



Variable Refrigerant Flow (38VM/40VM)

Quick Reference Guide

DISCLAIMER

Please Note:

This Quick Reference is meant to be assist with troubleshooting and is not a substitute for engineering manuals, training documents, white papers, or industry best practices.

Always follow prescribed safety practices and local codes when installing or servicing VRF equipment.

For further guidance, contact your regional or national Technical Support Manager.

TABLE OF CONTENTS

	Dip & Rotary switch settings
	N functions
	Controls Service Menu
	Spot check – outdoor unit & MDC
	STT
	Outdoor Unit Error Codes
	MDC Error Codes
	IDU Error Codes
	Addressing indoor units

DIP and Rotary Switches

DIP and Rotary Switches



Heat Recovery

DIP and Rotary Switches

Overview

Dip Switch		Definition
S10		Skip test operation (Factory default)
		Test operation (The system can run normally on a successful auto-commissioning operation)
ENC3+S12		The quantity of indoor unit is 0-15 0~9 on ENC3 refer to 0~9 indoor units; A~F on ENC3 refer to 10~15 indoor units.
		The quantity of indoor unit is 16-31 0~9 on ENC3 refer to 16~25 indoor units; A~F on ENC3 refer to 26~31 indoor units.
		The quantity of indoor unit is 32-47 0~9 on ENC3 refer to 32~41 indoor units; A~F on ENC3 refer to 42~47 indoor units.
		The quantity of indoor unit is 48-63 0~9 on ENC3 refer to 48~57 indoor units; A~F on ENC3 refer to 58~63 indoor units.
ENC4		Network address which can be set from 0~7

DIP and Rotary Switches

Quantity of Indoor Units

S12+ENC3



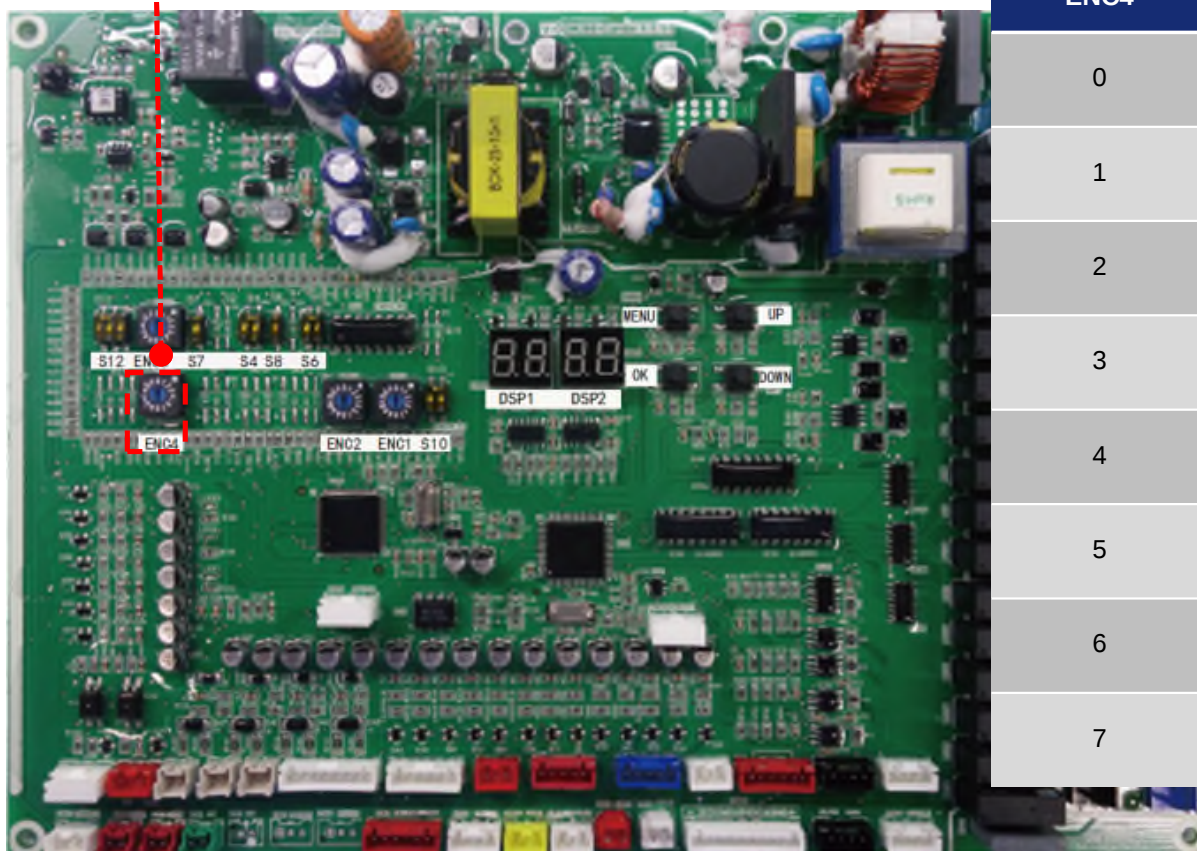
S12	ENC3	Indoor unit quantity setting
ON 1 2 3		Position 0 to F on ENC3 means Indoor unit quantity is between 0 and 15
ON 1 2 3		Position 0 to F on ENC3 means Indoor unit quantity is between 16 and 31
ON 1 2 3		Position 0 to F on ENC3 means Indoor unit quantity is between 32 and 47
ON 1 2 3		Position 0 to F on ENC3 means Indoor unit quantity is between 48 and 63

The IDU QYT setting S12 and ENC3 have to equal the actual QTY, the max. is **64** units in a system, otherwise system will error H7

DIP and Rotary Switches

System Address

ENC4



ENC4

0

1

2

3

4

5

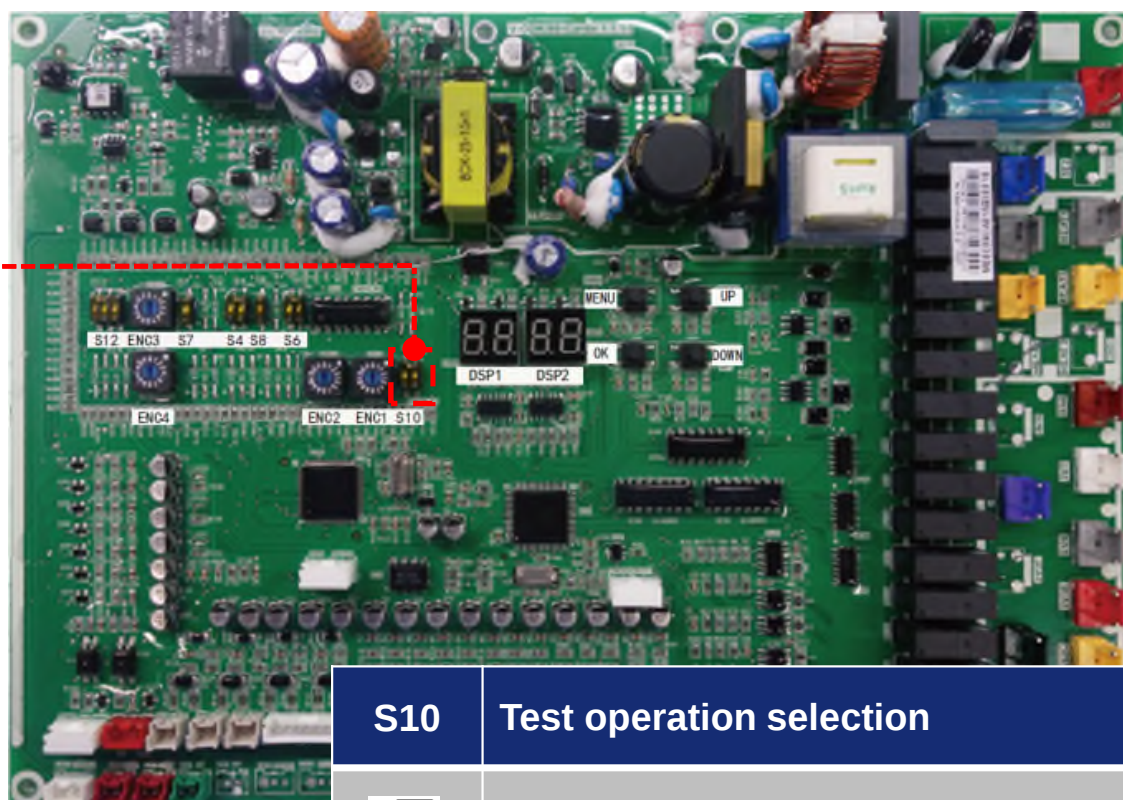
6

7

Used when you are networking multiple refrigeration system's together to communicate to a BACnet, touchscreen ECT..

DIP and Rotary Switches

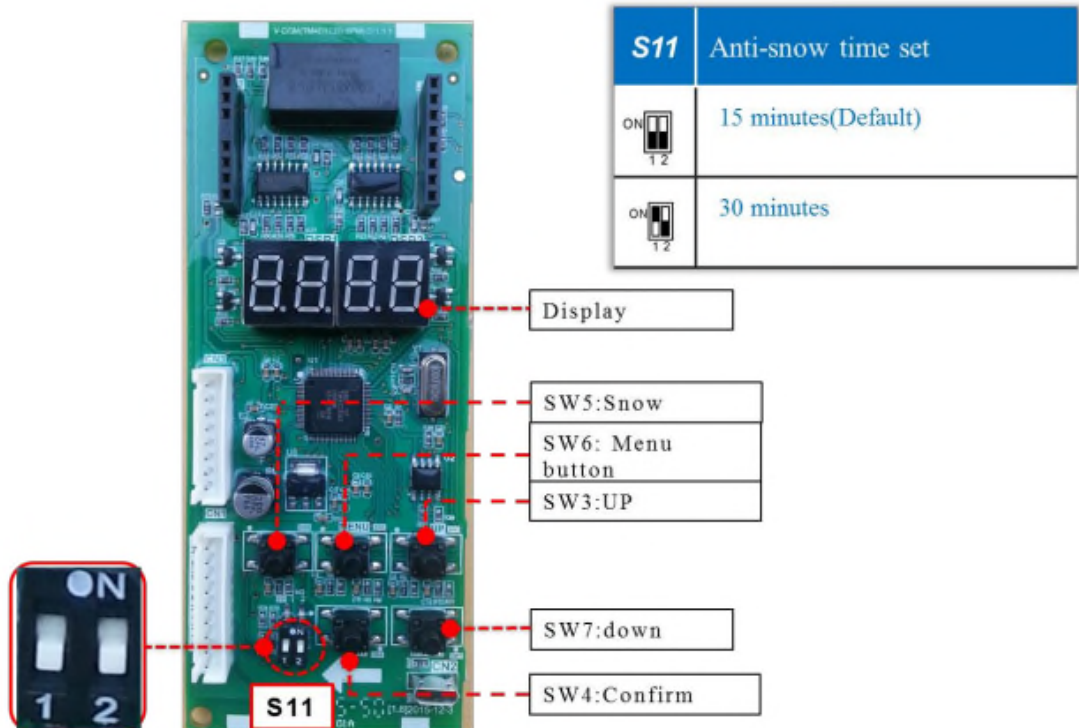
Test Operation



S10	Test operation selection
	Skip test operation (Factory default)
	Test operation (The system can run normally building on a successful test run operation)

DIP and Rotary Switches

Spot Check Board



DIP and Rotary Switches



Heat Pump

DIP and Rotary Switches

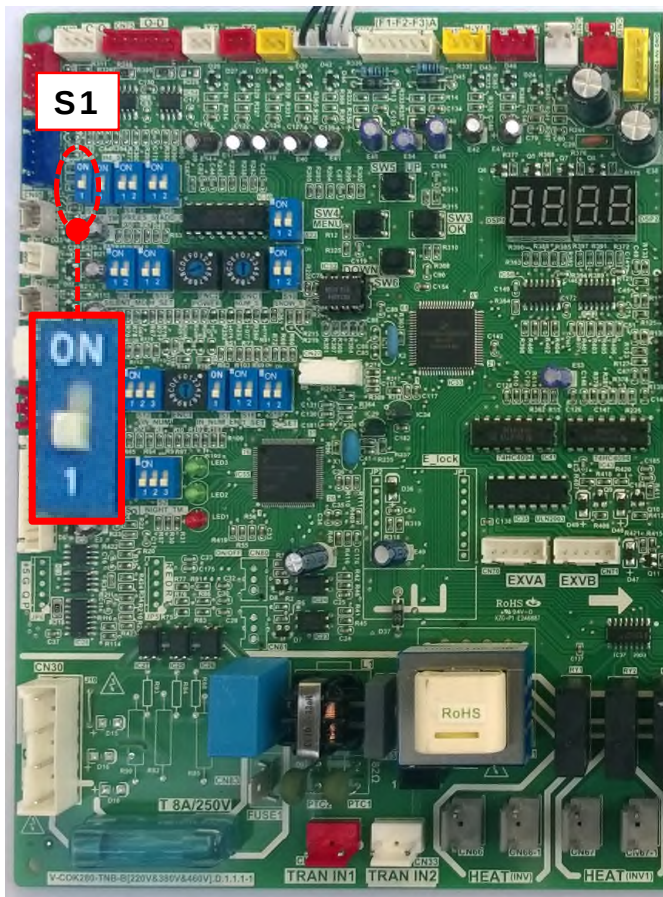
Symbol	Switch	Status	Function	Remark
S1		0	Reserved	
S2		000	Reserved	
S3		00	Reserved	
S4		00	Reserved	
S5		000	Auto mode (Default)	
		001	Cooling priority mode	
		010	Indoor unit priority mode (IUD # 63) or Majority Mode	
		011	Heating mode only	
		100	Cooling mode only	
S6		00	Automatic search address (Default)	
		01	Manual search address	
		10	Clear indoor units address	
S7		0	Reserved	
S8		0	Reserved	
S10		00	Reserved	
S13		00	Reserved	
S16		00	Balance mode (Default)	
		01	High efficiency mode	
		10	Full power mode	
		11	Super power mode	
S17		00	Balance mode (Default)	For heating mode
		01	High efficiency mode	
		10	Super high efficiency mode	
		11	Full power mode	
S18		00	Balance mode (Default)	For cooling mode
		01	Full power mode	
		10	Dehumidification mode	
		11	High efficiency mode	
S22		00	Reserved	

DIP and Rotary Switches

Symbol	Switch	Status	Function	Remark
ENC1		0	Header unit	Outdoor unit address dial switch
		1	Follower unit	
		2	Follower unit	
ENC2		0-3	Reserved	
ENC4		0~7	Network address setting 0~7	Network address dial switch
ENC3 +S12		0~F	Setting the number of indoor units 0~15	
		000		
		0~F	Setting the number of indoor units 16~31	
		001		
		0~F	Setting the number of indoor units 32~47	
		010		
		0~F	Setting the number of indoor units 48~63	
		011		

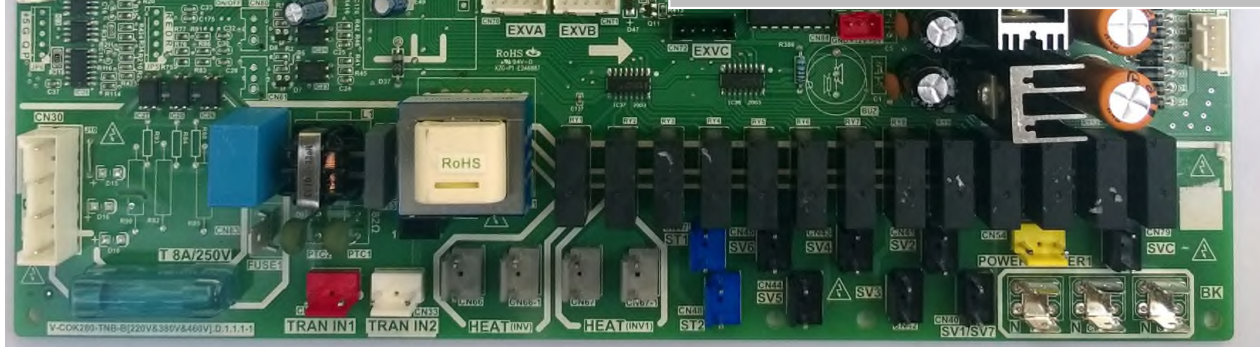
DIP and Rotary Switches

Outdoor Restart Time Delay



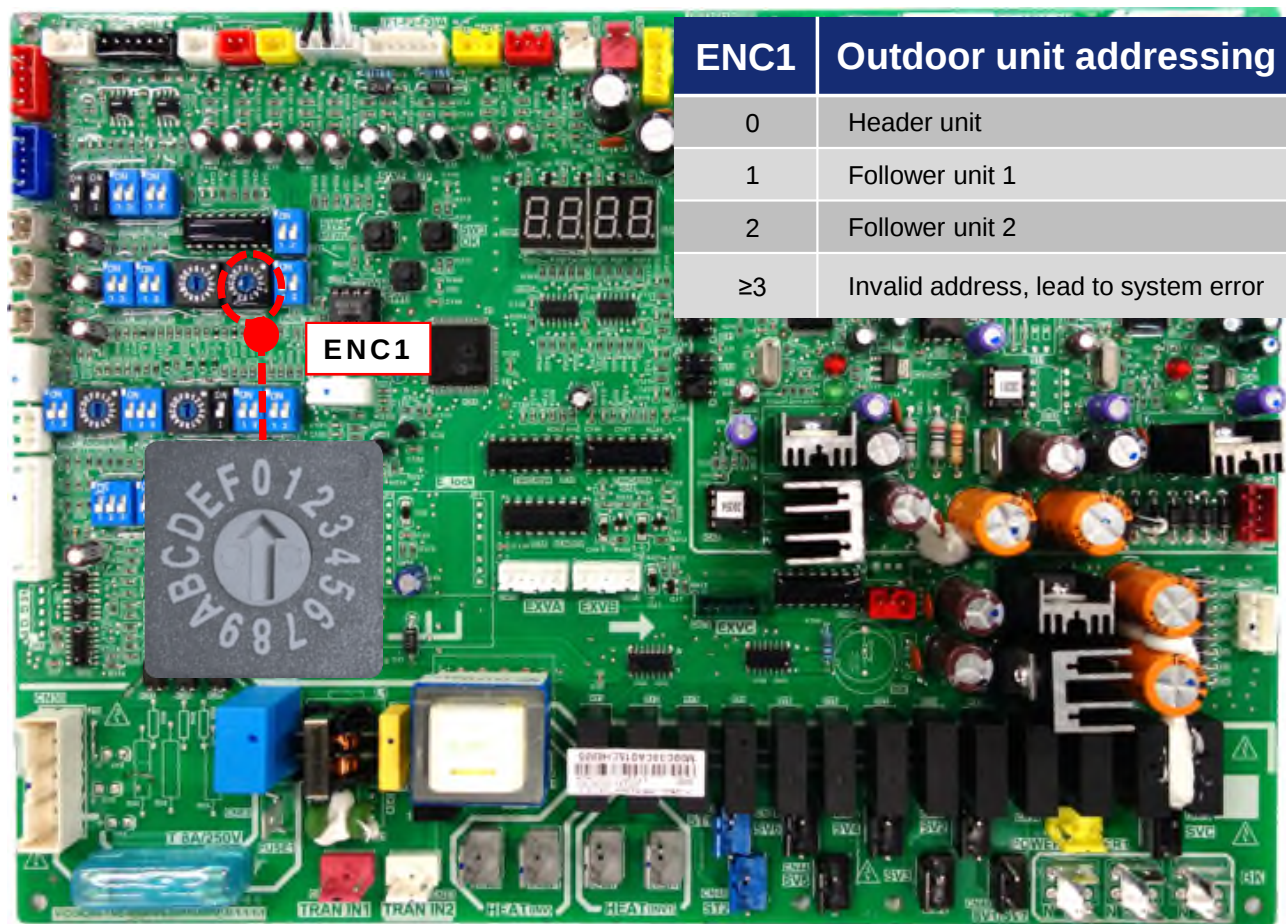
S1	Starting time setting
	Min.12 minutes (default)
	Min. 7 minutes (Also effective after power off)

It means, when the compressor stops, the unit must wait 7 or 12 minutes to restart on power cycle.
The purpose is to protect the compressor from short cycling.



DIP and Rotary Switches

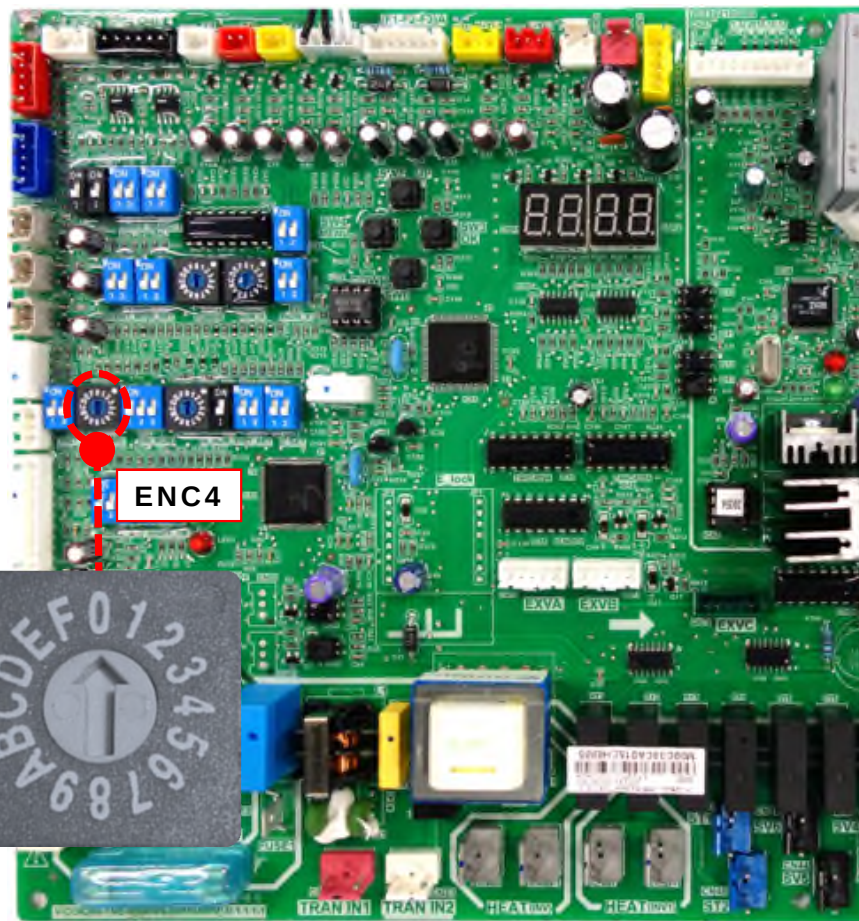
Header Follower Dip Switches



Set only when you have 2 or more heat pump outdoor units on the same refrigeration system

DIP and Rotary Switches

Network Address

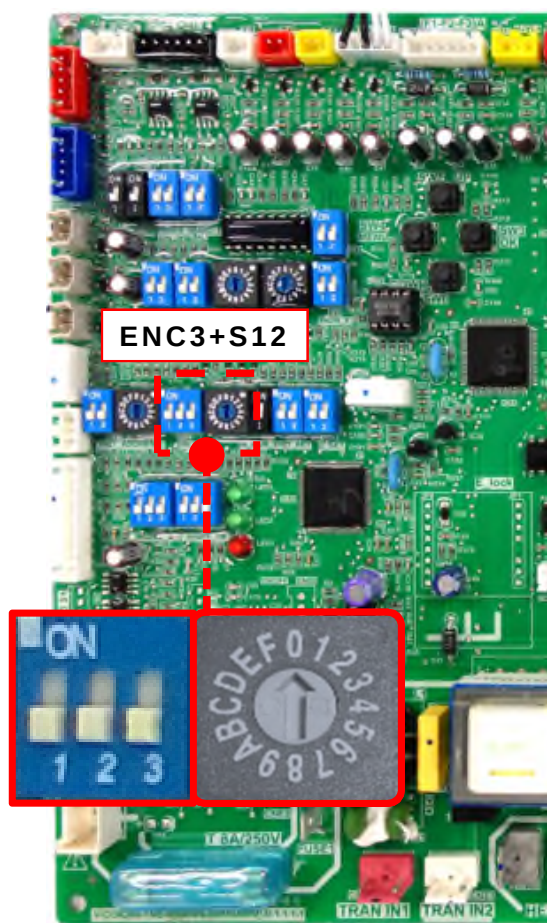


ENC4	ENC1	Address code
0	0	00
	1	01
	2	02
1	0	10
	1	11
	2	12
2	0	20
	1	21
	2	22
3	0	30
	1	31
	2	32
4	0	40
	1	41
	2	42
5	0	50
	1	51
	2	52
6	0	60
	1	61
	2	62
7	0	70
	1	71
	2	72

Used when you are networking multiple refrigeration system's together to communicate to a BACnet, touchscreen ECT..

DIP and Rotary Switches

Indoor Unit Quantity



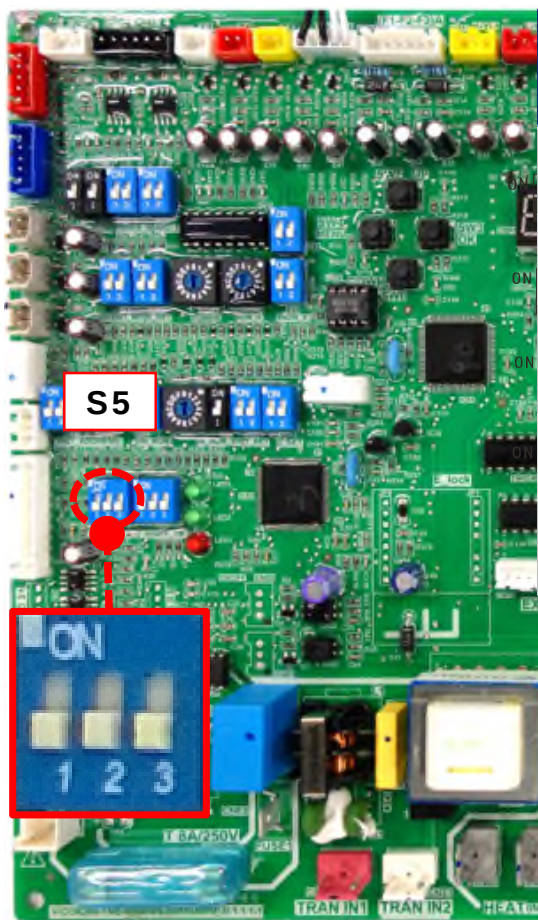
ENC3	S12	Indoor unit quantity setting
		The code 0 to F on ENC3 means Indoor unit quantity is between 0 and 15
		The code 0 to F on ENC3 means Indoor unit quantity is between 16 and 31
		The code 0 to F on ENC3 means Indoor unit quantity is between 32 and 47
		The code 0 to F on ENC3 means Indoor unit quantity is between 48 and 63

The IDU QYT setting here have to equal the actual QTY, the max. is 64 units in a system, otherwise will show the error H7

Note: you can reset the number of indoor unit If you have a malfunction Of a indoor unit to one less to get the system back up and running Until the indoor unit is repaired

DIP and Rotary Switches

HP Change Over



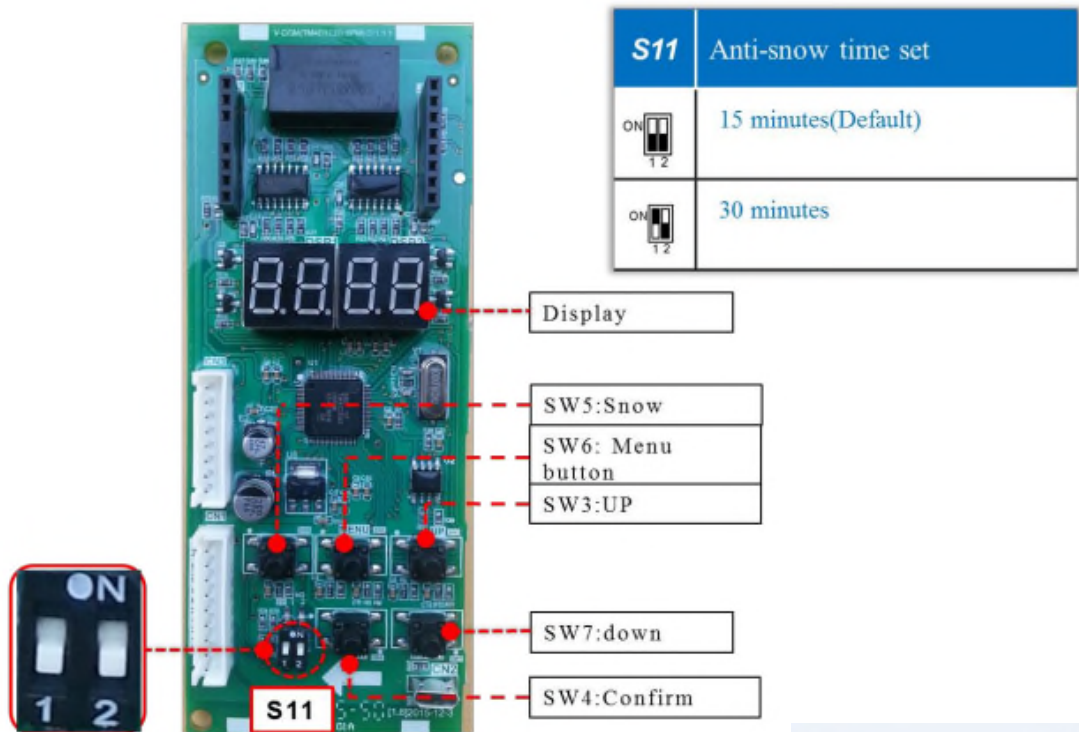
S5	Running mode priority setting for HP only
	Auto priority mode based on outdoor air temp (Factory default)
	Cooling priority mode
	1.) IDU No.63 Priority IDU. 2.) If there is no IDU address 63 then the majority of the IDU modes determine ODU mode of operation.
	Heating mode available only
	Cooling mode available only



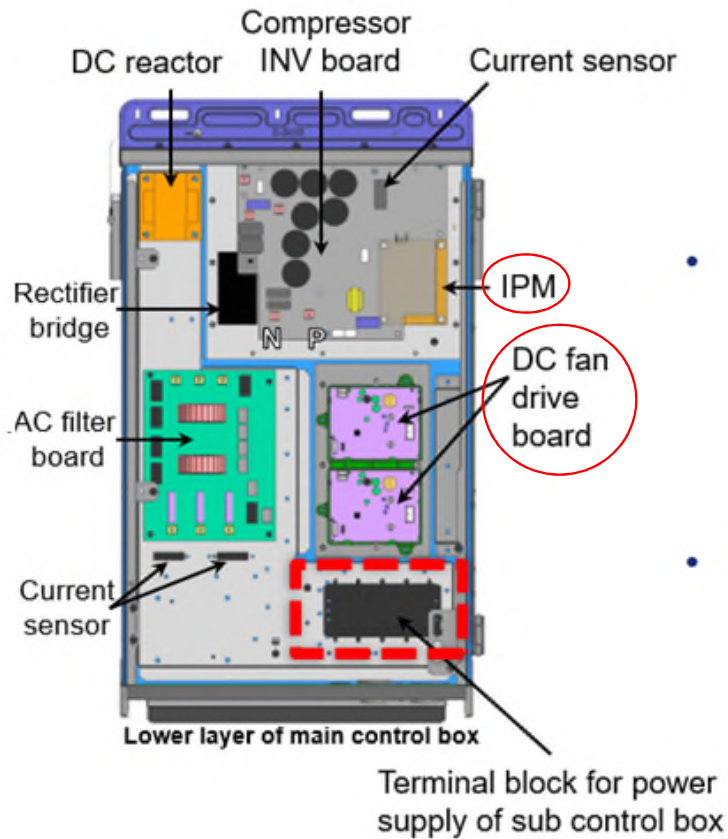
Priority setting for the outdoor unit. All setting's are based on mode of the indoor units not demand.

DIP and Rotary Switches

Spot Check Board



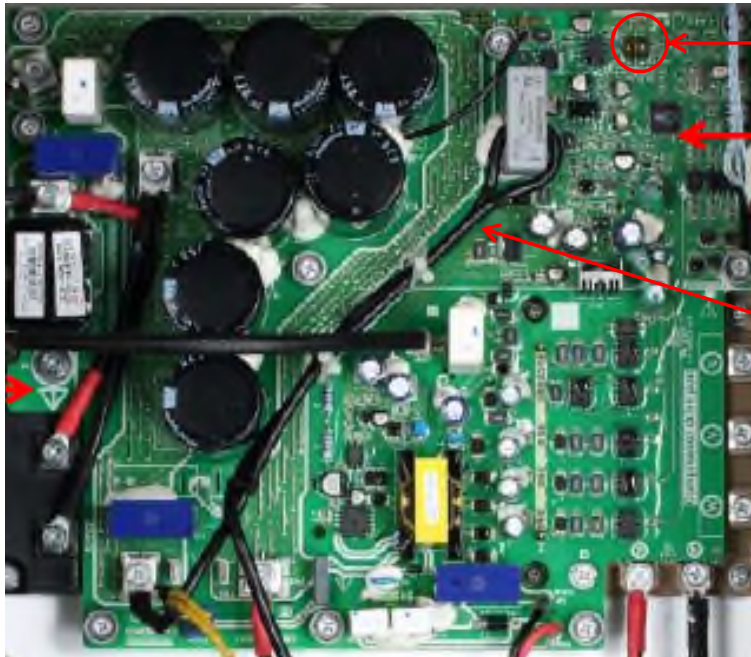
DIP and Rotary Switches



Compressor and Fan Inverter Boards

DIP and Rotary Switches

HR ODU Compressor INV board (230V)



MCU

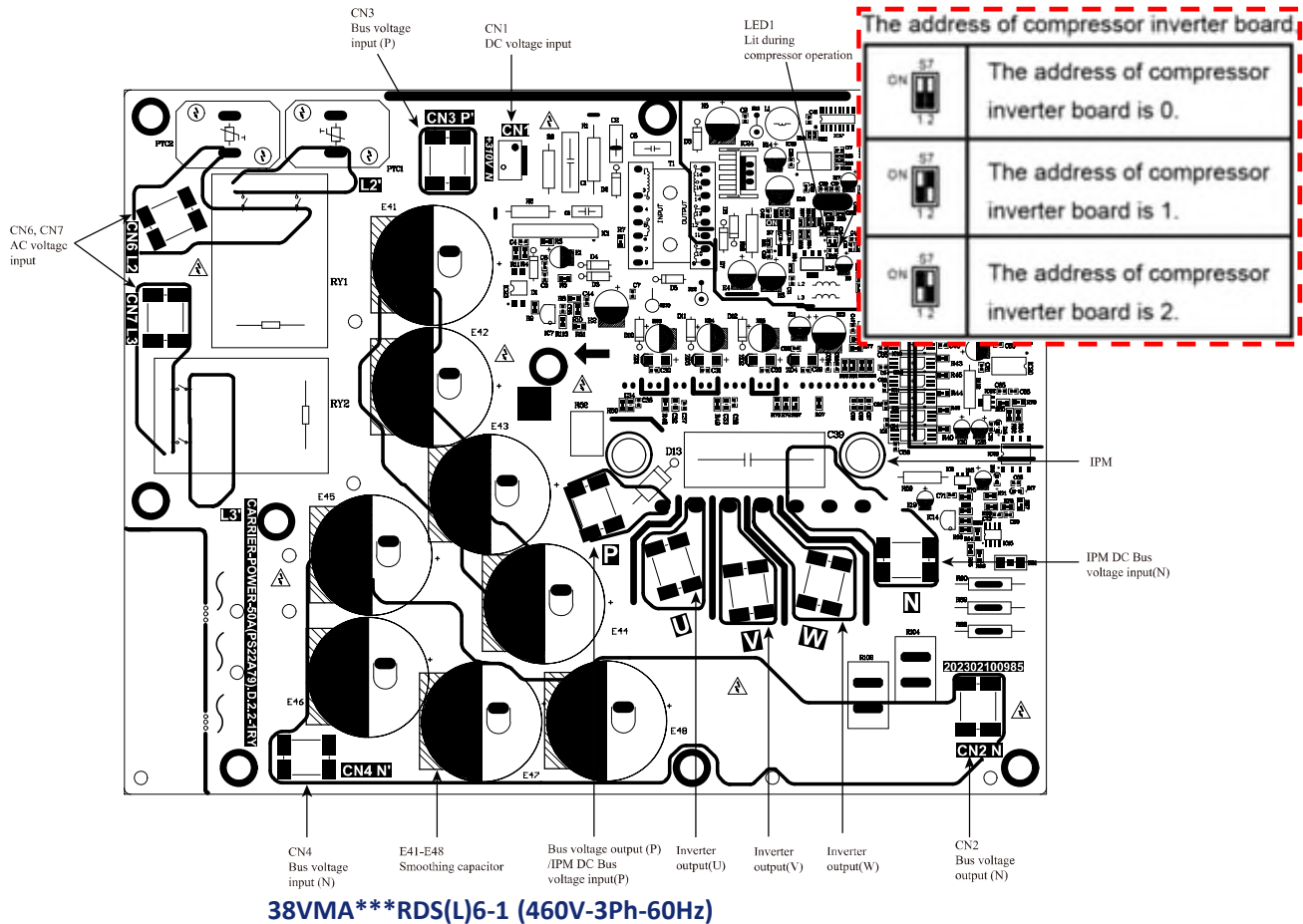
The address of compressor inverter board.	
	The address of compressor inverter board is 0.
	The address of compressor inverter board is 1.
	The address of compressor inverter board is 2.

Note: when replacing the inverter board
The wire going through the current relay
Must be run in the same direction.
It is polarity sensitive

38VMA*RDS(L)5-1 (208/230V-3Ph-60Hz)**

DIP and Rotary Switches

HR ODU Compressor INV board (460V)



DIP and Rotary Switches

FAN Board

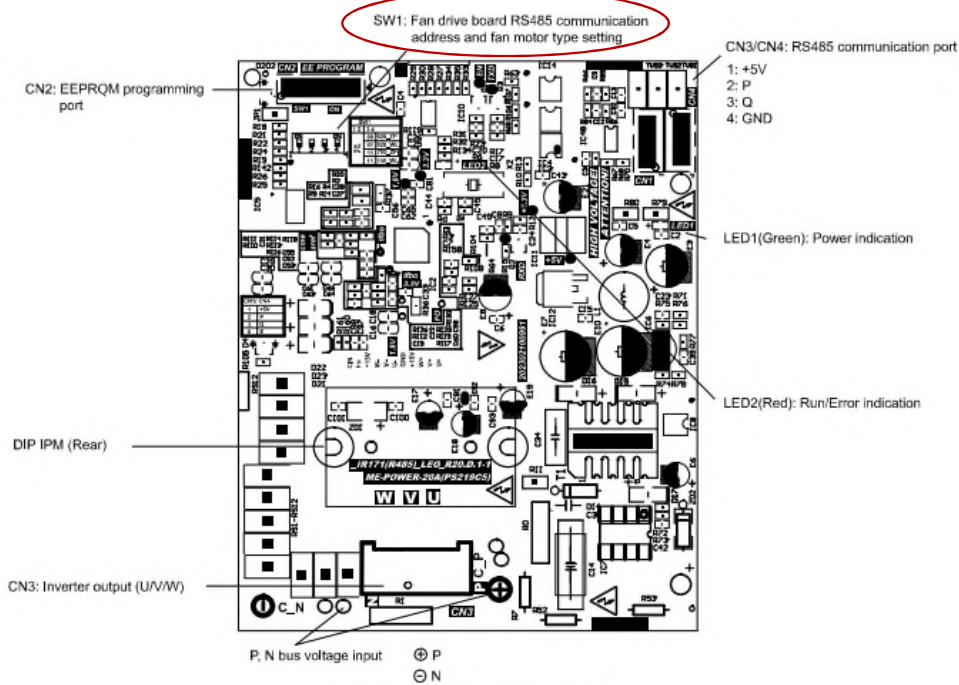
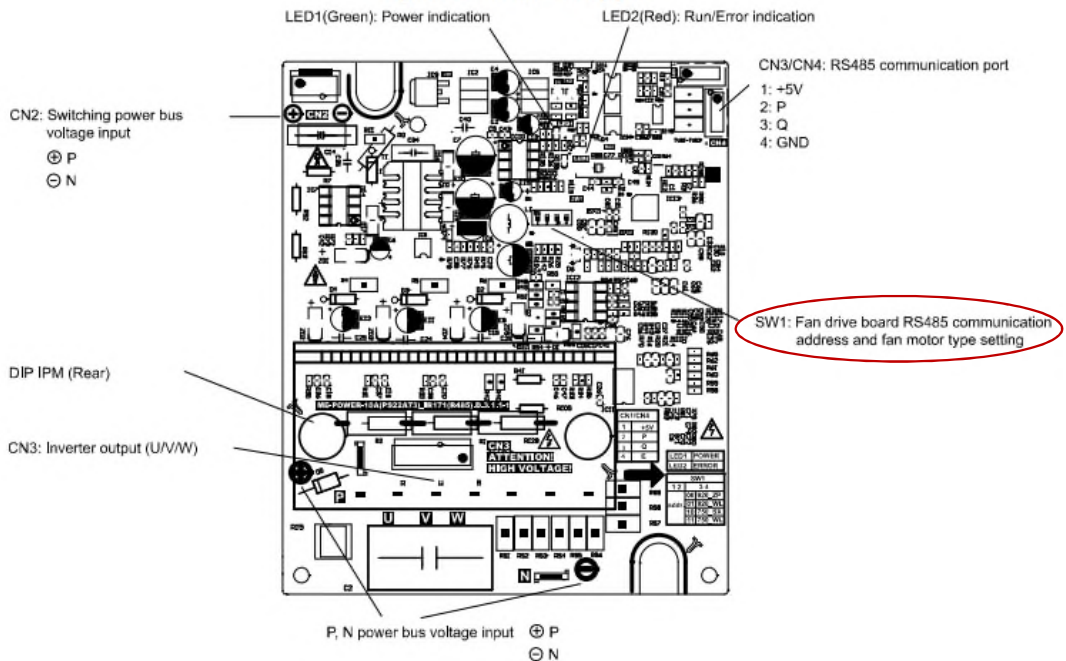


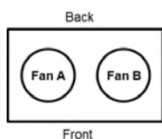
Figure 88 - 38VMA***RDS(L)5-1



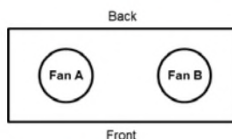
DIP and Rotary Switches

FAN Board

38VMA072, 096, 120RDS model



38VMA144RDL model
38VMA168, 192, 216, 240RDS model



38VMA240RDL model
38VMA264, 288, 312, 336RDS model

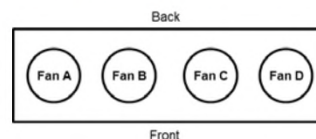


Figure 116 - Fan Arrangement

	Definition (Dial switch to ON is 1)	
The 1 st ~2 nd code	Address	00 - Fan A 01 - Fan B 10 - Fan C 11 - Fan D
The 3 rd code	Power of the motor	0 - 920W for 38VMA144RDL, 168~240RDS model 1 - 750W for 38VMA072~120RDS, 38VMA240RDL, 264~336RDS model
The 4 th code	Motor factory	0 - Nidec or Panasonic * 1 - Reserved

* Only 460V models like 38VMA072~120RDS6-1 and 38VMA240RDL6-1, 38VMA264~336RDS6-1 use Panasonic motors.

NOTES

1. Disconnect all external power supplies for a minimum of ten minutes before inspecting the inside of the control box.
2. Before starting the service work, be sure to check that the motors are not operating and the voltage between P and N is 20V DC or less. Unplug P/N and U/V/W cable plugs to replace the damaged fan drive board with a new one.
3. Follow the below dip switch setting based on unit tonnage for proper operation of the unit.

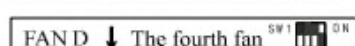
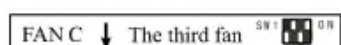
38VMA072~120RDS model



38VMA144RDL, 168~ 240RDS model



38VMA240RDL, 264~ 336RDS model



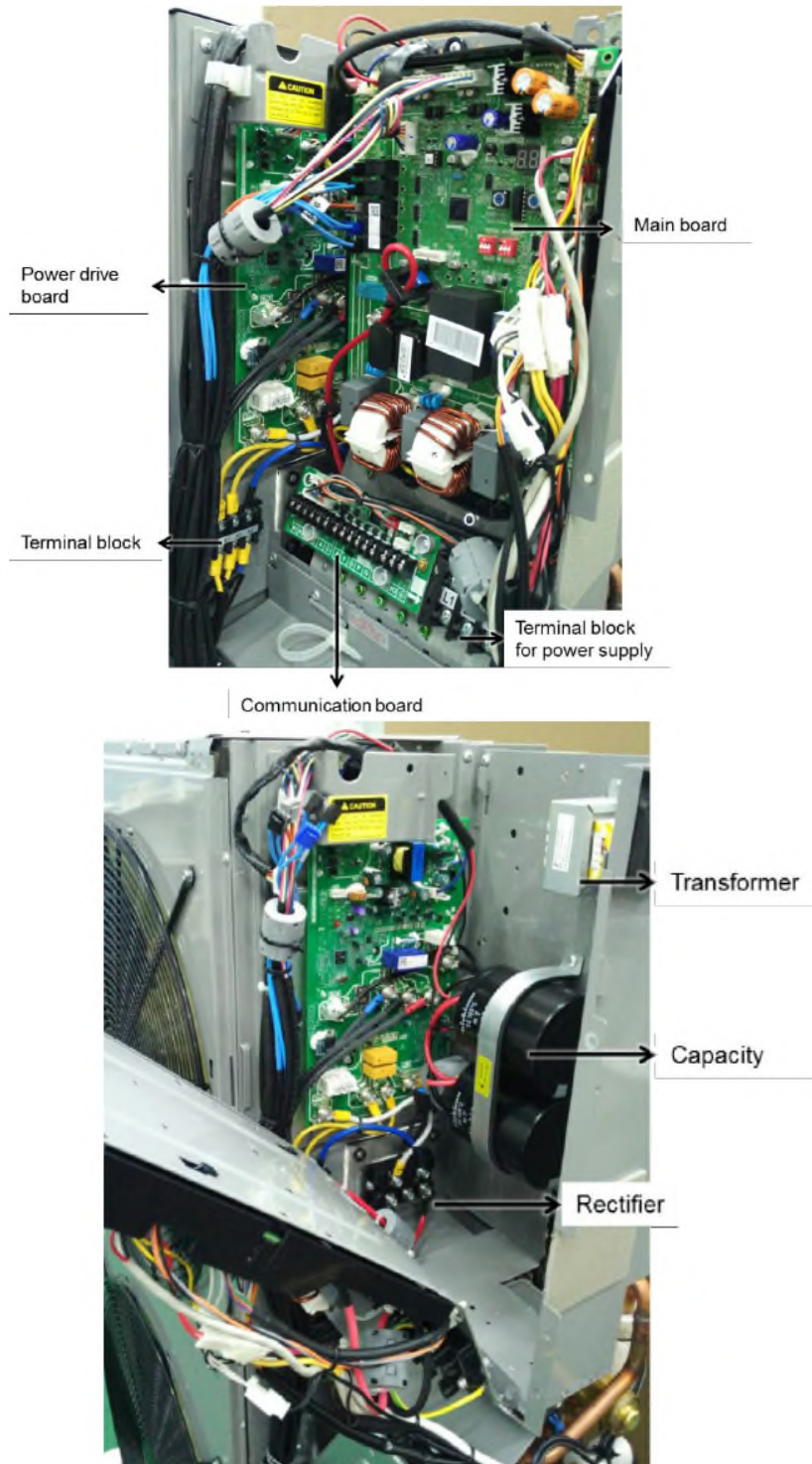
DIP and Rotary Switches



Single Phase Heat Pump

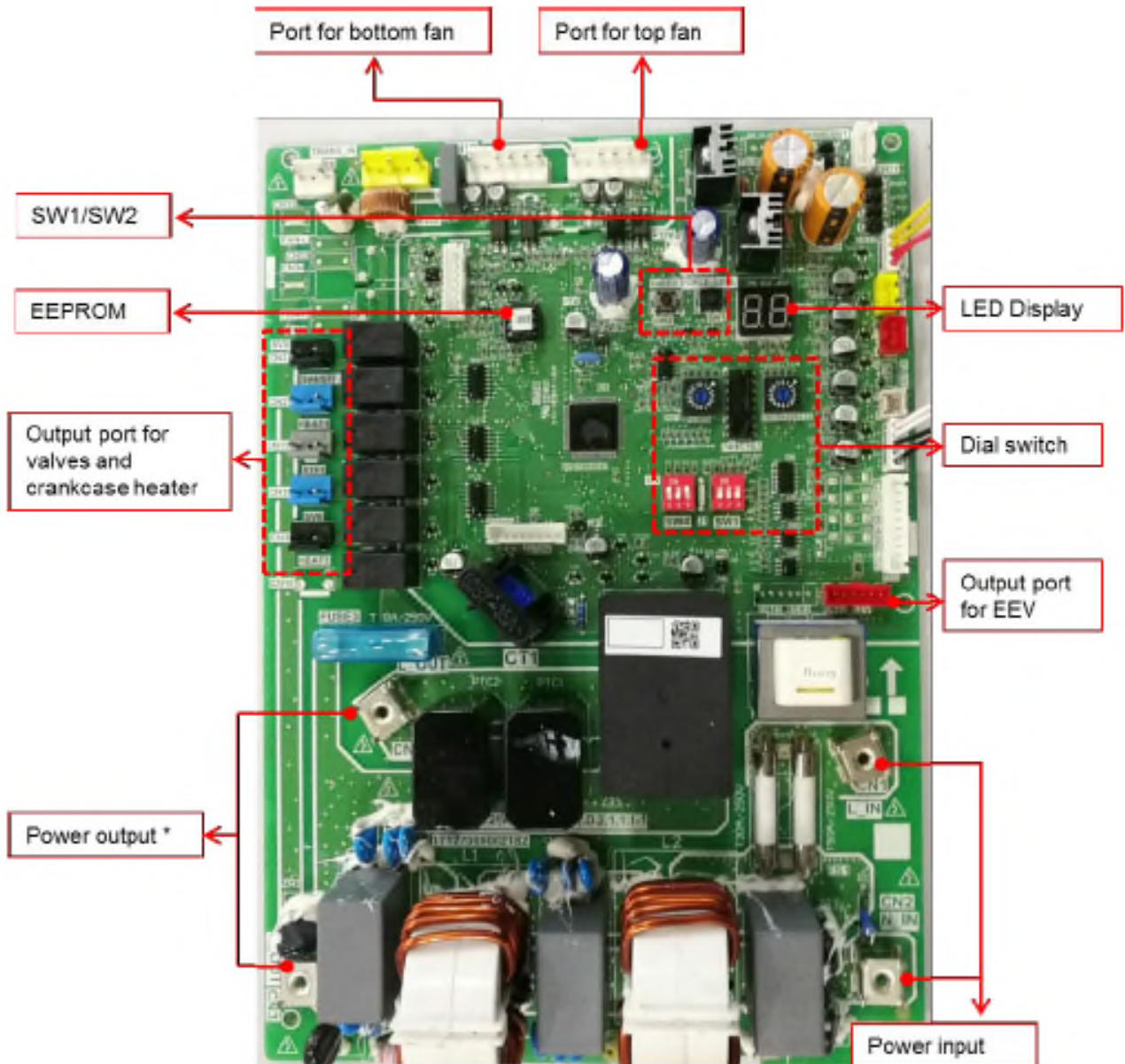
DIP and Rotary Switches

Outdoor unit Board Configuration



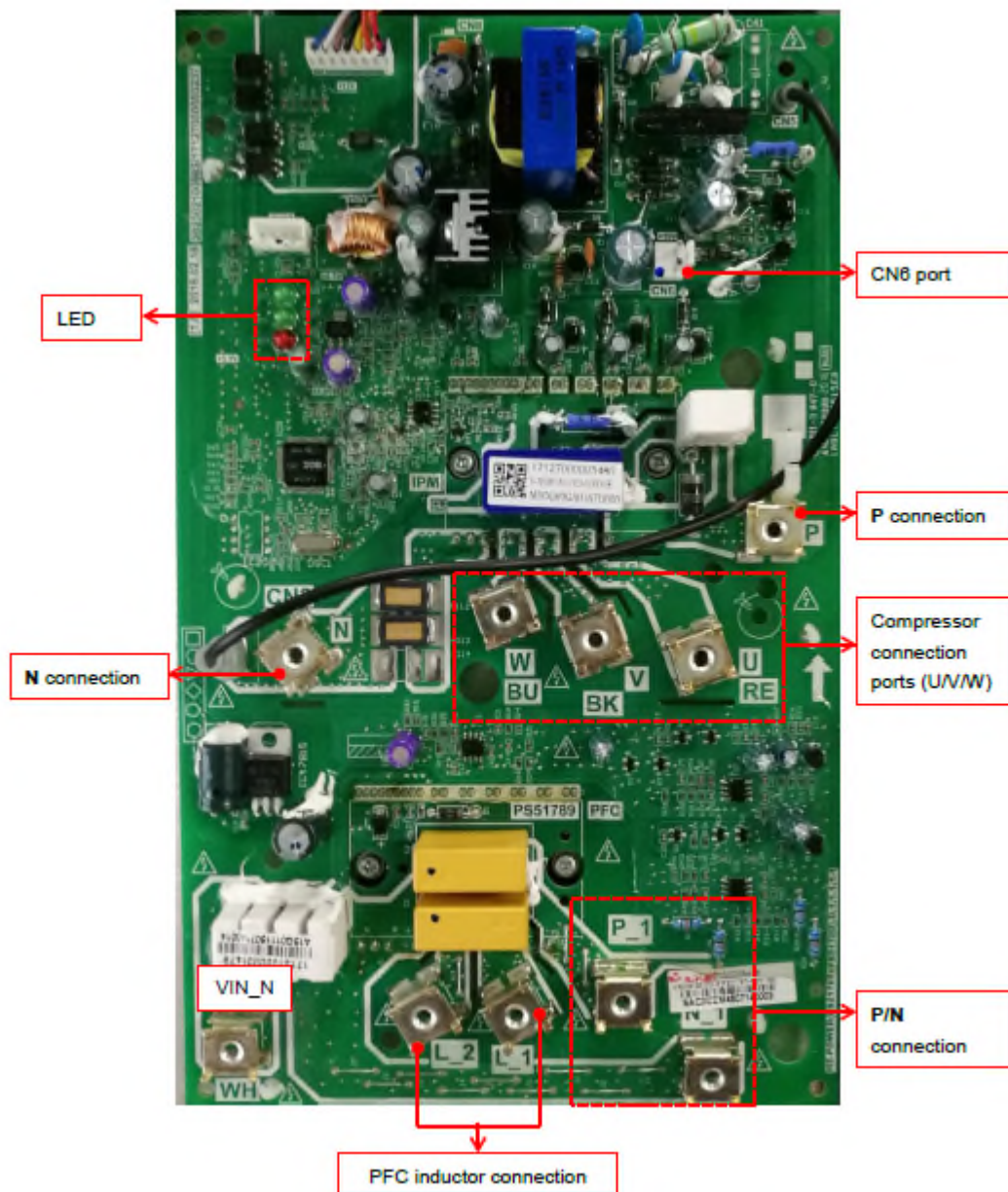
DIP and Rotary Switches

Main PCB Board



DIP and Rotary Switches

Inverter Board



DIP and Rotary Switches

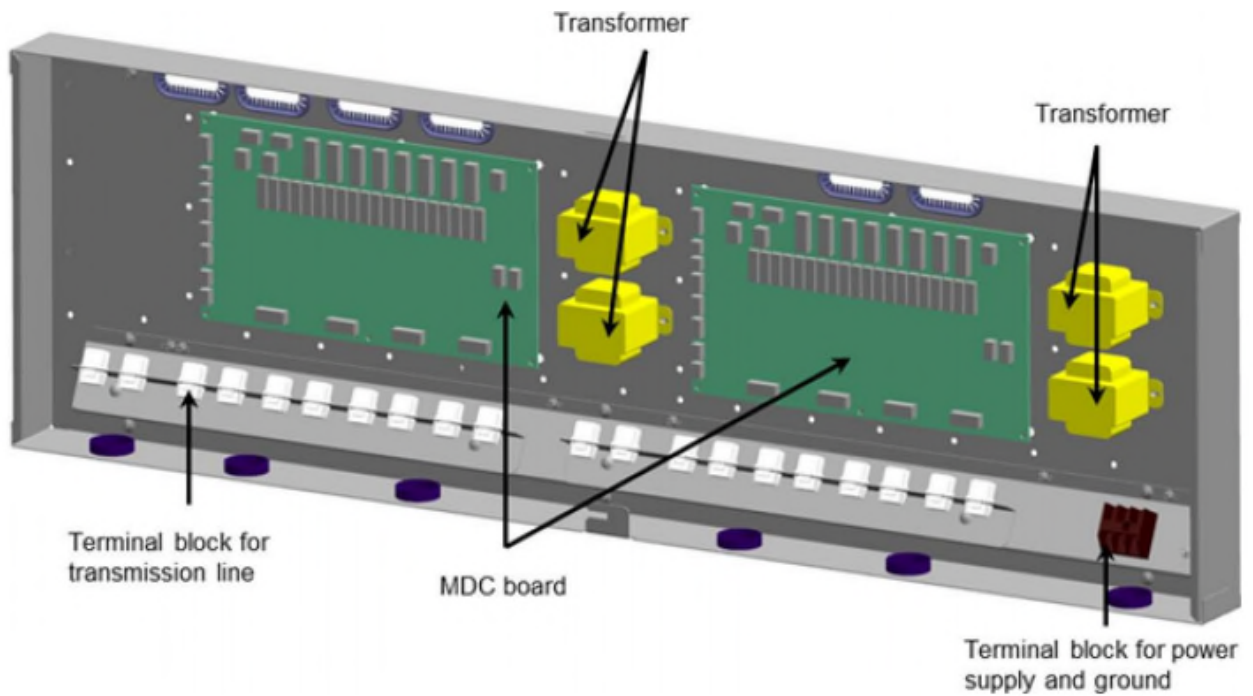
Dip switch		Function Definition
SW3		Heating priority mode (Factory setting)
		Cooling priority mode
		Indoor unit priority mode (IDU #63) or majority mode
		Heating mode only
		Cooling mode only
SW4		Automatic addressing
		Manual addressing (Factory setting)
		Clear indoor unit address
		Fahrenheit temperature (Factory setting)
		Celsius temperature
ENC1		Reserved (Factory use only)
ENC2		Outdoor unit network address (0 to 7 only)

DIP and Rotary Switches



Multiport Distribution Controller (MDC)

DIP and Rotary Switches

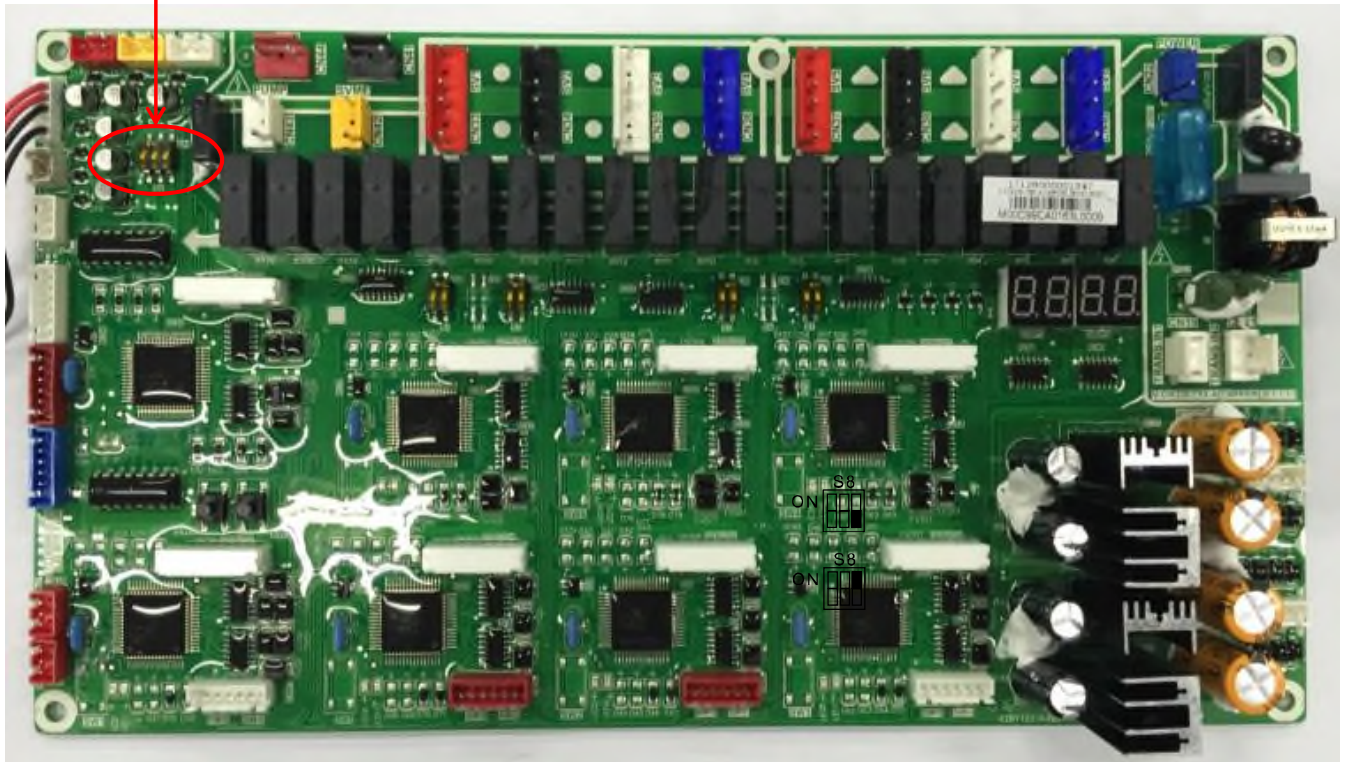


DIP and Rotary Switches

MDC control board with 8 chips for 40VMD006, 008, 010, 016M(S)—3

S8

Address



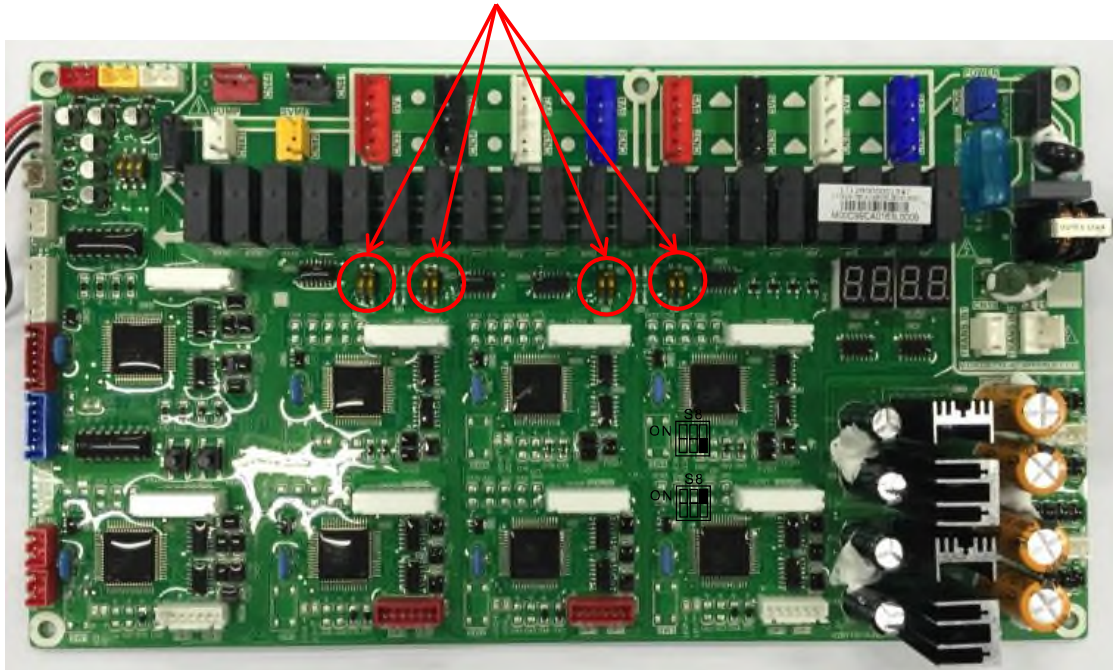
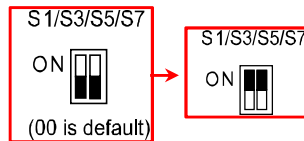
The first two code switch of S8		Address
ON 	00*	Main MDC control box
ON 	01*	No.1 Sub MDC
ON 	10*	No.2 Sub MDC
ON 	111	Clear IDU Addresses

The third code switch of S8		Address
ON 	**0	Primary board in this MDC
ON 	**1	Second board in this MDC

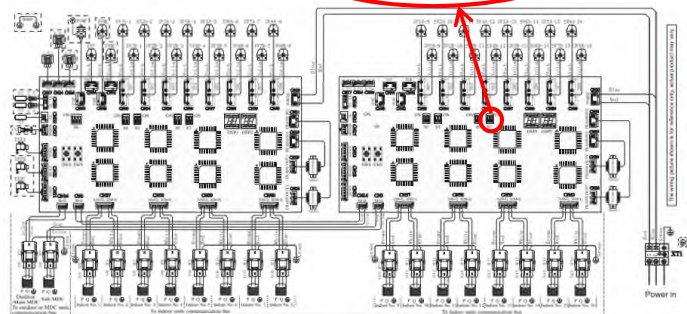
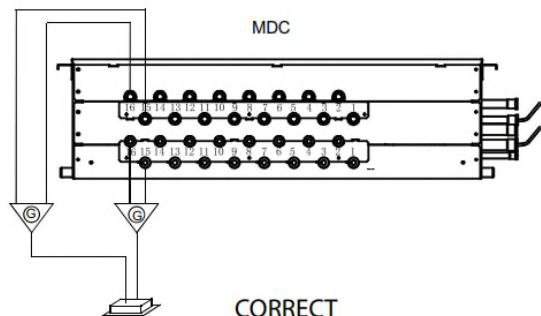
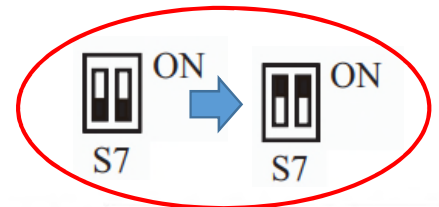
Clearing addresses requires power cycle to entire system

DIP and Rotary Switches

Used if two merged ports are used for 72K/96K IDU.



OFF, OFF — Normal Mode (default)
ON, ON — 2 Ports Twinned Together



N Functions

N Functions

N Functions

a. "SW4" Setting Parameter

1. Press the MENU button for five seconds to enter the parameter setting function.
2. Press UP/DOWN to select the items.
3. Press OK to confirm or MENU to return back.
More details as follows:

Table 48 - "SW4" Setting Parameter

Symbol	Function	Item	Description
n1_	Special function for debugging	n11	Test operating mode
		n16	Forced defrosting
n2_	Refrigerant recycle function	n21	Refrigerant recycled to outdoor unit
		n22	Refrigerant recycled to indoor units
		n23	Refrigerant recycled to piping (Field vacuum to open valves)
n3_	Error and version query	n31	Historical error query
		n32	Clear the historical error
		n33	Version of fan inverter module
n4_	Night time setting	n41	6/10h (Default)
		n42	6/12h
		n43	8/10h
		n44	8/12h
n5_	Silent mode setting	n51	Night silent mode
		n52	Silent mode
		n53	Super silent mode
		n54	Silent mode off (No limitation)(Default)
n6_	Defrosting mode setting	n61	Easy to defrost
		n62	Standard mode (Default)
		n63	Hard to defrost
n7_	Demand control setting	n71	Level demand 1 (Default)
		n72	Level demand 2
		n73	Level demand 3
		n74	Level demand 4
		n75	Level demand 5
		n76	Level demand 6
n8_	Static pressure mode setting	n81	Standard static pressure mode (Default)
		n82	Low static pressure mode
		n83	Medium static pressure mode
		n84	High static pressure mode
n9_	Tes setting	n91	Tes0 = 37°F, Tes automatically adjust (Default)
		n92	Tes0 = 32°F, Tes automatically adjust
		n93	Tes0 = 43°F, Tes automatically adjust
		n94	Low level 1 (Tes = 48°F), locked
		n95	Low level 2 (Tes = 43°F), locked
		n96	Medium level 1 (Tes = 37°F), locked
		n97	Medium level 2 (Tes = 32°F), locked
		n98	High level (Tes = 27°F), locked
nA_	Tcs setting	nA1	Tcs0 = 118°F, Tcs automatically adjust (Default)
		nA2	Tcs0 = 122°F, Tcs automatically adjust
		nA3	Tcs0 = 113°F, Tcs automatically adjust
		nA4	Low level 1 (Tcs = 108°F), locked
		nA5	Low level 2 (Tcs = 111°F), locked
		nA6	Medium level 1 (Tcs = 115°F), locked
		nA7	Medium level 1 (Tcs = 118°F), locked
		nA8	High level (Tcs = 124°F), locked
nb_	Temperature unit selection	nb1	Temperature unit: °F
		nb2	Temperature unit: °F (Default)
nC_	T4 sensor (outdoor temperature) threshold to enable Auxiliary Heat. Aux heat will enable when outdoor temperature falls 1.8°F below this temperature.		Auxiliary heat disabled
		nC2	5°F
		nC3	15°F
		nC4	25°F
		nC5	35°F
		nC6	45°F
		nC7	55°F
		nC8	65°F

Controls Service Menu

Controls Service Menu

Controls Service Menu



40VM900001

Controls Service Menu

Addressing With Wireless Controller

STEP

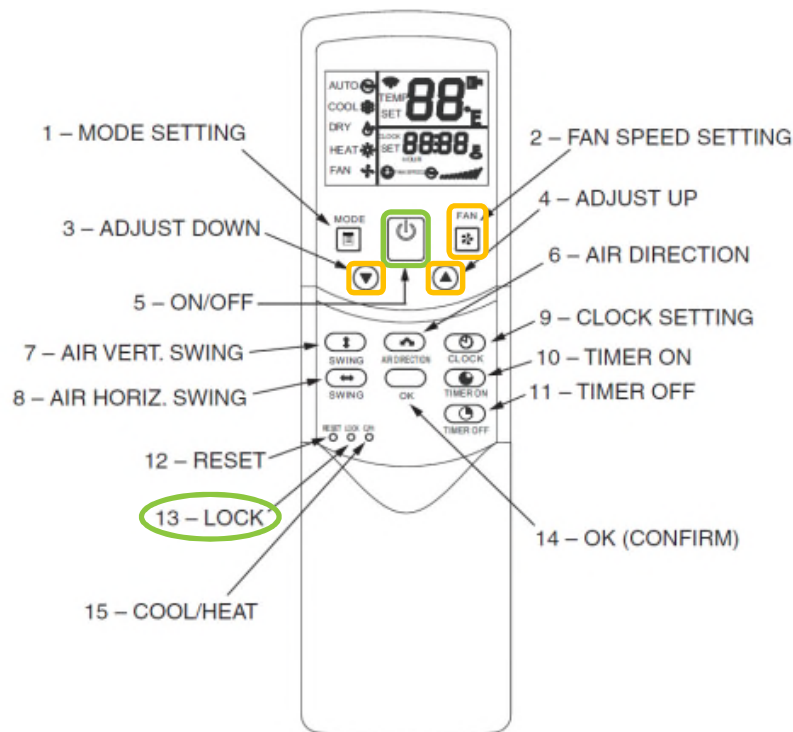
1

Use tool to press and hold the “LOCK” button for more than 10se and press  button to activate

STEP

2

Click  or  to select an address you want to set and press  to send the setting.



Controls Service Menu



40VM9XXXX2

Controls Service Menu

Addressing with Non-Programmable Controller

STEP 1

Press  and  together for 3sec into the right interface. It displays FE# 00 if there is no address for this indoor unit, otherwise displays current address of the indoor unit.

STEP 2

Click  or  to change 00 to address number you want to set. Then press **OK** to confirm and exit the setting interface.



Controls Service Menu

Accessing Settings with Non-Programmable Controller

STEP

1

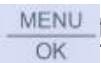


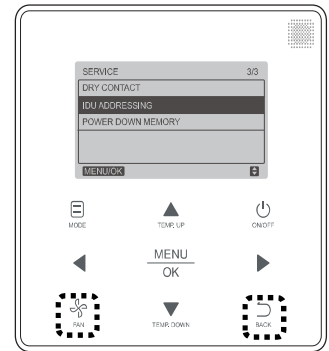
Press  and  simultaneously for 5sec to enter the interface for parameter settings.

STEP

2



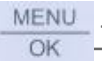
Press  or  to move the cursor down and choose IDU ADDRESSING, then  to enter this setting.

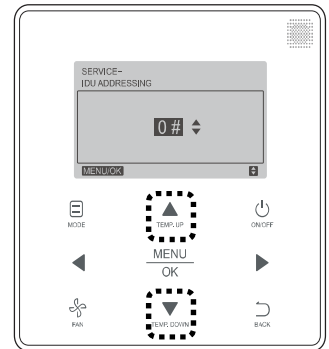


STEP

3



Press  or  to choose the address No. you want to set, then  to send this address to the IDU.



STEP

4



Press  twice or wait 30sec to automatically exit the parameter settings menu.

Controls Service Menu

Parameter Settings — Press and hold the MODE and FAN buttons for five seconds to enter the parameter setting mode as shown in Fig. 22.

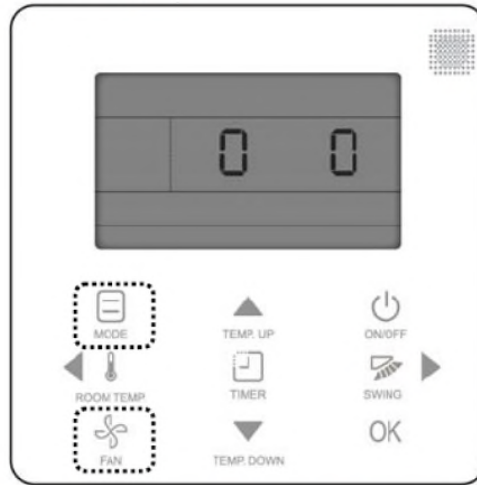


Fig. 22 — Entering the Parameter Setting Menu

Parameter settings are classified into 1G code and 2G code. 1G indicates the parameter category, and 2G indicates parameter content as shown in Fig. 23.

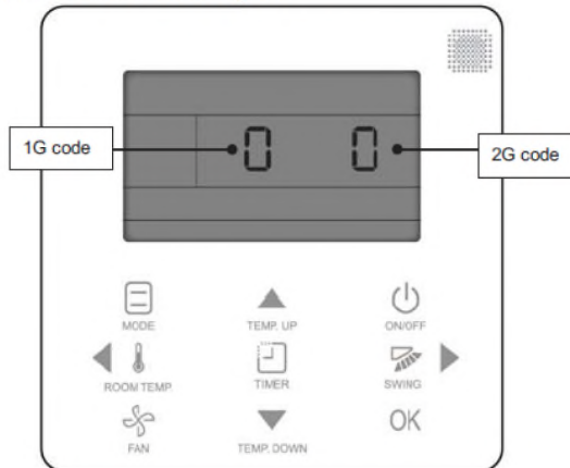


Fig. 23 — 1G and 2G Code Location

Controls Service Menu

Press the left/right button to select the 1G code as shown in Fig. 24.

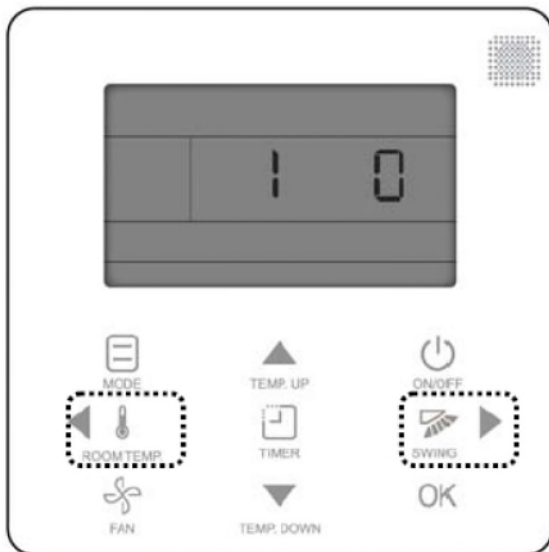


Fig. 24 — Selecting the 1 G Code

Press TEMP. UP/TEMP. DOWN to select the 2G code as shown in Fig. 25.

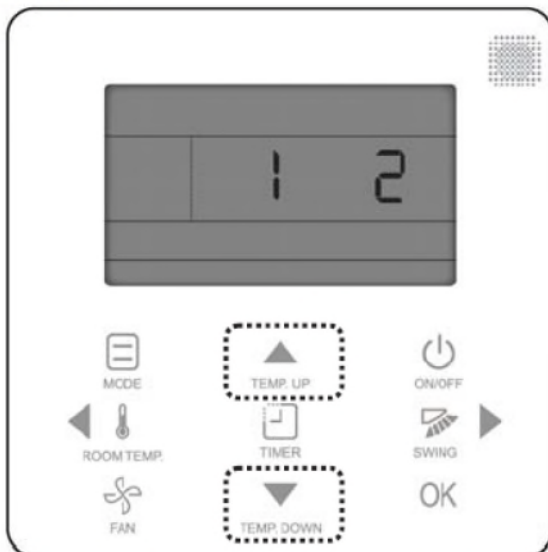


Fig. 25 — Selecting the 2G Code

Controls Service Menu

Press OK or wait 15 seconds to confirm the setting automatically and exit parameter settings (see Fig. 26). Table 3 lists the detailed parameter codes.

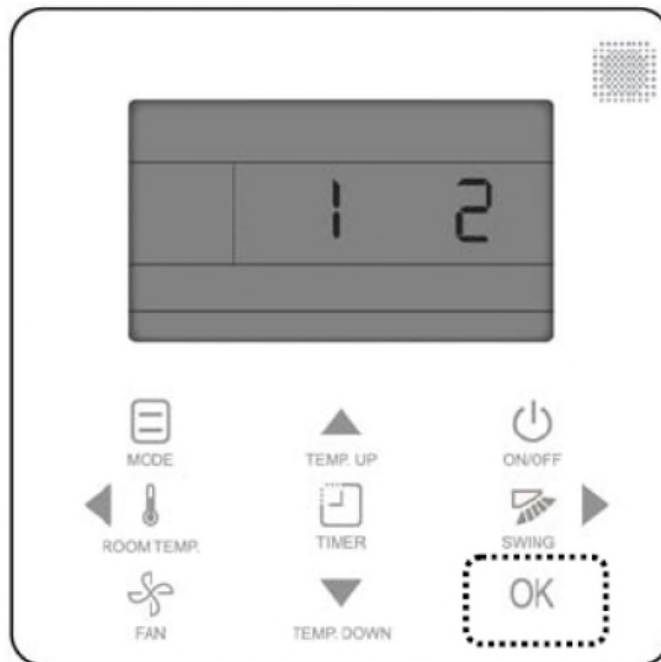


Fig. 26 — Exiting the Parameter Settings Menu

Controls Service Menu

1G code	Parameter category	2G code	Description
0	Selection room temperature sensor	0	Uses room temperature sensor on the IDU.
		1 (default)	Uses the room temperature sensor on the wired controller.
1	Room temperature sensor temperature compensation of wired controller	(0 to 10)	Degrees Fahrenheit: 0:-5°F, 1:-4°F, 2:-3°F, 3:-2°F, 4:-1°F, 5:0°F (default), 6:1°F, 7:2°F, 8:3°F, 9:4°F, 10:5°F
			Degrees Celsius: 0:-5°C, 1:-4°C, 2:-3°C, 3:-2°C, 4:-1°C, 5:0°C (default), 6:1°C, 7:2°C, 8:3°C, 9:4°C, 10:5°C
2	Setting the upper limit for heating	86°F (default), 85°F, 84°F... 30°C (default), 29°C, 28°C...	Regulates the upper temperature limit for heating; the low temperature limit for heating is 54°F/12°C
3	Setting the lower limit for cooling	62°F (default), 63°F, 64°F... 17°C (default), 18°C, 19°C...	Regulates the lower temperature limit for cooling; the upper temperature limit for cooling is 86°F/30°C.
4	Selecting IDU capacity interval	0 (default)	Thermal on (1°F/1°C)
		1	Thermal on (2°F/1°C)
5	AUTO mode delay switching time Δt	0 (default)	$\Delta t=15\text{min}$
		1	$\Delta t=30\text{min}$
		2	$\Delta t=60\text{min}$
		3	$\Delta t=90\text{min}$
6	Anti-cold wind setting/set the temperature when the heating fan stops	0 (default)	68°F/20°C
		1	50°F/10°C
		2	59°F/15°C
		3	75°F/24°C
		4	82°F/28°C

Controls Service Menu

7	Fan off after a delay of Δt when the unit is off (reserved)	0 (default)	$\Delta t=4\text{min}$
		1	$\Delta t=8\text{min}$
		2	$\Delta t=12\text{min}$
		3	$\Delta t=16\text{min}$
8	Setting the fan speed in cooling standby mode	0	Turn off the fan
		1	Low
		2	Medium
		3	High
9	Setting the fan speed in heating standby mode. (Not available for heat pump system)	E (default)	Maintain the current fan speed
		0 (default)	Turn off the fan
		1	Low
		2	Medium
10	Setting the IDU static pressure	3	High
		E	Maintain the current fan speed
		(0 to 25)	0: 0 in WC (default) 1: 0.04 in WC 2: 0.08 in WC 3: 0.12 in WC 4: 0.16 in WC 5: 0.20 in WC 6: 0.24 in WC 7: 0.28 in WC 8: 0.32 in WC 9: 0.36 in WC 10: 0.40 in WC 11: 0.44 in WC 12: 0.48 in WC 13: 0.52 in WC 14: 0.56 in WC 15: 0.60 in WC 16: 0.64 in WC 17: 0.68 in WC 18: 0.72 in WC 19: 0.76 in WC 20: 0.80 in WC 21: 0.84 in WC 22: 0.88 in WC 23: 0.92 in WC 24: 0.96 in WC 25: 1.0 in WC
11	OCCUPANCY DELAY of Δt when nobody is sensed indoors	0 (default)	$\Delta t=0\text{min}$
		1	$\Delta t=15\text{min}$
		2	$\Delta t=30\text{min}$
		3	$\Delta t=60\text{min}$
12	Setting the opening temperature of dry contact 4; dry contact 4 is opened when the temperature is lower than the set temperature ΔT	0 (default)	$\Delta T=1^\circ\text{F}/1^\circ\text{C}$
		1	$\Delta T=2^\circ\text{F}/1^\circ\text{C}$
		2	$\Delta T=3^\circ\text{F}/2^\circ\text{C}$
		3	$\Delta T=4^\circ\text{F}/2^\circ\text{C}$
		4	$\Delta T=5^\circ\text{F}/3^\circ\text{C}$

Controls Service Menu

13	Delayed closing setting of dry contact 4	0 (default)	Closed in 15 min
		1	Closed in 30 min
		2	Closed in 45 min
14	Whether the IDU is connected to a third-party heat source	0 (default)	No third-party heat source connected
		1	A third-party heat source connected
15	Fan control when the third-party heat source starts	0	Not turn on the fan forcedly
		1 (default)	Forcibly turn on the fan
16	Occupancy set temperature offset	0°F/0°C	/
		2°F/1°C	
		4°F/2°C(default)	
		6°F/3°C	
		8°F/4°C	
17	Occupancy delay function	0 (default)	Invalid
		1	Valid

Controls Service Menu



40VM9XXXX3

Controls Service Menu

NO.	SERVICE MENU		DESCRIPTION	SET PARAMETER
1	ROOM TEMPERATURE SENSOR LOCATION		Select whether to use the IDU room temperature sensor of the wired controller.	Wired remote control (default) Indoor unit
2	ROOM TEMPERATURE SENSOR OFFSET		The temperature compensation value for wired controller T1.	-5 °F, -4 °F, -3 °F, -2 °F, -1 °F, 0 °F (default), 1 °F, 2 °F, 3 °F, 4 °F, 5 °F or -5 °C, -4 °C, -3 °C, -2 °C, -1 °C, 0 °C (default), 1 °C, 2 °C, 3 °C, 4 °C, 5 °C
3	SETPOINT LIMIT	MAX HEATING SETPOINT SETTING	Set the upper limit of the temperature range for heating.	86 F (default) to 62 F 30 C (default) to 17 C
		MIN. COOLING SETPOINT SETTING	Set the lower limit of the temperature range for cooling.	50 F (default) to 86 F 10 C (default) to 30 C
4	THERMAL SENSITIVITY ADJUSTMENT		Select a capacity interval.	THERMAL ON (1 F) (default), THERMAL ON (2 F) or THERMAL ON (1 C) (default), THERMAL ON (1 C)
5	CHANGE OVER TIME		Automatic mode change over time.	15 min. (default), 30 min., 60 min., 90 min.
6	ANTI-COLD BLOW		Set the temperature when the fan is turned off to prevent cold winds	68 F (default), 50 F, 59 F, 75 F, 82 F or 20 C (default), 10 C, 15 C, 24 C, 28 C
7	TERMINAL FAN CONFIGURATION		Fan off after a delay of	4 min. (default), 8 min., 12 min., 16 min.
8	THERMO-OFF FAN SPEED SETTING	COOLING	Set the fan step for cooling thermo off.	OFF, LOW, MIDDLE, HIGH, MAINTAIN (default)
		HEATING	Set the fan step for heating thermo off.	OFF (default), LOW, MIDDLE, HIGH, MAINTAIN
9	STATIC PRESSURE (NOT USED FOR ALL INDOOR UNITS)		Set the IDU static pressure of the DC fan.	0: 0 in. wg (default) 1: 0.04 in. wg 2: 0.08 in. wg 3: 0.12 in. wg 4: 0.16 in. wg 5: 0.20 in. wg 6: 0.24 in. wg 7: 0.28 in. wg 8: 0.32 in. wg 9: 0.36 in. wg 10: 0.40 in. wg 11: 0.44 in. wg 12: 0.48 in. wg 13: 0.52 in. wg 14: 0.56 in. wg 15: 0.60 in. wg 16: 0.64 in. wg 17: 0.68 in. wg 18: 0.72 in. wg 19: 0.76 in. wg 20: 0.80 in. wg 21: 0.84 in. wg 22: 0.88 in. wg 23: 0.92 in. wg 24: 0.96 in. wg 25: 1.0 in. wg
10	OCCUPANCY SENSOR	OCCUPANCY ON/OFF	Set occupancy delay function to valid or invalid	OFF (default), ON
		OCCUPANCY DELAY	Set the time for delayed power-off of the unattended IDU (valid only when the IDU is connected to an infrared sensing controller).	0 min (default-THERMAL OFF), 15 min., 30 min., 60 min. (SETBACK DELAY)
		OCCUPANCY SET TEMP OFFSET	Setback temperature setpoint amount after occupancy delay elapses.	0 °F, 2 °F, 4 °F (default), 6 °F, 8 °F or 0 °C, 1 °C, 2 °C (default), 3 °C, 4 °C
11	DRY CONTACT	DRY CONTACT STATUS	Whether the IDU is connected to a third-party heat source.	DISABLE (default), ENABLE
		DRY CONTACT CONFIGURATION	Set the start and end condition for the third-party heat source and the delayed end time of dry contact.	Starting condition, when the room temperature is lower than the set temperature: 1 °F (default), 2 °F, 3 °F, 4 °F, 5 °F or 1 °C (default), 1 °C, 2 °C, 2 °C, 3 °C Delayed closing time of dry contact: 15 min. (default), 30 min., 60 min.
		INDOOR FAN STATUS	Forcibly turn on the fan or not when the third-party heat source starts.	ON (default), OFF
12	IDU ADDRESSING		Set the IDU address	0#-63#

Controls Service Menu

Advanced Information — Choose **ADVANCED INFORMATION** on the menu interface, as shown in Fig. 46, and press **MENU/OK** $\frac{\text{MENU}}{\text{OK}}$ to enter this setting.

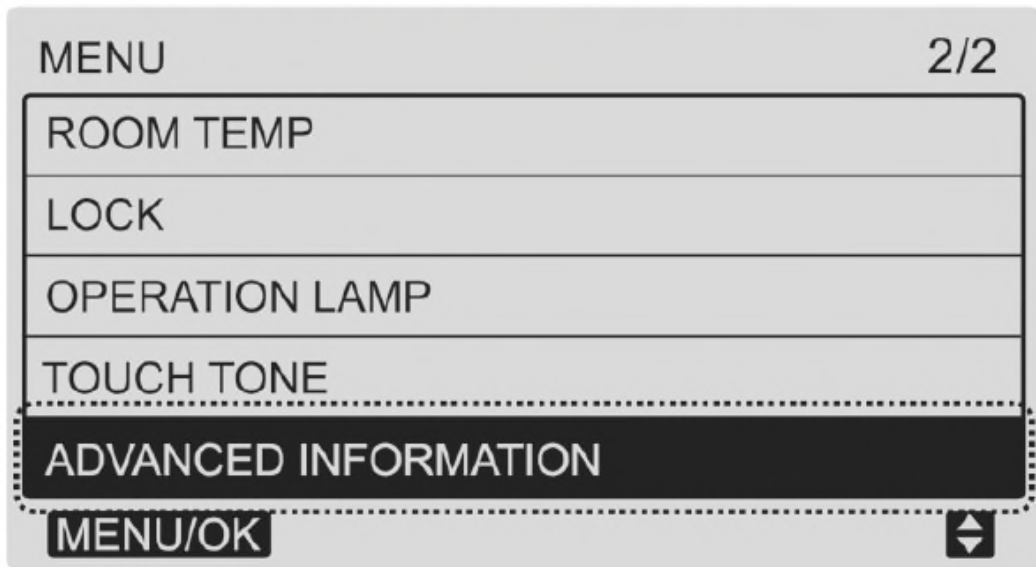


Fig. 46 — Entering the Advanced Information Menu

Controls Service Menu

QUERYING IDU OPERATING DATA — Choose OPERATING DATA, as shown in Fig. 47, and press MENU/OK ^{MENU}/_{OK} to enter this setting.

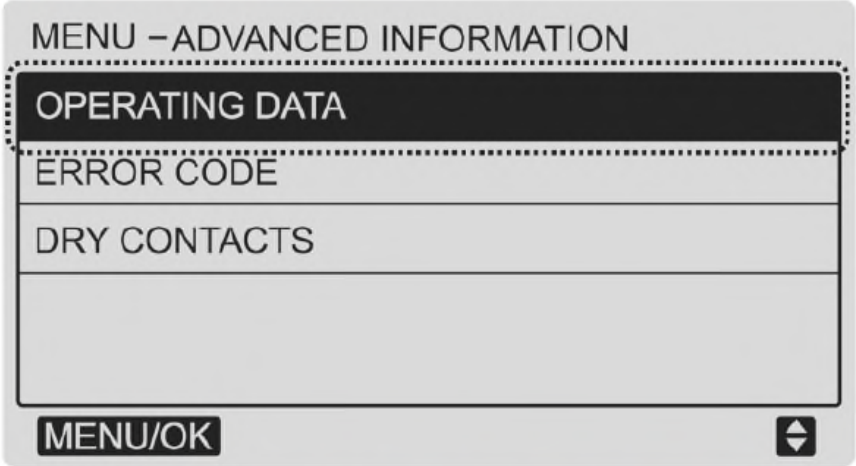


Fig. 47 — Accessing the Operating Data Menu

On the OPERATING DATA interface, the wired controller will display the current IDU address, IDU sensor temperature, louver settings, and number of IDUs connected to the wired controller as shown in Fig. 48.

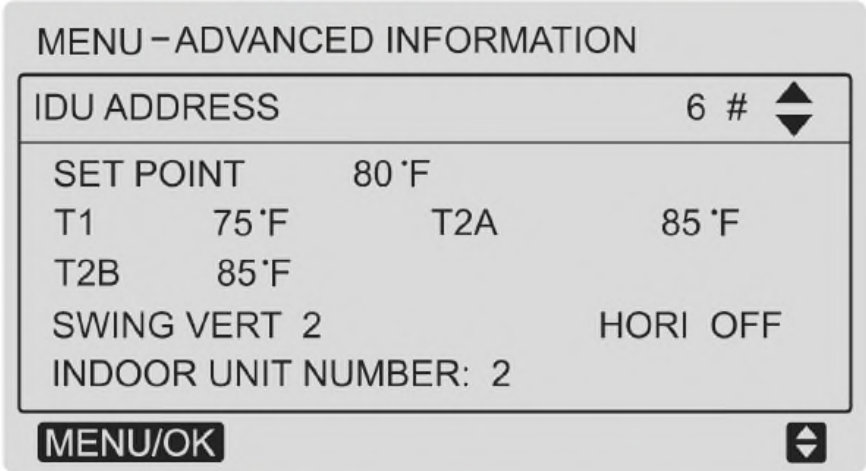


Fig. 48 — Operating Data Display

Controls Service Menu

Service and Startup Settings — Press and hold BACK  and FAN  for five seconds at the same time to enter the interface for parameter settings as shown in Fig. 52.

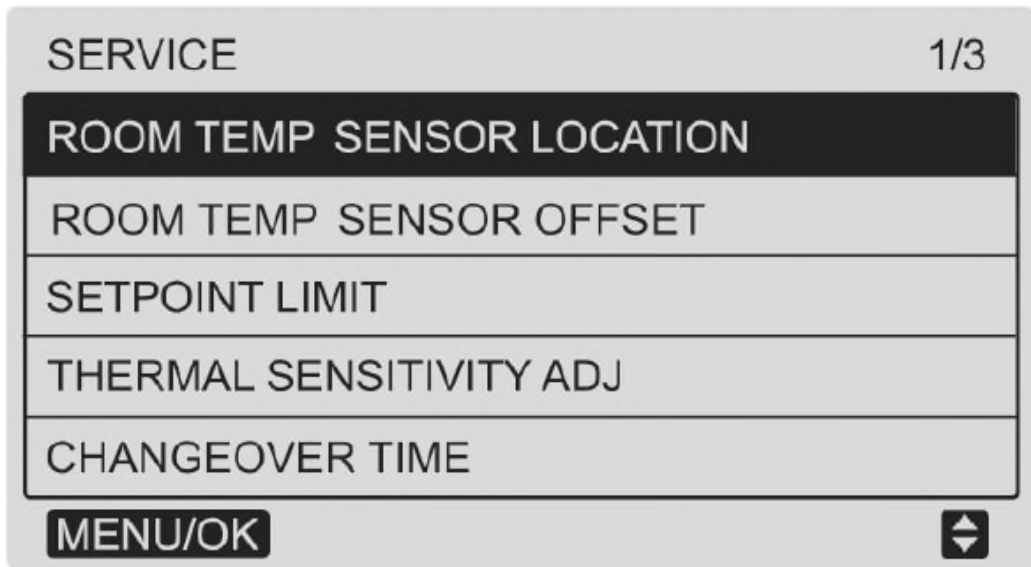


Fig. 52 — Accessing the Parameter Settings Menu

Controls Service Menu

Press TEMP. UP ▲ or TEMP. DOWN ▼ to move the cursor and select an entry, as shown in Fig. 53, and then press MENU/OK $\frac{\text{MENU}}{\text{OK}}$ to enter this entry setting.

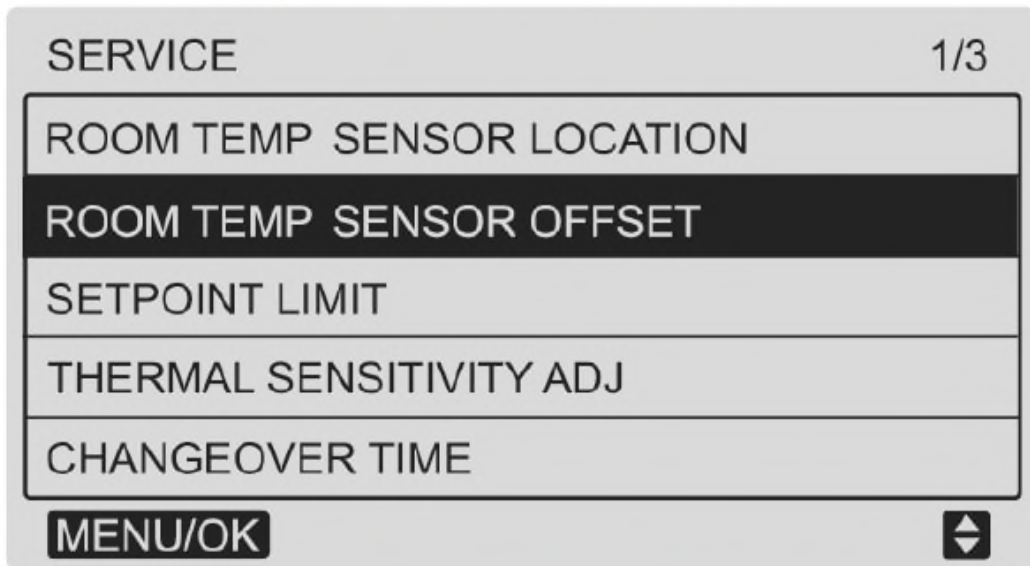


Fig. 53 — Changing the Selection

Controls Service Menu

Setting the IDU Address — The IDU communication address can be set only when the wired controller is connected to one IDU.

Press TEMP. DOWN ▼ to move the cursor down, choose IDU ADDRESSING, as shown in Fig. 55, and press MENU/OK $\frac{\text{MENU}}{\text{OK}}$ to enter this setting.

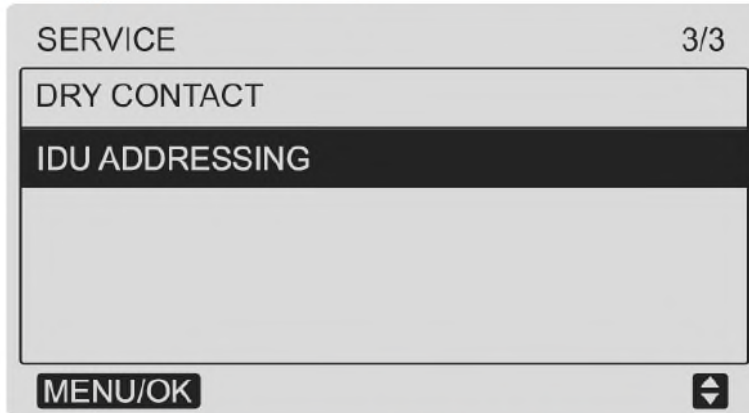


Fig. 55 — Accessing the IDU Addressing

Press TEMP. UP ▲ or TEMP. DOWN ▼ to select the IDU address to set, and press MENU/OK $\frac{\text{MENU}}{\text{OK}}$ to send this address to the IDU as shown in Fig. 56.

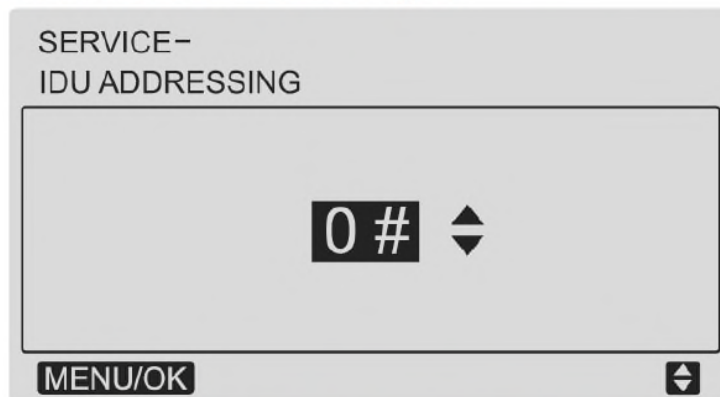


Fig. 56 — Setting the IDU Address

Press BACK ↶ twice or wait 30 seconds to automatically exit the parameter settings menu.

Spot check ODU and
MDC

Spot check ODU and MDC

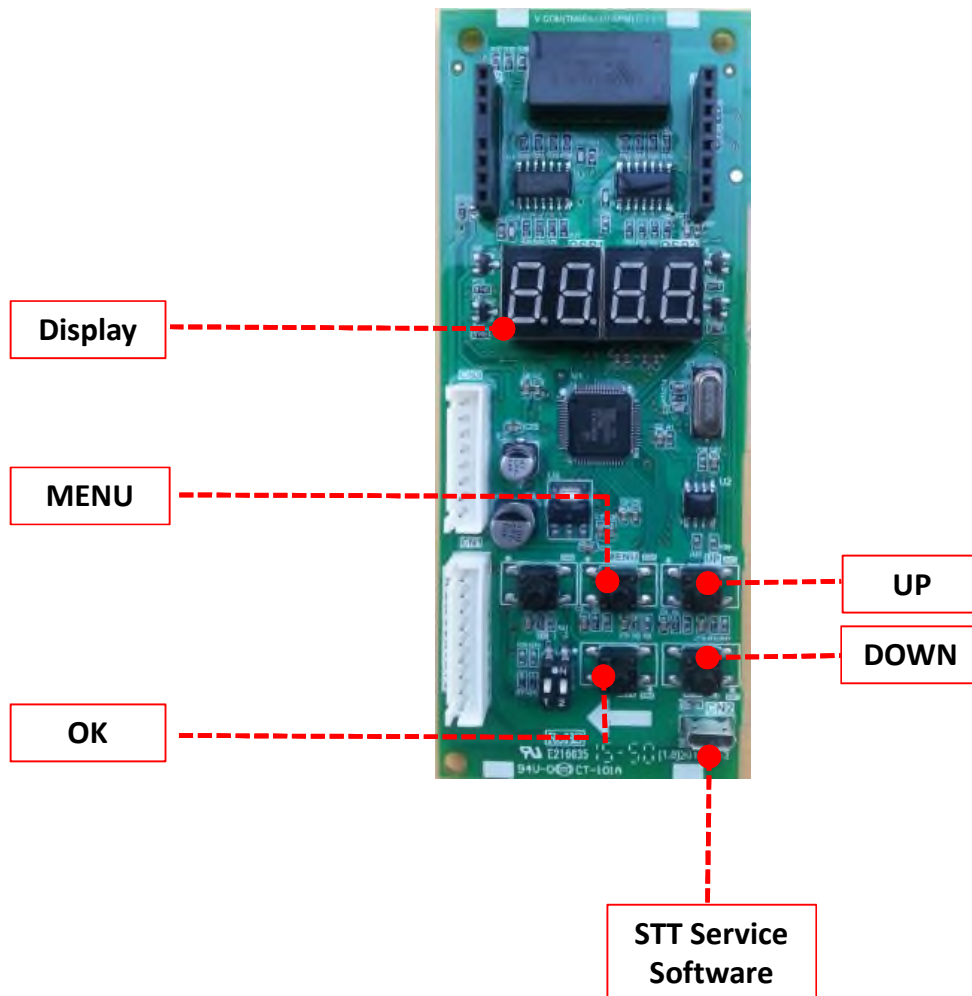


Heat Recovery



Heat Pump

Spot check ODU and MDC



Spot check ODU and MDC

b. "SW5/SW6" Spot Check Content Instructions

Table 49 - "SW5/SW6" Spot Check Content Instructions

Normal Display	Description	Note
0--	Outdoor unit address	0
1--	Outdoor unit capacity	6,8,10,.....28Ton
2--	Modular outdoor unit quantity	1
3--	Quantity setting of indoor units	Setting by ENC3 + S12
4--	Operation mode *1	0,2,3,5,6
5--	Cooling capacity of indoor units	Horse power
6--	Heating capacity of indoor units	Horse power
7--	Total capacity demand of outdoor units	Compressor frequency step
8--	Speed of Fan A	Actual fan step
9--	Speed of Fan B	Actual fan step
10--	Status of the outdoor heat exchanger	
11--	Condenser temperature (T3)	Actual value °C (The lowest of T3A and T3C)
12--	Ambient temperature (T4)	Actual value °C
13--	Inlet temperature of accumulator (T6)	Actual value °C
14--	Suction temperature (T7)	Actual value °C
15--	High pressure shutoff valve pipe temperature (T5)	Actual value °C
16--	Discharge temperature of compressor A (INV1)	Actual value °C
17--	Discharge temperature of compressor B (INV2)	Actual value °C
18--	Discharge temperature of compressor C (INV3)	Actual value °C
19--	Inverter module temperature of compressor inverter (Tf)	Actual value °C
20--	Saturated temperature of the discharge pressure	Actual value °C
21--	Saturated temperature of the suction pressure	Actual value °C
22--	Current of compressor A (INV1)	Actual value
23--	Current of compressor B (INV2)	Actual value
24--	Current of compressor C (INV3)	Actual value
25--	High pressure	Actual value = Display value x 0.1 MPa
26--	Low pressure	Actual value = Display value x 0.1 MPa
27--	Targeted evaporating temperature (TES)	Actual value °C
28--	Targeted condensing temperature (TCS)	Actual value °C
29--	Qty. of indoor units that are communicating with outdoor unit	
30--	Silent control mode + silent noise control mode *2	
31--	Static pressure mode + defrost mode *3	
32--	Energy saving mode *4	
33--	TCS + TES mode *5	
34--	Temperature unit setting for indoor unit + Unit setting mode in centralized controller *6	
35--	T4 value setting point for auxiliary heating resource starting	
36--	Ver. Of software	
37--	Clear error number of times	
38--	Last alarm code	Display --- if no alarm code
39--		Check end (Only displayed on main board)

NOTES

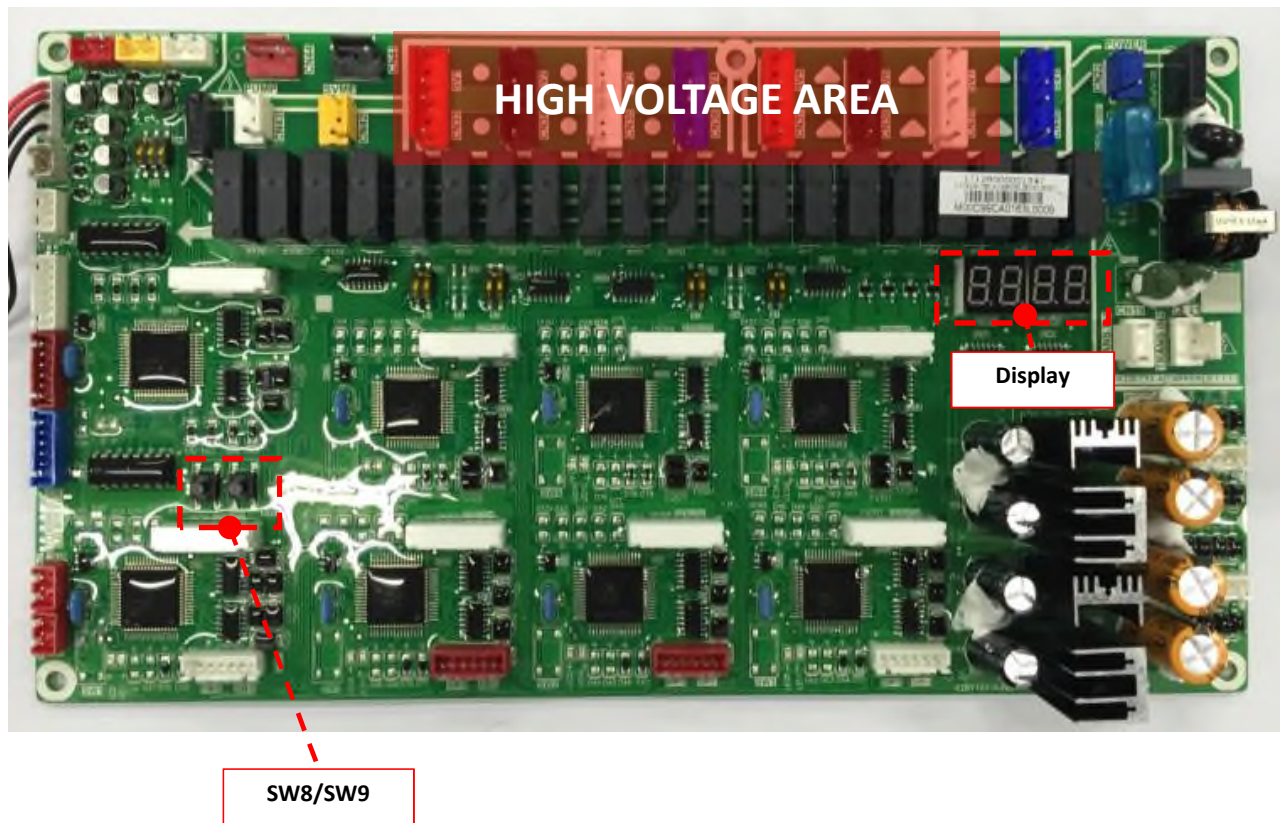
1. Normal display: In standby, the LED displays the address of the outdoor unit and the quantities of indoor units connected. Otherwise, it displays the rotational frequency and speed level of the compressor. During defrost and oil return, it displays dF dF and d0 d0 respectively. Operation mode: 0-OFF; 2-Cooling; 3-Heating; 5-Cooling main mode; 6-Heating main mode
2. The 1st number of DSP2 represents silent control mode: 1-Night silent mode, 2-Silent mode, 3-Super silent mode, 4-None
The 2nd number of DSP2 represents Night time: 1-6/10h, 2-6/12h, 3-8/10h, 4-8/12h
3. The 1st number of DSP2 represents static pressure mode: 1-Standard (Factory default), 2-Low, 3-Medium, 4-High
The 2nd number of DSP2 represents defrost mode: 1-Easy to defrost, 2-Standard (Factory default), 3-Hard to defrost
4. Energy saving mode: 1-no limitation, 2-100%, 3-90%; 4-80%, 5-70%, 6-60%
5. The 1st and 2nd number of DSP2 represents TCS mode and TES mode respectively
6. The 1st number of DSP2 represents temperature unit setting for indoor unit: 1°C; 2°F

Spot check ODU and MDC



Multiport Distribution Controller (MDC)

Spot check ODU and MDC



Spot check ODU and MDC



Caution

Make sure power is disconnected from the unit before connecting or disconnection any port/connector on the PC board.

When the LED indication lamp is intermittently flashing, there is a communication error.

LED	Normally ON	Slow Flash *1	Flash *2
LED1 Lamp (Red)	Outdoor unit is ON	Outdoor unit in standby mode	Communication error with outdoor unit
LED2 Lamp (Blue)	Indoor unit is ON for that micro processor	Indoor unit is OFF for that micro processor	Communication error with indoor unit

*1 Slow Flash: 1Hz

*2 Flash: 2Hz

Table 57 - MDC error codes displayed on the units display (DSP1 and DSP2)

Display	Error Code Definition
S E0	Communication error with outdoor unit
S E1	T1 temperature sensor error
S E2	T2 temperature sensor error
S E3	T3 temperature sensor error
S E4	High pressure sensor error
S E5	Intermediate pressure sensor error
S E6	Low pressure sensor error
S EP	Condensate switch error
S P1	High pressure protection
SC ER	Mismatched refrigerant piping and communication wiring for a given indoor unit
no 1d	No indoor unit connected to port 1 of main MDC
no A0	Incorrect address for MDC
CS x	More than two IDUs connected to single port on MDC

If the LED of the main MDC displays SC ER, a commissioning test has been accomplished successfully.

The power of MDC should be switched off and on again so that the LED can display the actual status.

a. "SW8/SW9" Query Instructions

1. Press either SW8 or SW9 on MDC control board, the MDC's LED display will show a query code.
2. Press SW8 to move up (SW9 to move down) to scroll through the different display number as shown below:

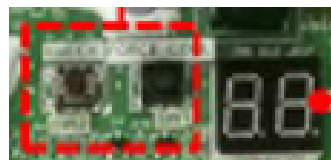
Display	Description		Comment
	First and Second Digit	Third and Forth Digit	
-00	Number of online micro-processors	Number of online indoor units	Actual value
-01	Number of open micro-processors	Number of open indoor units	Actual value
-02	Number of cooling micro-processors	Number of online heating units	Actual value
-03	Outdoor unit operation mode		--
-04	Opening of EXVA		Actual value
-05	Opening of EXVB		Actual value
-06	Opening of EXVC		Actual value
-07	Liquid inlet temperature (T1 or Tm1)		Actual value °C
-08	Liquid refrigerant temperature (T2 or Tm2)		Actual value °C
-09	Bypass outlet temperature (T3 or Tm3)		Actual value °C
-10	High pressure (H-YL1 or PS1)		Actual value = Display value x 0.1 MPa
-11	Intermediate pressure (H-YL2 or PS2)		Actual value = Display value x 0.1 MPa
-12	Low pressure (L-YL1 or PS3)		Actual value = Display value x 0.01 MPa
-13	Version of software		--
-14	---		Check end

Spot check ODU and MDC



Single Phase Heat Pump

Spot check ODU and MDC



SW1

SW1 button on PCB is for force cooling mode. Press once to enter the force cooling mode and press twice to exit the operation.



SW2

SW2 button is the query button. The LED will display the parameter values by the number of pushes per SW2 query instructions.

Table 22 - Spot Check Query Instructions

No.	Description	Note
0	Normal display ¹	0
1	Operating mode ²	0, 2, 3, 4
2	Operating fan speed	
3	The total capacity demands of indoor units	
4	The capacity requirement of the revised external unit	
5	T3 (Condenser temperature)	Actual value
6	T4 (Outdoor temperature)	Actual value
7	T5 (Compressor discharge temperature)	Actual value (if the temperature over 100, DIS1 will only display the first two values)
8	The surface temperature of the heat exchanger	Actual value
9	Opening of EEV	Actual value = Display value x 8
10	Unit current	
11	1/10 of DC bus voltage	Actual value /10
12	T2A average temperature (Indoor Unit)	
13	Total number of indoor units	
14	Number of the operating indoor units	
15	Outdoor unit capacity ³	12, 14, 16
16	Discharge pressure	Actual value=Display value x 0.1 MPa
17	Saturation temperature of the discharge pressure	
18	Priority mode ⁴	0, 1, 2, 4, 5, 6
19	Version of the program	
20	Last error of protection code	None with "nn"
21	Display "-"	

NOTES:

1. Normal display: If standby, the LED displays the quantities of indoor units communicated. Otherwise, it displays the rotation frequency of compressor (It may display 0 Hz at startup stage). When defrosting, it Displays dF.
2. Mode: 0-OFF; 2-Cooling; 3-Heating; 4-Forced cooling mode
3. 3 Ton-12 (KW), 4 Ton-14 (KW), 5 Ton-16 (KW)
4. 0-Heating priority mode, 1-Cooling priority mode, 2-VIP, 4-Cooling only, 5-Debugging mode No.1, 6-Debugging mode No.2

STT

STT

Connecting to system - What's Needed



USB to RS485
(field supplied)

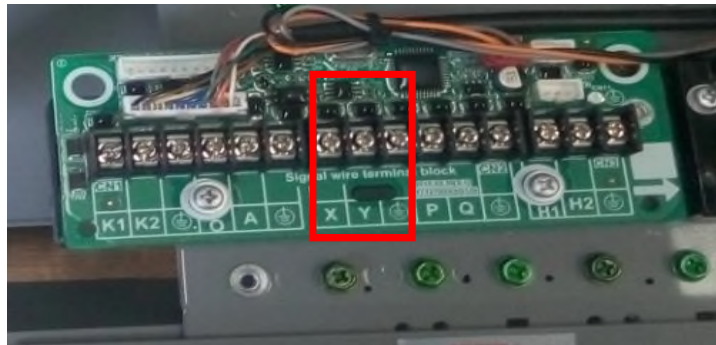


USB to Micro USB
(field supplied)



The screenshot shows the HVAC Partners website. The left sidebar lists various HVAC categories, with 'Outdoor Units' selected. The main content area displays the '38VMR Heat Recovery' product page for Carrier VRF. It includes a product image, a list of compatible indoor units and controls, and a 'Documents' section. In the 'Documents' section, the 'Software' category is expanded, and a red box highlights the 'Carrier / Bryant VRF Service Technical Tool Version 3.00.0002 (2019-03-18)' document.

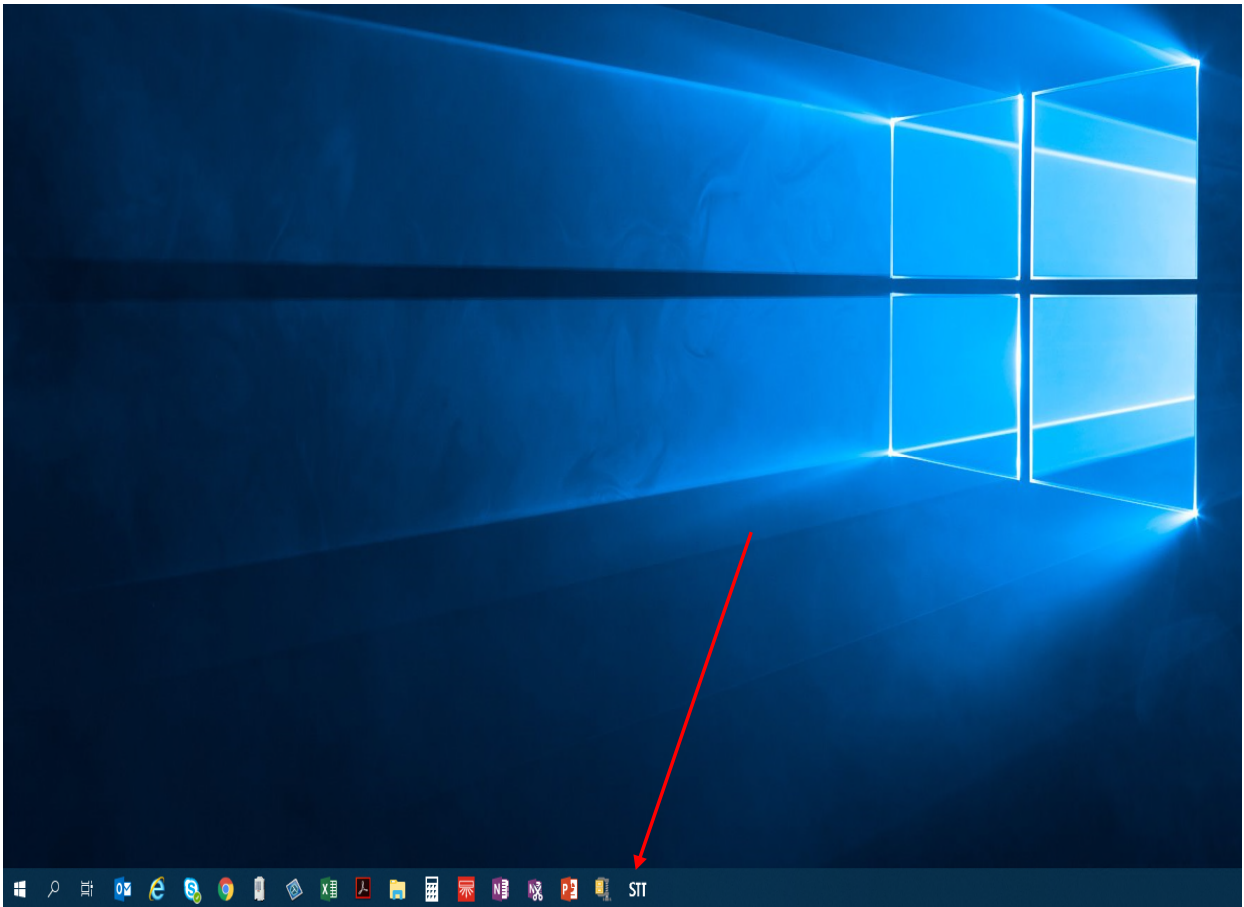
Connection Points



Service Technical Tool

How to open STT tool for Live data / historical data

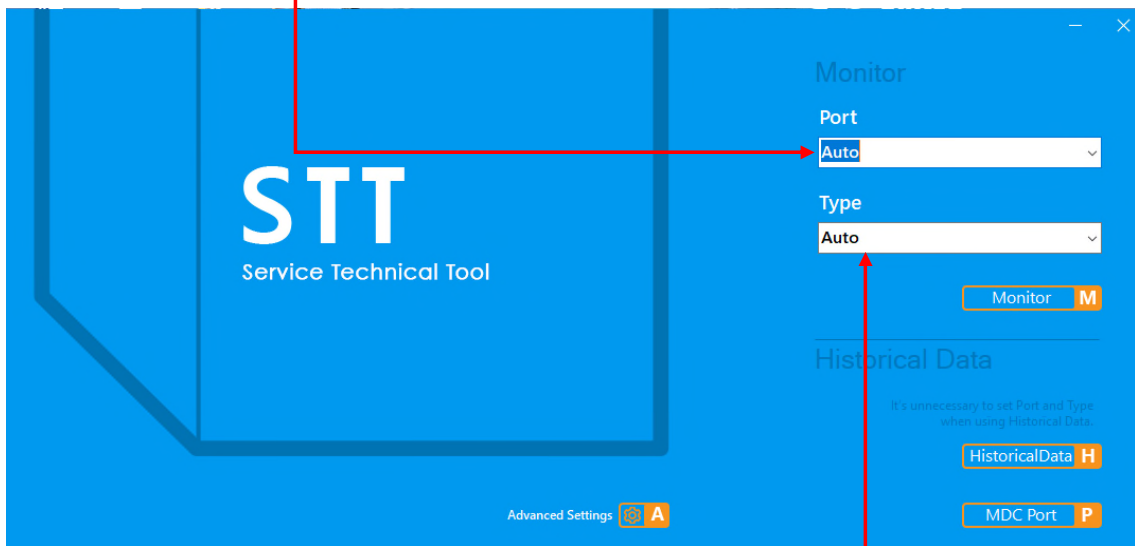
Step 1: Open STT by double clicking the desktop icon Or selecting STT from a saved location.



Service Technical Tool

How to open STT tool for Live data / historical data

Step 2: Verify com port setting matches where USB cable is plugged in to your laptop



Step 3: Select connected equipment type to be monitored.

HP: Heat Pump

HR: Heat Recovery

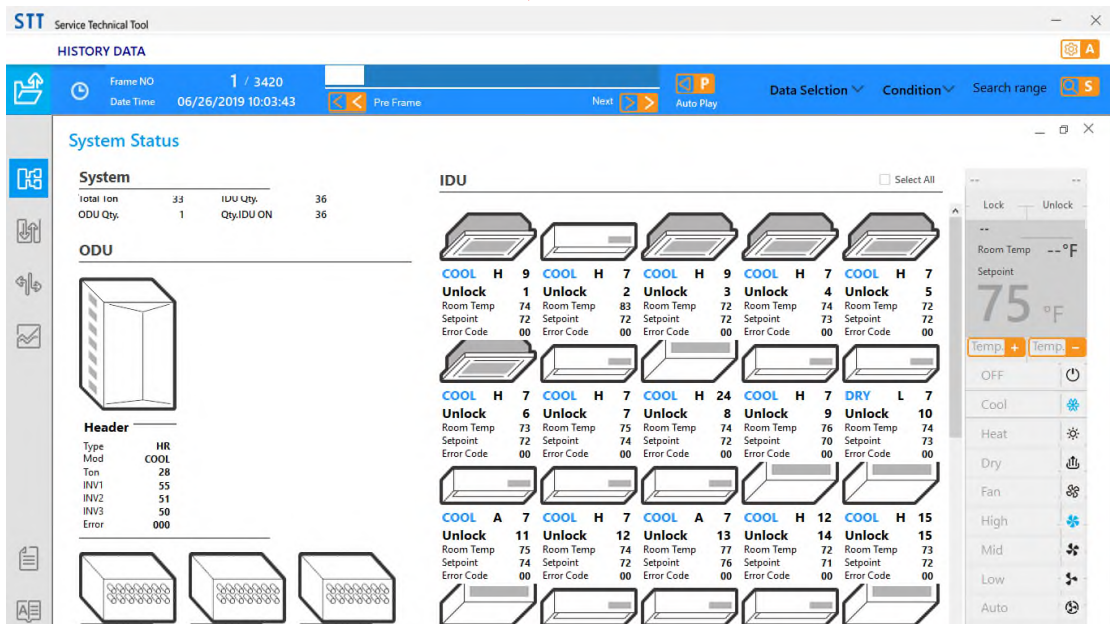
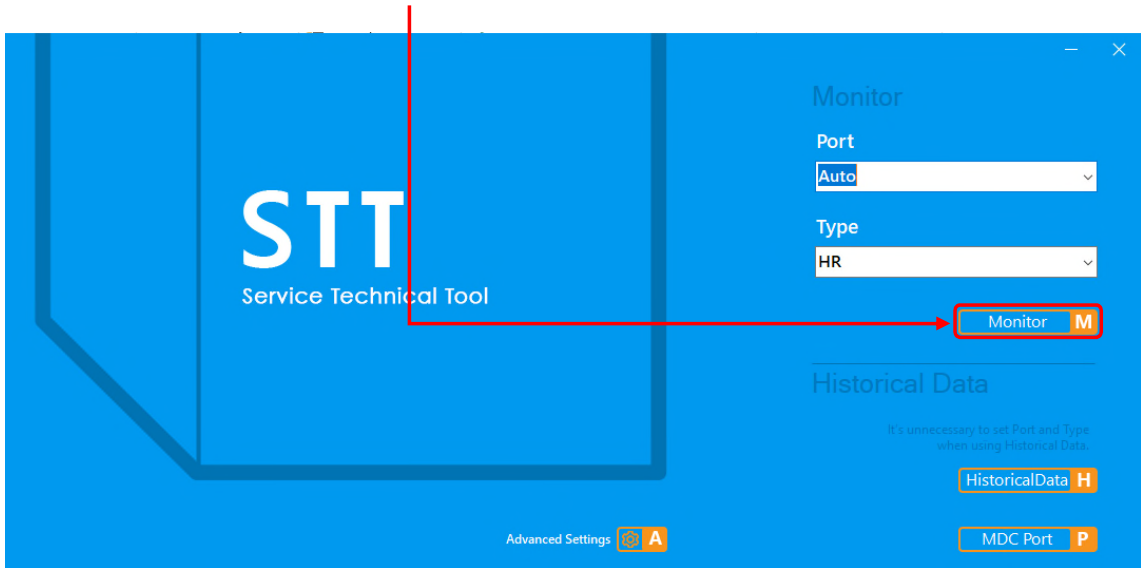
Mini VRF: 3,4,5T single phase

NOTE: Steps 2 and 3 are NOT required when viewing historical data.

Service Technical Tool

How to open STT tool for Live data / historical data

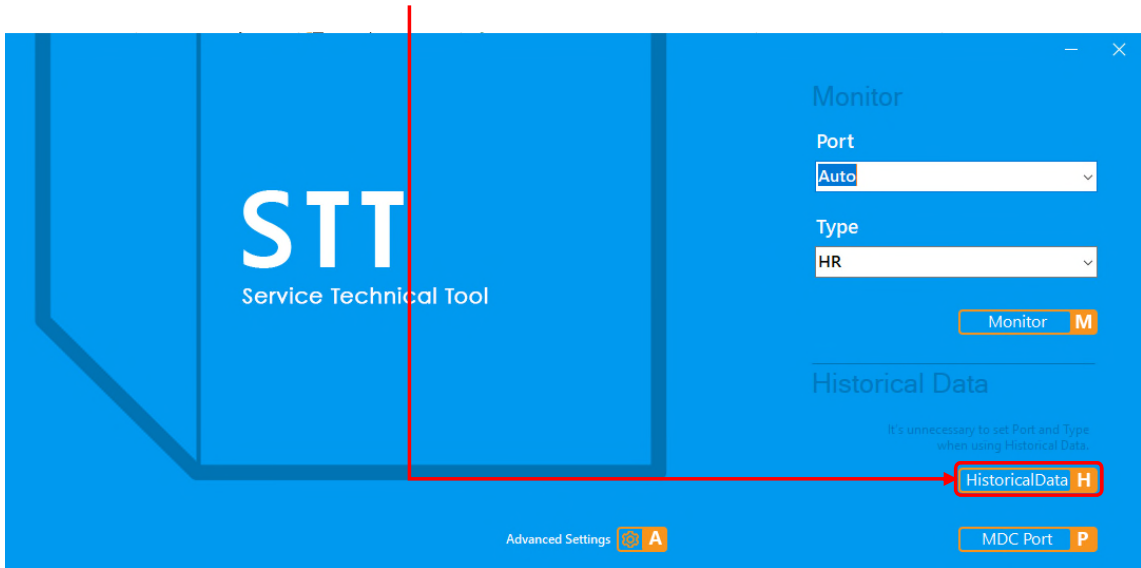
Step 4: With com port and system type selected, select “Monitor” to begin viewing system data points.



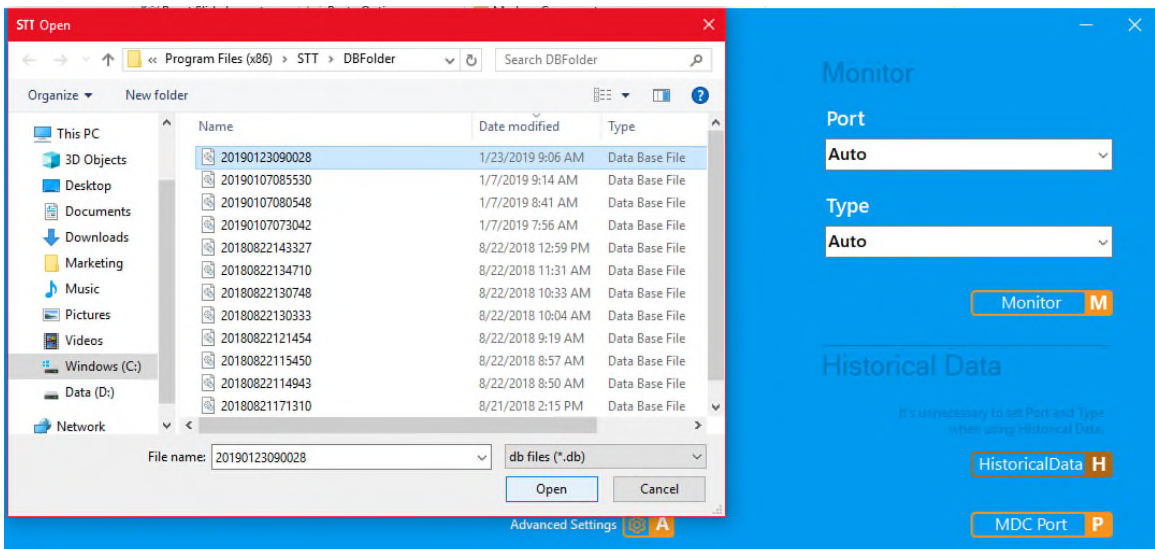
Service Technical Tool

How to open STT tool for Live data / historical data

Historical Data Step 1: To view historical data Open STT and select “Historical Data”



Step 2: File browser window will automatically open, select the desired file for viewing. Historical data must be saved on users PC



Service Technical Tool

How to open STT tool for Live data / historical data

Step 3: After selecting desired files for viewing STT will open viewing window as seen below. User can now cycle through recorded frames viewing previously recorded operational data.

STT Service Technical Tool

HISTORY DATA

Frame NO: 1 / 3420
Date Time: 06/26/2019 10:03:43
Pre Frame: [Previous] Next: [Next] Auto Play: [P]

System Status

System

Total Ion	33	IDU Qty	36
ODU Qty	1	Qty IDU ON	36

ODU

Header

Type	HR
Mod	COOL
Ton	28
INV1	55
INV2	51
INV3	50
Error	000

IDU

Select All

IDU	Mode	Room Temp	Setpoint	Error Code
1	COOL H 9	74	72	00
2	COOL H 7	83	72	00
3	COOL H 9	72	72	00
4	COOL H 7	74	73	00
5	COOL H 7	72	72	00
6	COOL H 7	73	74	00
7	COOL H 7	75	74	00
8	COOL H 24	74	72	00
9	COOL H 7	76	70	00
10	DRY L 7	74	73	00
11	COOL A 7	75	74	00
12	COOL H 7	74	72	00
13	COOL A 7	77	76	00
14	COOL H 12	72	71	00
15	COOL H 15	73	72	00

Room Temp Control Panel

Lock: [Lock] [Unlock]

Room Temp: -- °F

Setpoint: 75 °F

Temp: [Temp +] [Temp -]

OFF: [OFF] [ON]

Cool: [Cool]

Heat: [Heat]

Dry: [Dry]

Fan: [Fan]

High: [High]

Mid: [Mid]

Low: [Low]

Auto: [Auto]

Service Technical Tool

STT error code list

STT provides a comprehensive list of all system error codes to include error codes displayed on the ODU, IDU, MDC and wall controller. Each listed error code has an associated flow chart for initial troubleshooting. In bold letters at the top of each flow chart is an indicator for HP or HR.

The screenshot displays the STT Service Technical Tool interface. The top bar shows 'STT Service Technical Tool' and 'HISTORY DATA'. The main area is divided into 'System Status' and 'IDU' sections. The 'System Status' section includes a 'System' table with columns for 'Total Ion', 'IDU Qty.', and 'Qty IDU ON'. Below this is an 'ODU' section with a diagram of an ODU unit and a 'Header' table. The 'IDU' section displays a grid of 15 IDU units, each with a status indicator (e.g., COOL, H, 9) and a table of data including 'Room Temp', 'Setpoint', and 'Error Code'. A red arrow points to a document icon in the left sidebar, indicating where to access the system error codes list.

System	
Total Ion	36
IDU Qty.	36
Qty IDU ON	36

Header	
Type	HR
Mod	COOL
Ten	28
INV1	55
INV2	51
INV3	50
Error	000

IDU	Status	Room Temp	Setpoint	Error Code
1	COOL H 9	74	72	00
2	COOL H 7	83	72	00
3	COOL H 9	72	72	00
4	COOL H 7	74	73	00
5	COOL H 7	72	72	00
6	COOL H 7	73	72	00
7	COOL H 7	75	74	00
8	COOL H 24	74	72	00
9	COOL H 7	76	70	00
10	COOL H 7	74	73	00
11	COOL A 7	75	74	00
12	COOL H 7	74	72	00
13	COOL A 7	77	76	00
14	COOL H 12	72	71	00
15	COOL H 15	73	72	00

Select the highlighted box to access system error codes list.

Service Technical Tool

STT error code list

STT Service Technical Tool

HISTORY DATA

Frame NO 1 / 3420
Date Time 06/26/2019 10:03:43

Pre Frame Next Auto Play Data Selection Condition Search range

Code List

ERROR CODE	Type	Definition
0E0	ODU	Communication fault between ODUs (Displayed on the slave unit only)
0E1	ODU	Open phase for outdoor unit
0E2	ODU	(1)Communication fault between outdoor unit and MDC (2) Communicati...
0E4	ODU	Temperature sensor (T3/T3A/T3C/T4) error
0E5	ODU	Voltage protection
0E6	ODU	DC fan error
0E7	I/F	Discharge temperature sensor (T5) error
0E8	ODU	Incorrect ODU address
0E9	ODU	EEPROM error
0EA	ODU	DC fans stay at zone A for more than 5 minutes (i.e the low pressure is too...
0EB	ODU	DC fan error
0H0	ODU	Communication error between main board and compressor drive board
0H1	ODU	Communication error between chip IC55 and IC33 on main board
0H2	ODU	Inconsistent number of ODUs (Displayed on the master unit only)
0H3	ODU	Inconsistent number of ODUs (Displayed on the master unit only)
0H4	ODU	3 times of L0~L9 protection occurs within 1 hour

Detailed Information

Supposed causes:

- Incorrect address setting of ODU
- Communication lines between ODUs not connected we
- Wiring between main board and communication adapt
- Damaged main board or communication terminal bloc

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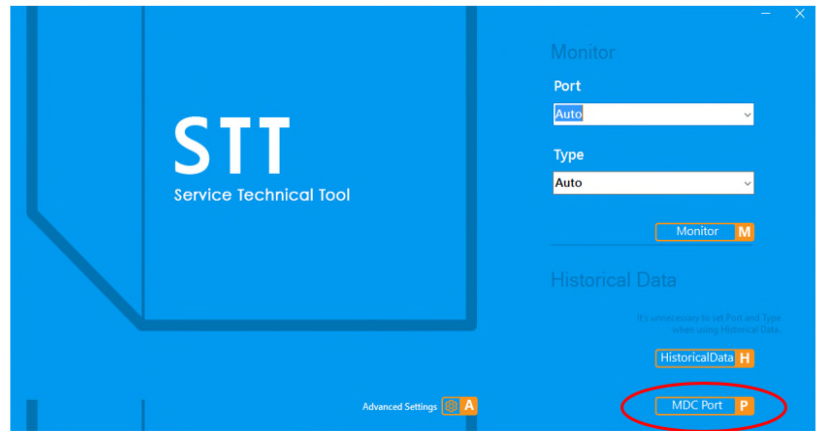
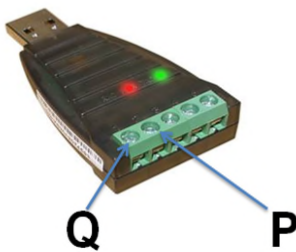
graph TD
    A[Turn off the power supply of ODU] --> B{Check whether the address setting of ODU is incorrect}
    B -- YES --> C[ ]
    B -- NO --> D{Check whether communication lines between ODUs are in short, open or connected incorrectly}
    D -- YES --> E[ ]
    D -- NO --> F[ ]
  
```

Port Check Function

Port Check Function

- Connect to PQ bus with USB to RS485 adapter (Polarity Sensitive)
- P = 2 Q = 1 when wiring adapter
- Launch Software

Polarity is P=2 and Q=1



Port Check Function

- Connect to PQ bus with USB to RS485 adapter (Polarity Sensitive)
- P = 2 Q = 1 when wiring adapter
- Launch Software
- Hold Menu to access "n" function
- Select n11 using up, down, & ok buttons
- Let system time out on its own and revert back to qty of IDUs
- Takes up to 30 minutes to run
- MDC will make noises during testing



MDC Port Check

Port Check Finished

MDC Port	Over Connected	IDUAdd(CON)	T2B1(CON)	T2B2(CON)	IDUAdd(Pub)	T2B1(Pub)	T2B2(Pub)	CheckResult
0	0	0	68	73				ERROR
1	0	2	63	73	2	63	73	OK
2	0	4	64	78	4	64	78	OK
3	0	—	—	—		—	—	—
4	0	—	—	—		—	—	—
5	0	10	60	91	10	60	91	OK
6	0	12	59	91	12	59	91	OK
7	0	14	54	79	14	54	79	OK
16	0	32	39	85	32	39	85	OK
17	0	34	43	60	34	43	60	OK
18	0	—	—	—		—	—	—
19	0	38	54	83	38	54	83	OK
20	0	—	—	—		—	—	—
21	0	42	38	72	42	38	72	OK

CON = Connected **PUB** = Plugged Under Board

Data Explanation

STT Service Technical Tool

HISTORY DATA

Frame NO 237 / 858
Date Time 07/12/2018 09:34:19

Pre Frame Next Auto Play

Data Selection Condition Search range

System Data

ODU

ODU Data

	Header
Type	HR
Ton	10
ODU-Demand	0
OnOff	0
ErrorCode	000
Mode	M_COOL
Night Silent	0
Mode change signal	0
PI	0
T4	72
HP	217.5
HP	204.45
HP	0
HP	0
HP	0
HP	0

IDU Data

	1	2	3	4
Type	VERT	MDUCT	CASS	HWALL
KBTU/h	48	36	18	12
ErrorCode	00	00	00	00
Mode	COOL	COOL	COOL	COOL
Demand	1	1	1	1
Setpoint	70	70	70	70

System Data

Total Ton	10
Type	HR
ODU Qty.	1
IDU Qty.	5
Qty.IDU ON	5
Mode	M_COOL
Defrosting	0

MDC

Ps1	217.5
Ps2	217.5
Ps3	204.45
Tm1	72
Tm2	72
Tm3	72

ODU Data	
Type	HP/HR
TON	Size of system
ODU-Demand	Capacity requirement code
OnOff	System is thermal on/off
ErrorCode	Displays error codes 000 is normal
Night silent	0 normal - setup through function n4_ at ODU
Mode change signal	0 normal
PI	1 (PID loop without the D for expansion valves?)
T4	Thermistor (Outside Air)
HP	High pressure from pressure transducer
LP	Low pressure from pressure transducer
INV Qty	How many inverters boards are in the ODU
INV1 RPS	Revolutions per second being sent to compressor 1
INV2 RPS	Revolutions per second being sent to compressor 2
FF	Not sure what this is
Current1	Compressor 1 current
Current2	Compressor 2 current
HEXstep	This determines which valves are open for the condenser coil. SV3A, SV3B, SV3C
Fan1	Fan demand
Fan 2	Fan demand
Tc	Condensing temperature - compressor control uses this to maintain constant temp in heating Compressor PI control keeps high pressure at target condensing temperature.
Te	Evaporation temperature - compressor control uses this to maintain constant temp in cooling. Compressor PI control keeps low pressure at target evaporator temperature.
T71	Discharge temp compressor 1. Used to calculate DSH. Above 203, the frequency begins to be limited.
Tf	Inverter board temperature Less than 158F is normal. Above 158 frequency begins to limit
T3A	Liquid temp leaving heat exchanger 1 (left)
T3C	Liquid temp leaving heat exchanger 2 (right)
T5	Liquid temp at liquid service valve
T6	Entering accumulator temp
T7	Leaving accumulator temp
SV3a	Heat exchanger control
SV3b	
SV3C	
SV4	Used to control the amount of oil from the oil separator to the compressor
SV5	1.) High-pressure-rise prevention 2.) Prevent the bottom of heat exchangers being frozen in heating mode
SV6	1.) To supply hot gas for heating indoor units in cooling main mode 2.) Bypass hot gas from compressor discharge in heating operation
SV7	1.) Bypass pressure at startup stage and control capacity at low load condition 2.) High-pressure-rise prevention 3) Discharge superheat protection
ST1	4 way valve used to switch between heating and cooling

IDU Data	
Type	AHU type
KBTU/h	Size 48 = 4 ton
ErrorCode	Displays error codes. 00 is normal
Mode	Heat/cool/fan/dry
Setoint	Target setpoint
Room temp	return air reading
Fan	Fan setting A,H,M,L . Note with capcaity ratio above 100% fan speed may limit to L
EXV	Electronic Expansion valve Maximum opening 2000 pulses and 480 depending on model. Used to control SH in cooling and SC in heating
T2A	Liquid pipe thermistor (downstream of EEV) Used to calculate subcooling (SC) when in heat mode
T2B	Gas pipe thermistor. Used to calculate superheated gas (SH) when in cooling
Tc	Condensing temperature. Same as Tc on ODU tab
DSH	Discharge Super Heat
SC	Subcooling at IDU $SC = T2B - T2A$. SCS = Target SC value. SCS=9F in the first 10 minutes of startup and when in test operation and forced heating. Can get as high as 12.6 if the T1 sensor gets lower than 64.4
Coefficient of effusion	Numerical quantity of liquid entering the evaporator coil

ODU Error Codes

ODU Error Codes

ODU Error Codes

All HP and HR Outdoor unit error codes

ERROR CODE	DISPLAY	DESCRIPTION OF ERROR CODE
0E0	ODU	Communication fault between ODU's (Appears on slave unit only)
0E1	ODU	Open phase for outdoor unit
0E2	ODU	(1) HR - Communication fault between outdoor unit and MDC (2) HP- Communication fault between outdoor unit and indoor units
0E4	ODU	Temperature sensor error - T3/T3A/T3C/T4
0E5	ODU	Voltage protection
0E6	ODU	DC Fan error
0E7	I/F	Discharge temperature sensor error T5
0E8	ODU	Incorrect ODU address
0E9	ODU	EEPROM Error
0EA	ODU	DC fan stay at zone A for more than 5 minutes
0EB	ODU	DC Fan error
0H0	ODU	Communication error between main board and compressor drive board
0H1	ODU	Communication error between chip IC55 and IC33 on main board
0H2	ODU	Inconsistent number of ODU's (Displayed on master only) HP
0H2	ODU	Inconsistent number of ODU's (Displayed on master only) HP
0H3	ODU	Inconsistent number of ODU's (Displayed on master only) HP
0H4	ODU	3 Times of L0-L9 protection occurs within 1 hr.
0H5	ODU	Low pressure protection
0H6	ODU	Discharge temperature protection
0H7	ODU	Quantity of IDU's found by ODU/MDC does not match quantity set at ODU main board
0H8	ODU	High pressure sensor (H-YL1) error
0H9	ODU	DC Fan protection
0HB	ODU	Low pressure sensor (L-YL1) error
0HC	ODU	The main board does not match the model of outdoor unit
0HD	ODU	Slave unit fail (HP)

ODU Error Codes

ODU Error Codes

All HP and HR Outdoor unit error codes

0F0	ODU	Wet compression protection
0F1	ODU	(1) DC bus voltage below 200VDC for 5 seconds / (2) PTC fault
0F3	ODU	T5 Temperature sensor fault
0F4	ODU	T6 Temperature sensor fault
0F5	ODU	T7 Temperature sensor fault
0F6	ODU	Fault in electronic expansion valve
0F8	ODU	MDC Malfunction
		(1) Current leakage / (2) Discharge temperature switch or High pressure protection
0P1	ODU	
0P2	ODU	Low pressure protection
0P3	ODU	Over-current protection of compressor
0P4	ODU	Discharge temperature protection
		(1) Condenser temperature protection / (2) High temperature protection for
0P5	ODU	
0P9	ODU	DC Fan protection
		(1) Inverter module temperature (Tf1, Tf2, or Tf3) protection / (2) Protection
0PL	ODU	
0PP	ODU	Wet compression protection
		(1) Inverter module temperature (Tf1, Tf2, or Tf3) protection / (2) Protection
0C7	ODU	
0L0	ODU	Fault in compressor module
0L1	ODU	DC bus under-voltage protection
0L2	ODU	DC bus over-voltage protection
0L4	ODU	(1) MCE fault Synchronization, Closed loop
0L7	ODU	Phase loss protection for 3-phase cables U,V,W in compressor
		(1) Protection for transient variation more than 15Hz between the former moment (2 sec.) and the next moment / (2) Protection for transient variation more than 15Hz between the former moment (1 sec.) and the latter one.
0L8	ODU	
		Protection for setting speed between transient variation and actual operation more than 15Hz
0L9	ODU	
AtI	ODU	ODU operating environment temperature limit

MDC Error codes

MDC Error Codes

MDC Error Codes

All error codes displayed at MDC

ERROR CODE	DISPLAY	DESCRIPTION OF ERROR CODE
SE0	MDC	Communication error with outdoor unit
SE1	MDC	T1 Temperature sensor error
SE2	MDC	T2 Temperature sensor error
SE3	MDC	T3 Temperature sensor error
SE4	MDC	High pressure sensor malfunction (H-YL1 or PS2)
SE5	MDC	Intermediate pressure sensor malfunction (H-YL2 or PS2)
SE6	MDC	Low pressure (L-YL1 or PS3)
SEP	MDC	Float switch error
SP1	MDC	High pressure protection
SCER	MDC	Commissioning test failure
no1d	MDC	No indoor unit under main chip indoor unit 1 (port 1)
noA0	MDC	Faulty address for MDC (S8 switch)
CSx	MDC	Indoor number overload under indor No. y ($y=x+1$) - No. of units connected to port is over allowance

IDU Error Codes

IDU Error Codes

Indoor Unit Error Codes

Error codes displayed on IDU or Wired Controller

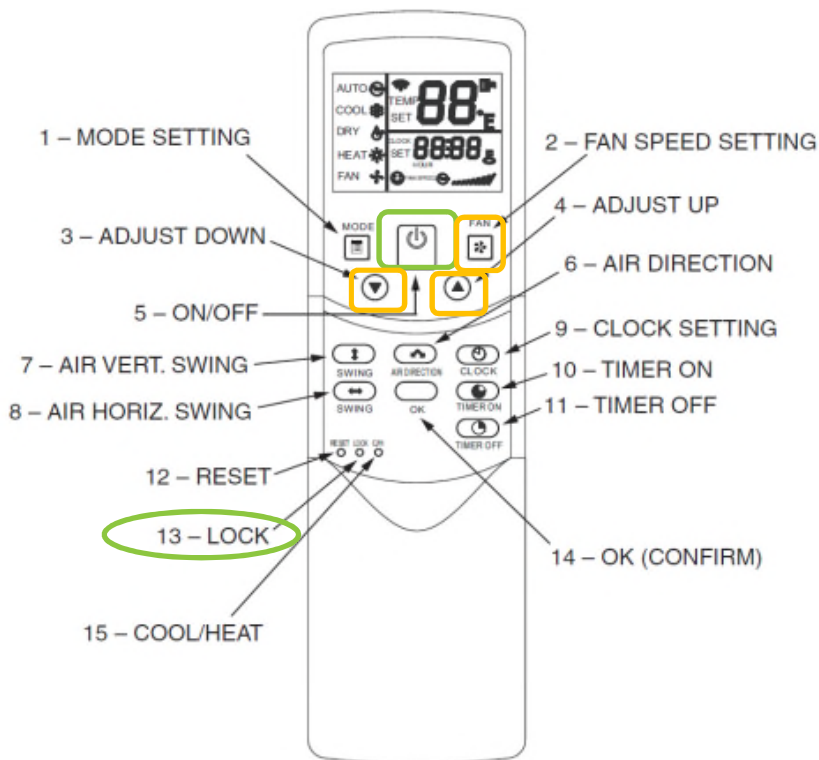
ERROR CODE	DISPLAY	DESCRIPTION OF ERROR CODE
FE	IDU	No address for indoor unit
DD	IDU	Mode conflict
E1	IDU	Communication error with outdoor unit
E2	IDU	(T1) Temperature sensor error
E3	IDU	(T2) Temperature sensor error
E4	IDU	(T2B) Temperature sensor error
E5	IDU	(T2A) Temperature sensor error
E6	IDU	DC fan error
E7	IDU	EEPROM error
E9	IDU	Communication error with wired controller
EB	IDU	Expansion valve error
ED	IDU	Outdoor unit error
EE	IDU	Water level alarm (float switch)

ERROR CODE	DISPLAY	DESCRIPTION OF ERROR CODE
E9	Wired controller	Communication fault with IDU
F7	Wired controller	EEPROM fault with wired controller
FP	Wired controller	The online number of IDU's overflows
Blank	Wired controller	Screen does not power no backlight

Addressing

Addressing

Manual Addressing With Wireless Controller (40VM900001)



STEP 1

Use tool to press and hold the “LOCK” button for more than 10se and press  button to activate

STEP 2

Click  or  to select an address you want to set and press  to send the setting.

Addressing

Manual Addressing With Non-programmable Controller (40VM900002)



STEP

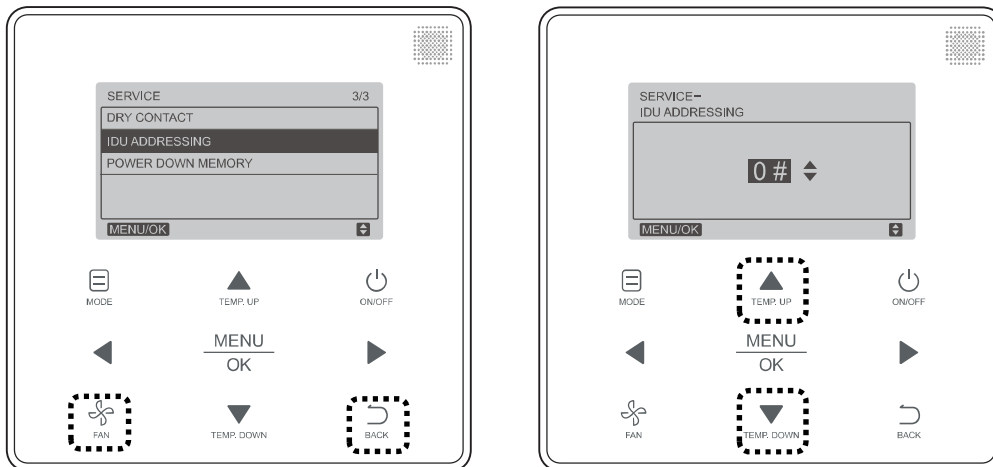
1 Press  and  together for 3sec into the right interface. It displays FE# 00 if there is no address for this indoor unit, otherwise displays current address of the indoor unit.

STEP

2 Click  or  to change 00 to address number you want to set. Then press **OK** to confirm and exit the setting interface.

Addressing

Manual Addressing With Programmable Controller (40VM900003)



STEP 1

Press and simultaneously for 5sec to enter the interface for parameter settings.

STEP 2

Press or to move the cursor down and choose IDU ADDRESSING, then to enter this setting.

STEP 3

Press or to choose the address No. you want to set, then to send this address to the IDU.

STEP 4

Press twice or wait 30sec to automatically exit the parameter settings menu.

Addressing

Auto Addressing HR system

When you turn on the power supply for MDCs in HR system, the DSP will display “**AC Ad**” for about 6 minutes. This indicates it’s automatically addressing for IDUs.

- IDUs with addresses will not be reassigned.
- Each chip will be assigned two addresses.

Main MDC: Main chip starts 0 or 1, addressing until $2 \times \text{No. of Ports} - 1$ (Maximum $2 \times 16 - 1 = 31\#$).

Sub 1 MDC: Starts at 32

Sub 2 MDC: Start at 64

- IDUs with addresses 64~95 cannot be controlled by any remote controllers.

