CoolMasterNet

Universal HVAC Bridge

Quick Installation Guide

Warning

Read these **Safety Precautions** carefully to ensure correct installation.

This manual classifies precautions into **WARNING** and **CAUTION.**

> **Failure to follow WARNING is very likely to result in such grave consequences as death or serious injury**

WARNING

Only qualified personnel must carry out the installation work.

Ask your dealer or technical representative to install the unit.

Any deficiency caused by your own installation may result in an 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 **CoolMasterNet** by yourself.

Any deficiency caused by your own re-installation 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.

Caution

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

CAUTION

Do not allow children to play with the **CoolMasterNet** and supervise them not to get access to the appliance.

CoolMasterNet is not to be used by persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge.

Do not disassemble, modify or repair the **CoolMasterNet**.

Any deficiency caused by your modification or repair may result in an electric shock or fire.

Never let the **CoolMasterNet** to get wet.

Water can cause damage to the **CoolMasterNet**, and may cause an electric shock or fire.

Do not use flammable materials (e.g. hairspray or insecticide) near the **CoolMasterNet**.

Do not clean the **CoolMasterNet** with organic solvents such as paint thinner. The use of organic solvents may cause cracking, damaging the **CoolMasterNet**, causing electrical shock or fire.

Do not apply AC110V or AC220V to the CoolMasterNet. The maximum voltage that can be applied to the unit directly is 24V DC.

If damaged **CoolMasterNet** can generate heat and cause a fire.

Caution

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

DO NOT INSTALL THE COOLMASTERNET 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 **CoolMasterNet** and cause the unit to malfunction.

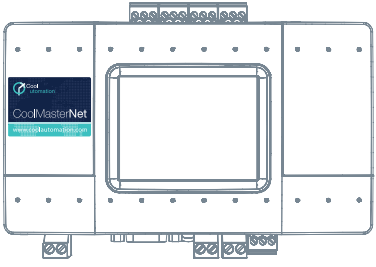
d. Where flammable gas may leak, where there is carbon fiber or ignitable dust suspensions in the air, or where volatile flammable such as thinner or gasoline are handle
Operating the **CoolMasterNet** in such conditions can cause a fire.

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

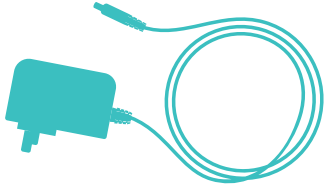
f. Moist area, where there is exposure to water.
If water enters the inside of the **CoolMasterNet**, it may cause electric shock and electrical components may fail.

Contents

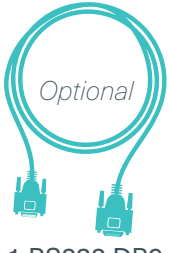
What's in the box



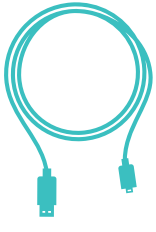
CoolMasterNet



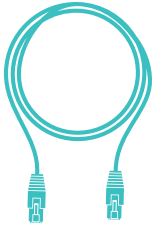
AC Power supply adapter
100V-240V 50/60hz to 12V DC



1 RS232 DB9
Male to Female
cable

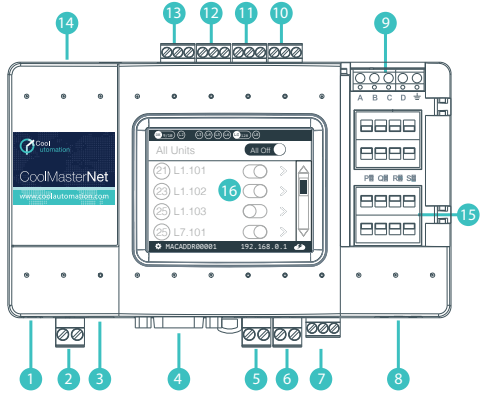


1 USB-Mini USB
cable



1 Ethernet
cable

CoolMasterNet



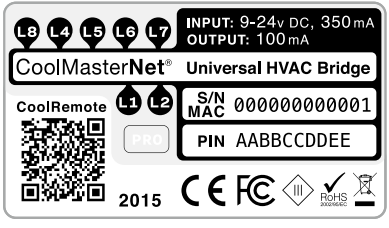
1. L8 – HVAC Line 8 (USB Host)
2. Power
3. Power Plug
4. RS232 Port
5. L1 – HVAC Line 1
6. L2 – HVAC Line 2
7. RS485
8. Ethernet Port
9. GPIOs
10. L7 – HVAC Line 7
11. L6 – HVAC Line 6
12. L5 – HVAC Line 5
13. L4 – HVAC Line 4
14. USB Device Port
15. DIP Switches P, Q, R, S
16. LCD Touch Screen

Preconfigured CoolMasterNet

Type label

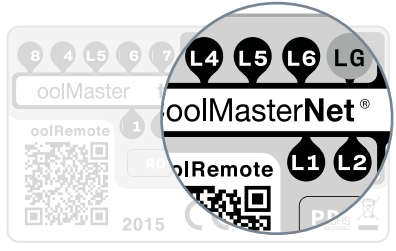
This label uniquely identifies the manufacturer's configuration of CoolMasterNet.

Located on the back of the enclosure.



Type label with Configuration sticker

A preconfigured label example:
configured for LG (LG) on L7



Changing HVAC System setup requires activation
For more info, see http://coolautomation.com/support/coolmasternet/activation

HVAC Line configuration

Configuration stickers for HVAC line L1

- DK Daikin PRO
- ME Mitsubishi Electric PRO
- PN Panasonic
- SN Sanyo
- TO Toshiba
- HT Hitachi (JCI) PRO
- YK York (US)
- YK York
- HA Haier

Configuration stickers for HVAC line L7

- LG LG
- MH Mitsubishi Heavy
- GR Gree
- MD Midea
- SM Samsung
- TR Trane
- TR Trane (US)
- KT Kentatsu
- DK Chigo

Configuration stickers for HVAC line L8

- FJ Fujitsu
- RH Rheem (US)
- GR Gree (GMV 5)

PRO Optional Support for service and diagnostics functions.

HVAC Daikin VRV — on L1

1 HVAC Communication Terminals

Connect to the communication terminals on the HVAC equipment:

HVAC communication terminal's names*

F1 F2	DK	Daikin ** Max. 64 indoor units

* For Heat Recovery systems the connection is at oudoor units only.

* Polarity is not required on the HVAC communication line.

** Centralized (group) address required.

2 Connecting to the line plug

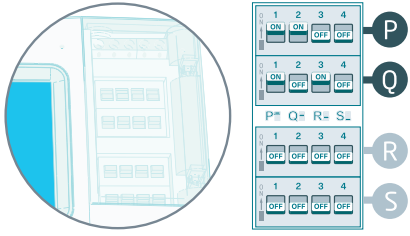
Secure the cables in the L1 line plug.

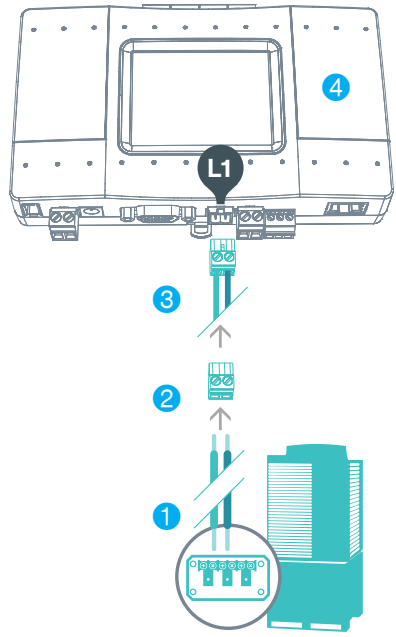
3 Plugging to the CoolMasterNet

Insert the plug in to the CoolMasterNet L1 socket

4 Check DIP Switches are set correctly

Dip switches setup for VRV HVAC system on L1





Daikin HVAC Terminal

HVAC Mitsubishi Electric VRF — on L1

1 HVAC Communication Terminals

Connect to the communication terminals on the HVAC equipment:

HVAC communication terminal's names*

M1 M2	ME	**Mitsubishi Electric** Max. 50 indoor units

* For Heat Recovery systems the connection is at outdoor units only.

* Polarity is not required on the HVAC communication line.

2 Connecting to the line plug

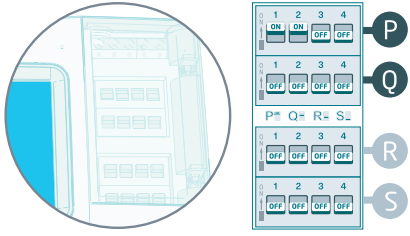
Secure the cables in the L1 line plug.

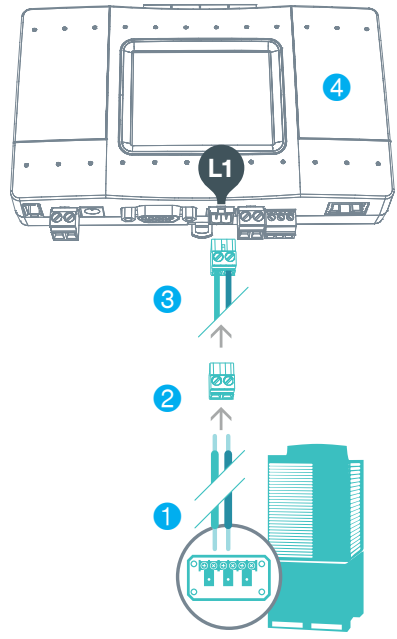
3 Plugging to the CoolMasterNet

Insert the plug in to the CoolMasterNet L1 socket

4 Check DIP Switches are set correctly

Dip switches setup for VRF HVAC system on L1





Mitsubishi Electric HVAC Terminal

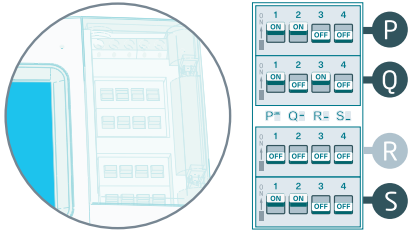
HVAC Daikin Non-VRV — on L1

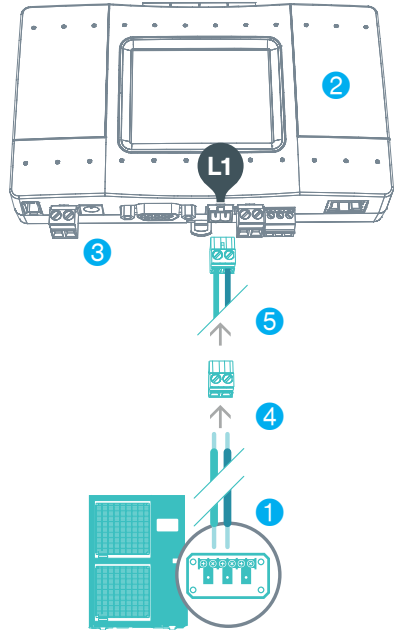
Changing the dip switches (S), while DC voltage is present on L1, may damage the CoolMasterNet.

For Daikin Non-VRV equipment, DC voltage supply by CoolMasterNet might be required for proper operation.

⚠ **Make sure CoolMasterNet is disconnected from power and HVAC line.**

1. Measure DC voltage on HVAC communication line L1
2. **If no DC voltage. Daikin 14-16V DC change the dip switches** as shown below
3. **Turn ON the power** for CoolMasterNet and **connect** it to HVAC line.
4. Connect to the communication terminals on the HVAC equipment and secure the cables in the L1 line plug.
5. Insert the plug in to the CoolMasterNet L1 socket.





Daikin Non-VRV HVAC Terminal

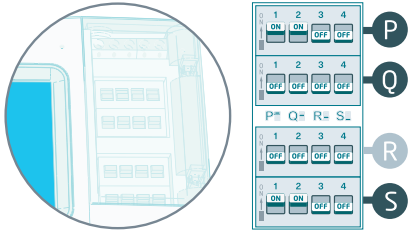
HVAC Mitsubishi Electric Non-VRF — on L1

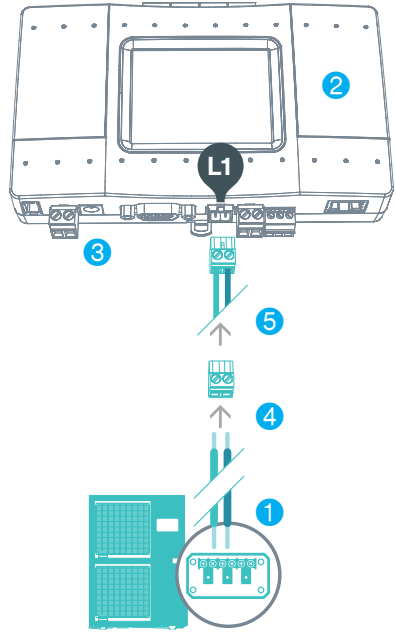
Changing the dip switches (S), while DC voltage is present on L1, may damage the CoolMasterNet.

For Mitsubishi Electric Non-VRF equipment, DC voltage supply by CoolMasterNet might be required for proper operation.

Make sure CoolMasterNet is disconnected from power and HVAC line.

1. Measure DC voltage on HVAC communication line L1
2. **If no DC voltage**. **Mitsubishi 28-30V DC change the dip switches** as shown below
3. **Turn ON the power** for CoolMasterNet and **connect** it to HVAC line.
4. Connect to the communication terminals on the HVAC equipment and secure the cables in the L1 line plug.
5. Insert the plug in to the CoolMasterNet L1 socket.





Mitsubishi Non-VRF HVAC Terminal

HVAC Panasonic/Sanyo VRF — on L1

1 HVAC Communication Terminals

Connect to the communication terminals on the HVAC equipment:

HVAC communication terminal's names*

U1
U2

PN **Panasonic / Sanyo**
Max. 64 indoor units

* For Heat Recovery systems the connection is at outdoor units only.

* Polarity is not required on the HVAC communication line.

2 Connecting to the line plug

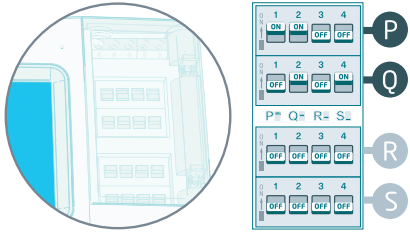
Secure the cables in the L1 line plug.

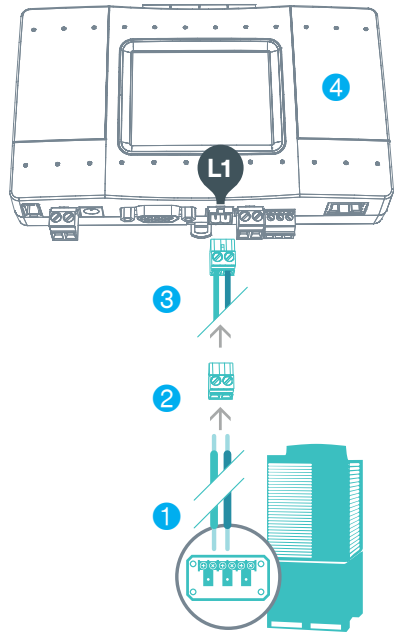
3 Plugging to the CoolMasterNet

Insert the plug in to the CoolMasterNet L1 socket

4 Check DIP Switches are set correctly

Dip switches setup for VRF HVAC system on L1





Panasonic / Sanyo HVAC Terminal

HVAC Toshiba VRF — on L1

1 HVAC Communication Terminals

Connect to the communication terminals on the HVAC equipment:

HVAC communication terminal's names*

U1 U2	TO	**Toshiba** Max. 64 indoor units

* For Heat Recovery systems the connection is at outdoor units only.

* Polarity is not required on the HVAC communication line.

2 Connecting to the line plug

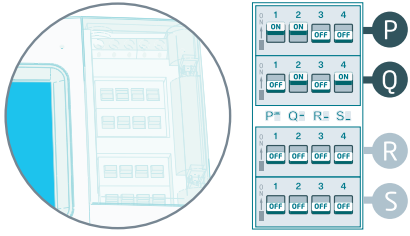
Secure the cables in the L1 line plug.

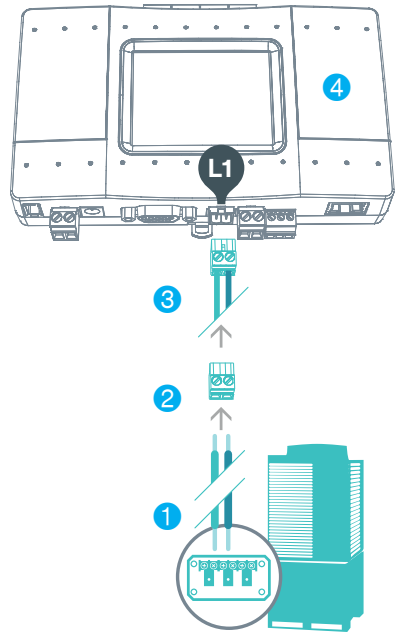
3 Plugging to the CoolMasterNet

Insert the plug in to the CoolMasterNet L1 socket

4 Check DIP Switches are set correctly

Dip switches setup for VRF HVAC system on L1





Toshiba HVAC Terminal

HVAC Hitachi (JCI) VRF — on L1

1 HVAC Communication Terminals

Connect to the communication terminals on the HVAC equipment:

HVAC communication terminal's names*

1 2	HT	**Hitachi** Max. 160 indoor units

* For Heat Recovery systems the connection is at outdoor units only.

* Polarity is not required on the HVAC communication line.

2 Connecting to the line plug

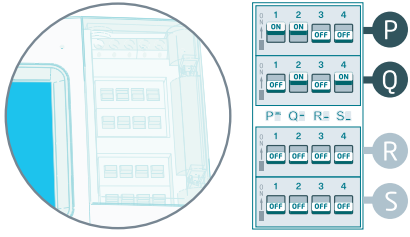
Secure the cables in the L1 line plug.

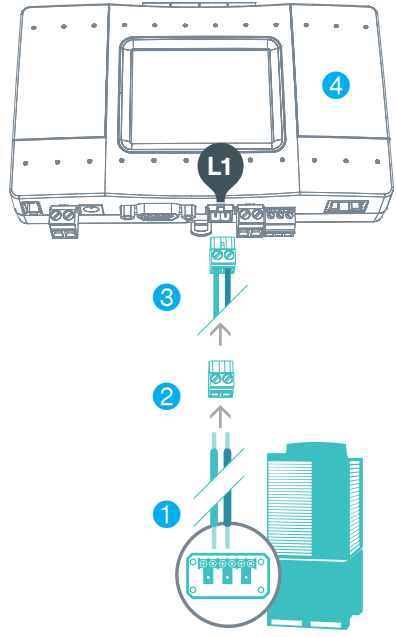
3 Plugging to the CoolMasterNet

Insert the plug in to the CoolMasterNet L1 socket

4 Check DIP Switches are set correctly

Dip switches setup for VRF HVAC system on L1





Hitachi (JCI) HVAC Terminal

HVAC York (US) VRF — on L1

1 HVAC Communication Terminals

Connect to the communication terminals on the HVAC equipment:

HVAC communication terminal's names*

1	YK	York (US)
2		Max. 164 indoor units

* For Heat Recovery systems the connection is at outdoor units only.

* Polarity is not required on the HVAC communication line.

2 Connecting to the line plug

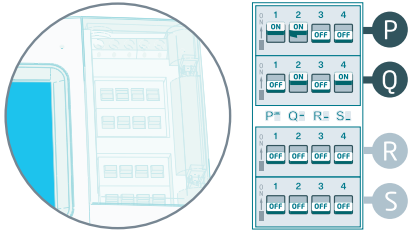
Secure the cables in the L1 line plug.

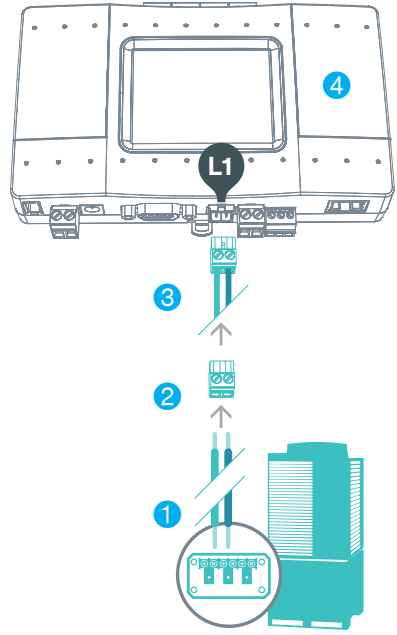
3 Plugging to the CoolMasterNet

Insert the plug in to the CoolMasterNet L1 socket

4 Check DIP Switches are set correctly

Dip switches setup for VRF HVAC system on L1





York (US) HVAC Terminal

HVAC York VRF — on L1

1 HVAC Communication Terminals

Connect to the communication terminals on the HVAC equipment:

HVAC communication terminal's names*

P Q	YK	York Max. 64 indoor units

* For Heat Recovery systems the connection is at outdoor units only.

* Polarity is not required on the HVAC communication line.

2 Connecting to the line plug

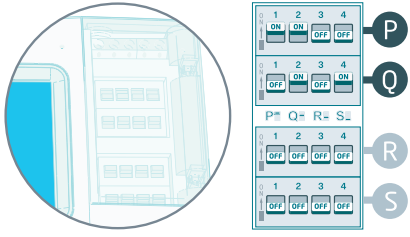
Secure the cables in the L1 line plug.

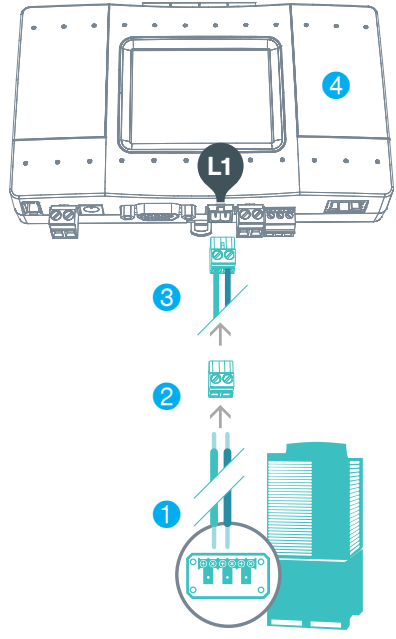
3 Plugging to the CoolMasterNet

Insert the plug in to the CoolMasterNet L1 socket

4 Check DIP Switches are set correctly

Dip switches setup for VRF HVAC system on L1





York HVAC Terminal

HVAC Haier VRF — on L1

1 HVAC Communication Terminals

Connect to the communication terminals on the HVAC equipment:

HVAC communication terminal's names*

P Q	HA	Haier Max. 64 indoor units

* For Heat Recovery systems the connection is at outdoor units only.

* Polarity is not required on the HVAC communication line.

2 Connecting to the line plug

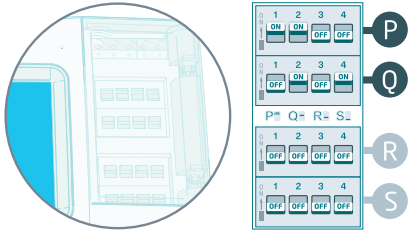
Secure the cables in the L1 line plug.

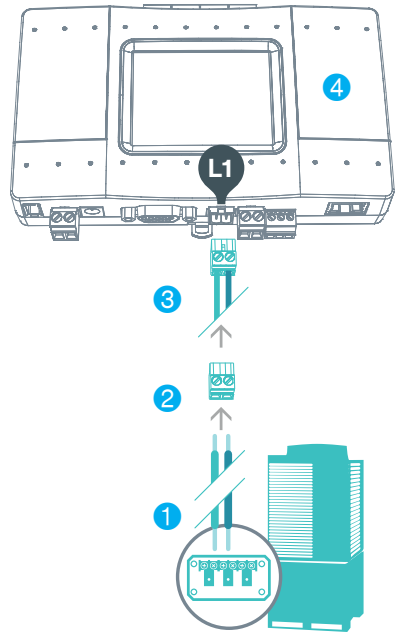
3 Plugging to the CoolMasterNet

Insert the plug in to the CoolMasterNet L1 socket

4 Check DIP Switches are set correctly

Dip switches setup for VRF HVAC system on L1





Haier HVAC Terminal

HVAC Mitsubishi Heavy VRF — on L7

1. **HVAC Communication Terminals**
   Connect to the communication terminals on the HVAC equipment:

   HVAC **outdoor** or **indoor**

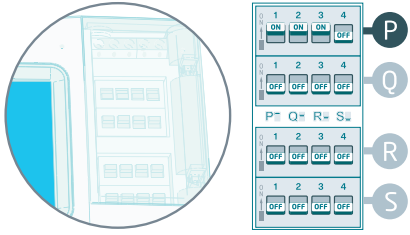
   A
   B

   MH **Mitsubishi Heavy** (Max. 128 indoor units)

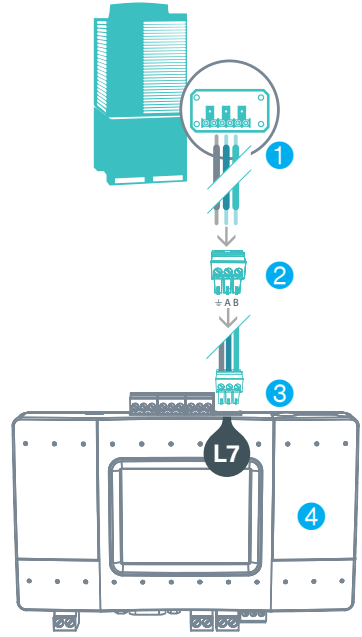
2. **Connecting to the line plug**
   Secure the cables in the L7 line plug.

3. **Plugging to the CoolMasterNet**
   Insert the plug in to the CoolMasterNet L7 socket

4. **Check DIP Switches are set correctly**
   Dip switches setup for VRF HVAC system on L7



Mitsubishi Heavy HVAC Terminal



HVAC LG VRF — on L7

1 HVAC Communication Terminals

Connect to the communication terminals on the HVAC equipment:

HVAC **outdoor** or **indoor**

InterA
InterB

LG
LG
(Max. 128 indoor units)

2 Connecting to the line plug

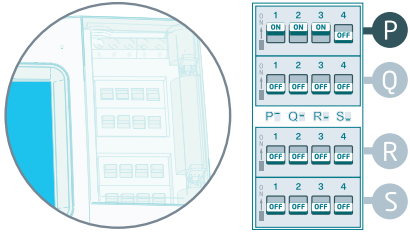
Secure the cables in the L7 line plug.

3 Plugging to the CoolMasterNet

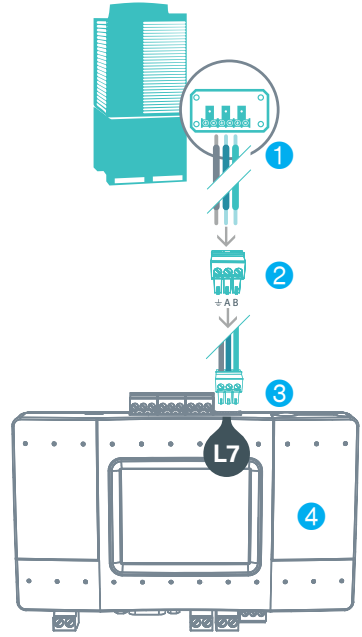
Insert the plug in to the CoolMasterNet L7 socket

4 Check DIP Switches are set correctly

Dip switches setup for VRF HVAC system on L7



LG HVAC Terminal



HVAC Gree VRF — on L7

1 HVAC Communication Terminals

Connect to the communication terminals on the HVAC equipment:

HVAC **outdoor** only

A B	GR	**Gree** Max. 16 indoor units

2 Connecting to the line plug

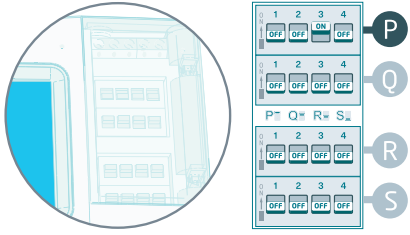
Secure the cables in the L7 line plug.

3 Plugging to the CoolMasterNet

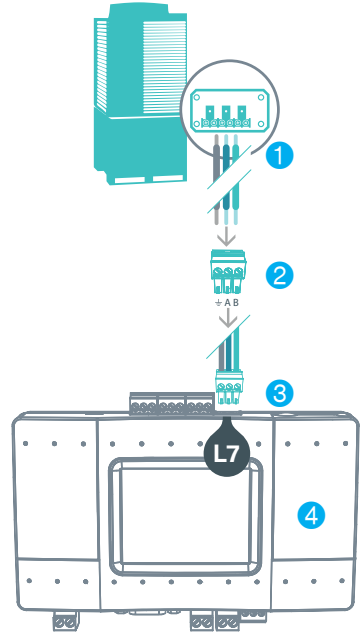
Insert the plug in to the CoolMasterNet L7 socket

4 Check DIP Switches are set correctly

Dip switches setup for VRF HVAC system on L7



Gree HVAC Terminal



HVAC Midea VRF — on L7

1 HVAC Communication Terminals

Connect to the communication terminals on the HVAC equipment:

HVAC **outdoor** only

Midea
Max. 64 indoor units

2 Connecting to the line plug

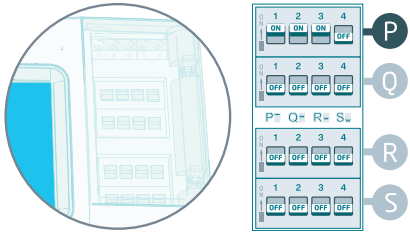
Secure the cables in the L7 line plug.

3 Plugging to the CoolMasterNet

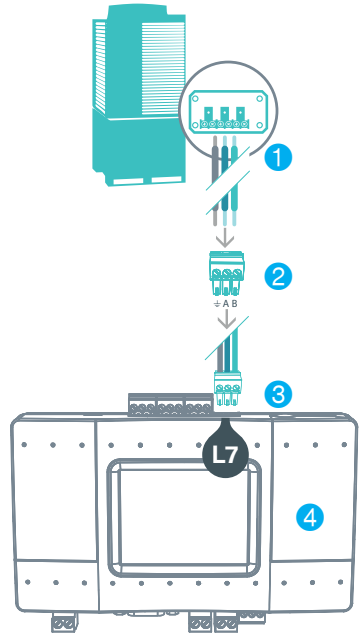
Insert the plug in to the CoolMasterNet L7 socket

4 Check DIP Switches are set correctly

Dip switches setup for VRF HVAC system on L7



Midea HVAC Terminal



HVAC Samsung VRF — on L7

1 HVAC Communication Terminals

Connect to the communication terminals on the HVAC equipment:

HVAC **outdoor** only

R1
R2

SM **Samsung**
Max. 64 indoor units

2 Connecting to the line plug

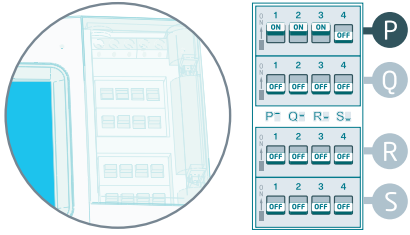
Secure the cables in the L7 line plug.

3 Plugging to the CoolMasterNet

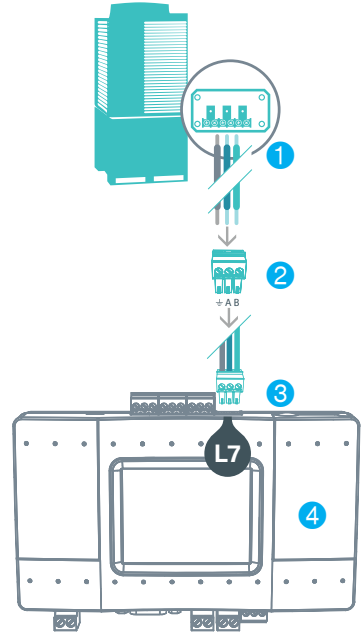
Insert the plug in to the CoolMasterNet L7 socket

4 Check DIP Switches are set correctly

Dip switches setup for VRF HVAC system on L7



Samsung HVAC Terminal



HVAC Trane VRF — on L7

1 HVAC Communication Terminals

Connect to the communication terminals on the HVAC equipment:

HVAC **outdoor** only

Trane
Max. 64 indoor units

2 Connecting to the line plug

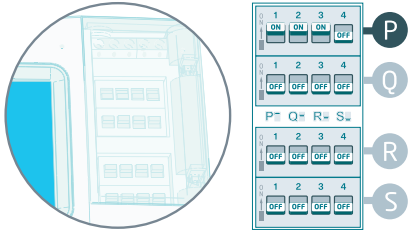
Secure the cables in the L7 line plug.

3 Plugging to the CoolMasterNet

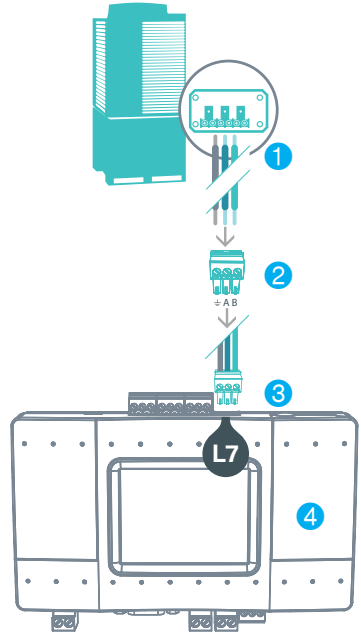
Insert the plug in to the CoolMasterNet L7 socket

4 Check DIP Switches are set correctly

Dip switches setup for VRF HVAC system on L7



Trane HVAC Terminal



HVAC Trane (US) VRF — on L7

1. **HVAC Communication Terminals**
   Connect to the communication terminals on the HVAC equipment:

   HVAC **outdoor** only

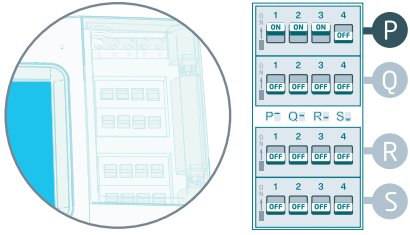
   R1
   R2

   TR **Tane (US)**
   Max. 64 indoor units

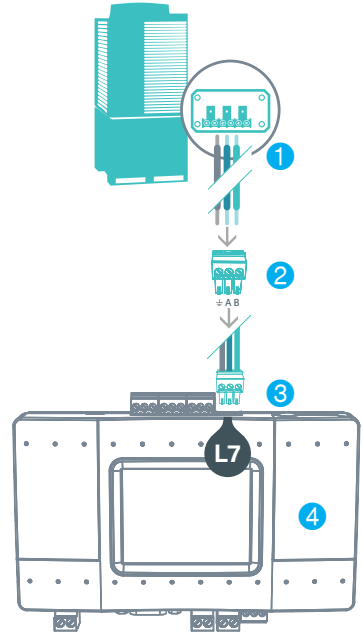
2. **Connecting to the line plug**
   Secure the cables in the L7 line plug.

3. **Plugging to the CoolMasterNet**
   Insert the plug in to the CoolMasterNet L7 socket

4. **Check DIP Switches are set correctly**
   Dip switches setup for VRF HVAC system on L7



Trane (US) HVAC Terminal



HVAC Kentatsu VRF — on L7

1 HVAC Communication Terminals

Connect to the communication terminals on the HVAC equipment:

HVAC **outdoor** only

X
Y
E

KN **Kentatsu**
Max. 64 indoor units

2 Connecting to the line plug

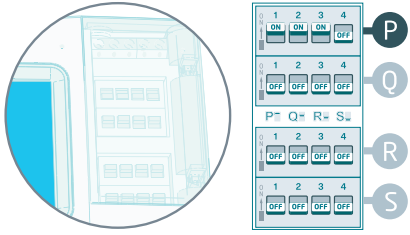
Secure the cables in the L7 line plug.

3 Plugging to the CoolMasterNet

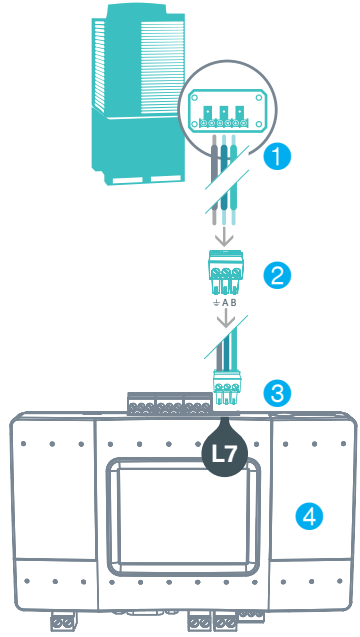
Insert the plug in to the CoolMasterNet L7 socket

4 Check DIP Switches are set correctly

Dip switches setup for VRF HVAC system on L7



Kentatsu HVAC Terminal



HVAC Chigo VRF — on L7

1 HVAC Communication Terminals

Connect to the communication terminals on the HVAC equipment:

HVAC **outdoor** only

Chigo
Max. 64 indoor units

2 Connecting to the line plug

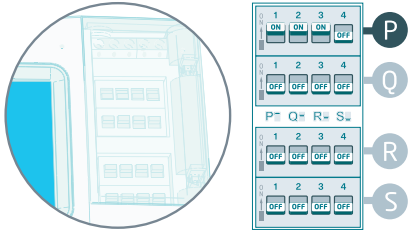
Secure the cables in the L7 line plug.

3 Plugging to the CoolMasterNet

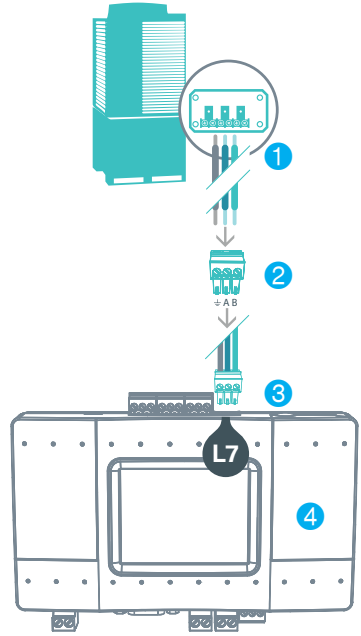
Insert the plug in to the CoolMasterNet L7 socket

4 Check DIP Switches are set correctly

Dip switches setup for VRF HVAC system on L7



Chigo HVAC Terminal



HVAC Gree GMV5 VRF — on L8

1 HVAC Communication Terminals

Connect to the communication terminals on the HVAC equipment:

HVAC **outdoor** only

G1
G2

GR **Gree GMV5**
Max. 64 indoor units

2 Connecting to the CMNET-GR-GMV5

CoolAutomation USB Network Interface (CMNET-GR-GMV5) adapter is required for connecting up to two Gree GMV5 VRF lines.

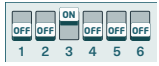
This adapter includes a CAN bus 120 Ω resistor

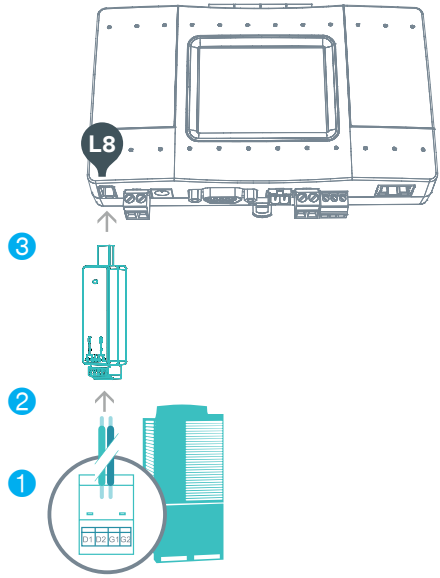
3 Plugging to the CoolMasterNet

Insert the plug in to the CoolMasterNet L8 (USB)

4 Check DIP Switches are set correctly

3rd dip switch should be ON on the 1st subline of Gree GMV5.





Gree GMV5 HVAC Terminal

HVAC Fujitsu VRF — on L8

1 HVAC Communication Terminals

Connect to the communication terminals on the HVAC equipment:

HVAC communication terminal names:

X1 X2		FJ **Fujitsu** Max. 128 indoor units

2 Connecting to the Echelon adapter

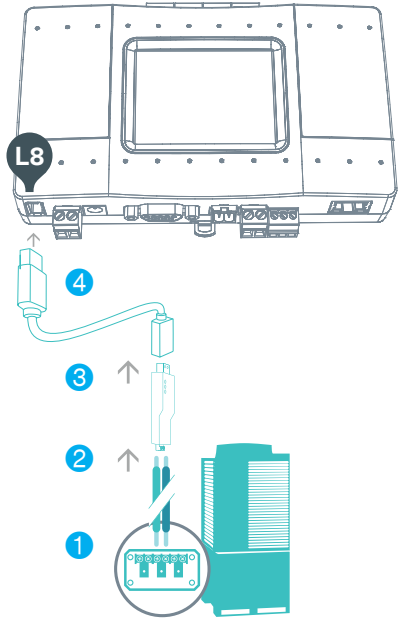
Echelon U10 USB Network Interface (TP/FT-10) adapter is required for connecting to Fujitsu VRF. (Not supplied by CoolAutomation)

3 Connect Echelon via USB Extension cable

Connect the USB Extension cable (A-Male to A-Female) to the Echelon adapter.
(Not supplied by CoolAutomation).

4 Plug in to the CoolMasterNet L8

Insert the USB cable in to the L8 USB host.



Fujitsu HVAC Terminal

HVAC Rheem VRF — on L8

1 HVAC Communication Terminals

Connect to the communication terminals on the HVAC equipment:

HVAC communication terminal names:

X1 X2	RH	**Rheem** Max. 128 indoor units

2 Connecting to the Echelon adapter

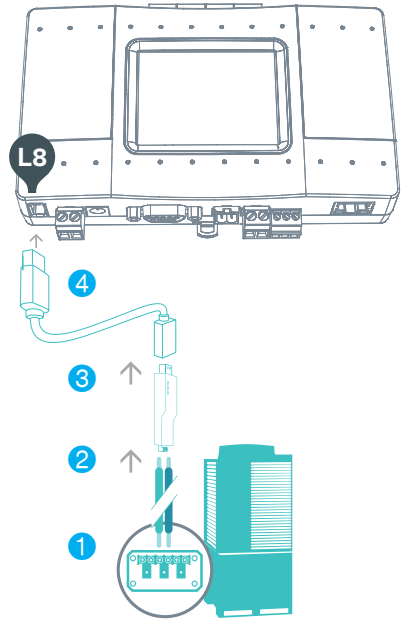
Echelon U10 USB Network Interface (TP/FT-10) adapter is required for connecting to Rheem VRF. (Not supplied by CoolAutomation)

3 Connect Echelon via USB Extension cable

Connect the USB Extension cable (A-Male to A-Female) to the Echelon adapter.
(Not supplied by CoolAutomation).

4 Plug in to the CoolMasterNet L8

Insert the USB cable in to the L8 USB host.



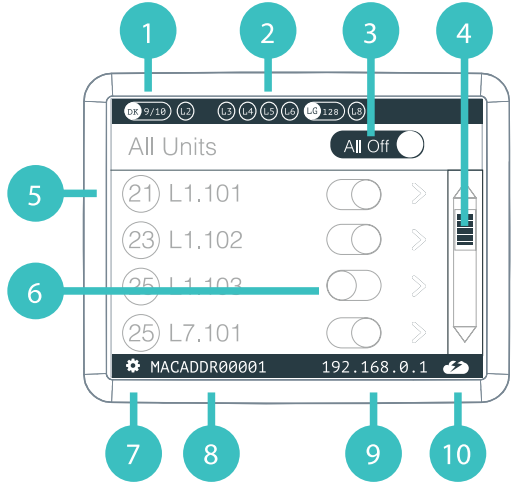
Rheem HVAC Terminal

CoolMasterNet installation complete

To download the latest firmware www.coolautomation.com/support/coolmasternet
Firmware update FAQ www.coolautomation.com/support/faq/coolmasternet

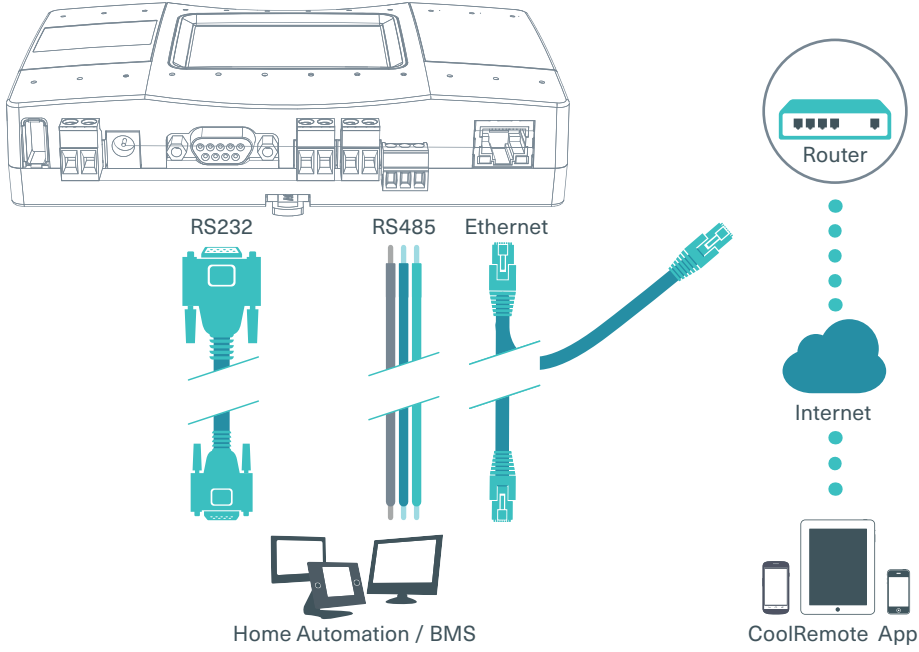
CoolMasterNet Unit screen

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



1. Active HVAC line (DK 9/10) (Groups/Units)
2. Inactive HVAC line
3. All ON/OFF operation button
4. Scrollbar
5. Connected indoor unit with it's address and Set-Point temperature indication.
6. Indoor unit operation button (on/off)
7. Service settings button
8. CoolMasterNet MAC address
9. CoolMasterNet IP address
10. CoolRemote connectivity status
    - Connected - Communicating
    - Connected - Idle
    - Disconnected - with error code

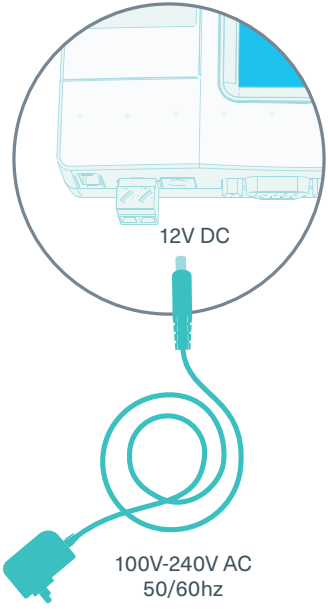
Home Automation, BMS & CoolRemote



Power supply

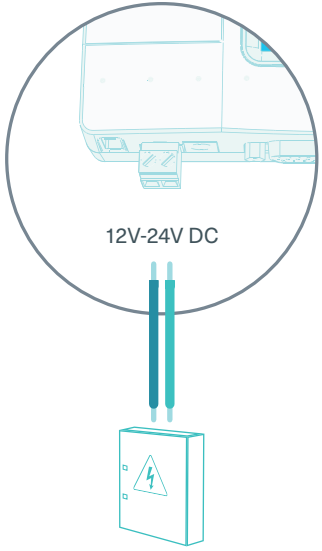
Option A

AC Power supply adapter
(Included in the Box)



Option B

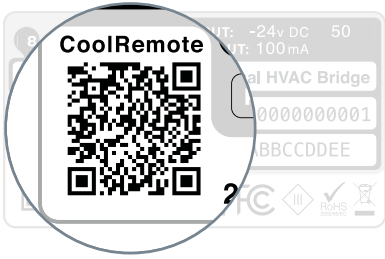
Direct DC power supply



CoolRemote App

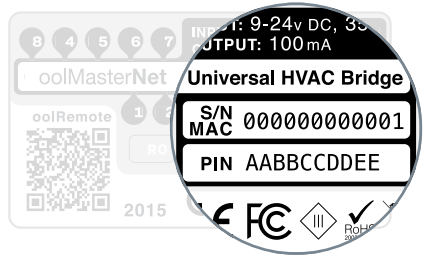
Please connect the device to the Internet for successful registration and setup

Option A - Automatic



1. Scan the QR code from the type label to auto fill-in all the CoolMasterNet details forCoolRemote App.
2. Register your user-name (email) and password to remotely control & monitor all your HVAC units.

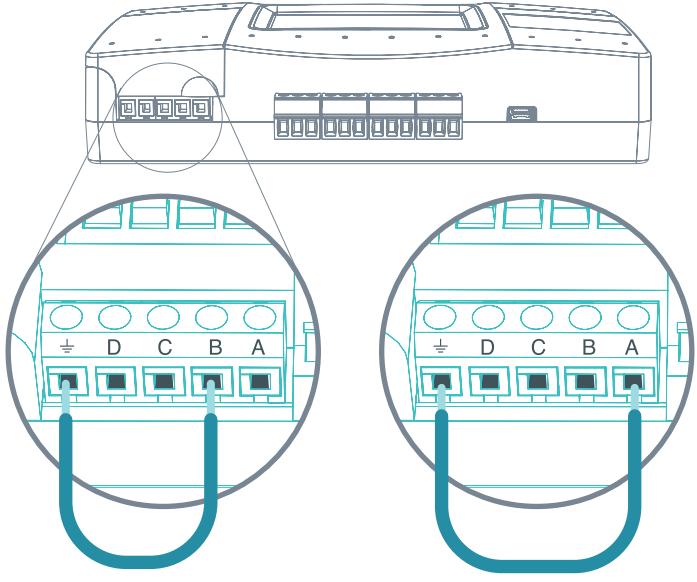
Option B - Manual



1. Go to: https://coolremote.net/register
2. Enter CoolMasterNet S/N number and PIN code, printed on the sticker.
3. Register your user-name (email) and password to remotely control & monitor all your HVAC units.

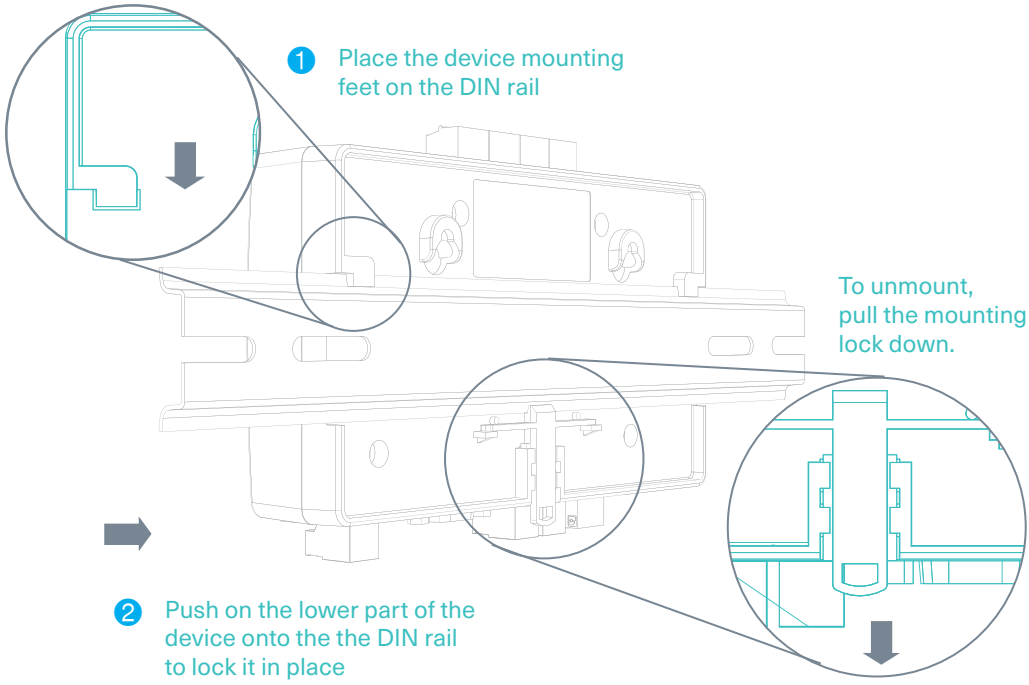
Appendix: GPIOs application

All On/Off operation by external signal



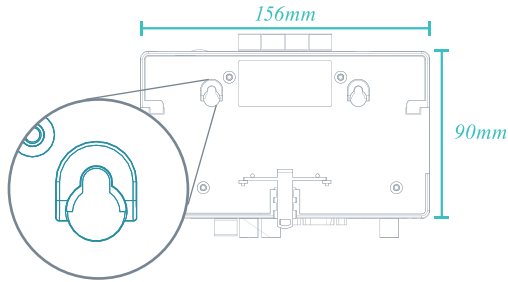
All On **All Off**

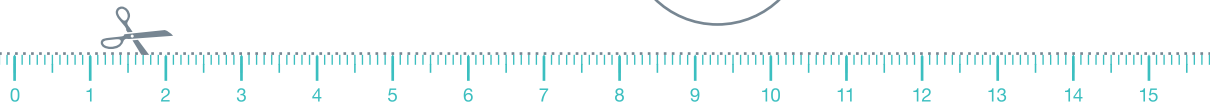
Mounting on a DIN rail



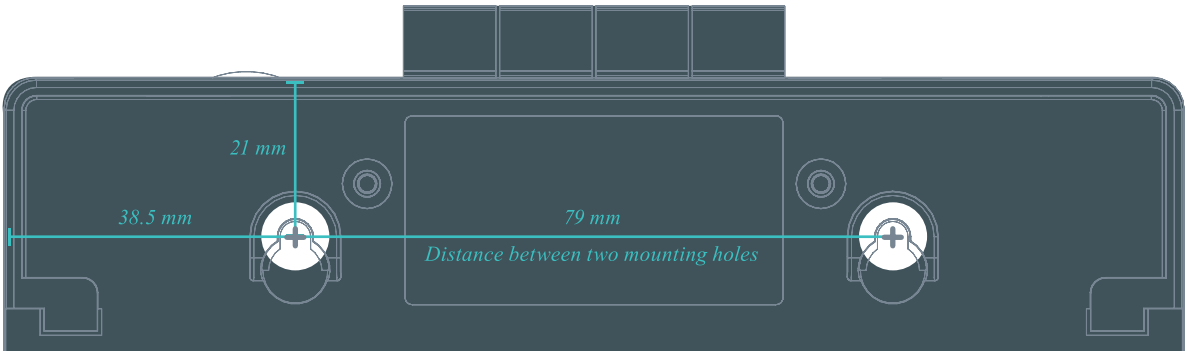
Mounting on a wall

For mounting the CoolMasterNet with wall screws, please see attached template with 1:1 dimensions.





1:1 SCALE MOUNTING TEMPLATE FOR WALL SCREWS



Need more help?

Visit us **http://coolautomation.com/support**

Email us **support@coolautomation.com**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Experts in HVAC Integration and Control