoor Connection 18
Mitsubishi Electric VRF – Outdoor Connection 19
Mitsubishi Electric Non VRF – Indoor Connection 20
Fujitsu VRF– Outdoor Connection 21
Toshiba VRF – Outdoor Connection 22
Toshiba VRF– Service Adapter Connection 23
Panasonic VRF – Indoor/Outdoor Connection 24
Hitachi VRF – Indoor/Outdoor Connection 25
GREE GMV5,6 VRF– Outdoor Connection 26
Samsung VRF – Outdoor Connection 27

VRF Brand Specific

LG VRF – Outdoor Connection 28
LG VRF – Indoor Connection 29
Midea VRF – Outdoor Connection 30
Midea VRF – Indoor Connection 31
Midea VRF – Central Controller 32
Haier VRF – Indoor Connection 33
Haier VRF – Using Modbus Adapter 34
Haier MRV5 VRF – Outdoor Connection 35
Haier VRF – Service 36
Haier VRF – Central Controller 37
Mitsubishi Heavy – Indoor / Outdoor Connection 38
Aux VRF– Outdoor Connection 39
Blue Star VRF - Outdoor Connection 40
Tica VRF – Indoor / Outdoor Connection 41
Chigo VRF - Outdoor Connection 42

Read these Safety Precautions carefully to ensure correct installation.
This manual classifies precautions into WARNING and CAUTION

Failure to follow **WARNING**s may result in serious injury or **death**

WARNING

- Only qualified personnel can carry out the installation work.
- Ask your dealer or technical representative to install the device.
- Installation deficiencies caused by the user may lead to electric shock or fire.
- All electrical work must be performed by a licensed technician, according to local regulations and in accordance with the instructions in the installation manual.
- Any lack of electric circuit or any deficiency caused by installation may result in an electric shock or fire.
- Do not relocate or reinstall the CoolMaster device by yourself. Call a certified installer.
- Any deficiency caused by self re-installation of the device may result in an electric shock or fire.
- Make sure that all wiring is secured, that specified wires are used and that no external forces act on terminal connections or wires. Improper wiring connections or installation may produce heat and result in fire.
- Before touching electrical parts, turn off the unit.
- To dispose of this product, consult your dealer.

Failure to follow CAUTION may result in serious injury or property damage, and in certain circumstances, **may lead to severe consequences** .

CAUTION

- Do not allow children to play with the CoolMaster device and supervise them not to get access to the appliance.
- CoolMaster device is not to be used by persons with limited physical, sensory or mental capabilities, or lack of experience and knowl.
- Do not disassemble, modify or repair the CoolMaster device.
- Any deficiency caused by your modification or repair may result in an electric shock or fire.
- Assure the CoolMaster device never get wet.
- Water can cause damage to the CoolMaster device, and may cause an electric shock or fire.
- Do not use flammable materials (e.g. hairspray or insecticide) near the CoolMaster device.
- Do not clean the CoolMaster device with organic solvents such as paint thinner. The use of organic solvents may cause cracking, damaging the CoolMaster device, causing electrical shock or fire.
- Do not apply direct 110V AC or 220V AC to the CoolMaster device. The maximum voltage that can be applied to the unit directly is 24V DC.
- A damaged CoolMaster device can generate heat and cause a fire. Do not use a damaged device.

Failure to follow CAUTION may result in serious injury or property damage, and in certain circumstances, may **to severe** consequence.

DO NOT INSTALL THE CoolMaster DEVICE IN THE FOLLOWING LOCATIONS

a) Where a mineral oil mist or oil spray or vapor is produced, for example, in a kitchen. Plastic parts may deteriorate and fall off or result in water leakage.

b) Where corrosive gas, such as sulfurous acid gas, is produced.

c) Near machinery emitting electromagnetic waves. Electromagnetic waves may disturb the operation of the CoolMaster device and cause the unit to malfunction.

d) Where flammable gas may leak, where there is carbon fiber or ignitable dust suspensions in the air, or where volatile flammable such as thinner or gasoline are handle Operating the CoolMaster device in such conditions can cause a fire.

e) High temperature area or directly flamed point. Heating and/or fire can occur.

f) Moist area, where there is exposure to water. If water enters the inside of the CoolMaster device, it may cause electric shock and electrical components may fail.

Devices models

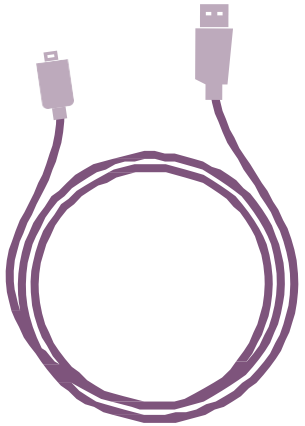
CoolMaster / CoolMaster PRO

	CoolMaster	CoolMaster PRO
Market Segment	Residential	Medium and Large Commercial
Main Use	Home Automation Integration, Remote Control App	BMS integration
Max Connected Units	32	256*
Local access (Modbus/Bacnet) to service data	No	Yes

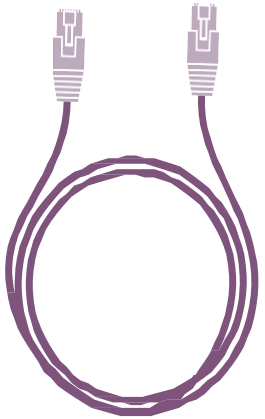
* Max Connected Units is different per VRF/VRV manufacturer and include any type of connected unit (VRF indoor, CP, sensor, fan coil, any other HVAC unit). Please refer to technical specifications for more details.

What’s in the box

CoolMaster / CoolMaster PRO



USB-A to Mini-USB cable

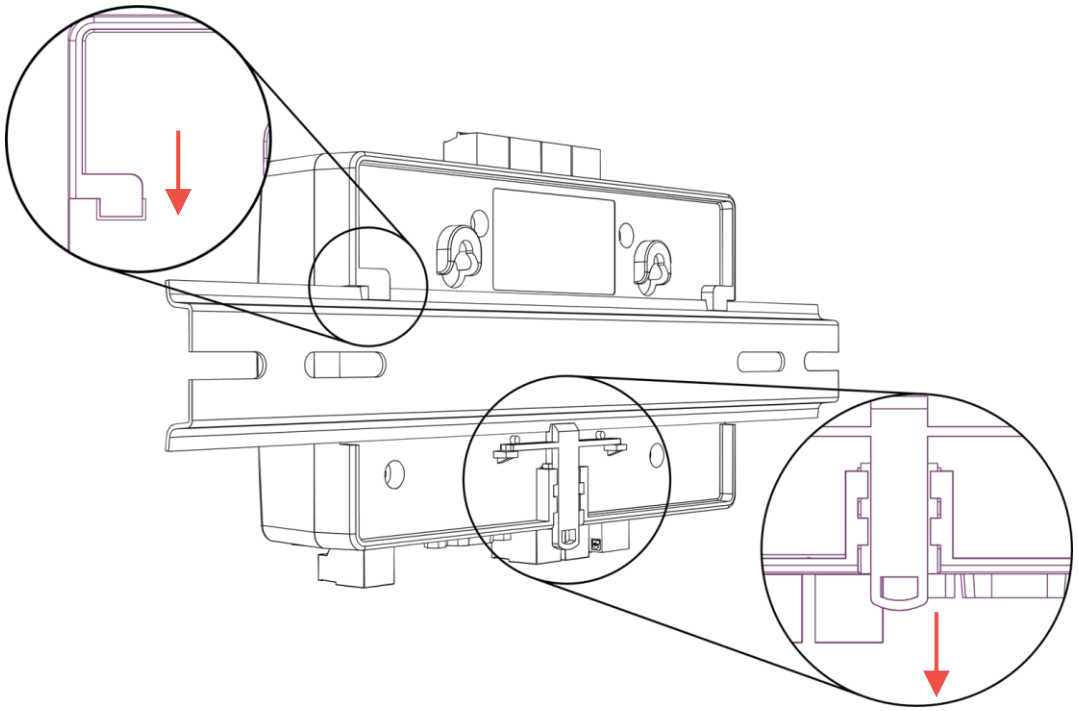


Ethernet Cable

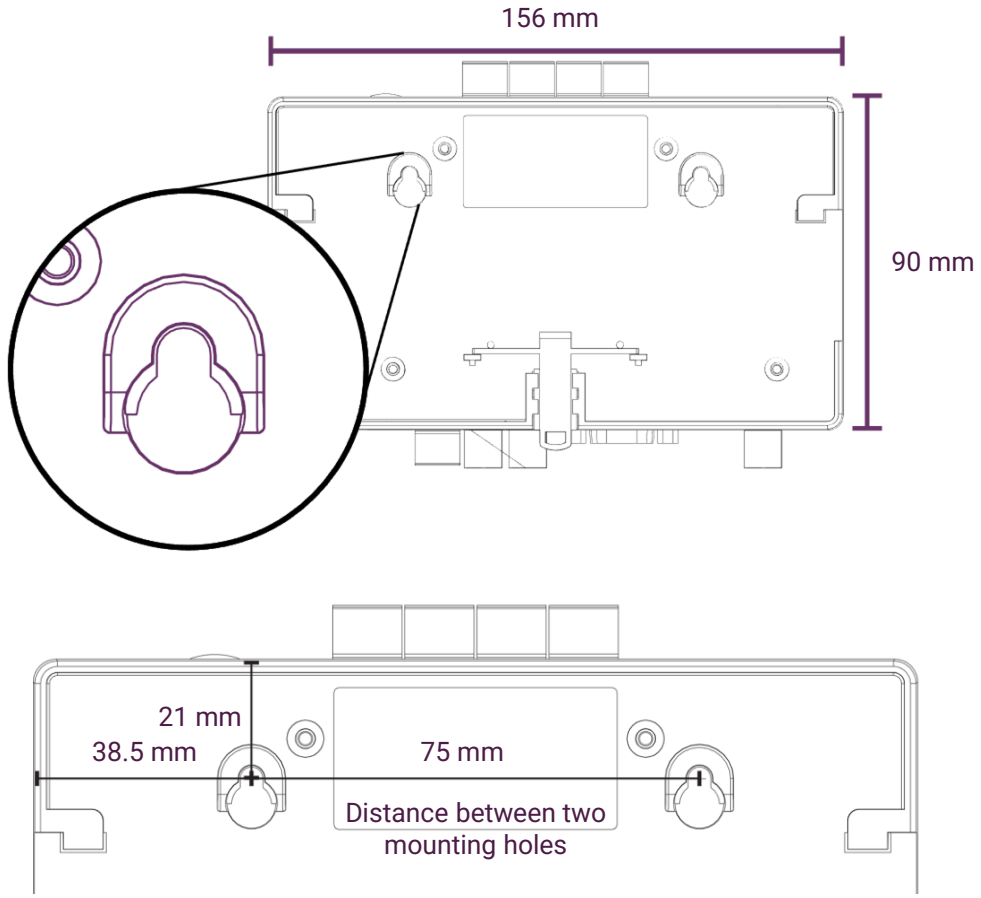
Power Supply

CoolMaster - Dimensions and mounting

DIN rail Monitoring

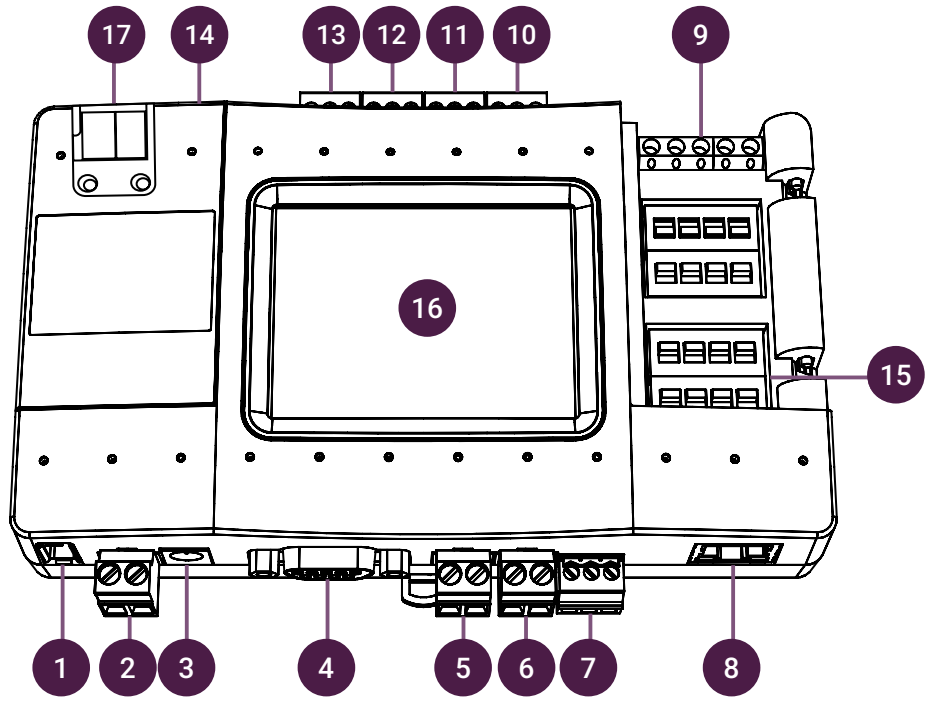


wall Monitoring



Recommended to leave 3 cm clearance below the device to allow pulling ethernet cable out

CoolMaster - Layout and connectivity



1. L8 - HVAC Line 8 (USB Host)
2. Optional external power supply
3. Power Socket
4. RS232 Port
5. L1 - HVAC Line 1
6. L2- HVAC Line 2
7. L3 - RS485
8. Ethernet Port
9. GPIOs
10. L7 - HVAC Line 7
11. L6 - HVAC Line 6
12. L5 - HVAC Line 5
13. L4 - HVAC Line 4
14. USB Port For Configuration
15. DIP Switches
16. LCD Touch Screen
17. NKX (option)

CoolMaster – DIP Switch setting

- Exact DIP switches configuration is essential for a proper device operation and IDU discovery.
- Different HVAC brands require different configurations
- When connecting on L1 set DIP switches on row Q
- When connecting on L2 set DIP switches on row R
- For more information about other DIP switch settings consult the CoolMaster user manual on the support page

DIP Switch P

Switch	ON	OFF
P1,P2	Link L6,L7 and enable polarity auto-detection on L7	Separate L6,L7
P3	L6 Enabled, L2 Disabled	L2 Enabled, L6 Disabled
P4	Production Mode	Normal Operation Mode

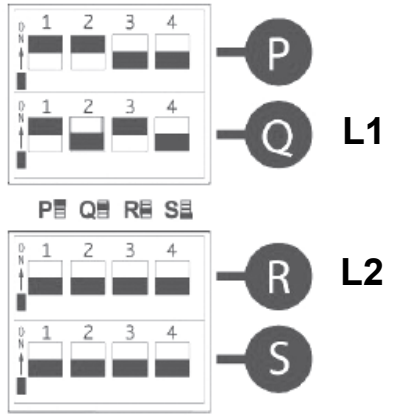
DIP Switches Q (L1) and R (L2)

HVAC Type	1	2	3	4
DK	ON	OFF	ON	OFF
ME	OFF	OFF	OFF	OFF
TO,SA,PN,HT,HA	OFF	ON	OFF	ON

* **L1** & **L5** cannot work together

* **L2** & **L6** cannot work together

In the below settings example,
L1 is set for DK and L2 is set for ME



DIP Switch S

Switch	ON	OFF
S1,S2	Enable DC Output on HVAC Line L1	Disable DC Output on HVAC Line L1
S3,S4	Enable DC Output on HVAC Line L2	Disable DC Output on HVAC Line L2

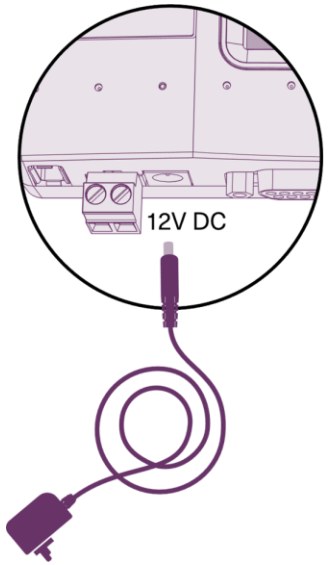
DC Output on HVAC Line L1 or L2 is required only in case when the line is configured as DK or ME and non VRF equipment is connected to this line (via KRP, MAC or similar adapter).
And only if no other DC source is present on this line.

CoolMaster - Power Supply Connection

Caution
Never connect both options together

Option A

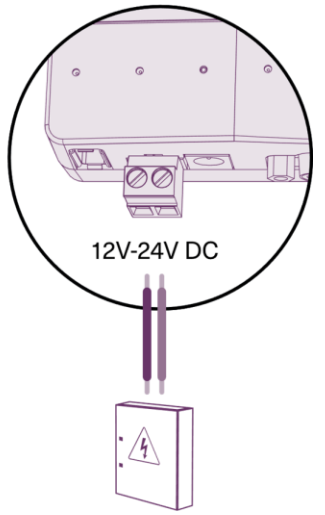
AC Power supply adapter
(Included in the box)



100V-240V AC
50/60hz

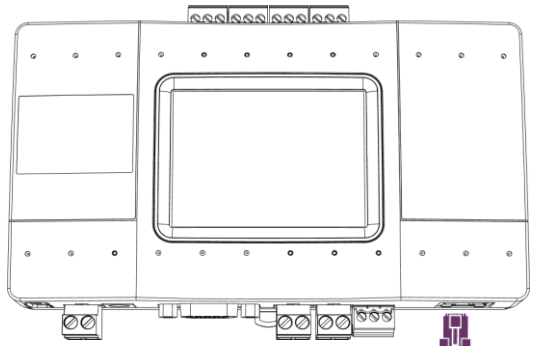
Option B

Direct DC power supply



Directed DC power supply from
local electrical panel

CoolMaster - Local & Cloud Apps



Router

Local Tool Box

Setup Utility

Cloud Professional APP

https://professional.coolremote.net

Cloud Control APP

https://control.coolremote.net

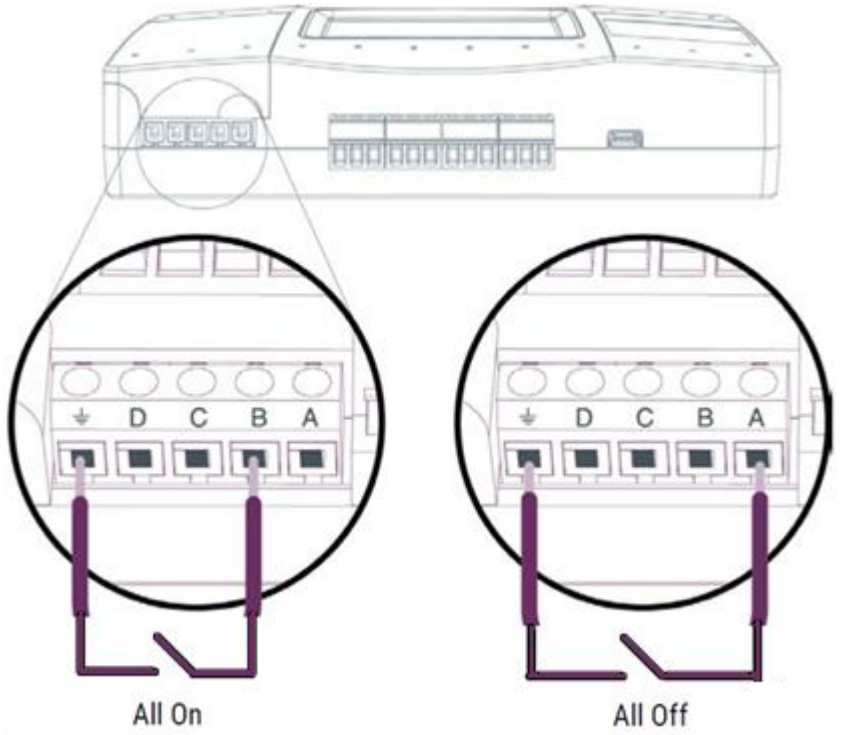
App Store

Google Play

CoolMaster - GPIO Connection

Caution
Use Dry Contacts Only

All On/Off operation by external signal



CoolMaster – Device Units Screen

After successful installation, unit's screen will show all the detected indoor units and their statuses.

1. Active HVAC line (DK 9/10) (Groups/Units) Inactive HVAC line

2. All ON/OFF operation button

3. Scrollbar

4. Indoor unit operation button (on/off)

5. Connected indoor unit with it's address and Set-Point temperature indication

6. Settings button

7. CoolMaster device MAC address

8. CoolMaster device IP address

9. Device firmware revision

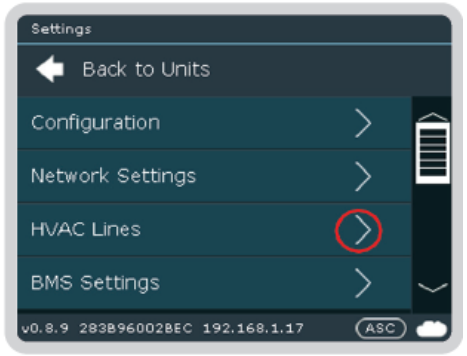
10. Cloud connectivity status

- Connected - Communicating
- Connected - Idle
- Disconnected - with red error code

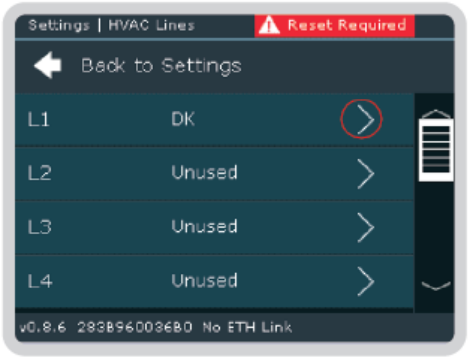
CoolMaster - how to change the brand of a specific line

1. Go to Settings

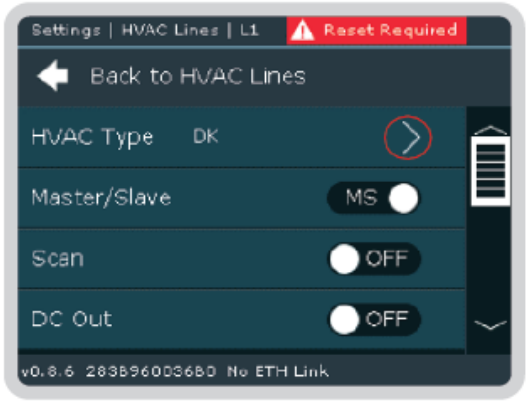
2. Go to HVAC Lines

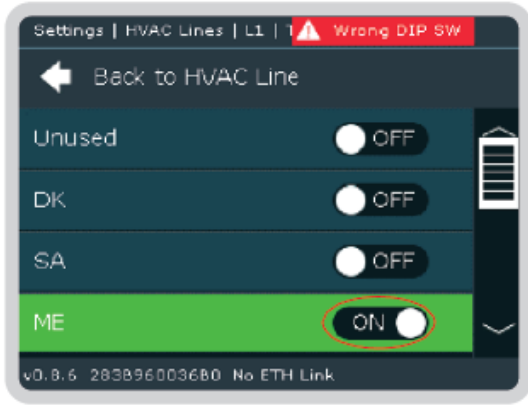


3. Select the HVAC line you want to configure

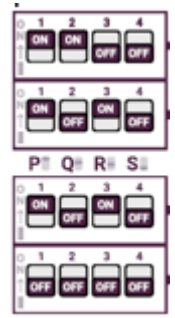


4. Configure the HVAC line type





5. Make sure the DIP switches are set properly for the brand (according to the details in the brand relevant section in the following topics)

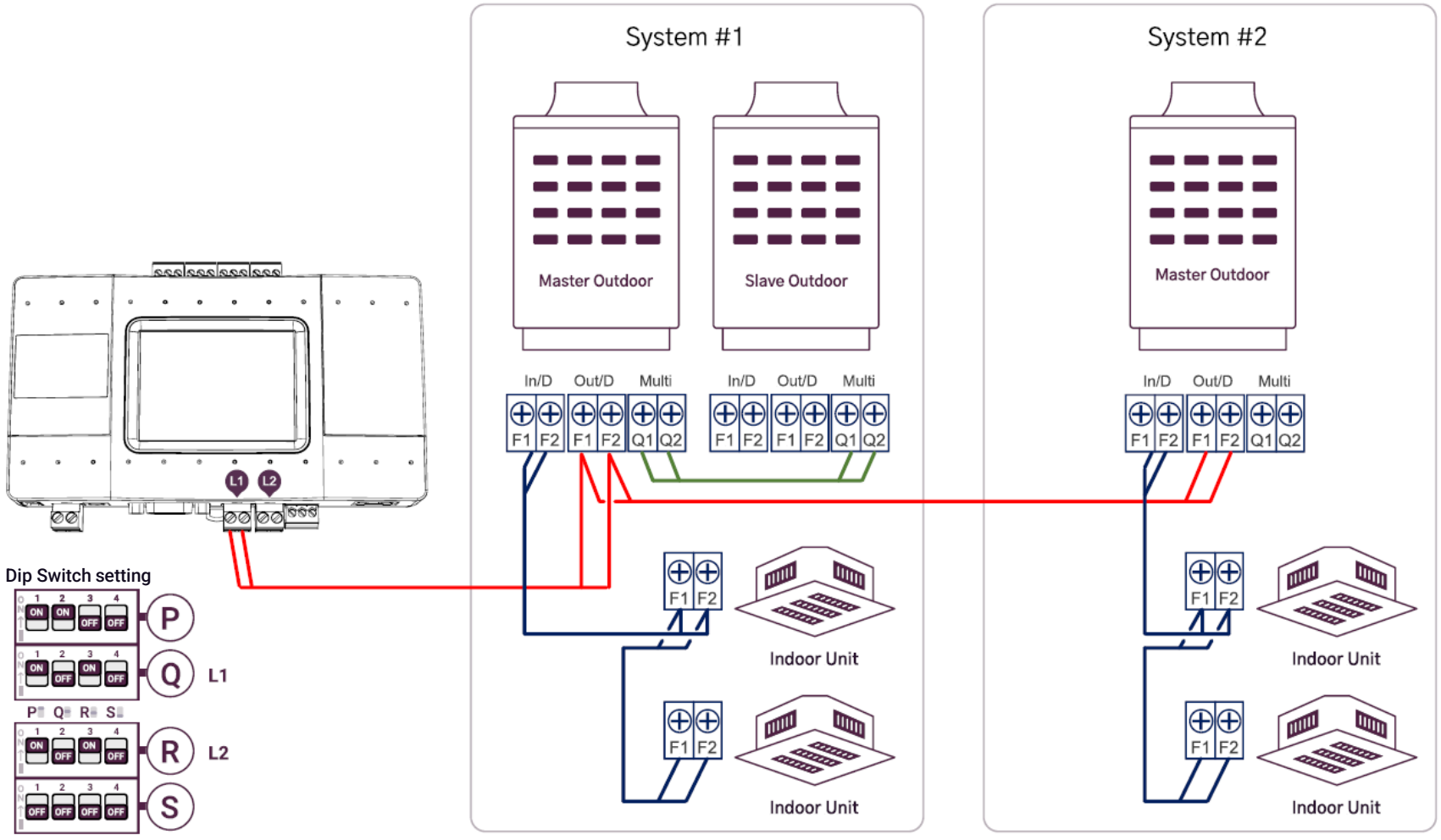


6. You will also get a red warning message if DIP switch are set incorrect

7. Power reset to the device is required to make the change

Daikin VRV 3,4,5 – Outdoor line connection

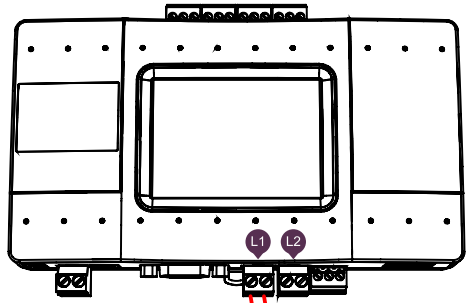
- Supported device line number: L1,L2
- No line polarity required
- Cable type – Follow Daikin installation instructions
- Set line type in the device to: **DK**
- Set dip switch according to the drawing
- Follow Daikin instruction on how to address the units
- Each Indoor must be set with **group** address for control
- Each system and Indoor must be set with **Airnet** address if service is required



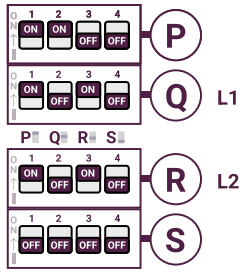
Maximum Indoor Units Per Line: 64
Maximum Systems Per Line: 10

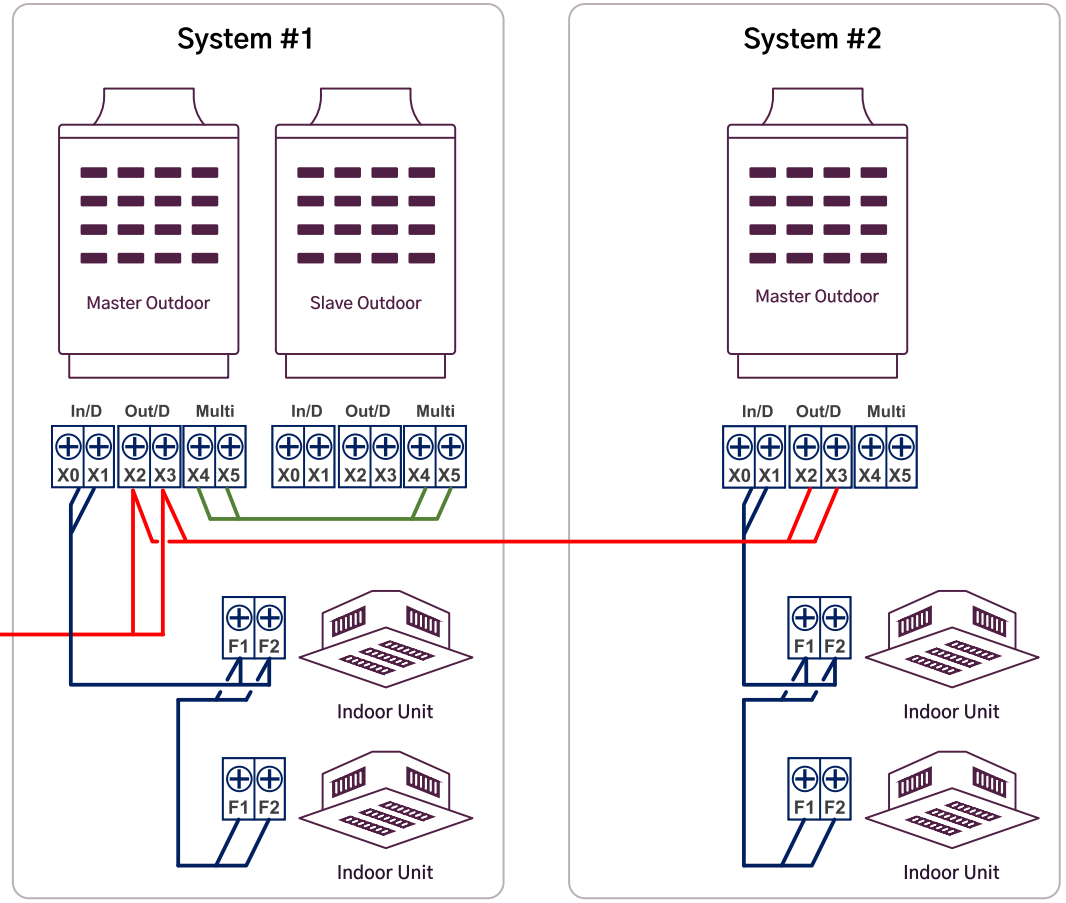
Daikin VRV 6 – Outdoor line connection

- Supported device line number: L1,L2
- No line polarity required
- Cable type – Follow Daikin installation instructions
- Set line type in the device to: **DK**
- Set dip switch according to the drawing
- Follow Daikin instruction on how to address the units
- Each Indoor must be set with **group** address for control
- Each system and Indoor must be set with **Airnet** address if service is required



Dip Switch setting



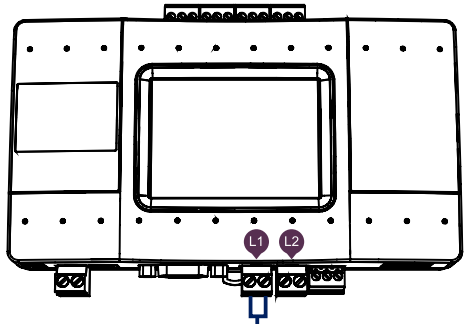


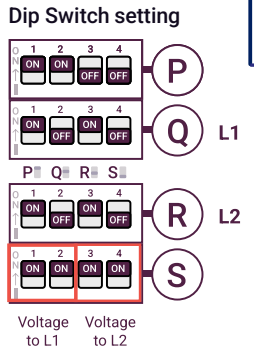
Maximum Indoor Units Per Line: 64
Maximum Systems Per Line: 10

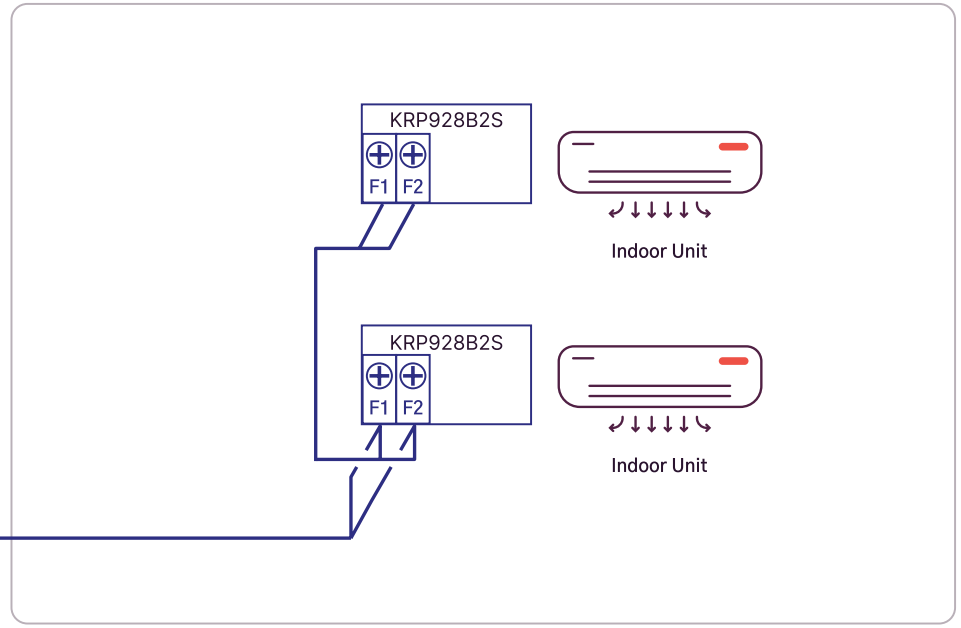
Daikin Non VRV – Indoor connection

- Supported device line number: L1,L2
- No line polarity required
- Cable type – Follow Daikin installation instructions
- Set line type in the device to: **DK**
- Set dip switch according to the drawing
- In Case the line is not mixed with VRV units , set the device line DC power on,
  Caution – Apply power from the CoolMaster only if the line is free of power
- Follow Daikin instructions on how to set up adapters address
- Each Indoor adapter must be set with unique address for control

- Measure DC voltage on HVAC comm. line L1/2
- If no 14-16V DC voltage change the dip switches as shown below:
- Go to settings → Go to HVAC lines → Go to L1 → Go to DC Out and turn on



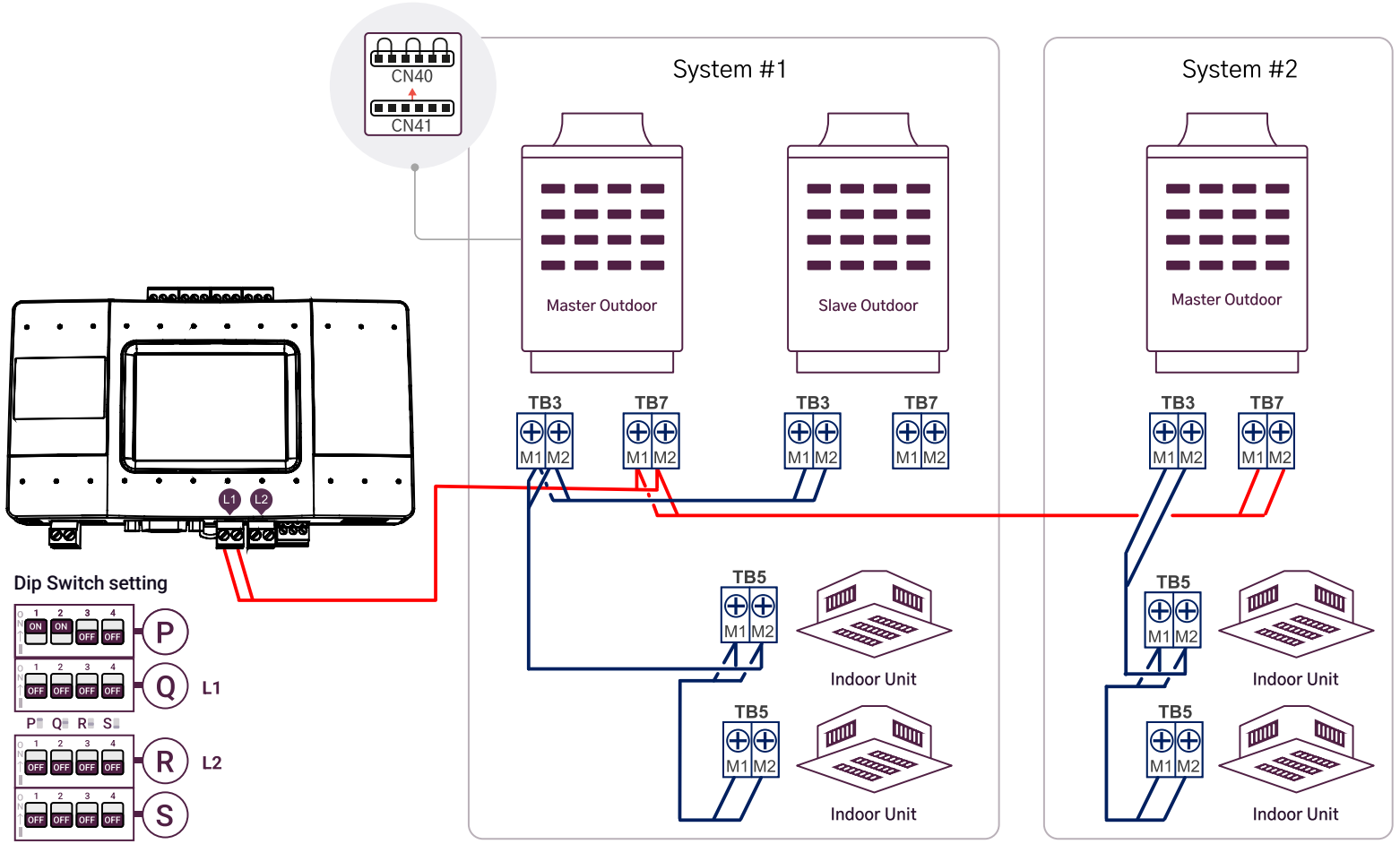




Maximum Indoor Units Per Line: 64

Mitsubishi Electric VRF – Outdoor line connection

- Supported device line number: L1,L2
- No line polarity required
- Cable type – Follow ME installation instructions
- Set line type in the device to: **ME**
- Set dip switch according to the drawing
- Each Outdoor and Indoor must be set with unique address
- Follow ME instruction on how to address the units
- To provide 30VDC voltage to the TB7 line move the jumper from CN41 to CN40 in **only one** of the outdoor units

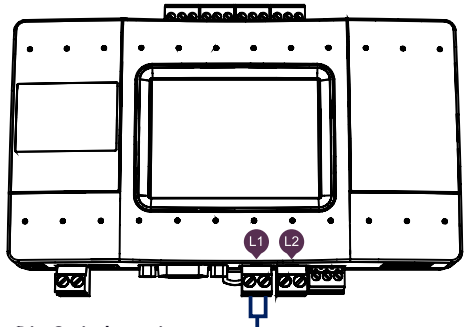


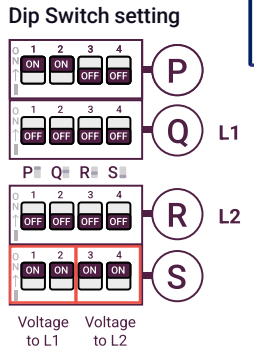
Maximum Indoor Units Per Line: 50
Maximum Systems Per Line: 10

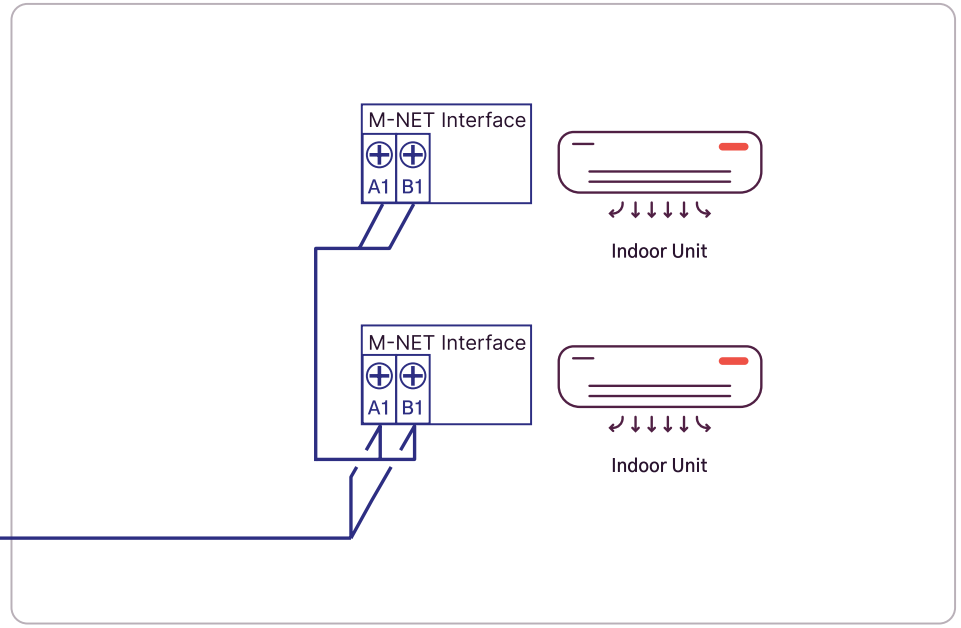
Mitsubishi Electric Non VRF – Indoor connection

- Supported device line number: L2
- No line polarity required
- Cable type – Follow ME installation instructions
- Set line type in the device to: **ME**
- Set dip switch according to the drawing
- In Case the line is not mixed with VRF units , set the line DC power on,
  Caution – Apply power from the CoolMaster only if the line is free of power
- Follow ME instructions on how to set up adapters address
- Each Indoor adapter must be set with unique address for control

- Measure DC voltage on HVAC comm. line L1/2
- If no 14-16V DC voltage change the dip switches as shown below:
- Go to settings → Go to HVAC lines → Go to L1 → Go to DC Out and turn on



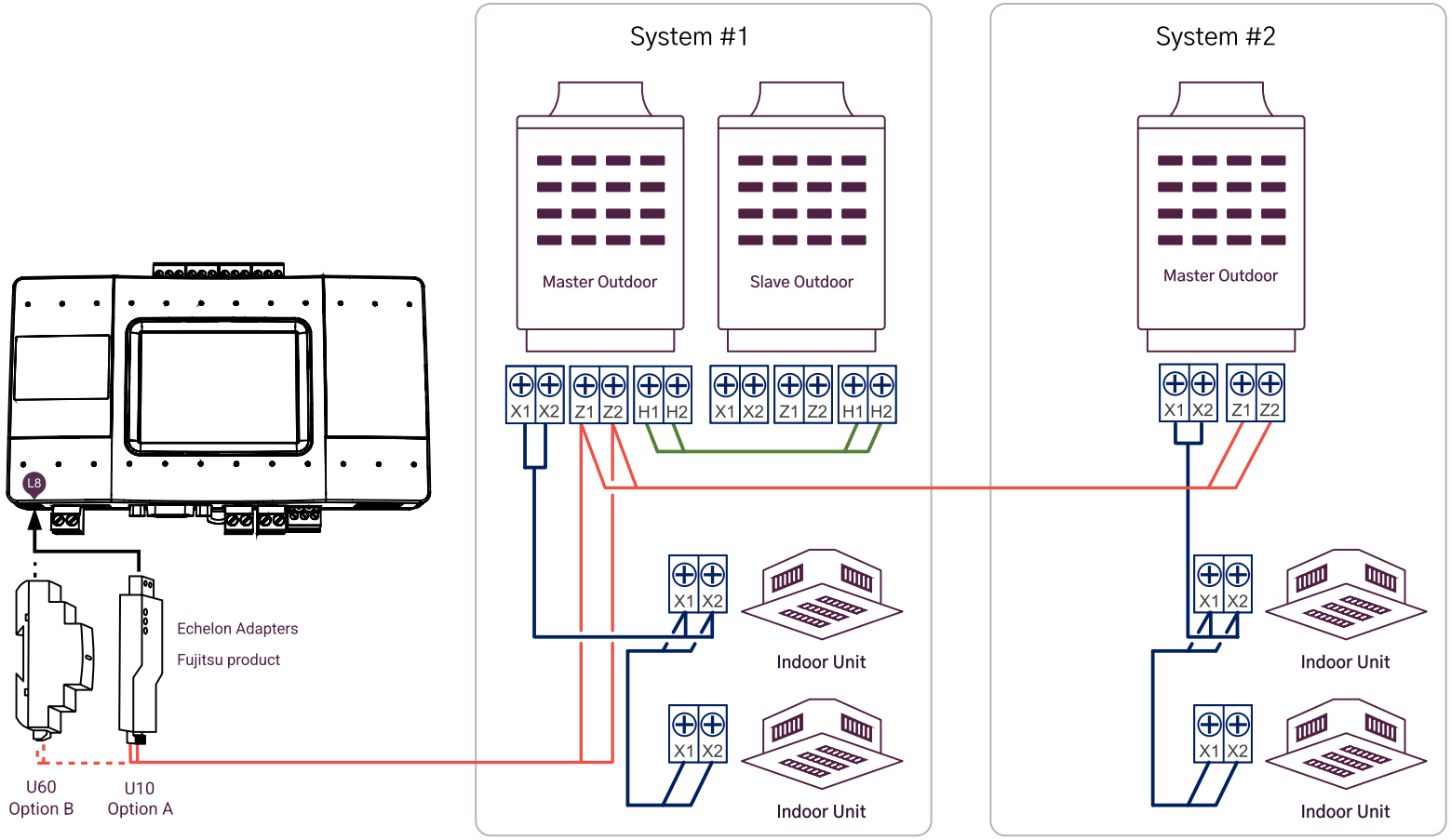




Maximum Indoor Units Per Line: 50

Fujitsu VRF – Outdoor line connection

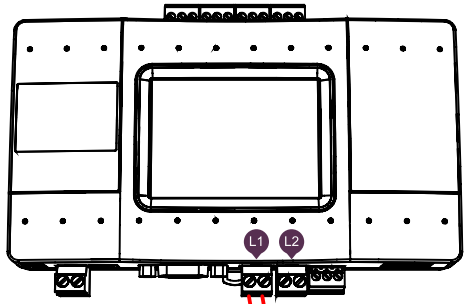
- Supported device line number: L8 (Type A USB)
- No line polarity required
- Echelon adapter U10 or U60 should be purchased from Fujitsu
- Cable type – Follow Fujitsu installation instructions
- Set line type in the device to: **FJ**
- Dip Switch setting does not affect L8
- Follow Fujitsu instruction on how to address the units
- Each system and Indoor must be set with unique address



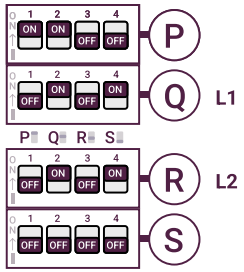
Maximum Indoor Units Per Line: 128
Maximum Systems Per Line: 16

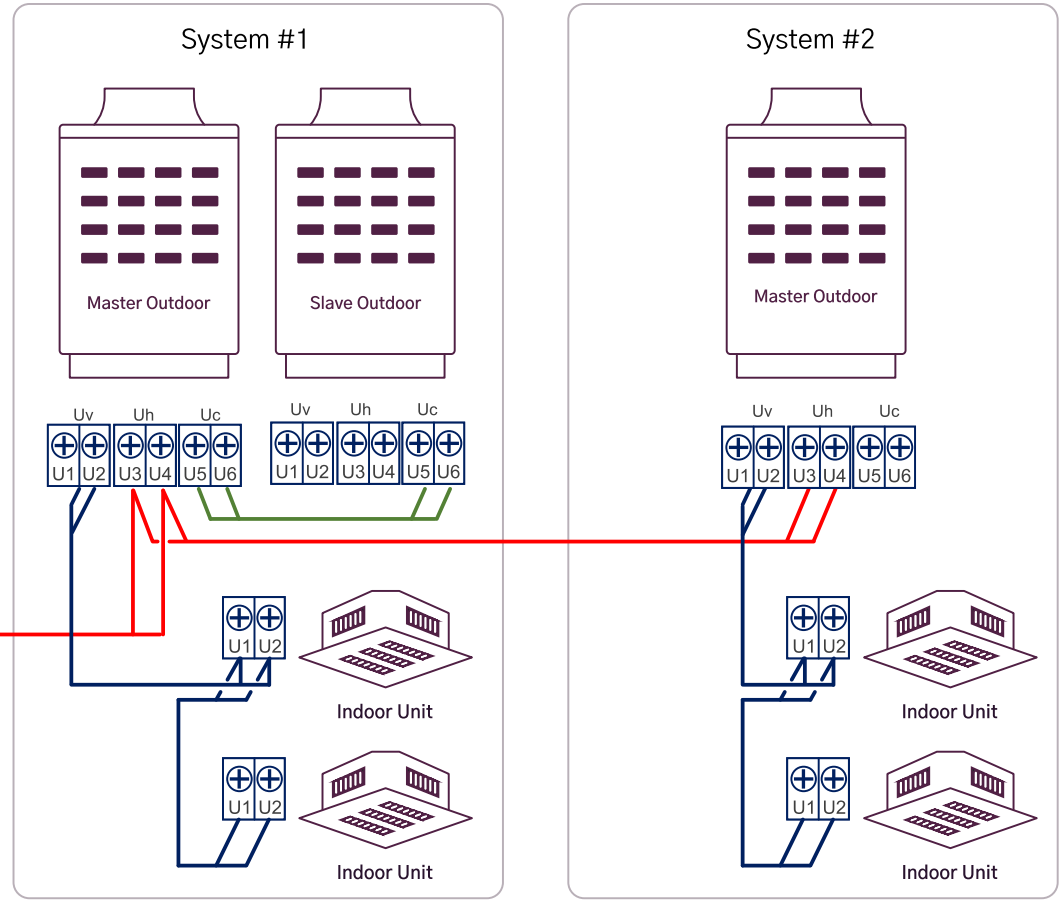
Toshiba VRF – Outdoor line connection

- Supported device line number: L1,L2
- No line polarity required
- Cable type – Follow Toshiba installation instructions
- Set line type in the device to: **TO**
- Set dip switch according to the drawing
- Each Outdoor and Indoor must be set with unique address
- Follow Toshiba instruction on how to address the units
- Service data of indoor and outdoor unit is only available using the service adapter , see page 24



Dip Switch setting

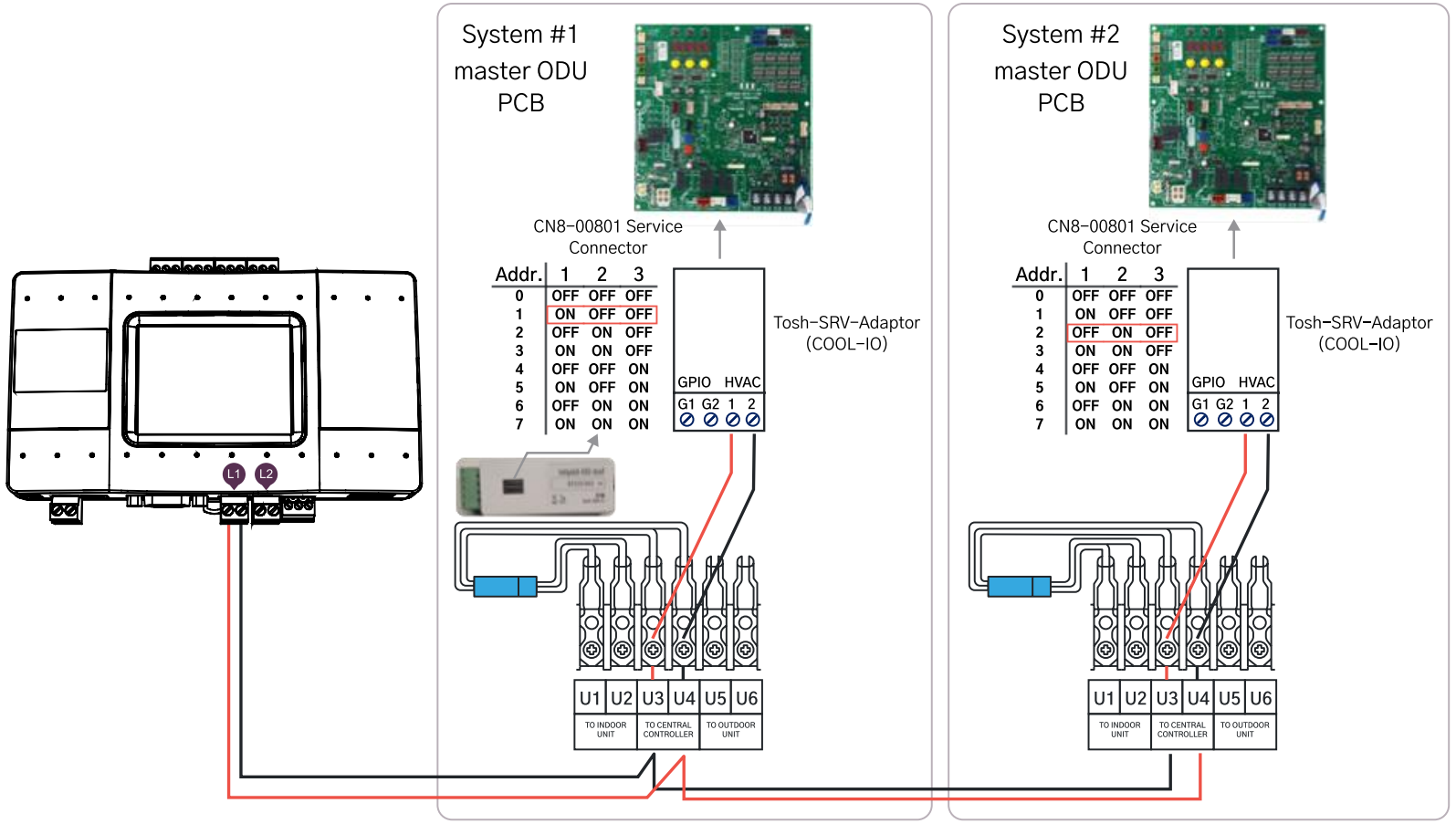




Maximum Indoor Units Per Line: 64
Maximum Systems Per Line: 15

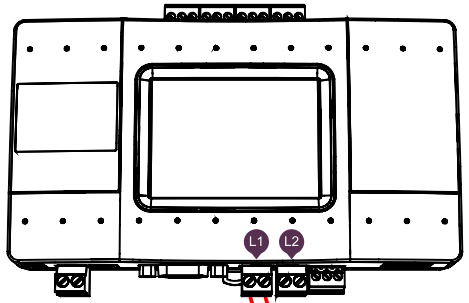
Toshiba VRF – Service Adapter connection

- Not compatible with SMMS U
- Adapters should be installed on the master outdoor of each system
- Each adapter should be set with a unique address using the dip switches as shown in the drawing
- Maximum service adapters per line is limited to 8
- It is best practice but not a must to set the adapter address the same as the system address it is connected to
- GPIO terminals on the adapter are not in use

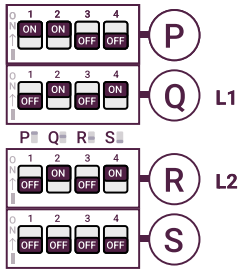


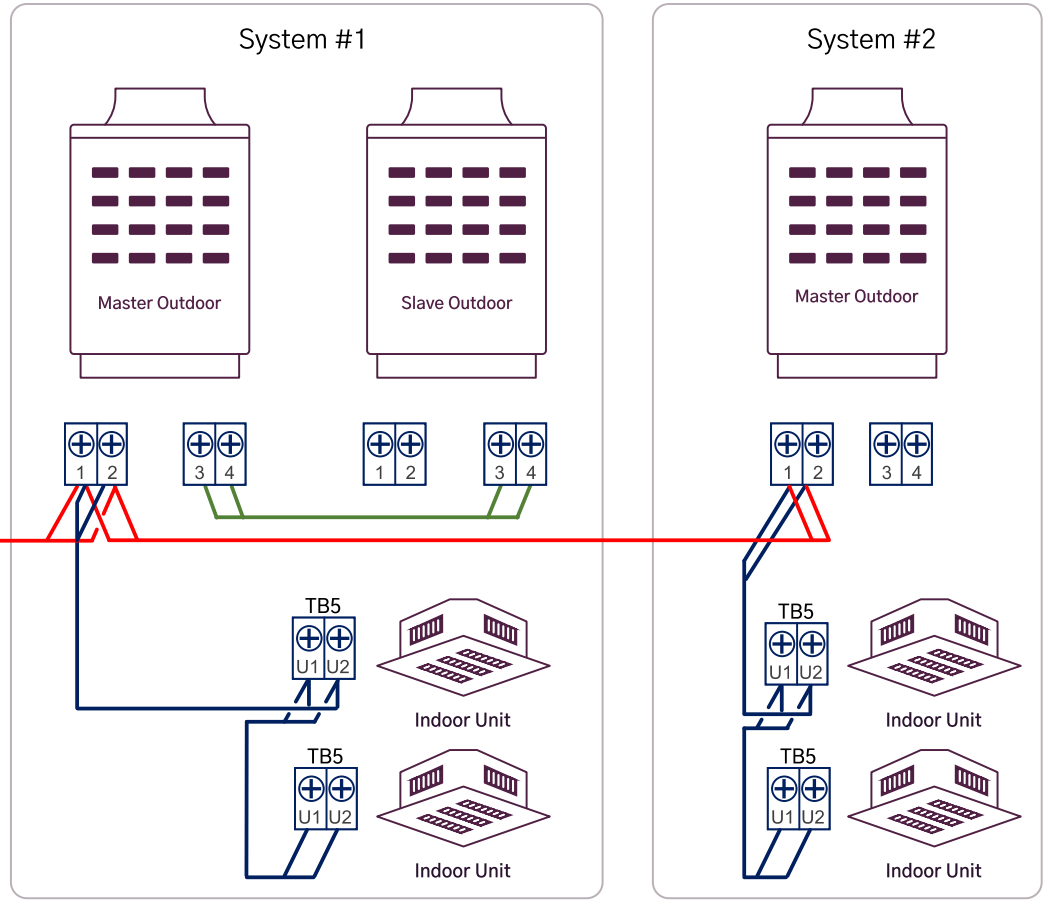
Panasonic VRF – Indoor/Outdoor line connection

- Supported device line number: L1,L2
- No line polarity required
- Cable type – Follow Panasonic installation instructions
- Set line type in the device to: **PA**
- Set dip switch according to the drawing
- Each Outdoor and Indoor must be set with unique address
- Follow Panasonic instruction on how to address the units



Dip Switch setting



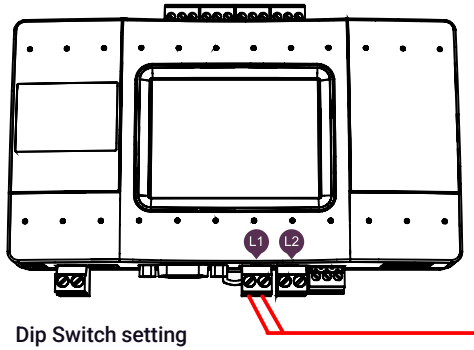


Maximum Indoor Units Per Line: 64
Maximum Systems Per Line: 15

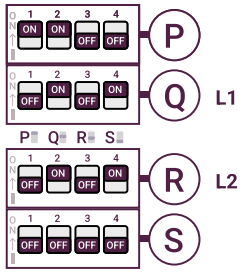
Hitachi VRF – Indoor/Outdoor line connection

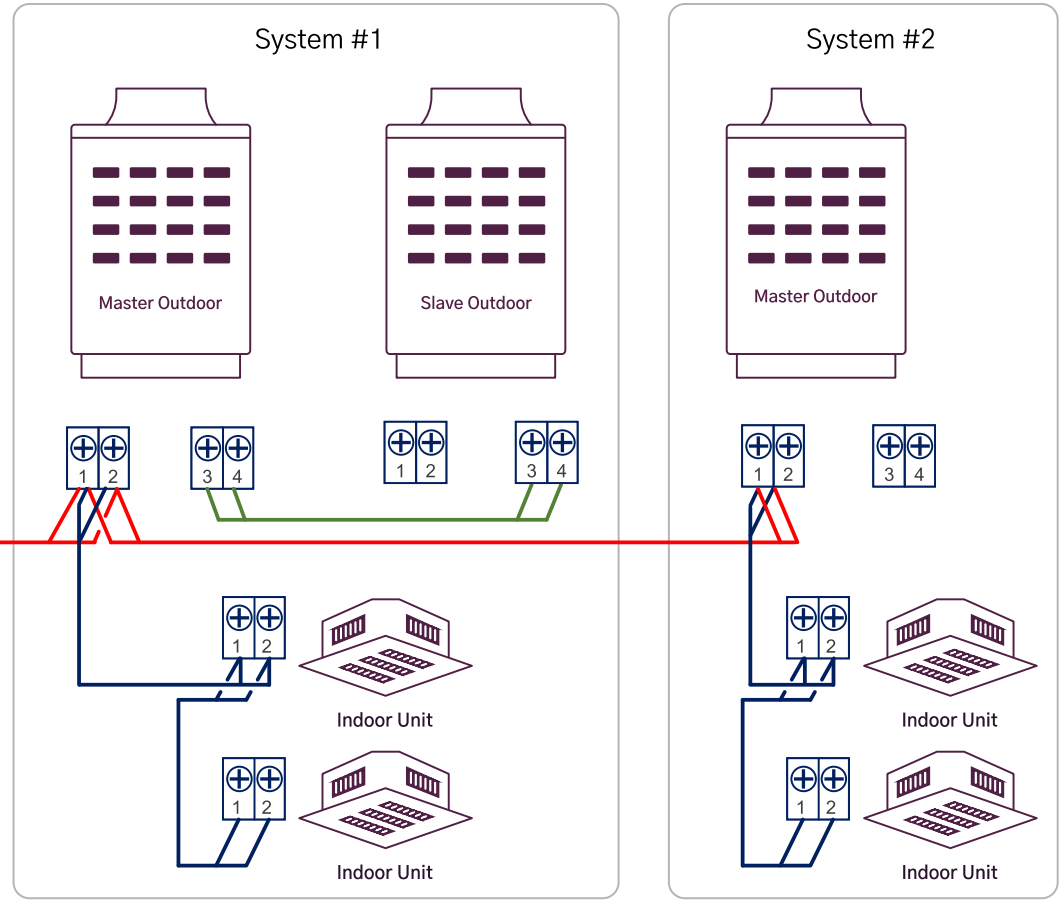
- Supported device line number: L1,L2
- No line polarity required
- Cable type – Follow Hitachi installation instructions
- Set line type in the device to: **HT**
- Set dip switch according to the drawing
- Each Outdoor and Indoor must be set with unique address
- Follow Hitachi instruction on how to address the units

* Refer to the PRM manual pages 17-18 for system addresses translation details



Dip Switch setting

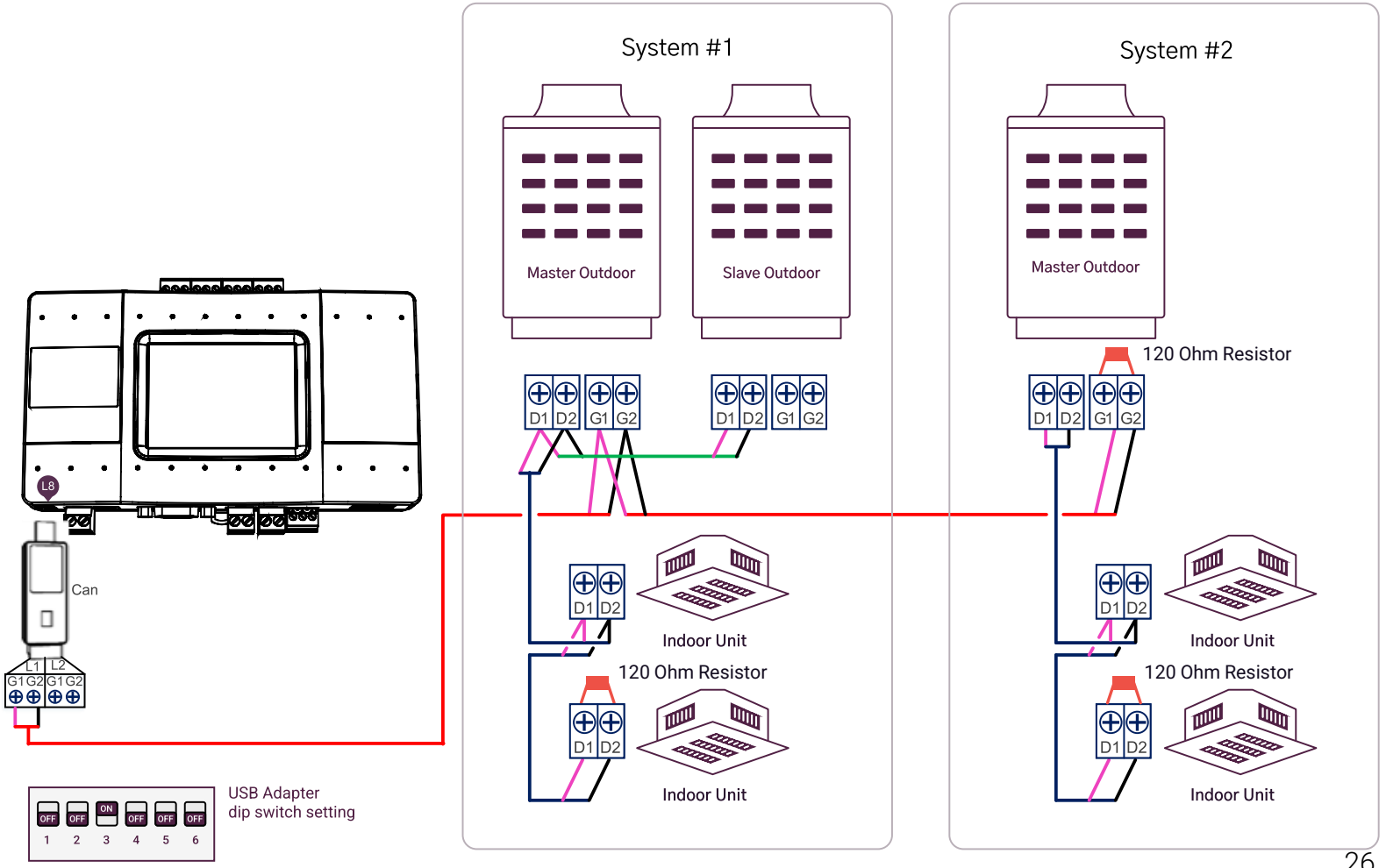




Maximum Indoor Units Per Line: 160
Maximum Systems Per Line: 30*

GREE GMV5/6 VRF – Outdoor line connection

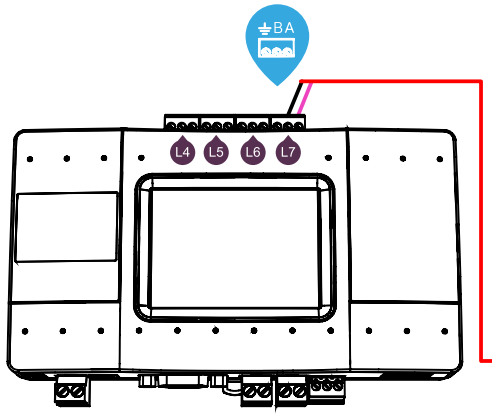
- Supported device line number: L8 (USB)
- Line polarity is required
- Cable type – Follow GREE installation instructions
- Set line type in the device to: **GMV5**
- Follow GREE instruction on how to address the units
- Each system and Indoor must be set with unique address
- A system with address #1 is mandatory
- Default number of systems on L1 of the adapter is 7 , for more systems on one line contact support
- To use L2 of the adapter set dip switch 2 On.



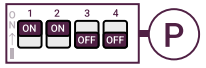
Maximum Indoor Units Per Line: 128

Samsung VRF – Outdoor line connection

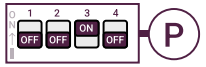
- Supported device line number: L7 (Default) , L4 , L5 , L6 (using L6 require dip switch change)
- Line polarity is required
- Cable type – Follow Samsung installation instructions
- Set line type in the device to: **SM**
- Set dip switch P according to drawing , dip switch Q,R,S are not applicable to lines 3,4,5,6,7,8
- Follow Samsung instruction on how to address the units
- Each system and Indoor must be set with unique address



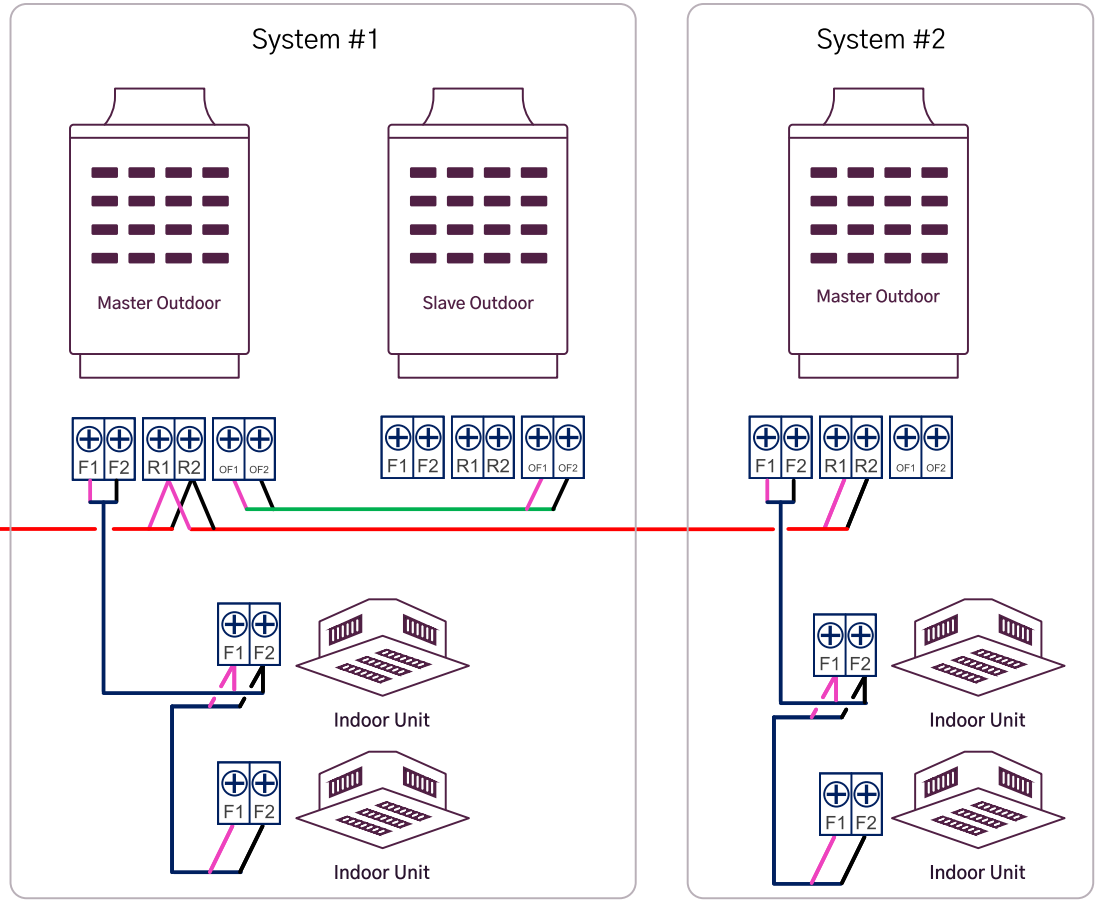
Dip Switch setting
Configuration when L6 is not used



Configuration when L6 is used (Disables L2)

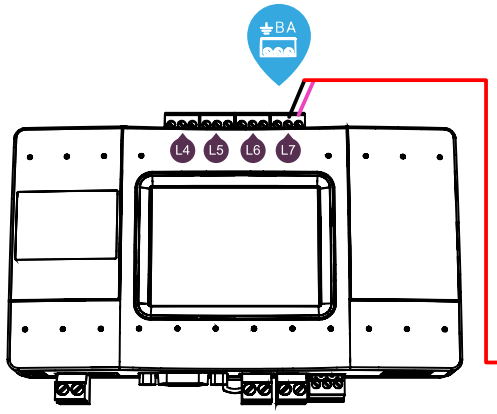


Maximum Indoor Units Per Line: 128
Maximum Systems Per Line: 16

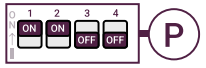


LG VRF – Outdoor line connection

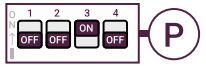
- Supported device line number : L7 (Default) , L4 , L5 , L6 (using L6 require dip switch change)
- Line polarity is required
- Cable type – Follow LG installation instructions
- Set line type in the device to: **LG**
- Set dip switch P according to drawing , dip switch Q,R,S are not applicable to lines 3,4,5,6,7,8
- Follow LG instruction on how to address the units
- Each Indoor must be set with unique address
- In case outdoor service data is required , set systems address (not mandatory by default)



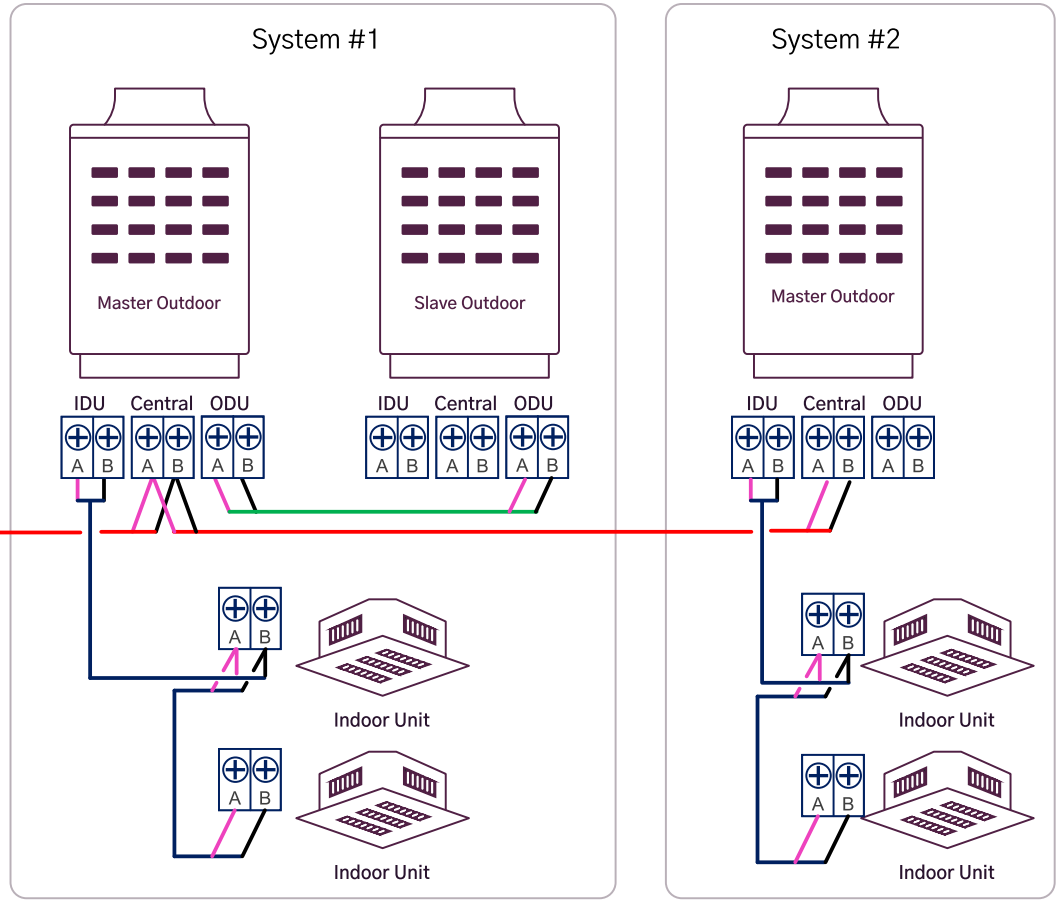
Dip Switch setting
Configuration when L6 is not used



Configuration when L6 is used (Disables L2)

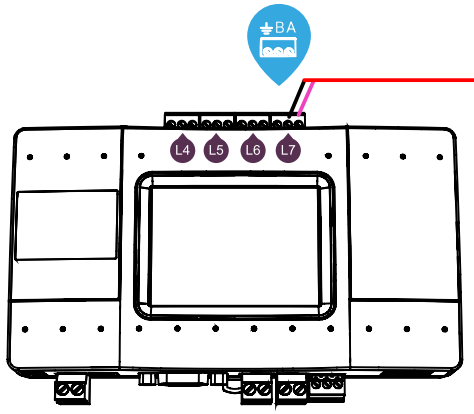


Maximum Indoor Units Per Line: 128
Maximum Systems Per Line: 16

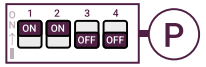


LG VRF – Indoor line connection

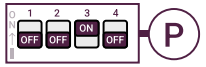
- Indoor line connection is allowed when only one system exists
- Supported device line number : L7 (Default) , L4 , L5 , L6 (using L6 require dip switch change)
- Line polarity is required
- Cable type – Follow LG installation instructions
- Set line type in the device to: **LGMV**
- Set dip switch P according to drawing , dip switch Q,R,S are not applicable to lines 3,4,5,6,7,8
- Follow LG instruction on how to address the units
- Each Indoor must be set with unique address



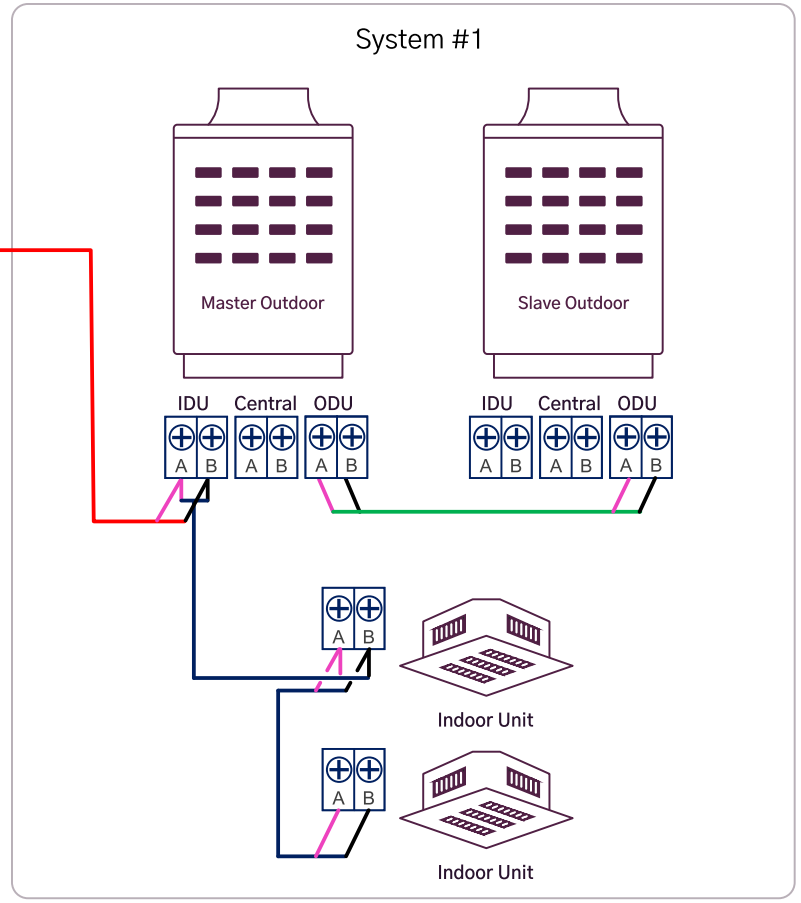
Dip Switch setting
Configuration when L6 is not used



Configuration when L6 is used (Disables L2)

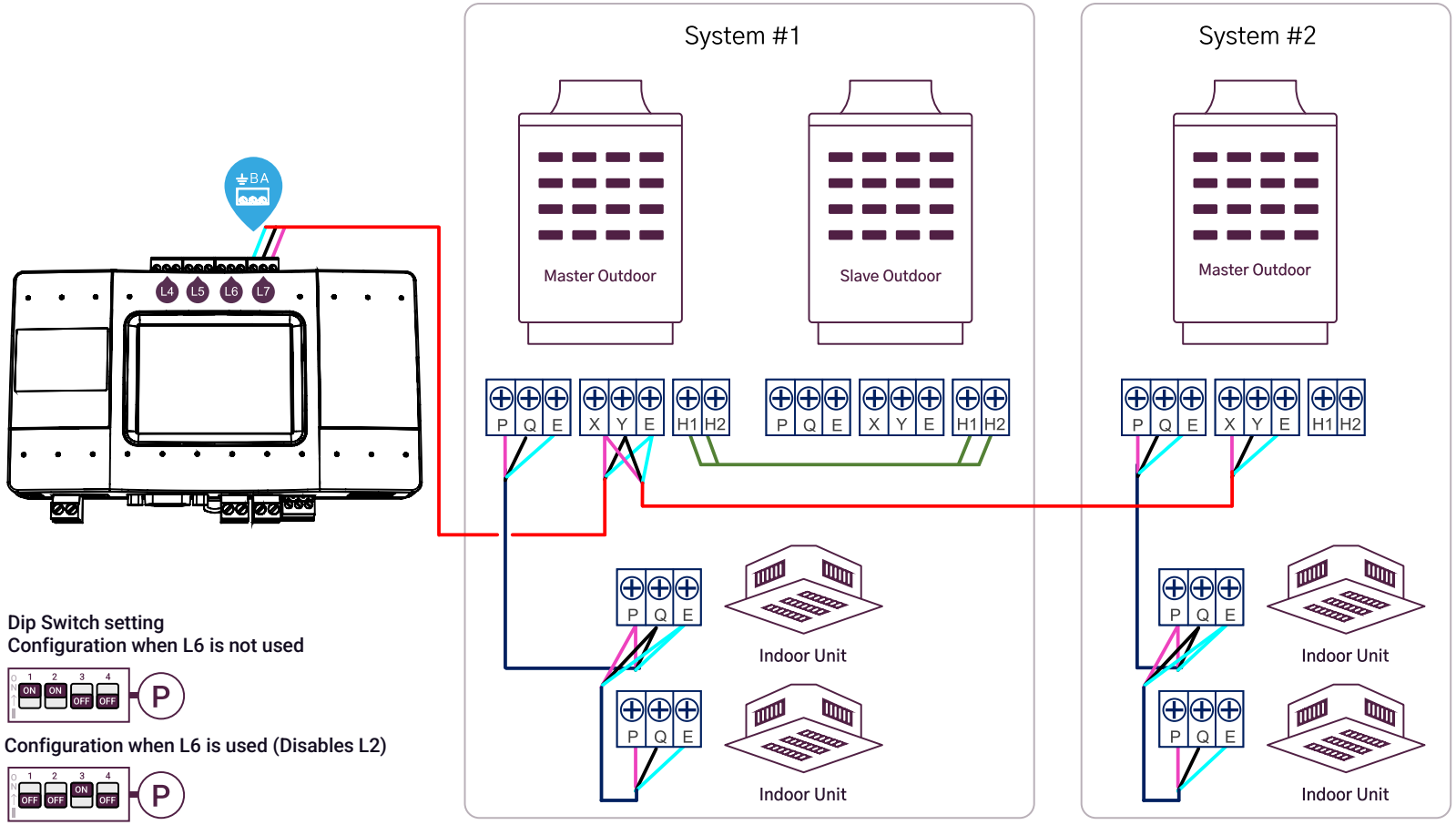


Maximum Indoor Units Per Line: 128
Maximum Systems Per Line: 1



Midea VRF – Outdoor line connection

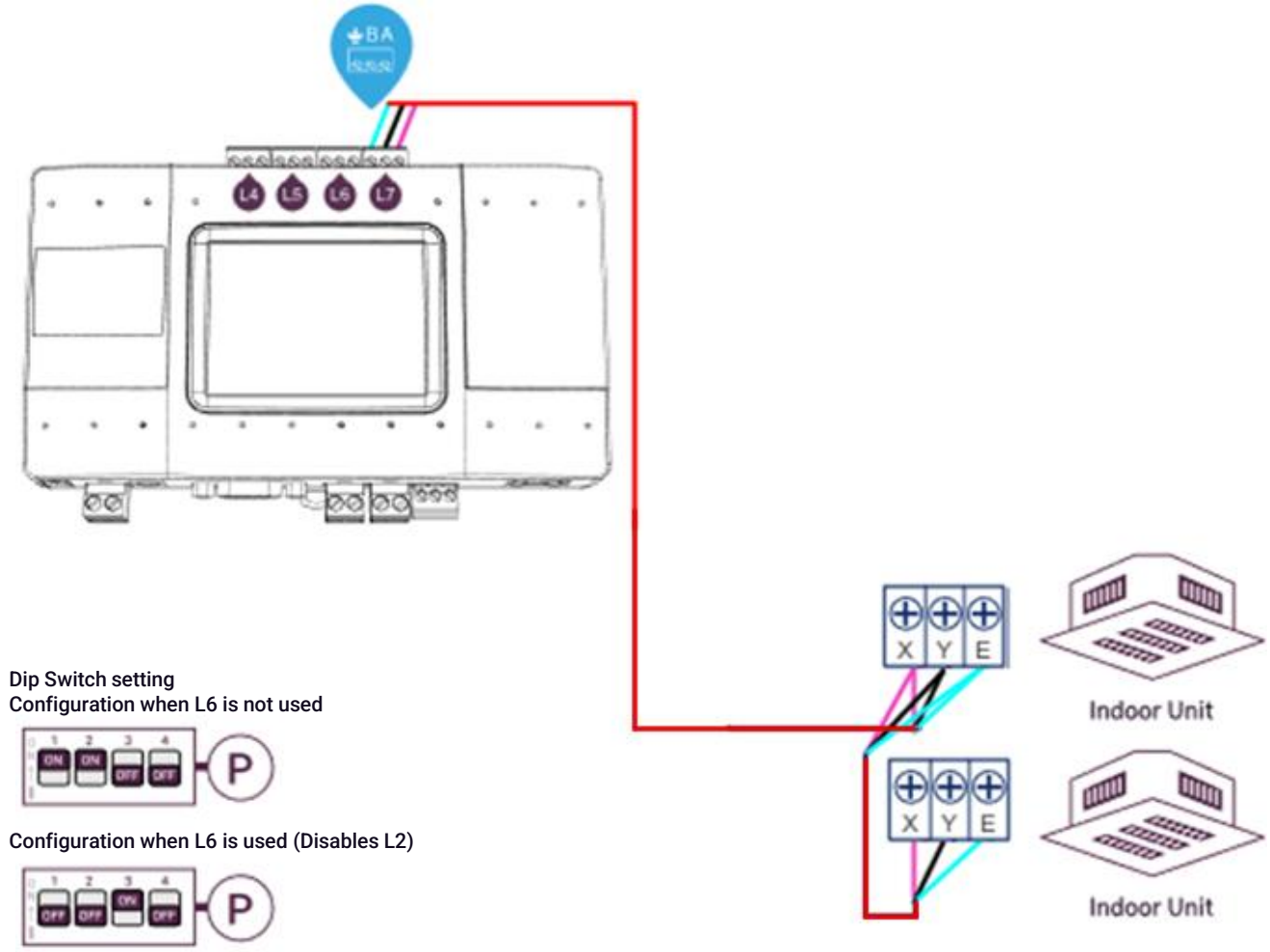
- Supported device line number:
  L7 (Default) , L4 , L5 , L6 (using L6 require dip switch change)
- Line polarity is required
- Cable type – Follow Midea installation instructions
- Set line type in the device to: **MD**
- Set dip switch P according to drawing , dip switch Q,R,S are not applicable to lines 3,4,5,6,7,8
- Follow Midea instruction on how to address the units
- Each system and Indoor must be set with unique address
- Midea V5 supports only indoor service data
- Midea V6,V8 supports Outdoor and Indoor Data
- Do not Mix different Midea series on the same line



Maximum Indoor Units Per Line: 64
Maximum Systems Per Line: 16

Midea VRF –Indoor line connection

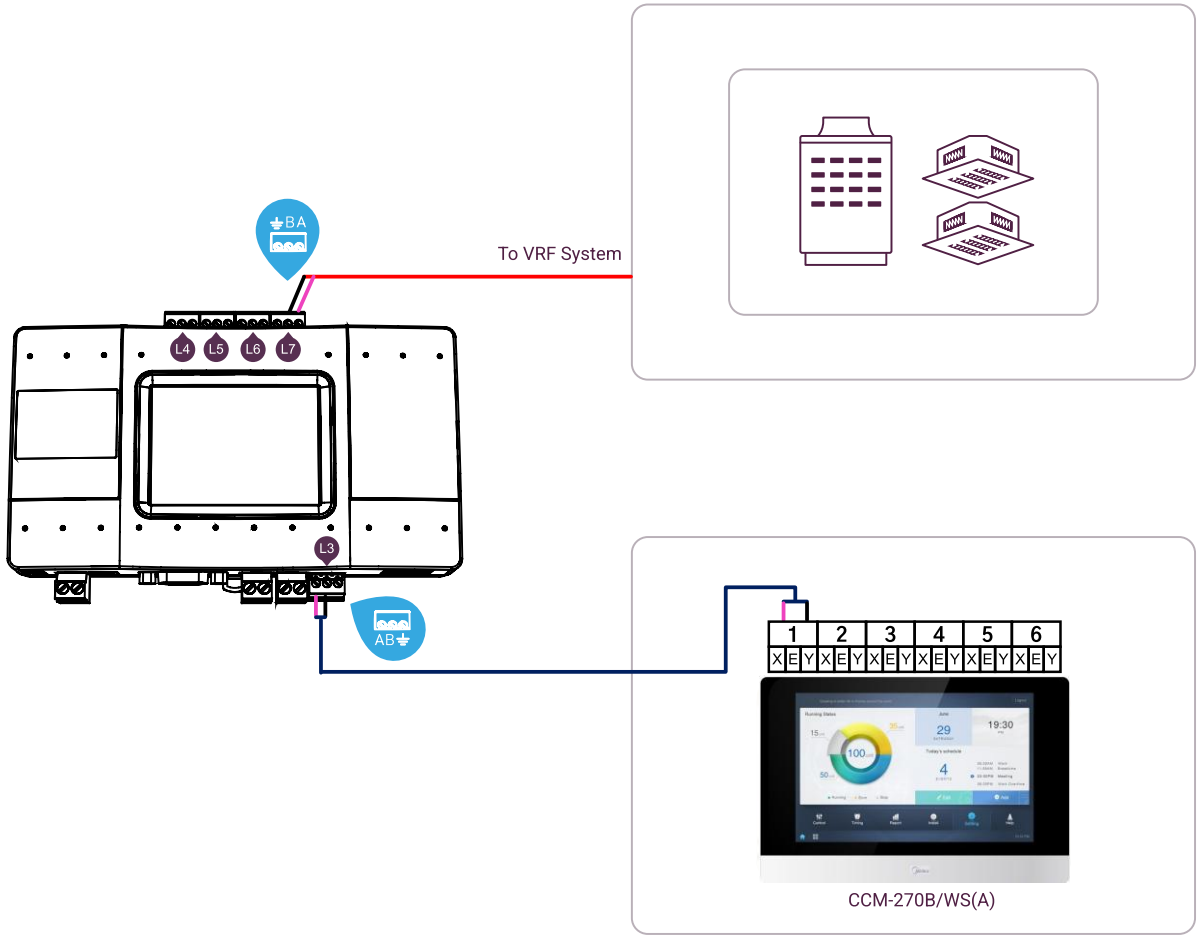
- Supported device line number:
  L7 (Default) , L4 , L5 , L6 (using L6 require dip switch change)
- Line polarity is required
- Cable type – Follow Midea installation instructions
- Set line type in the device to: **MD**
- Set dip switch P according to drawing , dip switch Q,R,S are not applicable to lines 3,4,5,6,7,8
- Follow Midea instruction on how to address the units
- Each Indoor must be set with unique address
- Midea V6 and higher supports indoor service data
- Do not Mix different Midea series on the same line



Maximum Indoor Units Per Line: 64

Midea VRF – Central Controller connection

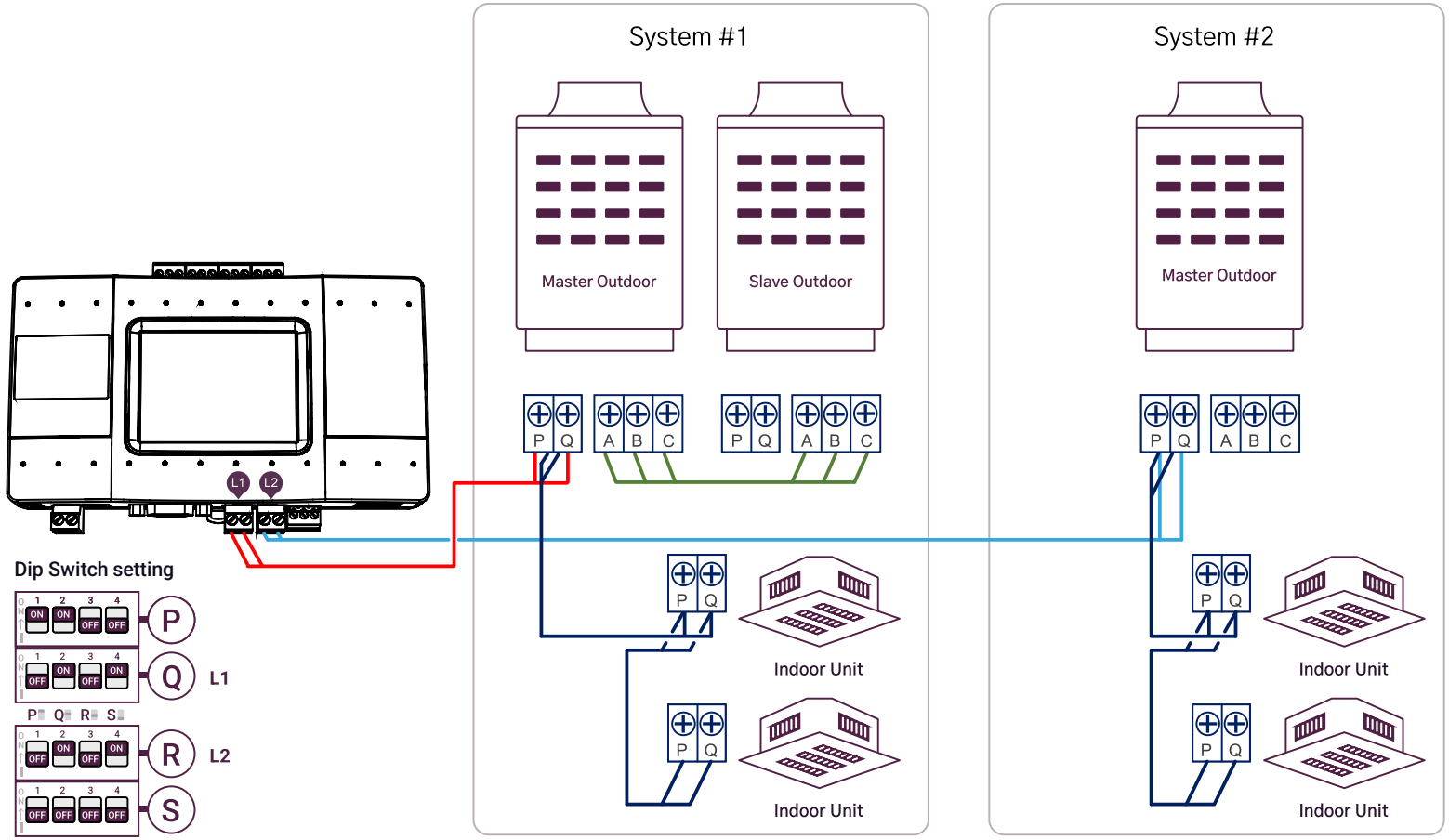
- Supported device line number:
  L3 (Default) , L4 , L5
- Line polarity is required
- Set line type in the device to: **MDI**



Haier VRF – Indoor line connection

- Supported device line number: L1,L2
- No line polarity required
- Cable type – Follow Haier installation instructions
- Set line type in the device to: **HA**
- Set dip switch according to the drawing
- Each Indoor unit must be set with unique address
- Follow Haier instruction on how to address the units
- **No service data is available on P,Q line**

see page 40 for details

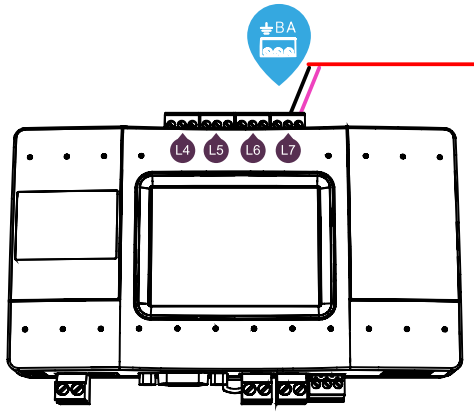


Maximum Indoor Units Per Line: 64
Maximum Systems Per Line: 1

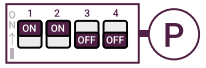
Haier VRF – Using Modbus Adapter

- Supported device line number: L7 (Default) , L4 , L5 , L6 (using L6 require dip switch change)
- Line polarity is required
- Cable type – Follow Haier installation instructions
- Set line type in the device to: **HAM**
- Set dip switch P according to drawing , dip switch Q,R,S are not applicable to lines 3,4,5,6,7,8
- Follow Haier instruction on how to address the units
- Each system and Indoor must be set with unique address
- **No service data is available on the adapter**

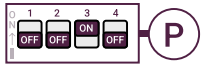
see page 40 for details



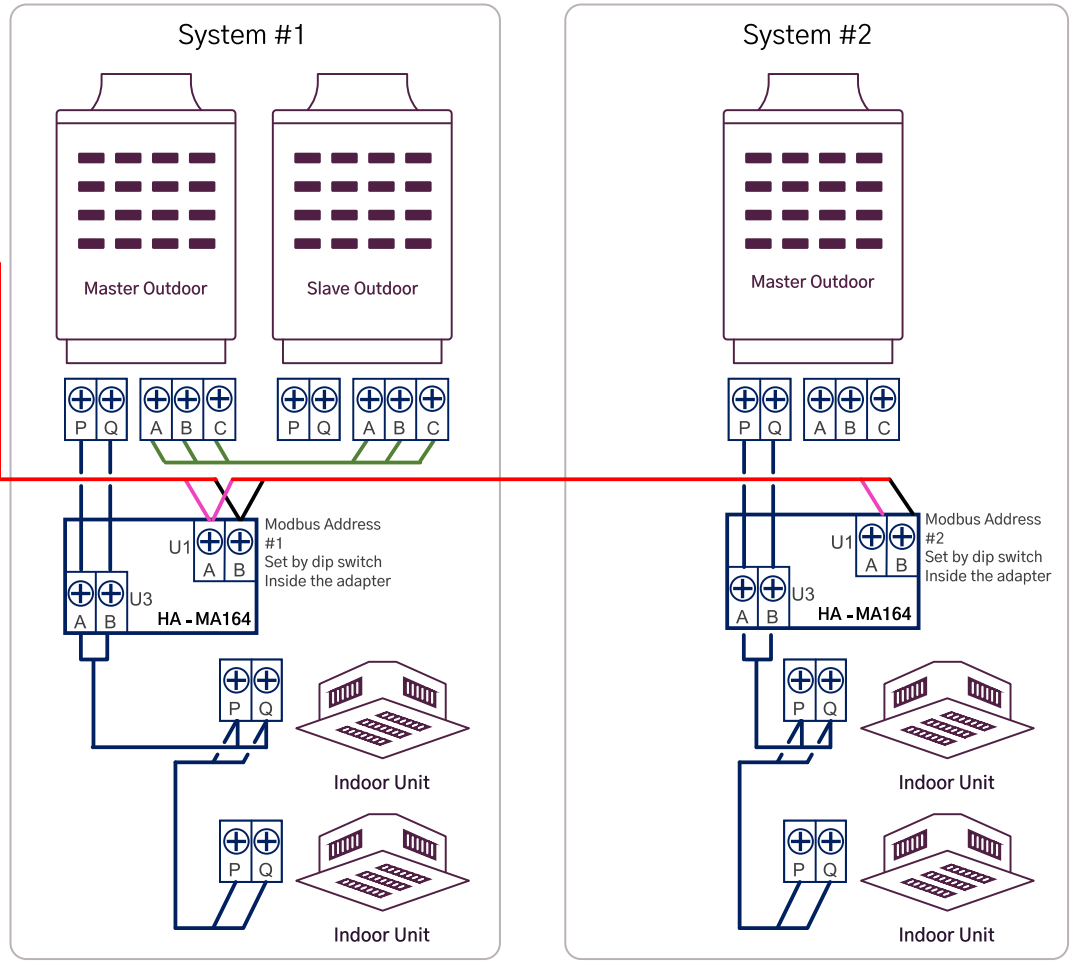
Dip Switch setting
Configuration when L6 is not used



Configuration when L6 is used (Disables L2)



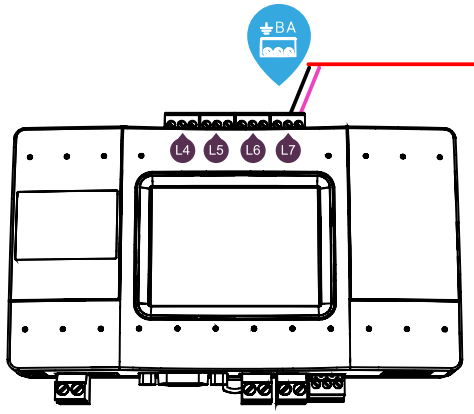
Maximum Indoor Units Per Line: 64
Maximum Systems Per Line: 16



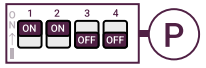
Haier VRF – MRV5

- Supported device line number:
  L7 (Default) , L4 , L5 , L6 (using L6 require dip switch change)
- Line polarity is required
- Cable type – Follow Haier installation instructions
- Set line type in the device to: **HAM**
- Set dip switch P according to drawing , dip switch Q,R,S are not applicable to lines 3,4,5,6,7,8
- Follow Haier instruction on how to address the units
- Each system and Indoor must be set with unique address
- **No service data is available on Bus A,B line**

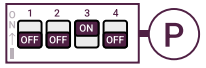
see page 40 for details



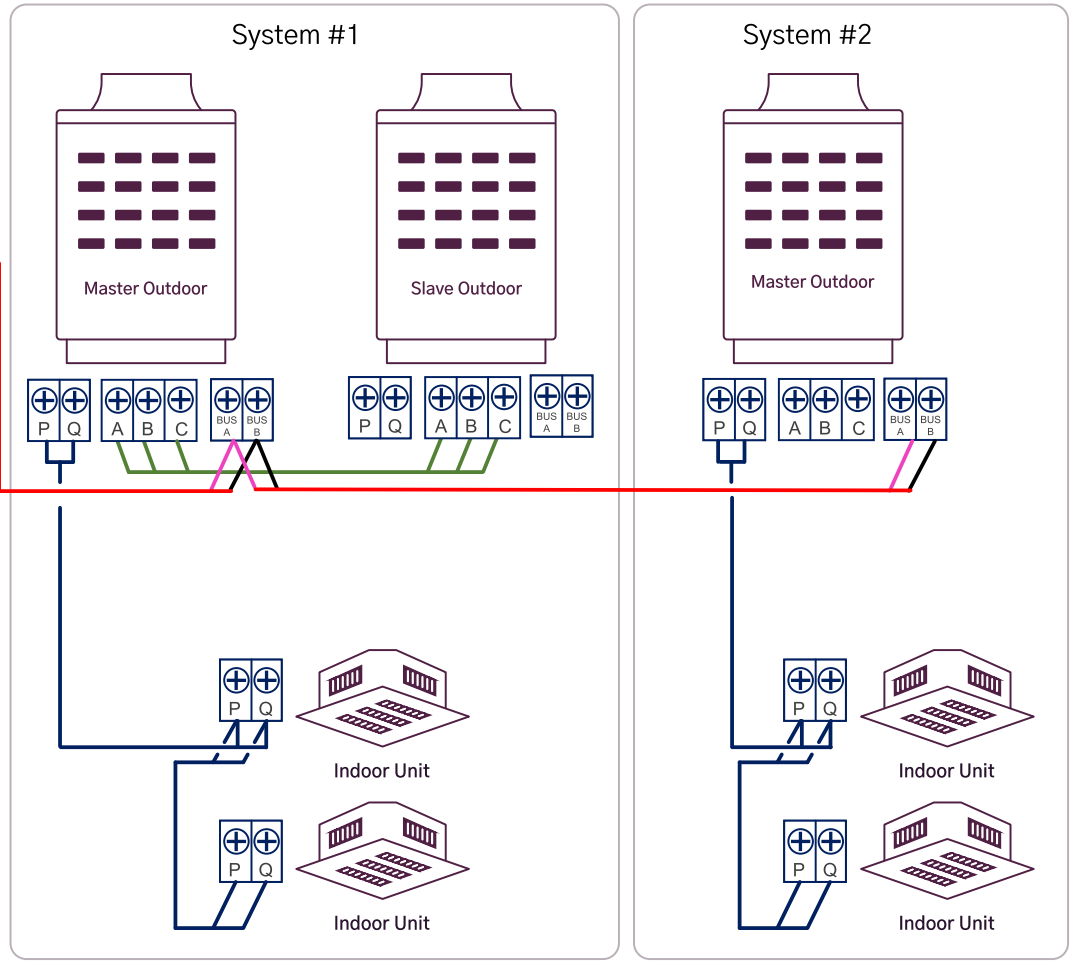
Dip Switch setting
Configuration when L6 is not used



Configuration when L6 is used (Disables L2)

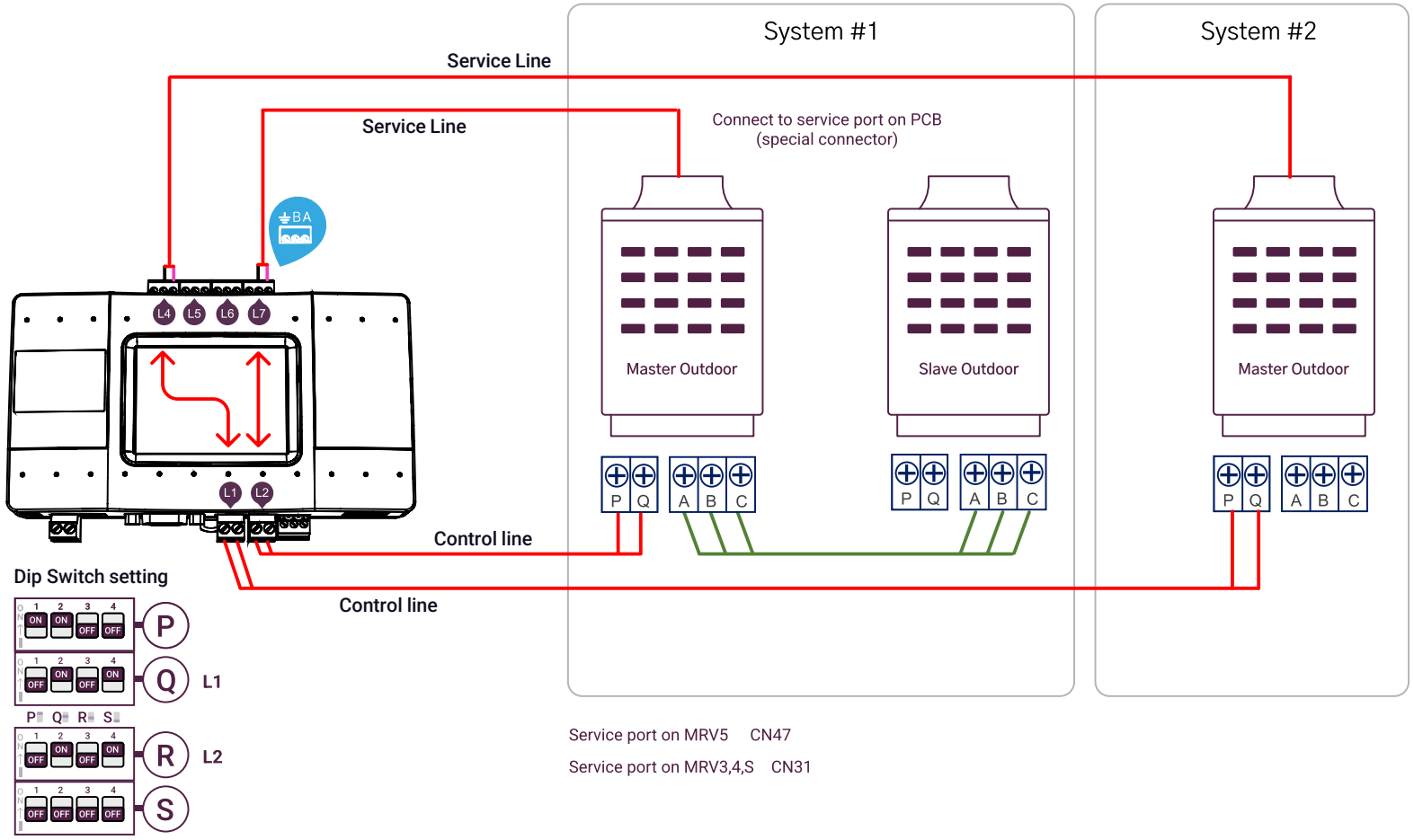


Maximum Indoor Units Per Line: 64
Maximum Systems Per Line: 16



Haier VRF – when Service data is required

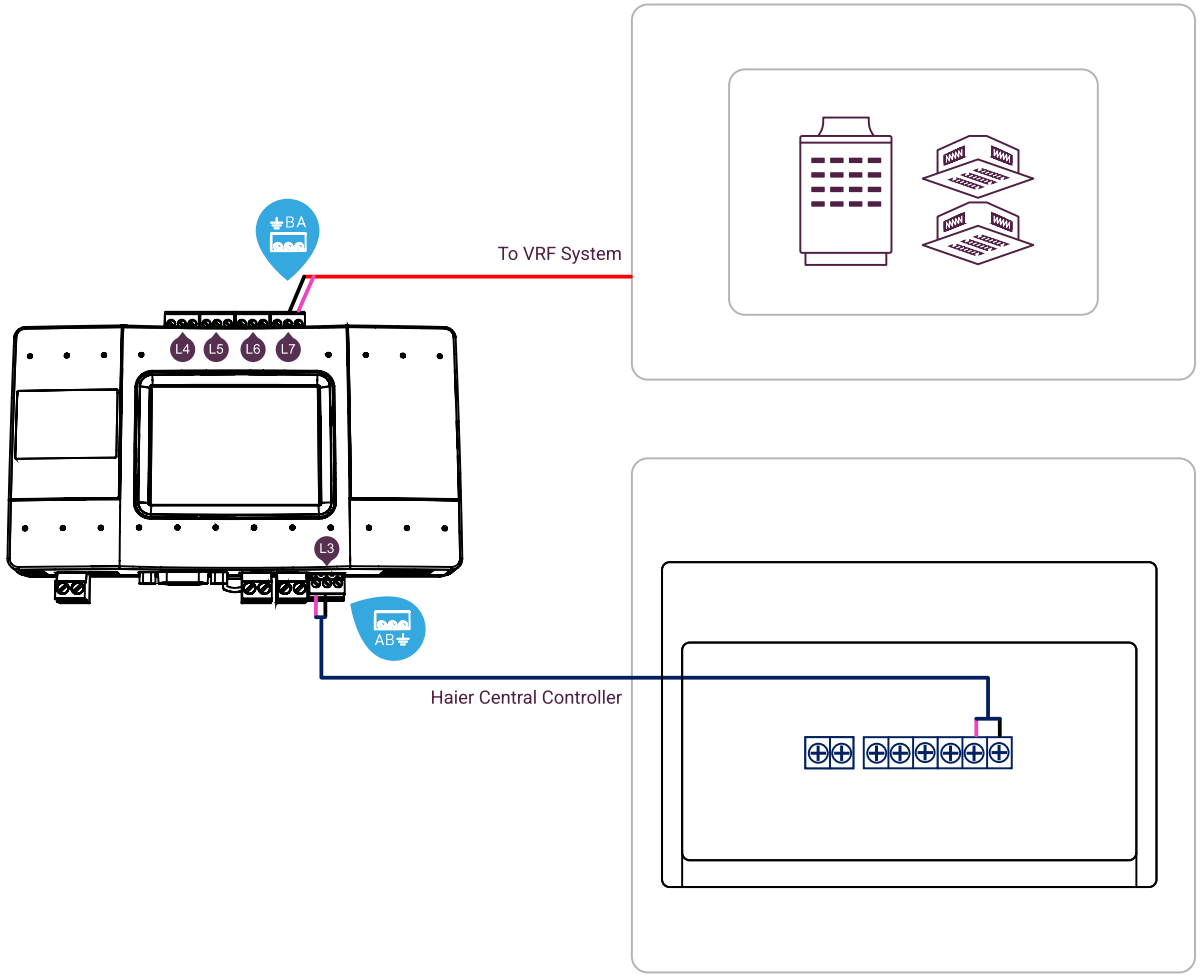
- Supported device line number for control: L1,L2
- Supported lines for service data L4,L5,L6,L7 (using L6 require dip switch change)
- No line polarity required
- Cable type – Follow Haier installation instructions
- Set line 1,2 type in the device to: **HA**
- Set service lines to: **HAM**
- Service lines need a special scan terminal command to define the VRF revision.
- Set dip switch according to the drawing
- Each Indoor unit must be set with unique address
- Follow Haier instruction on how to address the units



Maximum Indoor Units Per Line: 64
Maximum Systems Per Line: 1

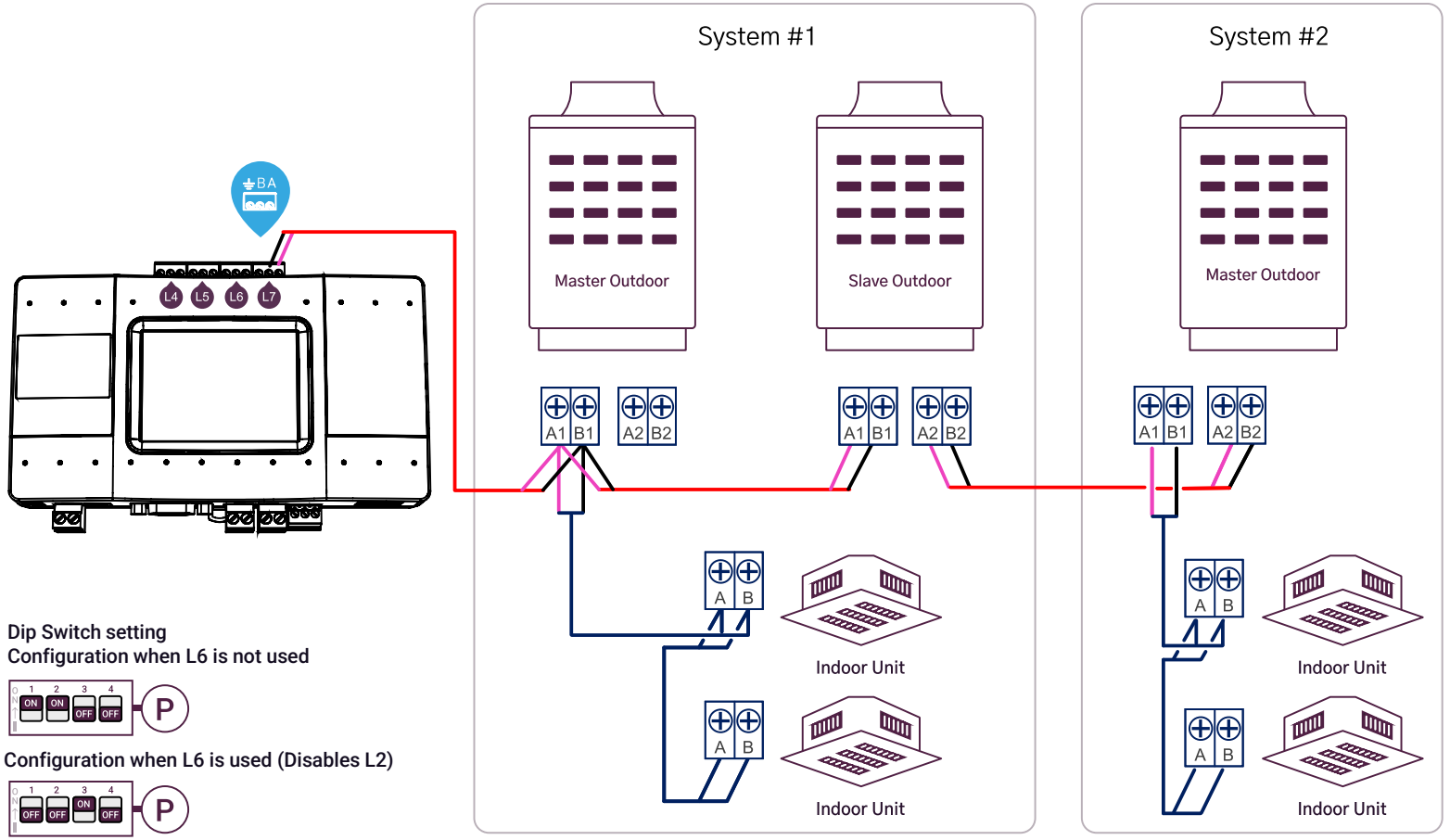
Haier VRF – Central Controller connection

- When using the Modbus adapter or when connected to MRV5 and still a Haier central controller is required use this configuration.
- Supported device line number: L3 (Default) , L4 , L5
- Line polarity is required
- Set line type in the device to: **HAMI**



Mitsubishi Heavy VRF – Indoor/Outdoor line connection

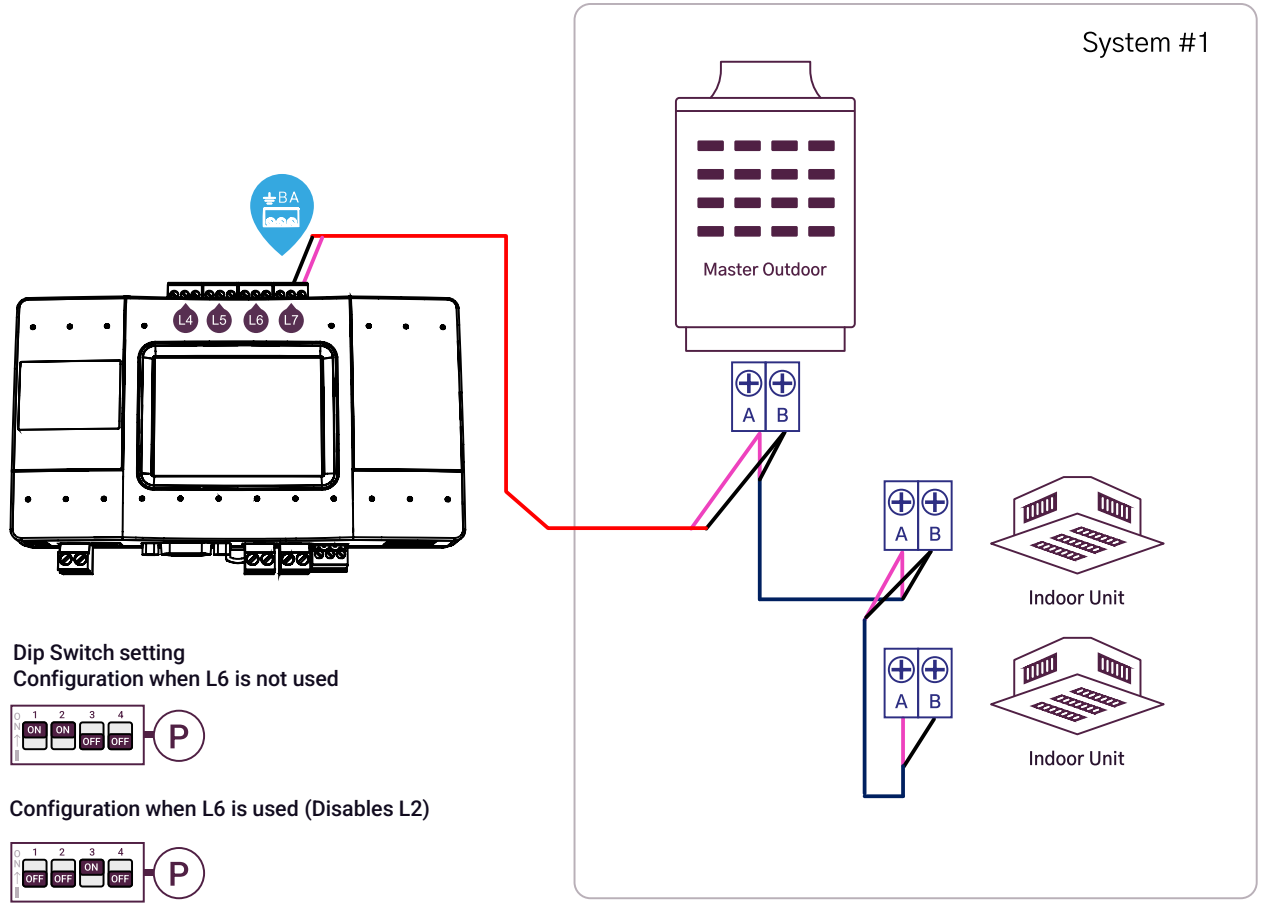
- Supported device line number: L7 (Default) , L4 , L5 , L6 (using L6 require dip switch change)
- Line polarity is required
- Cable type – Follow MH installation instructions
- Set line type in the device to: **MH**
- Set dip switch P according to drawing , dip switch Q,R,S are not applicable to lines 3,4,5,6,7,8
- Follow MH instruction on how to address the units
- Each system and Indoor must be set with unique address



Maximum Indoor Units Per Line: 128
Maximum Systems Per Line: 16

AUX VRF – Indoor line connection

- Supported device line number: L7 (Default) , L4 , L5 , L6 (using L6 require dip switch change)
- Line polarity is required
- Cable type – Follow AUX installation instructions
- Set line type in the device to: **AUX**
- Set dip switch P according to drawing , dip switch Q,R,S are not applicable to lines 3,4,5,6,7,8
- Follow AUX instruction on how to address the units
- Each system and Indoor must be set with unique address



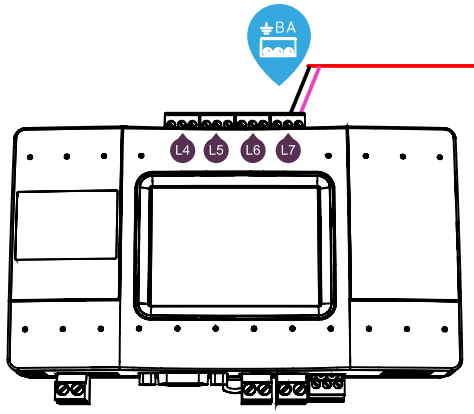
Dip Switch setting
Configuration when L6 is not used

Configuration when L6 is used (Disables L2)

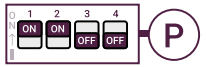
Maximum Indoor Units Per Line: 64

Blue Star VRF – Indoor/Outdoor line connection

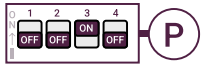
- Supported device line number: L7 (Default) , L4 , L5 , L6 (using L6 require dip switch change)
- Line polarity is required
- Cable type – Follow BS installation instructions
- Set line type in the device to: **BS**
- Set dip switch P according to drawing , dip switch Q,R,S are not applicable to lines 3,4,5,6,7,8
- Follow BS instruction on how to address the units
- Each system and Indoor must be set with unique address
- No service data is available for this brand



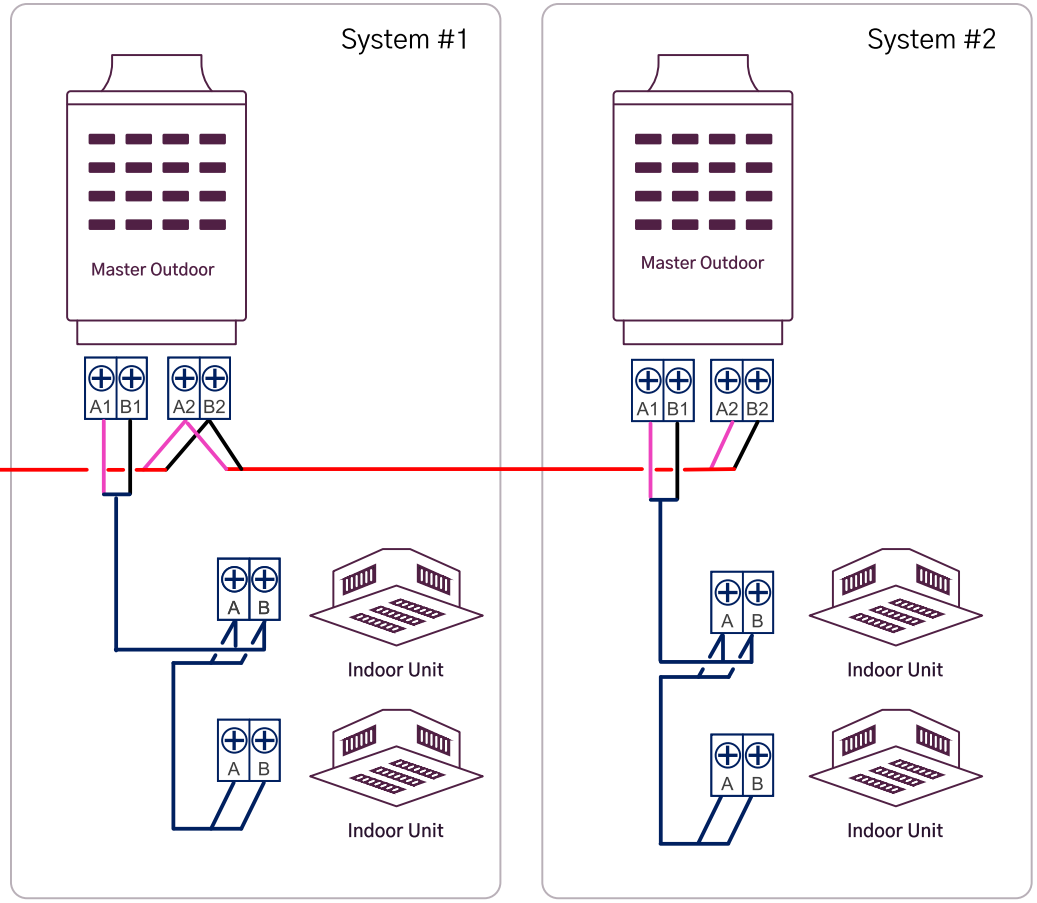
Dip Switch setting
Configuration when L6 is not used



Configuration when L6 is used (Disables L2)

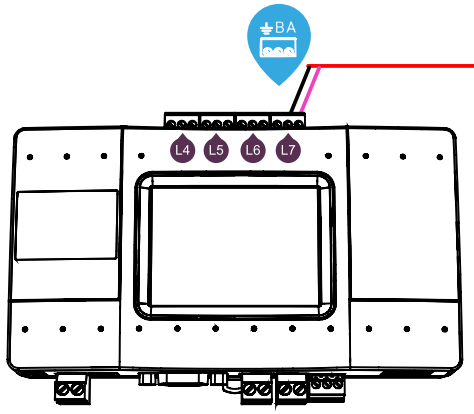


Maximum Indoor Units Per Line: 128
Maximum Systems Per Line: 16

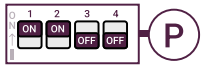


TICA VRF – Indoor/Outdoor line connection

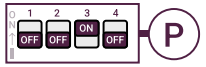
- Supported device line number: L7 (Default) , L4 , L5 , L6 (using L6 require dip switch change)
- Line polarity is required
- Cable type – Follow TICA installation instructions
- Set line type in the device to: **TC**
- Set dip switch P according to drawing , dip switch Q,R,S are not applicable to lines 3,4,5,6,7,8
- Follow TICA instruction on how to address the units
- Each system and Indoor must be set with unique address
- No service data is available for this brand



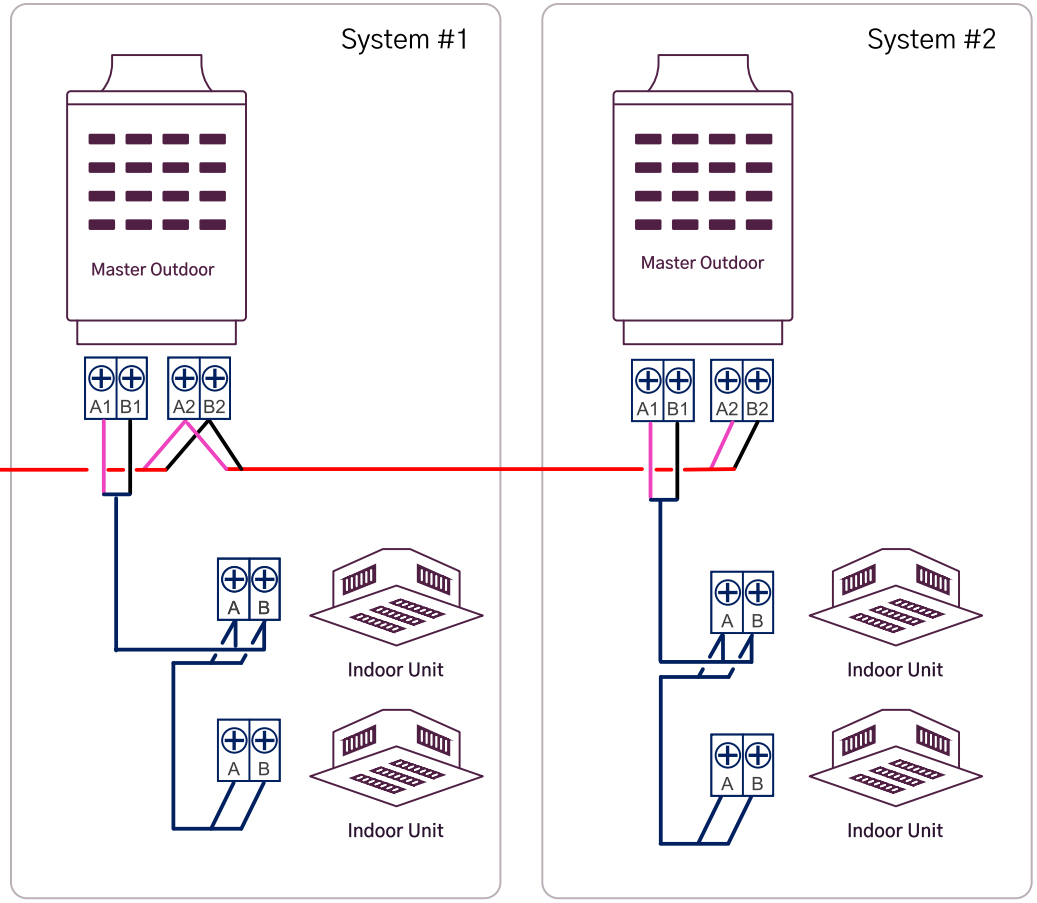
Dip Switch setting
Configuration when L6 is not used



Configuration when L6 is used (Disables L2)

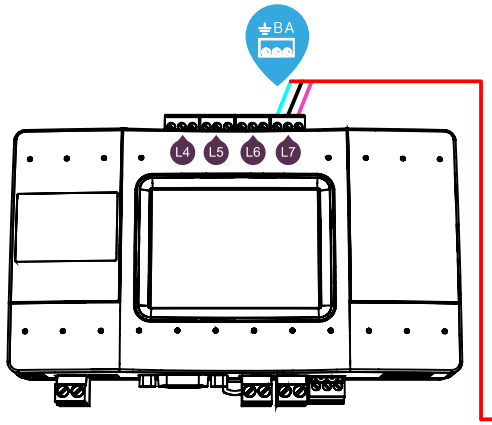


Maximum Indoor Units Per Line: 64
Maximum Systems Per Line: 16

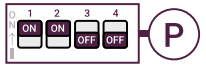


CHIGO VRF – Outdoor line connection

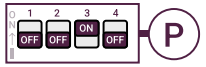
- Supported device line number: L7 (Default) , L4 , L5 , L6 (using L6 require dip switch change)
- Line polarity is required
- Cable type – Follow Chigo installation instructions
- Set line type in the device to: **CG**
- Set dip switch P according to drawing, dip switch Q,R,S are not applicable to lines 3,4,5,6,7,8
- Follow Chigo instruction on how to address the units
- Each system and Indoor must be set with unique address
- No service data is available for this brand



Dip Switch setting
Configuration when L6 is not used



Configuration when L6 is used (Disables L2)



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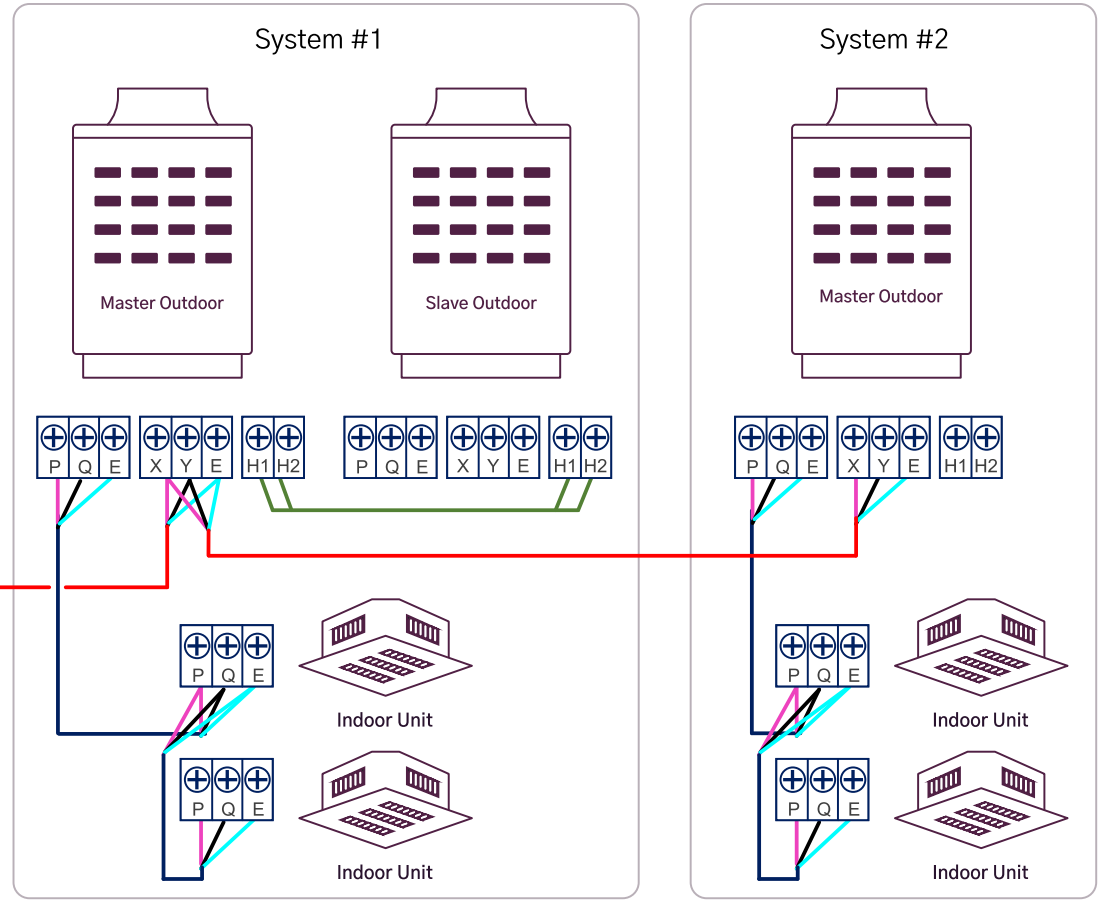

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