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ESIE16-06B

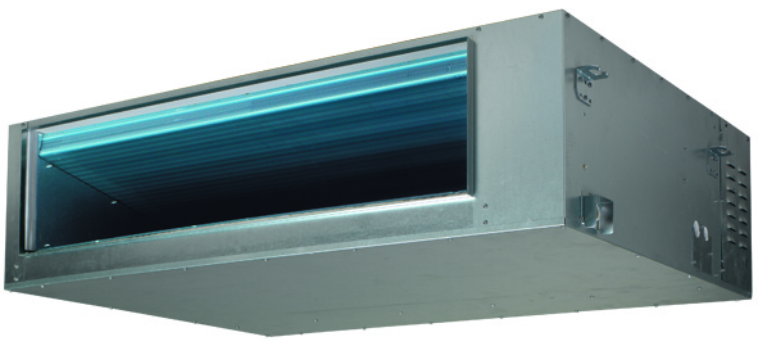
Service Manual

VRV4i

Compressor module
RKXYQ-T7/8/AY1B

Heat Exchanger Module
RDXYQ-T7V1B





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Table of contents

Part 1. Introduction 9

1.1. Version log 9
1.2. Safety precautions 10
1.2.1. Meaning of symbols 10
1.2.2. Warnings 10
1.2.3. Cautions 12
1.2.4. Information 12
1.3. General operation 13
1.4. How to use 14
1.4.1. Interactive information flow 14
1.4.2. Parts of the book 15
1.4.2.1. The introduction chapter 15
1.4.2.2. The troubleshooting chapter 15
1.4.2.3. The repair chapter 15
1.4.2.4. The maintenance chapter 15
1.4.2.5. Appendices 15
1.4.3. Contact information 15

Part 2. Troubleshooting 17

2.1. Error codes check 17
2.1.1. Error codes via remote controller 17
2.1.1.1. Error codes via wired remote controller BRC1E 17
2.1.1.2. Error codes via wireless remote controller BRC7 19
2.1.2. Error codes via outdoor unit 22
2.1.2.1. How to retrieve error codes 22
2.1.2.2. How to reset error codes 26
2.1.2.3. History of error codes and warnings 27
2.2. Error based troubleshooting 28
2.2.1. Outdoor unit 29
2.2.1.1. “E0-02” – Fan motor abnormality 29
2.2.1.2. “E3-00” – Discharge pressure abnormality 29
2.2.1.3. “E4-00” – Suction pressure abnormality 30
2.2.1.4. “E5-00” – Compressor motor lock 30
2.2.1.5. “E9-00” – Electronic expansion valve abnormality 31
2.2.1.6. “F3-00” – Discharge pipe temperature abnormality 32
2.2.1.7. “H9-00” – Heat exchanger air inlet thermistor abnormality 33
2.2.1.8. “J3-00” – Discharge temperature abnormality 33
2.2.1.9. “J4-00” – Heat exchanger gas pipe thermistor abnormality 34
2.2.1.10. “J5-00” – Suction pipe thermistor abnormality 34
2.2.1.11. “J6-00” – Heat exchanger liquid pipe thermistor abnormality 35
2.2.1.12. “J7-00” – Liquid pipe stop valve thermistor abnormality 35
2.2.1.13. “J9-00” – Gas outlet sub-cool heat-exchanger thermistor abnormality 35
2.2.1.14. “JA-00” – High pressure sensor abnormality 36
2.2.1.15. “JC-00” – Low pressure sensor abnormality 36
2.2.1.16. “L1-00” – Compressor module main PCB abnormality 37
2.2.1.17. “L5-00” – Output overcurrent detection 38
2.2.1.18. “L8-00” – Electronic thermal overload 38
2.2.1.19. “L9-00” – Stall prevention time lag 39
2.2.1.20. “LC-00” – Transmission system abnormality 39
2.2.1.21. “P1-00” – Open phase or power supply voltage imbalance 40
2.2.1.22. “P4-00” – Overheat power module 40
2.2.1.23. “PJ-00” – Capacity setting abnormality 41
2.2.2. System 42
2.2.2.1. “U0-00” – Refrigerant shortage 42
2.2.2.2. “U1-00” – Reverse phase or open phase 42
2.2.2.3. “U2-00” – Power supply abnormality or instantaneous power failure 43

2.2.2.4. “U3-00” – Test run failed 44
2.2.2.5. “U4-00” – Transmission abnormality between compressor module / heat-exchange module / VRV indoor unit 44
2.2.2.6. “U7-00” – Transmission between systems abnormality 45
2.2.2.7. “U9-00” – Systems abnormality 46
2.2.2.8. “UF-00” – Wiring and piping mismatch 46
2.2.2.9. “UH-00” – Auto-address failure 47
2.2.3. Others 48
2.3. Symptom based troubleshooting 49
2.3.1. None of the units operate 50
2.3.2. Operation sometimes stops 50
2.3.3. Some indoor units do not operate 51
2.3.4. Equipment operates but does not cool or does not heat 51
2.3.5. Large operation noise and vibration 52
2.4. Component checklist 53
2.4.1. Compressor and heat exchanger module 54
2.4.1.1. 4-way valve 54
2.4.1.2. AC fan motor (RKXYQ-T) 56
2.4.1.3. High pressure switch 58
2.4.1.4. High pressure sensor 59
2.4.1.5. Low pressure sensor 61
2.4.1.6. Inverter PCB (RKXYQ5T & RKXYQ8T) 63
2.4.1.7. Main PCB (RKXYQ5T) 68
2.4.1.8. Main PCB (RKXYQ8T) 69
2.4.1.9. Refrigerant thermistors 70
2.4.1.10. EC fan motor (RDXYQ-T) 72
2.4.1.11. Compressor 75
2.4.1.12. Electronic expansion valve 77
2.4.1.13. Main PCB (RDXYQ-T) 79
2.4.2. System 79
2.4.3. Others 79
2.5. Other capacity range 79

Part 3. Repair 81

3.1. Refrigerant repair procedures 81
3.1.1. Refrigerant piping handling 81
3.1.2. Recovery procedure 81
3.1.2.1. Outdoor unit casing 81
3.1.3. Refrigerant pump down 82
3.1.3.1. 5 hp compressor module 82
3.1.3.2. 8 hp compressor module 83
3.1.4. Piping repair procedures 83
3.2. Service tools 84
3.3. Unit specific repair procedures 85
3.3.1. Indoor unit 85
3.3.2. CPR module 86
3.3.2.1. Basic removal 86
3.3.2.2. Replacing thermistor 93
3.3.2.3. Replacing 4-way valve body 94
3.3.2.4. Replacing 4-way valve coil 96
3.3.2.5. Replacing compressor 5 hp 97
3.3.2.6. Replacing compressor 8 hp 100
3.3.2.7. Replacing crankcase heater 103
3.3.2.8. Replacing AC fan inverter cooling 104
3.3.2.9. Replacing expansion valve body 105
3.3.2.10. Replacing expansion valve coil 106
3.3.2.11. Replacing high pressure sensor 107
3.3.2.12. Replacing high pressure switch 108
3.3.2.13. Replacing low pressure sensor 110
3.3.2.14. Replacing oil separator 8 hp 111

3.3.2.15. Replacing accumulator 8 hp 113
3.3.2.16. Replacing reactor 115
3.3.2.17. Replacing inverter board 5 hp (T7 & T8) 116
3.3.2.18. Replacing inverter board 8 hp (T7) & 5 hp (TA) 118
3.3.2.19. Replacing main PCB 5 hp (T7 & T8) (compressor module) 119
3.3.2.20. Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module) 121
3.3.2.21. Replacing electrical noise filter (8 hp only) 123
3.3.3. HEX module 124
3.3.3.1. Basic removal 124
3.3.3.2. Replacing EC fan motor assembly 129
3.3.3.3. Replacing expansion valve body 131
3.3.3.4. Replacing expansion valve coil 133
3.3.3.5. Replacing the heat exchanger 134
3.3.3.6. Replacing main PCB (heat exchanger) 136

Part 4. Maintenance 137

4.1. Indoor unit 137
4.1.1. General maintenance indoor unit 137
4.2. Outdoor unit 138
4.2.1. General maintenance outdoor unit 138

Part 5. Appendix 139

5.1. Field setting 141
5.1.1. Compressor unit 141
5.1.2. Heat exchanger unit 143
5.2. Detailed information setting mode 144
5.2.1. Indoor unit 144
5.2.2. Compressor module 144
5.2.2.1. Field setting method mode 1 & 2 144
5.2.2.2. Field setting overview mode 1 & 2 145
5.2.3. Remote controller 147
5.3. Wiring diagram 148
5.3.1. Compressor module 5 hp 148
5.3.2. Compressor module 8 hp 148
5.3.3. Heat exchanger module 5 hp 149
5.3.4. Heat exchanger module 8 hp 149
5.3.5. Field wiring 149
5.4. Piping diagram 150
5.4.1. Heat exchanger module - compressor module 5 hp 150
5.4.2. Heat exchanger module - compressor module 8 hp 150
5.5. Component overview of unit 151
5.5.1. Compressor module 5 hp 151
5.5.2. Compressor module 8 hp 152
5.5.3. Heat exchanger module 5 hp 153
5.5.4. Heat exchanger module 8 hp 154
5.6. Product specific information 155
5.6.1. Component checklist 155
5.6.1.1. How to activate inverter test 155
5.6.1.2. Component checklist 155
5.6.2. Safety devices 156
5.6.3. Control range 157
5.6.3.1. Compressor motor capacity control range 157
5.6.3.2. Fan motor rpm control range 157
5.7. Switch box 159

5.7.1. Compressor module 5 hp - inverter board 159
5.7.2. Compressor module 8 hp - inverter board 160
5.7.3. Compressor module 5 hp - control board 161
5.7.4. Compressor module 8 hp - control board 162
5.7.5. Heat exchanger module 5 hp - main PCB 163
5.7.6. Heat exchanger module 8 hp - main PCB 164
5.8. Field information report 164

List of figures

Figure 2-1: Inverter board transistor/diode check (5 hp) 64
Figure 2-2: Inverter board transistor/diode check (8 hp) 65
Figure 3-1: 1 Service port at the stop valves 82
Figure 3-2: Removing the front plate 86
Figure 3-3: Removing the top plate 87
Figure 3-4: Removing the left side plate 88
Figure 3-5: Lowering the switch box 89
Figure 3-6: Opening the switch box 90
Figure 3-7: Removing the compressor jacket 92
Figure 3-8: Replacing a thermistor 93
Figure 3-9: Removing the 4-way valve body 94
Figure 3-10: Removing the 4-way valve coil 96
Figure 3-11: Removing the compressor 5 hp 98
Figure 3-12: Removing the compressor 8 hp 101
Figure 3-13: Removing the crankcase heater 103
Figure 3-14: Removing the AC fan inverter cooling 104
Figure 3-15: Removing the expansion valve 105
Figure 3-16: Removing expansion valve coil 106
Figure 3-17: Removing high pressure sensor 107
Figure 3-18: Removing high pressure switch 108
Figure 3-19: Removing low pressure sensor 110
Figure 3-20: Removing the oil separator 112
Figure 3-21: Removing the accumulator (e.g. 8 hp) 114
Figure 3-22: Removing the reactor 115
Figure 3-23: Removing the inverter board 5 hp 117
Figure 3-24: Removing the inverter board 8 hp 118
Figure 3-25: Removing the main PCB 5 hp 119
Figure 3-26: Removing the main PCB 8 hp 121
Figure 3-27: Removing the electrical noise filter (8 hp only) 123
Figure 3-28: Removing the bottom plate (sheet metal) (fan zone) 124
Figure 3-29: Removing the bottom plate (EPS) 125
Figure 3-30: Removing the bottom plate (sheet metal) (heat exchanger zone) 125
Figure 3-31: Removing the drain pan (resin) 126
Figure 3-32: Removing the electrical component box cover 127
Figure 3-33: Removing the service cover en service cover (EPS) 128
Figure 3-34: Removing the EC fan motor assembly 129
Figure 3-35: Disassembling the EC fan motor assembly 130
Figure 3-36: Removing the expansion valve body 132
Figure 3-37: Removing the expansion valve coil 133
Figure 3-38: Removing the heat exchanger 134
Figure 3-39: Removing the main PCB (heat exchanger) 136
Figure 5-1: Wiring diagram - compressor module 5 hp 148

Figure 5-2: Wiring diagram - compressor module 8 hp 148
Figure 5-3: Wiring diagram - heat exchanger module 5 hp 149
Figure 5-4: Wiring diagram - heat exchanger module 8 hp 149
Figure 5-5: Piping diagram - heat exchanger module / compressor module 5 hp 150
Figure 5-6: Piping diagram - heat exchanger module / compressor module 8 hp 150
Figure 5-7: Component overview - compressor module 5 hp 151
Figure 5-8: Component overview - compressor module 8 hp 152
Figure 5-9: Component overview - heat exchanger module 153
Figure 5-10: Component overview - heat exchanger module 154
Figure 5-11: RDXYQ5T7V1B-fan 158
Figure 5-12: RDXYQ8T7V1B-fan 158
Figure 5-13: Switch box - compressor module 5 hp - inverter board 159
Figure 5-14: Switch box - compressor module 8 hp - inverter board 160
Figure 5-15: Switch box - compressor module 5 hp - control board 161
Figure 5-16: Switch box - compressor module 8 hp - control board 162
Figure 5-17: Switch box - heat exchanger module 5 hp - main PCB 163
Figure 5-18: Switch box - heat exchanger module 8 hp - main PCB 164

Part 1. Introduction

This part contains the following chapters:

Version log....9
Safety precautions....10
General operation....13
How to use....14

1.1. Version log

Version code	Description	Date
ESIE16-06A	Document release	28/04/2017
ESIE16-06B	Include 5 hp TA & T8 models. Update replacement procedure for inverter board and main PCB (compressor module).	03/07/2017

1.2. Safety precautions

The precautions described in this document cover very important topics, follow them carefully.

All activities described in the service manual must be performed by an authorized person.

If you are not sure how to install, operate or service the unit, contact your dealer.

In accordance with the applicable legislation, it might be necessary to provide a logbook with the product containing at least: information on maintenance, repair work, results of tests, stand-by periods, …

Also, at least, following information must be provided at an accessible place at the product:

- Instructions for shutting down the system in case of an emergency
- Name and address of fire department, police and hospital
- Name, address and day and night telephone numbers for obtaining service

In Europe, EN378 provides the necessary guidance for this logbook.

1.2.1. Meaning of symbols

	**WARNING** Indicates a situation that could result in death or serious injury.
	**WARNING: RISK OF ELECTROCUTION** Indicates a situation that could result in electrocution.
	**WARNING: RISK OF BURNING** Indicates a situation that could result in burning because of extreme hot or cold temperatures.
	**WARNING: RISK OF EXPLOSION** Indicates a situation that could result in explosion.
	**WARNING: RISK OF POISONING** Indicates a situation that could result in poisoning.
	**WARNING: RISK OF FIRE** Indicates a situation that could result in fire.
	**CAUTION** Indicates a situation that could result in equipment or property damage.
	**INFORMATION** Indicates useful tips or additional information.

1.2.2. Warnings

	**WARNING** Improper installation or attachment of equipment or accessories could result in electric shock, short-circuit, leaks, fire or other damage to the equipment. Only use accessories, optional equipment and spare parts made or approved by Daikin.

WARNING

Make sure installation, testing and applied materials comply with applicable legislation (on top of the instructions described in the Daikin documentation).

WARNING

Make sure the work site environment is clean and safe to work in. Beware of spilled fluids, like water, oil or other substances. Protect bystanders from injury and property from possible damage cause by service works.

WARNING

Wear adequate personal protective equipment (protective gloves, safety glasses,…) when installing, maintaining or servicing the system.

WARNING

Tear apart and throw away plastic packaging bags so that nobody, especially children, can play with them. Possible risk: suffocation.

WARNING

Do NOT touch the air inlet or aluminium fins of the unit.

WARNING

- Do NOT place any objects or equipment on top of the unit.
- Do NOT sit, climb or stand on the unit.

WARNING

During tests, NEVER pressurize the product with a pressure higher than the maximum allowable pressure (as indicated on the nameplate of the unit).

WARNING

- Never mix different refrigerants or allow air to enter the refrigerant system.
- Never charge recovered refrigerant from another unit. Use recovered refrigerant only on the same unit where it was recovered from, or have it recycled at a certified facility.

WARNING: RISK OF FIRE

- When reconnecting a connector to the PCB, do not apply force or damage the connector or the connector pins on the PCB.

WARNING: RISK OF BURNING

- Do NOT touch the refrigerant piping, water piping or internal parts during and immediately after operation. It could be too hot or too cold. Give it time to return to normal temperature. If you must touch it, wear protective gloves.
- Do NOT touch any accidental leaking refrigerant.

WARNING

Always recover the refrigerants. Do NOT release them directly into the environment. Use a recovery pump to evacuate the installation.

Take sufficient precautions in case of refrigerant leakage. If refrigerant gas leaks, ventilate the area immediately.

Possible risks:

- Excessive refrigerant concentrations in a closed room can lead to oxygen deficiency.
- Toxic gas may be produced if refrigerant gas comes into contact with fire.

Where applicable, pump down the system and close the service valve, before leaving the site if leak was not repaired, to avoid further leaking of the refrigerant.

WARNING: RISK OF ELECTROCUTION

- Turn OFF all power supply before removing the switch box cover, connecting electrical wiring or touching electrical parts. Where applicable, stop the equipment's operation first and allow (refrigerant) pressure to equalize, before turning OFF the power. Disconnect the power supply for more than 1 minute, and measure the voltage at the terminals of main circuit capacitors or electrical components before servicing. The voltage must be less than 50 V DC before you can touch electrical components. For the location of the terminals, refer to "Wiring diagram" on page 148.
- Do NOT touch electrical components with wet hands.
- Do NOT leave the unit unattended when the service cover is removed.
- Protect electric components from getting wet while the service cover is opened.



WARNING

- Only use copper wires.
- All field wiring must be performed in accordance with the wiring diagram and installation manual supplied with the product.
- If the power cable and lead wires have scratches or deteriorated, be sure to replace them. Damaged cable and wires may cause an electrical shock, excessive heat generation or fire.
- Secure all terminal connections and provide proper routing for cables, both inside and outside the switchbox.
- NEVER squeeze bundled cables and make sure they do not come in contact with the piping and sharp edges.
- Make sure no external pressure is applied to the terminal connections.
- Make sure to check the earth wiring. Do NOT earth the unit to a utility pipe, surge absorber, or telephone earth. Improper earth wiring may cause electrical shock.
- Make sure to use a dedicated power circuit. NEVER use a power supply shared by another appliance.
- Make sure to check the required fuses and/or circuit breakers before starting works.



WARNING

- After finishing the electrical work, confirm that each electrical component and terminal inside the electrical components box is connected securely.
- Make sure all covers are closed before starting the unit again.

1.2.3. Cautions



CAUTION

Provide adequate measures to prevent that the unit can be used as a shelter by small animals. Small animals that make contact with electrical parts can cause malfunctions, smoke or fire.



CAUTION

- Make sure water quality complies with EU directive 98/83 EC.
- Check the system for leaks after each repair/modification of the water side.
- Check drainage system(s) after repairs.
- Be careful when tilting units as water may leak.

1.2.4. Information



INFORMATION

Make sure refrigerant piping installation complies with applicable legislation. In Europe, EN378 is the applicable standard.

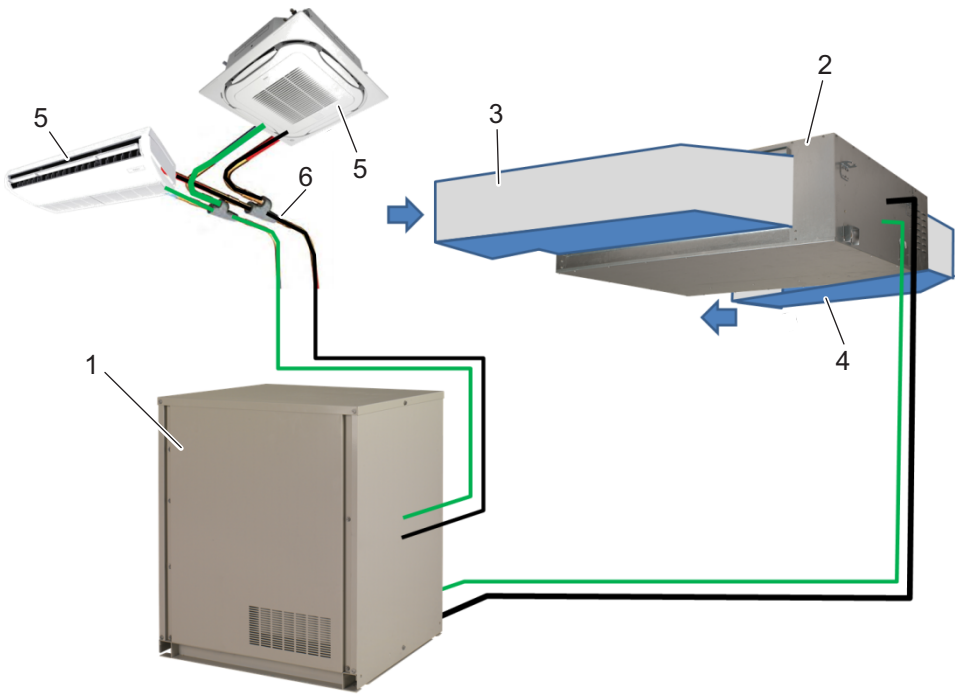


INFORMATION

Make sure the field piping and connections are not subjected to stress.

1.3. General operation

- VRV4i Heat Pump for indoor installation is typically used for cooling or heating in commercial applications where local restrictions do not allow outdoor A/C equipment to be visible, or when the building does not offer place to mount the normal air cooled VRV outdoor unit.
- The VRV4i Heat Pump for indoor installation contains a compressor module (1) and a heat-exchanger module (2).
- The compressor module (model name RKXYQ-T7Y1B) contains the inverter driven compressor and the control board.
- The heat-exchanger module (model name RDXYQ-T7V1B) contains the heat-exchanger circulating outdoor air through ducts, an expansion valve, and fan motors.
- By field setting (on the control board of the compressor module, mode 2-code 15), the available ESP (for local ducting on the heat-exchanger module (3), (4)) can be changed from the minimum 30 to maximum 150 Pa (default 60 Pa, ESP setting is per interval of 30 Pa). The indicated ESP is delivered at nominal airflow rate.
- At the compressor module, there are 4 pipe connections: gas + liquid towards the heat-exchanger module, and gas + liquid through the optional refnet(s) (6) towards the VRV indoor units (5).
- In cooling mode:
  - The compressor capacity step is controlled based on evaporation temperature. Range of frequency output, see "Control range" on page 157.
  - The heat-exchanger module is used as condenser. The fan motors in the heat-exchanger module run in multiple steps (for detail, see "Control range" on page 157), to smoothly control the condensing temperature tending to drop at low ambient or low load.
- In heating mode:
  - The compressor capacity step is controlled based on condensing temperature. Range of frequency output, see "Control range" on page 157.
  - The heat-exchanger module is used as evaporator. During normal operation, fan speed is set to nominal speed (for detail, see "Control range" on page 157). During defrost or oil return in heating, the heat-exchanger module will be switched as condenser while its fan motors and fan motor of the VRV indoor units in operation are stopped.



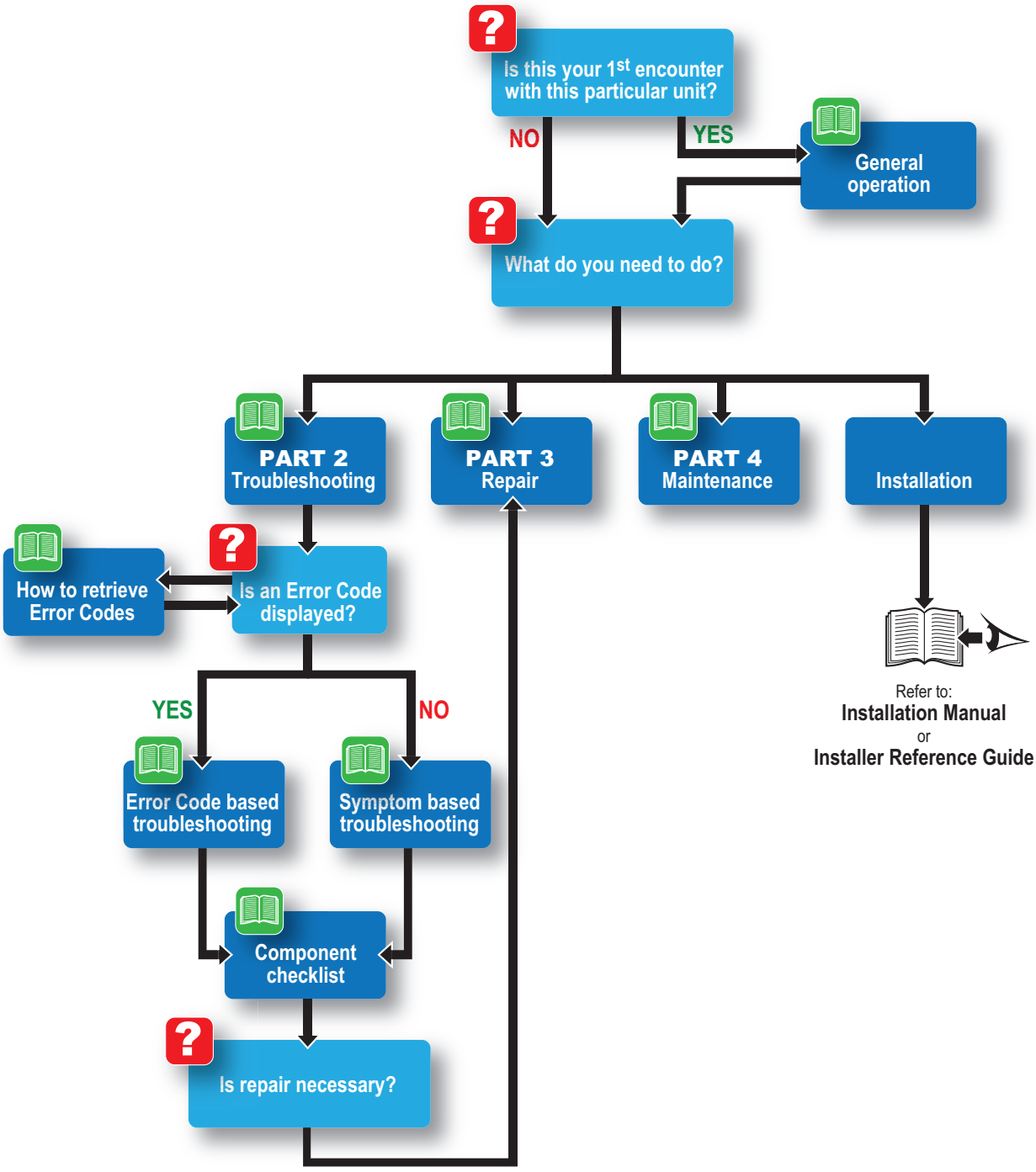
1. Compressor module	4. Duct outdoor air exhaust
2. Heat-exchanger module	5. VRV indoor unit
3. Duct outdoor air intake	6. Daikin optional refnet

1.4. How to use

1.4.1. Interactive information flow

This Daikin product Service Manual is intended for professional use only. The actions described hereafter, are only to be performed by qualified and certified persons, taking into account the safety precautions mentioned in this manual and the local regulations as well.

By following the diagram below, the reader can find the relevant information related to his/her task. The digital (pdf) version of this book allows direct page access through all active links. When Adobe Acrobat Reader is used, the <Alt> + <Back Arrow> keys or the arrow in the top right-hand corner of this page can be used to return to the previously viewed page.



1.4.2. Parts of the book

This Daikin product Service Manual is intended for professional use only. The actions described hereafter, are only to be performed by qualified and certified persons, taking into account the safety precautions mentioned in this manual and the local regulations as well.

As can be observed from the Table of Contents, this manual is split up into several chapters:

1.4.2.1. The introduction chapter

The chapter "Introduction" on page 9 includes the safety precautions, this topic and the general operation description of the product(s) this manual refers to.

1.4.2.2. The troubleshooting chapter

The chapter "Troubleshooting" on page 17 not only deals with the methods to recognize and resolve occurring error codes; it also describes the methods how to solve a problem that does not immediately trigger an error code. Such problems are referred to as 'symptom based'. Both the error code based and symptom based troubleshooting tables, indicate possible causes, the necessary checks and in case required, how to repair. The possible causes have been sorted to probability of occurrence and speed of execution.

1.4.2.3. The repair chapter

The chapter "Repair" on page 81 handles the removal and replacement of the major components in the product and discusses cleaning methods as well if applicable, such as for filters. Where applicable, refrigerant handling precautions are mentioned for certain actions; please consider these carefully for your own safety.

1.4.2.4. The maintenance chapter

The chapter "Maintenance" on page 137 of this manual describes the maintenance intervals and procedures to be performed on the product. Remember that a well maintained product, is a more reliable and efficient product.

1.4.2.5. Appendices

Finally, the service manual provides in chapter "Appendix" on page 139 valuable reference data such as piping/wiring diagrams, field settings overview and a checklist to be filled in when you need to escalate an issue to your dealer.

1.4.3. Contact information

This manual has been made with much care and effort. Use it in your daily jobs, as it has been made for you.

Despite our efforts, there is always a chance some cleric or other mistake has been made during the creation of this manual. We kindly ask you to send the found mistakes, or remarks for improvement, to the no-reply email address servicemanual@daikineurope.com.

Part 2. Troubleshooting

This part contains the following chapters:

Error codes check 17
Error based troubleshooting 28
Symptom based troubleshooting 49
Component checklist 53
Other capacity range 79

2.1. Error codes check

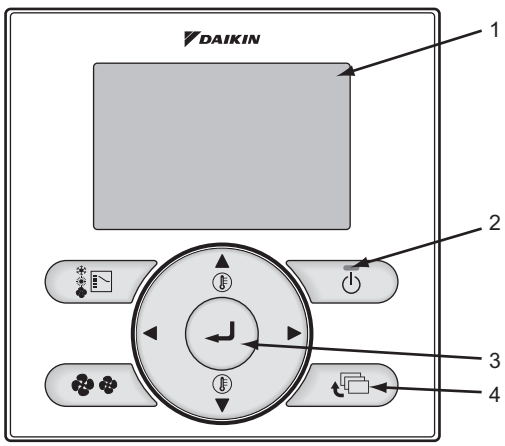
2.1.1. Error codes via remote controller

2.1.1.1. Error codes via wired remote controller BRC1E

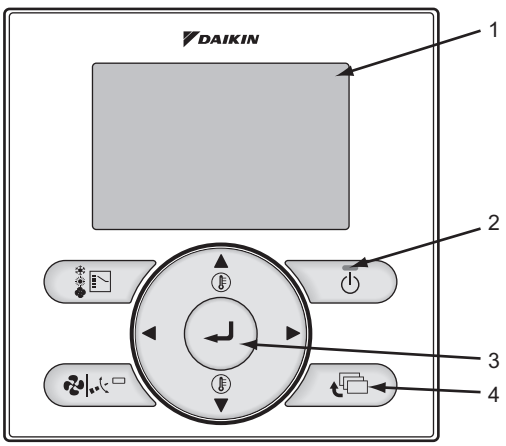
2.1.1.1.1 How to retrieve error codes

The following message will be displayed on the screen when a malfunction or a warning occurs during operation.

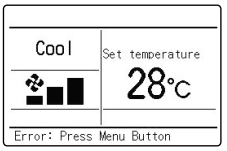
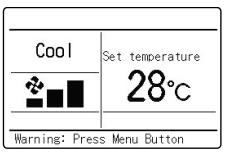
BRC1E51



BRC1E52, BRC1E53



1. Screen
2. Operation lamp
3. ‘menu’ button
4. ‘cancel’ button

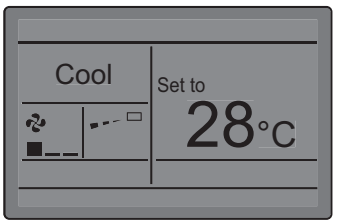
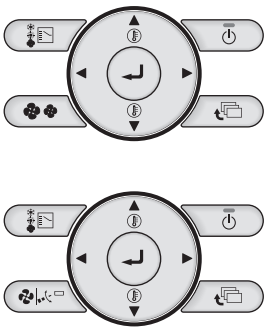
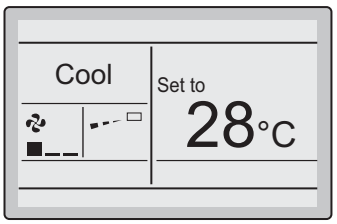
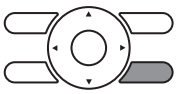
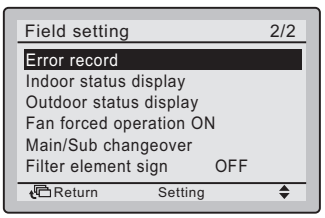
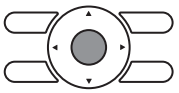
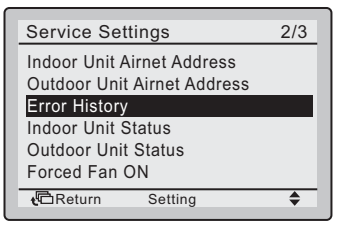
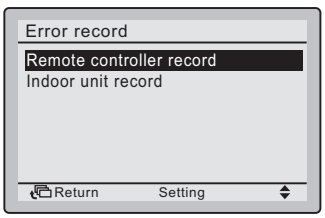
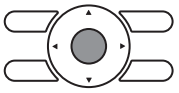
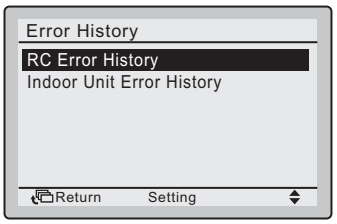
	Operation Status	Display	
Abnormal shut-down	The system stops operating.	The operation lamp (green) starts to blink. The message “Error: Press Menu button” will appear and blink at the bottom of the screen.	
Warning	The system continues its operation.	The operation lamp (green) remains on. The message “Warning: Press Menu button” will appear and blink at the bottom of the screen.	

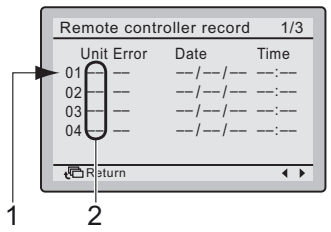
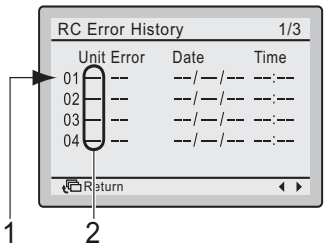
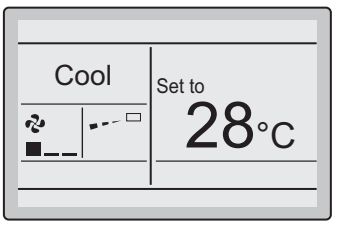
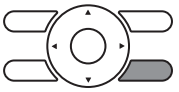
If an error or warning is present, it will be displayed on the user interface screen: for more information about troubleshooting, refer to "Error based troubleshooting" on page 28.

2.1.1.1.2 How to reset error codes

In "Error based troubleshooting" on page 28 you find a description of how to reset the specific error or warning.

2.1.1.1.3 History of error codes

Step	Control Type	Method	Example display	Button location
1	BRC1E51 BRC1E52 BRC1E53	If the backlight is switched off press once any button so that the backlight is activated.		
2	BRC1E51	Press and hold the Cancel button for 4 seconds or longer in the Basic screen. The Field Settings menu is displayed.		 Press and hold the Cancel button for 4 seconds or longer while the backlight is lit.
	BRC1E52 BRC1E53	Press and hold the Cancel button for 4 seconds or longer in the Basic screen. The Service Settings menu is displayed.		
3	BRC1E51	Select *Error Record* and press the Menu/Enter button. The Error Record menu is displayed.		 Press the Menu/Enter button.
	BRC1E52 BRC1E53	Select *Error History* and press the Menu/Enter button. The error History menu is displayed.		
4	BRC1E51	Select *Remote controller record* and press the Menu/Enter button. The error codes and unit No. can be confirmed in the RC Error record screen.		 Press the Menu/Enter button.
	BRC1E52 BRC1E53	Select *RC Error History* and press the Menu/Enter button. The error codes and unit No. can be confirmed in the RC Error History screen.		

5	BRC1E51	In the Remote Controller record screen the last 10 items are displayed in order.		1. Latest record 2. Unit no.
	BRC1E52 BRC1E53	In the RC Error History screen the last 10 items are displayed in order.		
6	BRC1E51	Press the Cancel button in the Remote Controller record screen 3 times. The Basic screen returns.		 Press the Cancel button for 3 times. The basic screen returns.
	BRC1E52 BRC1E53	Press the Cancel button in the RC Error History screen 3 times. The Basic screen returns.		

INFORMATION

The indoor unit error history of each indoor unit can be independently consulted. The last 5 items are displayed in order of appearance.

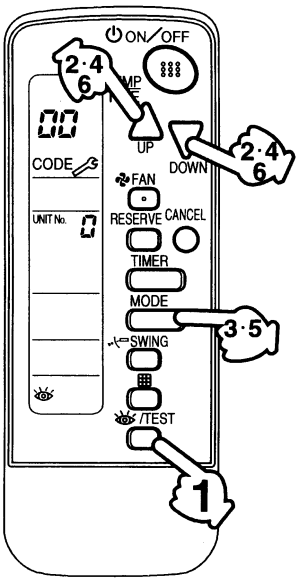
2.1.1.2. Error codes via wireless remote controller BRC7

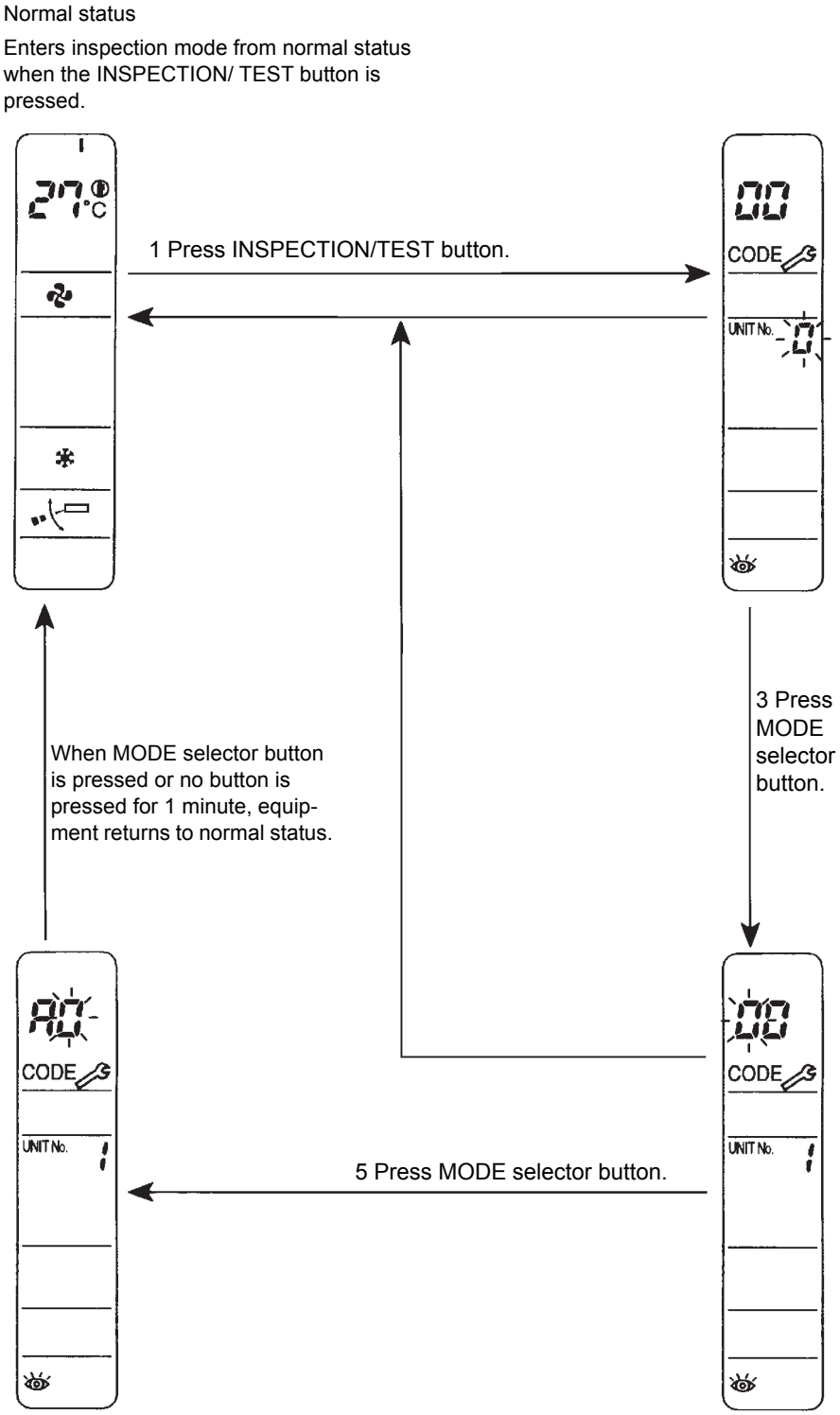
2.1.1.2.1 How to retrieve error codes

If the unit stops due to an error, the operation indicating LED on the indoor unit flashes.

The error code can be determined through the wireless remote controller by following the procedure described below.

If an error or warning is present, it will be displayed on the screen: for more information about troubleshooting, refer to "Error based troubleshooting" on page 28.

1	Press the INSPECTION/TEST button to select “inspection”. The equipment enters the inspection mode. The “Unit” indication is displayed and the Unit No. display shows flashing “0” indication.	
2	Set the Unit No. Press the UP or DOWN button and change the Unit No. display until the buzzer (*1) is generated from the indoor unit. *1 Number of beeps 3 short beeps: Conduct all of the following operations. 1 short beep: Conduct steps 3 and 4. Continue the operation in step 4 until a buzzer remains ON. The continuous buzzer indicates that the error code is confirmed. Continuous beep: No abnormality.	
3	Press the MODE selector button. The left “0” (upper digit) indication of the error code flashes.	
4	Error code upper digit diagnosis Press the UP or DOWN button and change the error code upper digit until the error code matching buzzer (*2) is generated. • The upper digit of the code changes as shown below when the UP and DOWN buttons are pressed.  ⇨ “UP” button ⇦ “DOWN” button *2 Number of beeps Continuous beep: Both upper and lower digits matched. (Error code confirmed) 2 short beeps: Upper digit matched. 1 short beep: Lower digit matched.	
5	Press the MODE selector button. The right “0” (lower digit) indication of the error code flashes.	
6	Error code lower digit diagnosis Press the UP or DOWN button and change the error code lower digit until the continuous error code matching buzzer (*2) is generated. • The lower digit of the code changes as shown below when the UP and DOWN buttons are pressed.  ⇨ “UP” button ⇦ “DOWN” button	



2.1.1.2.2 How to reset error codes

In "Error based troubleshooting" on page 28 you find a description of how to reset the specific error or warning.

2.1.2. Error codes via outdoor unit

2.1.2.1. How to retrieve error codes

There are 2 ways to retrieve error codes through the outdoor unit:

1. Troubleshooting by LED on the outdoor main PCB (RKXYQ5T7Y1B)

   1.1. The following diagnosis can be conducted by turning on the power switch and checking the LED indication on the PCB of the outdoor unit.

   LED display RKXYQ5T

   ❍ : LED on / ● : LED off / ◎ : LED blinks / — : Not used for diagnosis

LED indication		Description
HAP (Green)	H2P (Green)	
◎	●	Normal
❍	—	Faulty board PCB (Information 1)
●	—	Power supply abnormality, or faulty outdoor unit PCB (Information 2)
◎	❍	Activation of protection device (Information 3)

INFORMATION

1. Turn off the power switch, and turn it on again after 5 seconds or more. Check the error condition, and diagnose the problem.
2. Turn off the power switch. After 5 seconds or more, disconnect the connection wire (2). Then turn on the power switch. If the HAP on the outdoor unit PCB flashes after about 10 seconds, the PCB A1P is faulty.
3. Also check for open phase.

INFORMATION

The error detection monitor continues to indicate the previously generated error until the power switch is turned off.

Be sure to turn off the power switch after inspection.

1.2. Troubleshooting by LED on the outdoor service PCB

Take the following steps to check the error or warning (malfunction):

1	2	3	4	5	6	7	8	A
●	●	❍	●	●	●	●	●	◎

Normal display

Enter mode 1



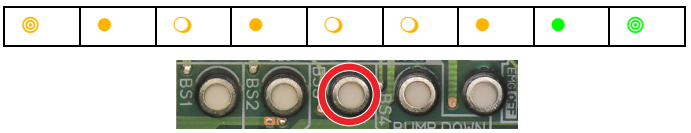
1	2	3	4	5	6	7	8	A
◎	●	●	●	●	●	●	●	◎

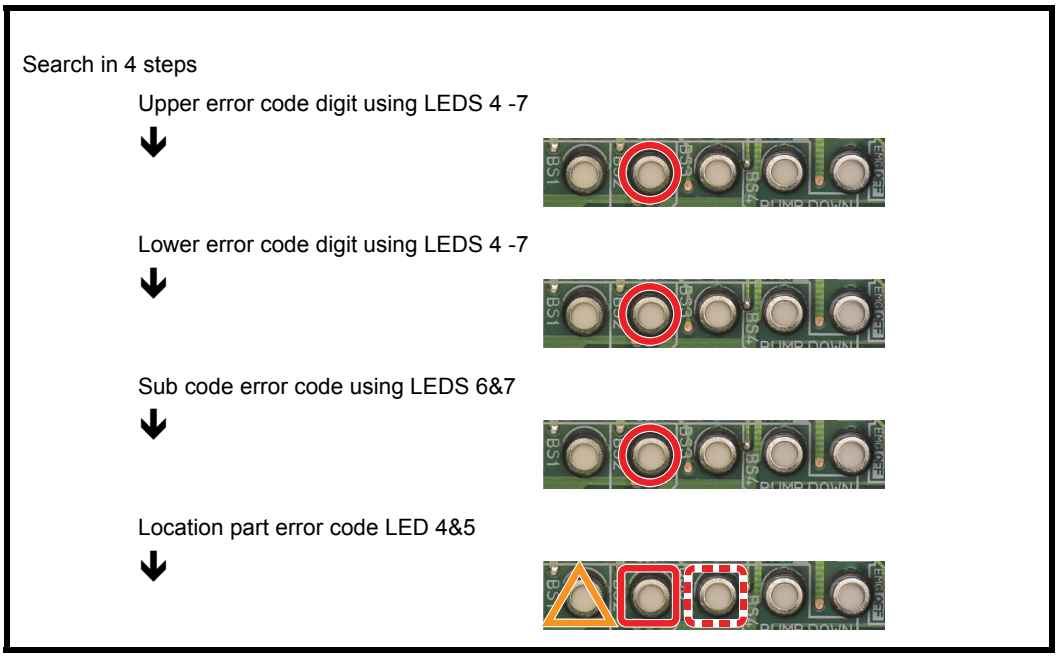
Press “Code number” times until the codes are indicated as shown below



Code no.	List indication Error code	LED								
		1	2	3	4	5	6	7	8	A
14	Last forced off	◎	●	●	❍	❍	❍	●	●	◎
15	2nd last forced off	◎	●	●	❍	❍	❍	●	●	◎
16	3rd last forced off	◎	●	❍	●	●	●	●	●	◎
20	Last stop retry	◎	●	❍	●	❍	●	●	●	◎
21	2nd last stop retry	◎	●	❍	●	❍	●	❍	●	◎

22 3rd last stop retry





Outdoor LED display - RKXYQ5T7Y1B + RDXYQ5T7V1B

Step 1 - Return 1								Step 2 - Return 2								Step 3 - Return 3								Step 4 - Return 4								Malfunction code			
LED HA…P								LED HA…P								LED HA…P								LED HA…P											
1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	BRC …		Contents	Location
◎	◎	●	●	●	◎	◎	●	◎	●	☼	●	●	●	●	●	◎	☼	●	●	●	●	●	●	◎	☼	☼	●	●	●	●	●	E	0	Input Err Open	RDXYQ5T
											●	●	◎	◎																			3	High pressure abnormal	RKXYQ5T
											●	◎	●	●																			4	Low pressure abnormal	RKXYQ5T
											◎	●	●	◎																			9	Coil expansion valve subcool defect	RKXYQ5T
																											◎	●	●	●				Coil expansion valve main defect	RDXYQ5T
																											◎	●	●	◎				A1P X4A pin wire missing	RKXYQ5T
◎	◎	●	●	◎	●	◎	●	◎	●	☼	●	●	◎	◎	●	◎	☼	●	●	●	●	●	●	◎	☼	☼	●	●	●	●	●	F	3	Discharge temperature abnormal	RKXYQ5T
◎	◎	●	●	◎	●	●	●	◎	●	☼	◎	●	●	◎	●	◎	☼	●	●	●	●	●	●	◎	☼	☼	●	●	●	●	●	H	9	Air sensor out of range	RDXYQ5T

Outdoor LED display - RKXYQ5T7Y1B + RDXYQ5T7V1B

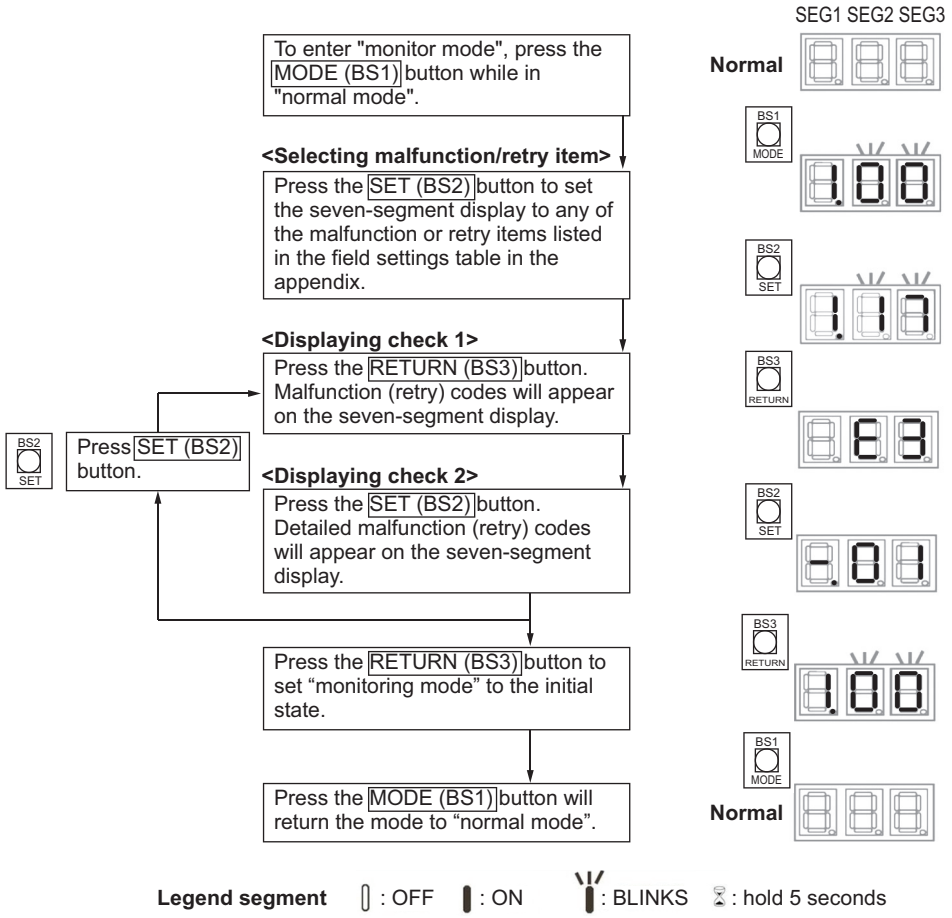
Step 1 - Return 1								Step 2 - Return 2								Step 3 - Return 3								Step 4 - Return 4								Malfunction code			
LED HA…P								LED HA…P								LED HA…P								LED HA…P											
1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	BRC …		Contents	Location
◎	◎	●	●	◎	◎	●	●	◎	●	☼	●	●	◎	◎	●	◎	☼	●	●	●	●	●	●	◎	☼	☼	●	●	●	●	●	J	3	Discharge thermistor - out of range	RKXYQ5T
											●	◎	●	●														●	●	●	●			4	Gas thermistor heat-exchanger - out of range	RDXYQ5T
											●	◎	●	◎														●	●	●	●			5	Thermistor accumulator inlet - out of range	RKXYQ5T
																											●	◎	●	●				Thermistor compressor suction - out of range	
											●	◎	◎	●														●	●	●	●			6	Thermistor liquid heat-exchanger - out of range	RDXYQ5T
											●	◎	◎	◎														●	●	●	●			7	Thermistor liquid stop-valve - out of range	RKXYQ5T
											◎	●	●	◎														●	●	●	●			9	Thermistor gas out sub-cool - out of range	
											◎	●	◎	●														●	●	●	●			A	High pressure sensor - out of range	
											◎	◎	●	●														●	●	●	●			C	Low pressure sensor - out of range	
◎	◎	●	●	◎	◎	◎	●	◎	●	☼	●	●	●	◎	●	◎	☼	●	●	●	●	●	●	◎	☼	☼	●	●	●	●	●	L	1	Inverter board error	RKXYQ5T
											●	◎	●	◎																				5	Inverter DC peak overcurrent	
											◎	●	●	◎																				8	Inverter DC overcurrent	
											◎	◎	●	●														●	◎	●	●			C	Communication error control board - inverter board	
◎	◎	●	◎	●	●	●	●	◎	●	☼	●	●	◎	●	●	◎	☼	●	●	●	●	●	●	◎	☼	☼	●	●	●	●	●	P	1	Power supply unbalance (> 4%)	RKXYQ5T
											●	◎	●	●																				4	Inverter overheat	RKXYQ5T
											◎	◎	◎	◎																				J	No capacity setting Heat-exchanger module	RDXYQ5T
◎	◎	●	◎	●	●	◎	●	◎	●	☼	●	●	◎	●	●	◎	☼	●	●	●	●	●	●	◎	☼	☼	●	●	●	●	●	U	2	Inverter charge DC voltage not possible	RKXYQ5T
											●	●	◎	◎	●																				3	Test run not performed	RKXYQ5T
											●	◎	●	●	●																				4	Communication error Out-door-indoor	RKXYQ5T
											◎	●	●	◎	●																				9	System error (check indoor mal-function code)	RKXYQ5T
											◎	●	◎	●	●																				A	System components not com-patible	RDXYQ5T
											◎	◎	◎	◎	●																				F	Test run failed during cross pipe check	RKXYQ5T

● OFF

◎ Blinks

☼ ON

2. Troubleshooting by 7-Segment display on the outdoor main PCB (RKXYQ8T7Y1B)



Outdoor 7-segment display - RKXYQ8T7Y1B + RDXYQ8T7V1B				
Malfunction code			**Malfunction**	
Main		**Sub**	**Contents**	**Location**
E	0	02	Input Err Open	RDXYQ8T
	2	01	Earth leakage activated	RKXYQ8T
		06	Earth leakage input open	
	3	01	High pressure switch open	RKXYQ8T
		02	High pressure abnormal	RKXYQ8T
		13	Stop valve closed	
		18	High pressure abnormal	
	4	01	Low pressure abnormal	RKXYQ8T
	9	01	Coil expansion valve subcool defect	RKXYQ8T
		47	Coil expansion valve main defect	RDXYQ8T
F	3	01	Discharge temperature abnormal high	RKXYQ8T
	6	02	Discharge temperature abnormal low	
H	9	01	Air sensor out of range	RDXYQ8T

Outdoor 7-segment display - RKXYQ8T7Y1B + RDXYQ8T7V1B				
Malfunction code			Malfunction	
Main		Sub	Contents	Location
J	3	16	Discharge thermistor open circuit	RKXYQ8T
		17	Discharge thermistor short circuit	
	4	01	Gas thermistor heat-exchanger - out of range	RDXYQ8T
	5	01	Thermistor accumulator inlet - out of range	RKXYQ8T
		02	Thermistor compressor suction - out of range	
	6	01	Thermistor liquid heat-exchanger - out of range	RDXYQ8T
	7	06	Thermistor liquid stop-valve - out of range	RKXYQ8T
	9	01	Thermistor gas out sub-cool - out of range	
	A	06	High pressure sensor - open circuit	
		07	High pressure sensor - short circuit	
	C	06	Low pressure sensor - open circuit	
		07	Low pressure sensor - short circuit	
L	C	14	Communication error control & inverter board	RKXYQ8T
P	1	01	Power supply unbalance (> 4%)	RKXYQ8T
	J	01	No Capacity setting Heat-exchanger module	RDXYQ8T
U	1	01	Reverse phase detection	RKXYQ8T
		04	Reverse phase detection	
	2	01	Inverter charge DC voltage not possible	
		02	Phase missing inverter	
	3	03	Test run not performed	
	4	01	Communication error Outdoor-indoor	
		03	Communication error Outdoor-indoor	
		04	Test run abnormal ended	
	7	01	Warning faulty wiring (at Q1Q2 terminals)	
		02	Malfunction due to faulty wiring	
		11	Exceed number or capacity index indoor units	
	9	01	System error (check indoor malfunction code)	
	A	03	> 1x RDXYQ detected same F1F2-Indoor	RDXYQ8T
		18	Incorrect RDXYQ or indoor not compatible	
		21	RDXYQ5T connected	
	H	01	Auto address indoor (F1F2) malfunction	RKXYQ8T

For more information about troubleshooting, refer to "Error based troubleshooting" on page 28.

2.1.2.2. How to reset error codes

- When a problem is solved:
  - System will restart automatically, except for error code JC, JA, L1~L9, U1,UA, UF.
  - Indoor unit operation should be switched off and on again for error JC, JA, L1~L9.
  - Power supply to switch off and delay 10 seconds on again for error U1, UA, UF.

2.1.2.3. History of error codes and warnings

As described in above procedure, the latest error or warning codes can be consulted in Monitor mode:

2.1.2.3.1 Control board equipped with LED's only (RKXYQ5T7Y1B)

Mode 1 - code	Description
14	Last error - forced off
15	2nd last error - forced off
16	3rd last error - forced off

2.1.2.3.2 Control board equipped with 7-segment display (RKXYQ8T7Y1B)

Mode 1 - code	Description
17	Last error - forced off
18	2nd last error - forced off
19	3rd last error - forced off

2.1.2.3.3 Content of retry

Through the outdoor PCB, the content of retry can be determined.

Here, you can find the errors that were created before they were displayed on the indoor control device.

2.1.2.3.4 Control board equipped with LED's only (RKXYQ5T7Y1B)

Mode 1 - code	Description
20	Last error - retry
21	2nd last error - retry
22	3rd last error - retry

2.1.2.3.5 Control board equipped with 7-segment display (RKXYQ8T7Y1B)

Mode 1 - code	Description
23	Last error - retry
24	2nd last error - retry
25	3rd last error - retry

The procedure to identify the retry code is similar to retrieving the error code.

2.2. Error based troubleshooting

Overview of error codes:

Outdoor unit 29
“E0-02” – Fan motor abnormality 29
“E3-00” – Discharge pressure abnormality 29
“E4-00” – Suction pressure abnormality 30
“E5-00” – Compressor motor lock 30
“E9-00” – Electronic expansion valve abnormality 31
“F3-00” – Discharge pipe temperature abnormality 32
“H9-00” – Heat exchanger air inlet thermistor abnormality 33
“J3-00” – Discharge temperature abnormality 33
“J4-00” – Heat exchanger gas pipe thermistor abnormality 34
“J5-00” – Suction pipe thermistor abnormality 34
“J6-00” – Heat exchanger liquid pipe thermistor abnormality 35
“J7-00” – Liquid pipe stop valve thermistor abnormality 35
“J9-00” – Gas outlet sub-cool heat-exchanger thermistor abnormality 35
“JA-00” – High pressure sensor abnormality 36
“JC-00” – Low pressure sensor abnormality 36
“L1-00” – Compressor module main PCB abnormality 37
“L5-00” – Output overcurrent detection 38
“L8-00” – Electronic thermal overload 38
“L9-00” – Stall prevention time lag 39
“LC-00” – Transmission system abnormality 39
“P1-00” – Open phase or power supply voltage imbalance 40
“P4-00” – Overheat power module 40
“PJ-00” – Capacity setting abnormality 41
System 42
“U0-00” – Refrigerant shortage 42
“U1-00” – Reverse phase or open phase 42
“U2-00” – Power supply abnormality or instantaneous power failure 43
“U3-00” – Test run failed 44
“U4-00” – Transmission abnormality between compressor module / heat-exchange module / VRV indoor unit 44
“U7-00” – Transmission between systems abnormality 45
“U9-00” – Systems abnormality 46
“UF-00” – Wiring and piping mismatch 46
“UH-00” – Auto-address failure 47
Others 48

2.2.1. Outdoor unit

2.2.1.1. “E0-02” – Fan motor abnormality

Trigger	Effect	Reset
Input Err1/Err2.	Unit will stop operating.	Automatic reset if Err1/Err2 closed, switch off operation indoor unit(s) ≥ 60 seconds, restart operation indoor unit(s).

Possible cause	Check	Corrective action
Input contact Err1/Err2.	Check input contact.	If no external safety need, mount (back) jumper wire.
Fan motor(s) faulty.	Check fan motors.	Replace fan motor if safety circuit open contact (see "Replacing EC fan motor assembly" on page 129).
Power supply to fan motor missing.	Check all fan motors plugs are completely inserted. Check for loose wires.	Insert the fan motor plugs completely. Mount new wire harness.

2.2.1.2. “E3-00” – Discharge pressure abnormality

Trigger	Effect	Reset
High pressure switch opens due to measured pressure too high (see "Safety devices" on page 156).	Unit will stop operating.	Automatic reset when low pressure drops below (see "Safety devices" on page 156). Operation again possible if by user interface operation button on ==> off ==> on.
High pressure control (measured pressure too high (see "Safety devices" on page 156)) occurs too many times (see "Safety devices" on page 156).		

Possible cause	Check	Corrective action
Blocked heat exchanger (condenser).	Are the heat exchangers clean?	Clean heat exchangers.
Faulty high pressure sensor.	Check high pressure sensor (see "High pressure sensor" on page 59).	Replace high pressure sensor (see "Replacing high pressure sensor" on page 107).
Faulty high pressure switch.	Check high pressure switch (see "High pressure switch" on page 58).	Replace high pressure switch (see "Replacing high pressure switch" on page 108).
Faulty PCB compressor module (RKXYQ-T7).	Check if the HAP LED is blinking in regular intervals. Check if the correct spare part is installed. Check if the compressor module main PCB receives power.	Adjust the power to the compressor module main PCB. Replace compressor module main PCB when HAP LED is not blinking in regular intervals (see "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119 or "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121).
Faulty inverter PCB compressor module (RKXYQ-T7).	Check inverter PCB compressor module. (see "Inverter PCB (RKXYQ5T & RKXYQ8T)" on page 63). Check if the alive led is blinking in regular intervals. Check if the correct spare part is installed.	Restore the power to the inverter PCB compressor module. Replace the inverter PCB compressor module (see "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119 or "Replacing inverter board 8 hp (T7) & 5 hp (TA)" on page 118).
Refrigerant overcharge.	Check for refrigerant overcharge. Refer to the nameplate for the correct charge.	Charge the correct refrigerant amount when required.

Possible cause	Check	Corrective action
Humidity in refrigerant (ice formation in expansion valve).	Check for humidity in the refrigerant.	In case of suspicion of humidity, recover, vacuum and recharge with virgin refrigerant.
Non condensables in refrigerant.	Check for non condensables in refrigerant.	In case of suspicion of non condensables, recover, vacuum and recharge with virgin refrigerant.
Refrigerant is contaminated.	Check for non condensables in refrigerant.	In case of suspicion of non condensables. Recover, vacuum and recharge refrigerant.
Stop valve is closed.	Check if stop valve is open.	Open stop valve when required.
Faulty outdoor fan motor (no rotation).	Check the fan motor (see "EC fan motor (RDXYQ-T)" on page 72). Check fan motor connections and wiring.	Replace fan motor when required (see "Replacing EC fan motor assembly" on page 129). Adjust wiring when required.

2.2.1.3. “E4-00” – Suction pressure abnormality

Trigger	Effect	Reset
When refrigerant pressure is below (see "Safety devices" on page 156) for 5 minutes (see "Safety devices" on page 156).	Unit will stop operating.	Automatic reset when low pressure drops below (see "Safety devices" on page 156) safeties & operation indoor on ==> off ==> on.

Blocked heat exchanger (evaporator).	Are the heat exchangers clean?	Clean heat exchangers.
Stop valve is closed.	Check if stop valve is open.	Open stop valve when required.
Abnormal drop of low pressure, caused by inadequate refrigerant, abnormal refrigerant piping system or faulty electronic expansion valve.	Check for possible blockage. (Blockages can be checked by measuring the refrigerant/pipe temperature. Sudden drop in temperature could indicate a blockage (remark: this is not valid for the expansion valve)).	Replace the blocked part.
Faulty PCB compressor module (RKXYQ-T7).	Check if the HAP LED is blinking in regular intervals. Check if the correct spare part is installed. Check if the compressor module main PCB receives power.	Adjust the power to the compressor module main PCB. Replace compressor module main PCB when HAP LED is not blinking in regular intervals (see "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119) or "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121).
Bad contact through pressure sensor cable.	Check if pressure sensor connector is properly connected to the outdoor PCB board.	Connect or replace sensor cable when required.
Faulty low pressure sensor.	Check pressure sensor (see "Low pressure sensor" on page 61).	Replace pressure sensor when required ("Replacing low pressure sensor" on page 110).

2.2.1.4. “E5-00” – Compressor motor lock

Trigger	Effect	Reset
Compressor overload is detected (see "Safety devices" on page 156).	Unit will stop operating.	Manual reset via user interface.

Possible cause	Check	Corrective action
Faulty discharge pipe thermistor.	Check discharge pipe thermistor (see "Refrigerant thermistors" on page 70).	Replace discharge pipe thermistor when required.
Faulty overload protection.	Check the overload protection. Check the voltage at compressor module L1-L2-L3 is 400 VAC 10%. Measure the current to the compressor and compare to overcurrent protection value (see "Safety devices" on page 156).	Adjust wiring at the power supply when required. Replace cable or the inverter board.
Faulty expansion valve.	Check the expansion valve (see "Electronic expansion valve" on page 77).	Replace the expansion valve body (see "Replacing expansion valve body" on page 105) or motor (see "Replacing expansion valve coil" on page 106) when required.
Faulty 4-way valve coil.	Check the 4-way valve coil (see "4-way valve" on page 54).	Replace the 4-way valve coil (see"Replacing 4-way valve coil" on page 96).
Refrigerant circuit is clogged.	Check for possible blockage (oil return circuit from oil separator to suction pipe).	Replace blocked part when required.
Faulty 4-way valve body, blocked.	Check the 4-way valve body (see "4-way valve" on page 54).	Replace the 4-way valve body when required (see "Replacing 4-way valve body" on page 94).
Faulty PCB compressor module (RKXYQ-T7).	Check if the HAP LED is blinking in regular intervals (see "Main PCB (RDXYQ-T)" on page 79). Check if the correct spare part is installed. Check if the main PCB compressor module receives power.	Adjust the power to the compressor module main PCB. Replace compressor module main PCB when HAP LED is not blinking in regular intervals (see "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119) or "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121).
Faulty inverter PCB compressor module.	Check inverter PCB compressor module (see "Inverter PCB (RKXYQ5T & RKXYQ8T)" on page 63). Check if the alive led is blinking in regular intervals. Check if the correct spare part is installed.	Restore the power to the outdoor inverter PCB compressor module. Replace the outdoor inverter PCB when required (see "Replacing inverter board 5 hp (T7 & T8)" on page 116 or "Replacing inverter board 8 hp (T7) & 5 hp (TA)" on page 118).
Refrigerant overcharge.	Check for refrigerant overcharge. Refer to the nameplate for the correct charge.	Charge the correct refrigerant amount when required.
Refrigerant shortage.	Check for refrigerant shortage. Refer to the nameplate for the correct charge.	Charge the correct refrigerant amount when required.
Humidity in refrigerant (ice formation in expansion valve).	Check for humidity in the refrigerant.	In case of suspicion of humidity, recover, vacuum and recharge with virgin refrigerant.
Non condensables in refrigerant.	Check for non condensables in refrigerant.	In case of suspicion of non condensables, recover, vacuum and recharge with virgin refrigerant.

2.2.1.5. “E9-00” – Electronic expansion valve abnormality

Trigger	Effect	Reset
No continuity of expansion valve: • Sub-code 1 = sub-cool circuit (RKXYQ-T). • Sub-code > 1 = main circuit (RDXYQ-T).	Unit will stop operating.	• Sub-cool circuit: power reset compressor module. • Main circuit: power reset heat-exchanger module.

Possible cause	Check	Corrective action
Wet operation.	Check for wet operation. (Wet operation can be detected by checking the suction superheat. If the suction superheat is 0°C then liquid refrigerant is returned to the compressor.)	In case wet operation was detected, confirm the cause: • Refrigerant overcharge. • Faulty expansion valve.
Faulty PCB: • Sub-cool expansion valve: compressor module main PCB. • Main expansion valve: heat-exchanger module.	Check if the HAP LED is blinking in regular intervals. Check if the correct spare part is installed. Check if the outdoor main PCB receives power.	Adjust the power to the PCB. Replace PCB when HAP LED is not blinking in regular intervals (see "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119 or "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119).
Faulty thermistor.	Check thermistor (see "Refrigerant thermistors" on page 70).	Replace thermistor when required (see "Replacing thermistor" on page 93).
Faulty or disturbance of the power supply (imbalance > 10%). Power drop. Short circuit.	Check if the power supply is conform to regulations. No fluctuations in frequency.	Adjust power supply when required. Power reset via outdoor unit.
Faulty expansion valve. Refer to sub-code for location.	Check the expansion valve (see "Electronic expansion valve" on page 77).	Replace the expansion valve body (see "Replacing expansion valve body" on page 105) or motor (see "Replacing expansion valve coil" on page 106) when required.
Faulty low pressure sensor.	Check low pressure sensor (see "Low pressure sensor" on page 61).	Replace low pressure sensor when required (see "Replacing low pressure sensor" on page 110).
Faulty capacity adapter on PCB: • If sub-cool: RKXYQ-T. • If main: RDXYQ-T.	Check if the correct size is installed. Check if the correct spare part is installed.	Adjust capacity adapter when required.
External factory (e.g. electrical noise) (cause when error is reset after power reset, and error happens again after a while).	Check for source which could cause electrical interference.	Avoid electrical interference.

2.2.1.6. “F3-00” – Discharge pipe temperature abnormality

Trigger	Effect	Reset
Discharge temperature is too high: • If the discharge temperature detected is above A°C, D times within E min. • If within E min the discharge temperature detected is above B°C for F min. Refer to "Product specific information" on page 155 for values of A, B, D, E, F.	Unit will not stop operating.	Automatic reset when temperature drops below C°C. Refer to "Product specific information" on page 155 for values of C.
	Unit will stop operating.	Manual reset via remote controller.

Possible cause	Check	Corrective action
Refrigerant shortage.	Check for refrigerant shortage. Refer to the nameplate for the correct charge.	Charge the correct refrigerant amount when required.
Humidity in refrigerant (ice formation in expansion valve).	Check for humidity in the refrigerant.	In case of suspicion of humidity, recover, vacuum and recharge with virgin refrigerant.
Non condensables in refrigerant.	Check for non condensables in refrigerant.	In case of suspicion of non condensables, recover, vacuum and recharge with virgin refrigerant.
Stop valve is closed.	Check if stop valve is open.	Open stop valve when required.

Possible cause	Check	Corrective action
Faulty 4-way valve coil.	Check the 4-way valve coil (see "4-way valve" on page 54).	Replace the 4-way valve coil (see "Replacing 4-way valve coil" on page 96).
Faulty expansion valve body.	Check the expansion valve (see "Electronic expansion valve" on page 77).	Replace the expansion valve body (see "Replacing expansion valve body" on page 105) or motor (see "Replacing expansion valve coil" on page 106) when required.
Faulty PCB compressor module (RKXYQ-T7).	Check if the HAP LED is blinking in regular intervals (see "Main PCB (RDXYQ-T)" on page 79). Check if the correct spare part is installed. Check if the main PCB compressor module receives power.	Adjust the power to the compressor module main PCB. Replace compressor module main PCB when HAP LED is not blinking in regular intervals (see "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119 or "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119).
Faulty discharge thermistor.	Check discharge thermistor (see "Refrigerant thermistors" on page 70).	Replace discharge thermistor when required (see "Replacing thermistor" on page 93).
Faulty high pressure sensor.	Check high pressure sensor ("High pressure sensor" on page 59).	Replace high pressure sensor (see "Replacing high pressure sensor" on page 107).
Faulty outdoor air temperature thermistor.	Check outdoor air temperature thermistor (see "Refrigerant thermistors" on page 70).	Replace outdoor air temperature thermistor when required (see "Replacing thermistor" on page 93).

2.2.1.7. “H9-00” – Heat exchanger air inlet thermistor abnormality

Trigger	Effect	Reset
Heat-exchanger air inlet thermistor detects an abnormal value (open or short circuit).	Unit will stop operating.	Automatic reset when in range.

Possible cause	Check	Corrective action
Faulty heat-exchanger module air inlet thermistor.	Check heat-exchanger module air inlet thermistor.	Replace heat-exchanger module air inlet thermistor when required (see "Replacing thermistor" on page 93).
Faulty PCB heat-exchanger module (RDXYQ-T7).	Check if the HAP LED is blinking in regular intervals (see "Main PCB (RDXYQ-T)" on page 79). Check if the correct spare part is installed. Check if the heat-exchanger module PCB receives power.	Adjust the power to the PCB heat-exchanger module. Replace PCB heat-exchanger module when HAP LED is not blinking in regular intervals (see "Replacing main PCB (heat exchanger)" on page 136).

2.2.1.8. “J3-00” – Discharge temperature abnormality

Trigger	Effect	Reset
Thermistor input voltage is > 4.98 V or < 0.04 V when power is on.	Unit will stop operating.	Manual reset via user interface.
Discharge pipe temperature is lower than the heat exchanger temperature (when used as a condenser).		

Possible cause	Check	Corrective action
Faulty discharge pipe thermistor.	Check discharge pipe thermistor (see "Refrigerant thermistors" on page 70).	Replace discharge pipe thermistor when required (see "Replacing thermistor" on page 93).
Faulty high pressure sensor.	Check high pressure sensor (see "High pressure sensor" on page 59).	Replace pressure sensor when required (see "Replacing high pressure sensor" on page 107).
Faulty high pressure switch.	Check high pressure switch (see "High pressure switch" on page 58).	Replace high pressure switch (see "Replacing high pressure switch" on page 108).
Faulty PCB compressor module (RKXYQ-T7).	Check if the HAP LED is blinking in regular intervals (see "Main PCB (RDXYQ-T)" on page 79). Check if the correct spare part is installed. Check if the outdoor main PCB receives power.	Restore the power to the outdoor main PCB. Replace outdoor main PCB when HAP LED is not blinking in regular intervals (see "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119 or "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121).

2.2.1.9. "J4-00" – Heat exchanger gas pipe thermistor abnormality

Trigger	Effect	Reset
Heat-exchanger gas pipe thermistor detects an abnormal value (open or short circuit).	Unit will stop operating.	Automatic reset when "in range".

Possible cause	Check	Corrective action
Faulty heat exchanger gas thermistor.	Check heat exchanger gas thermistor (see "Refrigerant thermistors" on page 70).	Replace heat exchanger gas thermistor when required (see "Replacing thermistor" on page 93).
Faulty PCB heat exchanger module (RDXYQ-T7)	Check if the HAP LED is blinking in regular intervals (see "Main PCB (RDXYQ-T)" on page 79). Check if the correct spare part is installed. Check if the heat exchanger module PCB receives power.	Adjust the power to the PCB heat exchanger module. Replace PCB heat exchanger module when HAP LED is not blinking in regular intervals (see "Replacing main PCB (heat exchanger)" on page 136).

2.2.1.10. "J5-00" – Suction pipe thermistor abnormality

Trigger	Effect	Reset
Suction pipe thermistor inlet accumulator or inlet compressor detects an abnormal value (open or short circuit).	Unit will stop operating.	Automatic reset when "in range".

Possible cause	Check	Corrective action
Faulty thermistor suction inlet accumulator (sub code -01) or inlet compressor (sub code -02).	Check suction pipe thermistor accumulator inlet and compressor inlet (see "Refrigerant thermistors" on page 70).	Replace suction pipe thermistor (accumulator inlet or compressor inlet based on sub code) (see "Replacing thermistor" on page 93).

Possible cause	Check	Corrective action
Faulty PCB compressor module (RKXYQ-T7).	Check if the HAP LED is blinking in regular intervals (see "Main PCB (RDXYQ-T)" on page 79). Check if the correct spare part is installed. Check if the outdoor main PCB receives power.	Restore the power to the outdoor main PCB. Replace outdoor main PCB when HAP LED is not blinking in regular intervals (see "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119 or "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121).

2.2.1.11. "J6-00" – Heat exchanger liquid pipe thermistor abnormality

Trigger	Effect	Reset
Heat-exchanger liquid pipe thermistor detects an abnormal value (open or short circuit).	Unit will stop operating.	Automatic reset when "in range".

Possible cause	Check	Corrective action
Faulty heat exchanger thermistor.	Check heat exchanger thermistor (see "Refrigerant thermistors" on page 70).	Replace heat exchanger thermistor when required.
Faulty PCB heat exchanger module (RDXYQ-T7).	Check if the HAP LED is blinking in regular intervals (see "Main PCB (RDXYQ-T)" on page 79). Check if the correct spare part is installed. Check if the heat exchanger module PCB receives power.	Adjust the power to the PCB heat exchanger module. Replace PCB heat exchanger module when HAP LED is not blinking in regular intervals (see "Replacing main PCB (heat exchanger)" on page 136).

2.2.1.12. "J7-00" – Liquid pipe stop valve thermistor abnormality

Trigger	Effect	Reset
Thermistor liquid pipe stop valve detects an abnormal value (open or short circuit).	Unit will stop operating.	Automatic reset when "in range".

Possible cause	Check	Corrective action
Faulty thermistor liquid pipe stop valve.	Check thermistor liquid pipe stop valve (see "Refrigerant thermistors" on page 70).	Replace thermistor liquid pipe stop valve when required (see "Replacing thermistor" on page 93).
Faulty PCB compressor module (RKXYQ-T7).	Check if the HAP LED is blinking in regular intervals (see "Main PCB (RDXYQ-T)" on page 79). Check if the correct spare part is installed. Check if the outdoor main PCB receives power.	Restore the power to the outdoor main PCB. Replace outdoor main PCB when HAP LED is not blinking in regular intervals (see "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119 or "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121).

2.2.1.13. "J9-00" – Gas outlet sub-cool heat-exchanger thermistor abnormality

Trigger	Effect	Reset
Thermistor gas outlet sub-cool heat exchanger detects an abnormal value (open or short circuit).	Unit will stop operating.	Automatic reset when "in range".

Possible cause	Check	Corrective action
Faulty thermistor gas outlet sub-cool heat exchanger.	Check thermistor gas outlet sub-cool heat exchanger (see "Refrigerant thermistors" on page 70).	Replace thermistor gas outlet sub-cool heat-exchanger when required (see "Replacing thermistor" on page 93).
Faulty PCB compressor module (RKXYQ-T7).	Check if the HAP LED is blinking in regular intervals (see "Main PCB (RDXYQ-T)" on page 79). Check if the correct spare part is installed. Check if the outdoor main PCB receives power.	Restore the power to the outdoor main PCB. Replace outdoor main PCB when HAP LED is not blinking in regular intervals (see "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119 or "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121).

2.2.1.14. "JA-00" – High pressure sensor abnormality

Trigger	Effect	Reset
High pressure sensor detects an abnormal value for 3 minutes during operation compressor (> 4,5 MPa or < -0,05 MPa).	Unit will stop operating.	Manual reset via user interface.

Possible cause	Check	Corrective action
High pressure sensor connector disconnected.	Check if high pressure sensor connector is pugged (on correct connector).	Connect plug of high pressure sensor to (correct) connector.
Faulty main PCB compressor module.	Check if the HAP LED is blinking in regular intervals (see "Main PCB (RDXYQ-T)" on page 79). Check if the correct spare part is installed. Check if the outdoor main PCB receives power.	Adjust the power to the main PCB of compressor module. Replace main PCB compressor module when HAP LED is not blinking in regular intervals (see "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119 or "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121).
Faulty high pressure sensor.	Check high pressure sensor (see "High pressure sensor" on page 59).	Replace high pressure sensor when required (see "Replacing high pressure sensor" on page 107).

2.2.1.15. "JC-00" – Low pressure sensor abnormality

Trigger	Effect	Reset
Low pressure sensor detects an abnormal value for 3 minutes during operation compressor. (> 1,7 MPa or < -0,05 MPa).	Unit will stop operating.	Manual reset via user interface.

Possible cause	Check	Corrective action
Low pressure sensor connector disconnected.	Check if low pressure sensor connector is pugged (on correct connector).	Connect plug of low pressure sensor to (correct) connector.
Faulty main PCB compressor module.	Check if the HAP LED is blinking in regular intervals (see "Main PCB (RDXYQ-T)" on page 79). Check if the correct spare part is installed. Check if the outdoor main PCB receives power.	Adjust the power to the main PCB of compressor module. Replace main PCB compressor module when HAP LED is not blinking in regular intervals (see "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119 or "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121).

Possible cause	Check	Corrective action
Faulty low pressure sensor.	Check low pressure sensor (see "Low pressure sensor" on page 61).	Replace low pressure sensor when required (see "Replacing low pressure sensor" on page 110).

2.2.1.16. "L1-00" – Compressor module main PCB abnormality

Trigger	Effect	Reset
Main PCB compressor module detects current/voltage errors.	Unit will stop operating.	Manual reset via user interface. Power reset via compressor module.

Possible cause	Check	Corrective action
Blown fuse.	Check fuse on main PCB compressor module.	Replace fuse if blown.
Faulty main PCB compressor module.	Check if the HAP LED is blinking in regular intervals. Check if the correct spare part is installed. Check if the outdoor main PCB receives power.	Adjust the power to the main PCB of the compressor module. Replace main PCB of the compressor module when HAP LED is not blinking in regular intervals (see "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119 or "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121).
Faulty inverter PCB compressor module.	Check inverter PCB of the compressor module. Check if the alive led is blinking in regular intervals. Check if the correct spare part is installed.	Adjust the power to the inverter PCB of the compressor module. Replace inverter PCB of the compressor module (see "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119 or "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121).
Faulty compressor.	Check compressor (see "Compressor" on page 75). Check connections and wiring of the compressor. Check expansion valve (liquid back issue) (see "Electronic expansion valve" on page 77). Check the refrigerant charge. Refer to the nameplate for correct charge.	Replace compressor when required (see "Replacing compressor 5 hp" on page 97 or "Replacing compressor 8 hp" on page 100). Investigate reason of breakdown. Replace expansion valve when required (see "Replacing expansion valve body" on page 105). Fix possible leak.
Faulty or disturbance of the power supply (imbalance > 10%). Power drop. Short circuit.	Check if the power supply is conform with regulations. No fluctuations in frequency.	Adjust power supply when required. Power reset via compressor module.
Faulty AC fan compressor module.	Check the fan (see "AC fan motor (RKXYQ-T)" on page 56). Check fan motor connections and wiring.	Replace fan motor when required (see "Replacing AC fan inverter cooling" on page 104). Adjust wiring when required.
Faulty capacity adapter on main PCB compressor module.	Check if the correct capacity setting is made. Check if the correct spare part is installed.	Adjust capacity setting when required.
External factor (e.g. electrical noise). (cause when error is reset after power reset, and error happens again after a while).	Check for source which could cause electrical interference.	Avoid electrical interference.

2.2.1.17. “L5-00” – Output overcurrent detection

Trigger	Effect	Reset
Compressor inverter PCB detects over-current to power transistor.	Unit will stop operating.	Manual reset via user interface.

Possible cause	Check	Corrective action
Refrigerant circuit is clogged.	Check for possible blockage.	Replace blocked part when required.
Humidity in refrigerant (ice formation in expansion valve).	Check for humidity in the refrigerant.	In case of suspicion of humidity, recover, vacuum and recharge with virgin refrigerant.
Non condensables in refrigerant.	Check for non condensables in refrigerant.	In case of suspicion of non condensables, recover, vacuum and recharge with virgin refrigerant.
Faulty inverter PCB compressor.	Check inverter PCB compressor module (see "Inverter PCB (RKXYQ5T & RKXYQ8T)" on page 63). Check if the alive led is blinking in regular intervals. Check if the correct spare part is installed.	Adjust the power to the inverter PCB compressor module. Replace inverter PCB compressor module (see "Replacing inverter board 5 hp (T7 & T8)" on page 116 or "Replacing inverter board 8 hp (T7) & 5 hp (TA)" on page 118).
Faulty compressor.	Check compressor (see "Compressor" on page 75). Check connections and wiring of the compressor. Check expansion valve (liquid back issue) (see"Electronic expansion valve" on page 77). Check the refrigerant charge. Refer to the nameplate for correct charge.	Replace compressor when required (see "Replacing compressor 5 hp" on page 97 or "Replacing compressor 8 hp" on page 100). Investigate reason of breakdown. Replace expansion valve body when required (see "Replacing expansion valve body" on page 105). Fix possible leak.
Faulty or disturbance of the power supply (imbalance > 10%). Power drop. Short circuit.	Check if the power supply is conform to regulations. No fluctuations in frequency.	Adjust power supply when required. Power reset via outdoor unit.

2.2.1.18. “L8-00” – Electronic thermal overload

Trigger	Effect	Reset
When compressor overload (except during start-up) is detected.	Unit will stop operating.	Manual reset via user interface.

Possible cause	Check	Corrective action
Refrigerant circuit is clogged.	Check for possible blockage.	Replace blocked part when required.
Refrigerant overcharge.	Check for refrigerant overcharge. Refer to the nameplate for the correct charge.	Charge the correct refrigerant amount when required.
Refrigerant is contaminated.	-	Replace refrigerant.
Faulty inverter PCB compressor module.	Check inverter PCB compressor module (see "Inverter PCB (RKXYQ5T & RKXYQ8T)" on page 63). Check if the alive led is blinking in regular intervals. Check if the correct spare part is installed.	Adjust the power to the inverter PCB compressor module. Replace inverter PCB compressor module (see "Replacing inverter board 5 hp (T7 & T8)" on page 116 or "Replacing inverter board 8 hp (T7) & 5 hp (TA)" on page 118).

Possible cause	Check	Corrective action
Faulty compressor.	Check compressor (see "Compressor" on page 75). Check connections and wiring of the compressor. Check expansion valve (liquid back issue) (see"Electronic expansion valve" on page 77). Check the refrigerant charge. Refer to the nameplate for correct charge.	Replace compressor when required (see "Replacing compressor 5 hp" on page 97 or "Replacing compressor 8 hp" on page 100). Investigate reason of breakdown. Replace expansion valve when required (see"Replacing expansion valve body" on page 105). Fix possible leak.

2.2.1.19. “L9-00” – Stall prevention time lag

Trigger	Effect	Reset
Inverter PCB compressor module detects compressor overload at start up.	Unit will stop operating.	Manual reset via user interface.

Possible cause	Check	Corrective action
Refrigerant circuit is clogged.	Check for possible blockage.	Replace blocked part when required.
Refrigerant condition is not OK (HP-LP > 0,2 MPa at start-up).	Check refrigerant condition.	-
Faulty inverter PCB compressor module.	Check inverter PCB compressor (see "Inverter PCB (RKXYQ5T & RKXYQ8T)" on page 63). Check if the alive led is blinking in regular intervals. Check if the correct spare part is installed.	Adjust the power to the outdoor inverter PCB. Replace inverter PCB compressor module (see "Replacing inverter board 5 hp (T7 & T8)" on page 116 or "Replacing inverter board 8 hp (T7) & 5 hp (TA)" on page 118).
Faulty compressor.	Check compressor (see "Compressor" on page 75). Check connections and wiring of the compressor. Check expansion valve (liquid back issue) (see"Electronic expansion valve" on page 77). Check the refrigerant charge. Refer to the nameplate for correct charge.	Replace compressor when required (see "Replacing compressor 5 hp" on page 97 or "Replacing compressor 8 hp" on page 100). Investigate reason of breakdown. Replace expansion valve when required (see"Replacing expansion valve body" on page 131). Fix possible leak.

2.2.1.20. “LC-00” – Transmission system abnormality

Trigger	Effect	Reset
No transmission between main PCB and inverter PCB of outdoor module.	Unit will stop operating.	Automatic reset.

Possible cause	Check	Corrective action
Internal wiring is not OK.	Check if wiring between PCB’s (see "Wiring diagram" on page 148).	Correct wiring.
Faulty main PCB compressor module.	Check if the HAP LED is blinking in regular intervals. Check if the correct spare part is installed. Check if the outdoor main PCB receives power.	Adjust the power to the outdoor main PCB. Replace main PCB of compressor module when HAP LED is not blinking in regular intervals (see "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119 or "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121).

Possible cause	Check	Corrective action
Faulty inverter PCB compressor module.	Check inverter PCB compressor (see "Inverter PCB (RKXYQ5T & RKXYQ8T)" on page 63). Check if the alive led is blinking in regular intervals. Check if the correct spare part is installed.	Adjust the power to the outdoor inverter PCB. Replace inverter PCB compressor module (see "Replacing inverter board 5 hp (T7 & T8)" on page 116 or "Replacing inverter board 8 hp (T7) & 5 hp (TA)" on page 118).
Faulty capacity adapter on outdoor PCB.	Check if the correct adapter is installed. Check if the correct spare part is installed.	Adjust capacity adapter when required.
External factor (e.g. electrical noise) (cause when error is reset after power reset, and error happens again after a while).	Check for source which could cause electrical interference.	Avoid electrical interference.

2.2.1.21. "P1-00" – Open phase or power supply voltage imbalance

Trigger	Effect	Reset
Main PCB compressor module detects incorrect power supply.	Unit will stop operating.	Manual reset via user interface. Automatic reset.

Possible cause	Check	Corrective action
Faulty main PCB compressor module.	Check if the HAP LED is blinking in regular intervals. Check if the correct spare part is installed. Check if the outdoor main PCB receives power.	Adjust the power to the outdoor main PCB. Replace main PCB of compressor module when HAP LED is not blinking in regular intervals (see "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119 or "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121).
Faulty inverter PCB compressor module.	Check inverter PCB compressor (see "Inverter PCB (RKXYQ5T & RKXYQ8T)" on page 63). Check if the alive led is blinking in regular intervals. Check if the correct spare part is installed.	Adjust the power to the outdoor inverter PCB. Replace inverter PCB compressor module (see "Replacing inverter board 5 hp (T7 & T8)" on page 116 or "Replacing inverter board 8 hp (T7) & 5 hp (TA)" on page 118).
Faulty or disturbance of the power supply (imbalance > 10%). Power drop. Short circuit.	Check if the power supply is conform with regulations. No fluctuations in frequency.	Adjust power supply when required. Power reset via compressor module.
Faulty capacity adapter on main PCB compressor module.	Check if the correct capacity is installed. Check if the correct spare part is installed.	Adjust capacity setting when required.

2.2.1.22. "P4-00" – Overheat power module

Trigger	Effect	Reset
Inverter PCB compressor module detects high temperature at power module.	Unit will stop operating.	Manual reset via user interface. Automatic reset.

Possible cause	Check	Corrective action
Faulty AC fan motor cooling inverter.	Check if plug to connector correctly mounted X26A if 5 hp or X7A if 8 hp. Check AC fan motor (see "AC fan motor (RKXYQ-T)" on page 56).	Reconnect plug to connector X26A if 5 hp, X7A if 8 hp. Replace AC fan motor (see "Replacing AC fan inverter cooling" on page 104).

Possible cause	Check	Corrective action
Faulty inverter PCB compressor module.	Check inverter PCB compressor (see "Inverter PCB (RKXYQ5T & RKXYQ8T)" on page 63). Check if the alive led is blinking in regular intervals. Check if the correct spare part is installed.	Adjust the power to the outdoor inverter PCB. Replace inverter PCB compressor module (see "Replacing inverter board 5 hp (T7 & T8)" on page 116 or "Replacing inverter board 8 hp (T7) & 5 hp (TA)" on page 118).
Faulty or disturbance of the power supply: only 2 phase to diode module.	Check if the power supply is conform with regulations. No fluctuations in frequency.	Adjust power supply when required. Power reset via compressor module.
Faulty thermistor.	Compare fin temperature to ambient (with checker Type III) after unit is stopped for minimum 30 minutes.	If fin temperature shows abnormal value at stop, replace inverter board compressor (see "Replacing inverter board 5 hp (T7 & T8)" on page 116 or "Replacing inverter board 8 hp (T7) & 5 hp (TA)" on page 118).

2.2.1.23. “PJ-00” – Capacity setting abnormality

Trigger	Effect	Reset
Main PCB compressor module detects a defective capacity in EEPROM.	Unit will stop operating.	Manual reset via user interface. Power supply reset compressor module.

Possible cause	Check	Corrective action
Capacity setting is not correct to detected inverter board of compressor module.	Check if capacity setting is made correctly.	Make correct capacity setting on main PCB compressor module.
Faulty main PCB compressor module.	Check if the HAP LED is blinking in regular intervals. Check if the correct spare part is installed. Check if the main PCB compressor module receives power.	Adjust the power to the main PCB of compressor module. Replace main PCB compressor module when HAP LED is not blinking in regular intervals (see "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119 or "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121).
Faulty capacity set detected on main PCB compressor module.	Check if the capacity setting is made. Check if the correct spare part is installed.	Adjust capacity setting when required.

2.2.2. System

2.2.2.1. “U0-00” – Refrigerant shortage

Trigger	Effect	Reset
Refrigerant shortage detected. • Cooling: LP < 2.5 MPa > 30 minutes. • Heating: suction °C -Tevapo > 20° > 30 minutes.	Unit keeps operating.	Cooling: low pressure > 0.25 MPa. Heating: suction °C - Tevapo < 20°C. Power outdoor unit.

Possible cause	Check	Corrective action
Faulty suction pipe thermistor.	Check suction pipe thermistor (see "Refrigerant thermistors" on page 70).	Replace suction pipe thermistor when required (see "Replacing thermistor" on page 93).
Faulty discharge pipe thermistor.	Check discharge pipe thermistor (see "Refrigerant thermistors" on page 70).	Replace discharge pipe thermistor when required (see "Replacing thermistor" on page 93).
Faulty low pressure sensor.	Check low pressure sensor (see "Low pressure sensor" on page 61).	Replace low pressure sensor when required (see "Replacing low pressure sensor" on page 110).
Stop valve is closed.	Check stop valve-RKXYQ-T7.	Open stop valve when required.
Refrigerant shortage.	Check for refrigerant shortage. Refer to the nameplate for the correct charge.	Charge the correct refrigerant amount when required.
Humidity in refrigerant (ice formation in expansion valve).	Check for humidity in the refrigerant.	In case of suspicion of humidity, recover, vacuum and recharge with virgin refrigerant.
Non condensables in refrigerant.	Check for non condensables in refrigerant.	In case of suspicion of non condensables, recover, vacuum and recharge with virgin refrigerant.
Faulty compressor.	Check compressor (see "Compressor" on page 75). Check connections and wiring of the compressor. Check expansion valve (liquid back issue) (see "Electronic expansion valve" on page 77). Check the refrigerant charge. Refer to the nameplate for the correct charge.	Replace compressor when required (see "Replacing compressor 5 hp" on page 97 or "Replacing compressor 8 hp" on page 100). Investigate reason of breakdown. Replace expansion valve when required (see "Replacing expansion valve body" on page 131). Fix possible leak.
Faulty expansion valve.	Check the expansion valve (see "Electronic expansion valve" on page 77).	Replace the expansion valve body (see "Replacing expansion valve body" on page 131) or coil (see "Replacing expansion valve coil" on page 133) when required.

2.2.2.2. “U1-00” – Reverse phase or open phase

Trigger	Effect	Reset
Outdoor PCB compressor module detects incorrect power supply (missing phase or reverse rotation).	Unit will stop operating.	Power reset compressor module.

Possible cause	Check	Corrective action
Incorrect sequence 3 phase.	Check rotation sequence power supply.	Correct sequence 3 phase power supply.
Missing phase.	Check presence 3 phases.	Trace location where phase is interrupted between main power supply source and compressor module.

Possible cause	Check	Corrective action
Faulty main PCB compressor module.	Check if the HAP LED is blinking in regular intervals. Check if the correct spare part is installed. Check if the outdoor main PCB receives power.	Adjust the power to the outdoor main PCB. Replace main PCB of compressor module when HAP LED is not blinking in regular intervals (see "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119 or "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121).
Faulty or disturbance of the power supply (imbalance > 10%). Power drop. Short circuit.	Check if the power supply is conform to regulations. No fluctuations in frequency.	Adjust power supply when required. Power reset via outdoor unit.

2.2.2.3. “U2-00” – Power supply abnormality or instantaneous power failure

Trigger	Effect	Reset
There is no zero-cross detected in approximately 10 seconds (main PCB compressor module).	Unit will stop operating.	Power reset via compressor module.
Abnormal voltage drop (< 212-254 V) is detected by the DC voltage detection circuit.	Unit will stop operating.	Automatic restart after compressor stand-by of 3 minutes.
Abnormal voltage rise is detected by the over-voltage detection circuit.	Unit will stop operating.	Automatic restart after compressor stand-by of 3 minutes.

Possible cause	Check	Corrective action
Faulty or disturbance of the power supply (imbalance > 10%). Power drop. Short circuit.	Check if the power supply is conform with regulations. No fluctuations in frequency.	Adjust power supply when required. Power reset via compressor module.
Reactor open circuit.	Check continuity reactor coil.	Replace reactor if coil open circuit (see "Replacing reactor" on page 115).
Noise filter fuse blown.	Check fuse on noise filter.	Replace noise filter is fuse is blown (see "Replacing electrical noise filter (8 hp only)" on page 123).
Defective DC voltage detection circuit.	Check PCB with DC voltage detection circuit (see "Inverter PCB (RKXYQ5T & RKXYQ8T)" on page 63).	Replace inverter PCB when required (see "Replacing inverter board 5 hp (T7 & T8)" on page 116 or "Replacing inverter board 5 hp (T7 & T8)" on page 116).
Defective over-voltage detection circuit.	Check PCB with over-voltage detection circuit (see "Inverter PCB (RKXYQ5T & RKXYQ8T)" on page 63).	Replace inverter PCB when required (see "Replacing inverter board 5 hp (T7 & T8)" on page 116 or "Replacing inverter board 5 hp (T7 & T8)" on page 116).
Faulty compressor.	Check compressor (see "Compressor" on page 75). Check connections and wiring of the compressor. Check expansion valve (liquid back issue) (see "Electronic expansion valve" on page 77). Check the refrigerant charge. Refer to the nameplate for the correct charge.	Replace compressor when required (see "Replacing compressor 5 hp" on page 97 or "Replacing compressor 8 hp" on page 100). Investigate reason of breakdown. Replace expansion valve when required (see "Replacing expansion valve body" on page 131). Fix possible leak.
Momentary drop of voltage.	-	Wait until compressor restarts.
Momentary power failure.	-	Wait until compressor restarts.

Possible cause	Check	Corrective action
Faulty main PCB compressor module.	Check if the HAP LED is blinking in regular intervals. Check if the correct spare part is installed. Check if the outdoor main PCB receives power.	Adjust the power to the outdoor main PCB. Replace main PCB of compressor module when HAP LED is not blinking in regular intervals (see "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119 or "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121).

2.2.2.4. "U3-00" – Test run failed

Trigger	Effect	Reset
Pipe length data missing.	Unit can not be operated.	Perform test run.
Test-run interrupted by button on main PCB compressor module.	Unit can not be operated.	Restart test run.

Possible cause	Check	Corrective action
Test run was not started prior to normal operation.		Start test run from outdoor unit.
Test run could not start because initialisation was not completed.	Check communication is initialised prior to launch test-run.	Restart test run from outdoor unit.
Test run was interrupted manually by pressing BS1 "Mode" button.		Restart test run from outdoor unit.
Test run was interrupted by safety device.	Check error history outdoor unit.	Follow troubleshooting according to error code.

2.2.2.5. "U4-00" – Transmission abnormality between compressor module / heat-exchange module / VRV indoor unit

Trigger	Effect	Reset
Data sent from compressor module cannot be received normally, content of the sent data is abnormal.	Unit will stop operating.	Automatic restore.

Possible cause	Check	Corrective action
Faulty or disturbance of the power supply (imbalance > 10%). Power drop. Short circuit.	Check if the power supply is conform to regulations. No fluctuations in frequency.	Adjust power supply when required. Power reset via compressor module.
Wiring abnormality between indoor unit, heat exchanger module and/or compressor module.	Check wiring between indoor unit, heat exchanger module and/or compressor module.	Adjust wiring between indoor unit, heat exchanger module and/or compressor module when required. Replace wiring between indoor unit, heat exchanger module and/or compressor module when required.
Faulty main PCB compressor module.	Check if the HAP LED is blinking in regular intervals. Check if the correct spare part is installed. Check if the main PCB compressor module receives power.	Restore the power to the main PCB compressor module. Replace main PCB compressor module when HAP LED is not blinking in regular intervals (see "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119 or "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121).

Possible cause	Check	Corrective action
Faulty main PCB heat exchanger module.	Check if the HAP LED is blinking in regular intervals. Check if the correct spare part is installed. Check if the PCB heat exchanger module receives power.	Restore the power to the main PCB heat exchanger module. Replace main PCB heat exchanger module when HAP LED is not blinking in regular intervals (see "Replacing main PCB (heat exchanger)" on page 136).
Faulty indoor unit main PCB.	Check if the HAP LED is blinking in regular intervals. Check if the correct spare part is installed. Check if the indoor main PCB receives power.	Adjust the power to the indoor main PCB. Replace indoor main PCB when HAP LED is not blinking in regular intervals (see service manual VRV4 indoor units).
Missing indoor unit or heat-exchanger module since end of initialisation.	Check number indoor units monitoring mode mode1-code 5 (for 5 hp), or code 10 (for 8 hp) (see "Field setting" on page 141). Check number indoor units start fan when making “cross wiring check” mode 2-code 5 (see "Field setting" on page 141).	Switch on power supply VRV indoor unit(s) or heat-exchanger module missing from initial initialisation.

2.2.2.6. “U7-00” – Transmission between systems abnormality

Trigger	Effect	Reset
Communication problem between systems. Conflict settings DTA104A61,62 and detected configuration.	Units will not operate. Units will operate.	Auto restore when communication is normal. Correct settings DTA104A61,62 and detected configuration.

Possible cause	Check	Corrective action
Faulty wiring between main PCB of compressor modules (example Q1Q2 loop).	Check wiring between main PCB compressor modules (see "Wiring diagram" on page 148).	Correct wiring between main PCB compressor modules when required.
Faulty main PCB compressor module.	Check if the HAP LED is blinking in regular intervals. Check if the correct spare part is installed. Check if the main PCB compressor module receives power.	Adjust the power to the PCB compressor module. Replace main PCB compressor module when HAP LED is not blinking in regular intervals (see "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119 or "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121).
When multiple systems are wired to be same cool/heat zone: no master cool/heat unit set.	Check setting on linked main PCB compressor modules: 1 unit needs setting mode 2-0-1, the other units in same zone 2-0-2.	Adjust field setting on main PCB compressor modules to have 1 cool/heat master and minimum 1 cool/heat slave.
Faulty wiring or setting for zone cool-heat control through optional board DTA104A61,62.	Check wiring between main PCB compressor modules (F1/F2-Outd) and DTA104A61,62. Check led HAP on option PCB DTA104A61,62 blinks. Check dip switch setting option PCB DTA104A61,62. Check address setting main PCB compressor module: for zone cool-heat control = mode2-1.	Adjust the wiring between main PCB compressor module(s) and optional board DTA104A61,62. Adjust the setting to the main PCB compressor module. Adjust power supply (16 VDC) to DTA104A61,62. Replace main PCB compressor module (see "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119 or "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121).

Possible cause	Check	Corrective action
Faulty wiring or setting for LNOP/Demand control through optional board DTA104A61,62.	Check dip switch setting DTA104A61,62. Check address setting main PCB compressor module: for LNOP/Demand = mode2-2.	Adjust the wiring between main PCB compressor module(s) and optional board DTA104A61,62. Adjust the setting to the main PCB compressor module. Replace main PCB compressor module (see "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119 or "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121).

2.2.2.7. “U9-00” – Systems abnormality

Trigger	Effect	Reset
Any indoor unit fault prevents system to start	Units will stop operating.	Automatic restore.

Possible cause	Check	Corrective action
Minimum 1 indoor unit detects a fault that does not allow system to operate.	Check all indoor units for error code (A9, U4, UA, UH).	Perform troubleshooting indoor unit according to error code found during check method.
Wiring abnormality between indoor unit, heat-exchanger module or/and compressor module.	Check wiring between indoor unit, heat-exchanger module or/and compressor module.	Adjust wiring between indoor unit, heat-exchanger module or/and compressor module when required. Replace wiring between indoor unit, heat-exchanger module or/and compressor module when required.
Faulty main PCB heat-exchanger module.	Check if the HAP LED is blinking in regular intervals. Check if the correct spare part is installed. Check if the main PCB heat-exchanger module receives power.	Adjust the power to the main PCB heat-exchanger module. Replace main PCB heat-exchanger module when HAP LED is not blinking in regular intervals (see "Replacing main PCB (heat exchanger)" on page 136).
Faulty indoor unit main PCB.	Check if the HAP LED is blinking in regular intervals. Check if the correct spare part is installed. Check if the indoor main PCB receives power.	Adjust the power to the indoor main PCB. Replace indoor main PCB when HAP LED is not blinking in regular intervals (see service manual VRV4 indoor units).
Missing indoor unit or heat-exchanger module since end of initialisation.	Check number indoor units monitoring mode mode1-code 5 (for 5 hp), or code 10 (for 8 hp) (see "Field setting" on page 141.) Check number indoor units start fan when making “cross wiring check” mode 2-code 5 (see "Field setting" on page 141).	Switch on power supply indoor unit(s) or heat-exchanger module missing from initial initialisation.

2.2.2.8. “UF-00” – Wiring and piping mismatch

Trigger	Effect	Reset
During test-run, minimum 1 indoor unit fails “cross pipe check”.	Unit will stop operating.	Automatic restore.

Possible cause	Check	Corrective action
Faulty wiring between VRV indoor, heat-exchanger module and compressor module.	Check heat-exchanger module and compressor module (see "Wiring diagram" on page 148).	Correct wiring.

Possible cause	Check	Corrective action
Refrigerant shortage (incorrect charge/leakage).	Check for refrigerant shortage. Perform a leak test.	If required, repair the leak and charge the correct amount of refrigerant.
Refrigerant circuit is clogged.	Check for possible blockage (blockages can be checked by measuring the refrigerant/pipe temperature. Sudden drop in temperature could indicate a blockage (remark: this is not valid for the expansion valve)).	Check piping for narrow passage (kink in pipe). Check for blocked refnet (excessive welding result into internal blockage): apply pressure from liquid service port, set outdoor to 2-21 recovery mode, confirm pressure gas service port raises.
Incorrect indoor unit coil thermistor.	Check mounting of coil thermistor to indoor unit heat-exchanger. Check resistance of coil thermistor. Operate indoor unit in fan-only (> 30 minutes), check air thermistor and coil thermistor are about same value (service checker, D-checker or user interface).	Correct position of coil thermistor indoor unit into thermistor holder. Replace coil thermistor if resistance value is incorrect.

2.2.2.9. “UH-00” – Auto-address failure

Trigger	Effect	Reset
A wrong connection is detected by checking the combination of the indoor and outdoor unit on the CPU.	Operation halt due to missing auto-address indoor unit.	Reset communication from compressor module.

Possible cause	Check	Corrective action
Initialisation not completed between compressor module and indoor unit(s).	Indication main PCB compressor module. Check system data (user interface).	Wait till initialisation is completed before starting indoor unit operation.
Missing phase (for 3 phase models).	Check power supply.	Fix power supply.
Faulty main PCB compressor module.	Check if the HAP LED is blinking in regular intervals (see "Main PCB (RKXYQ5T)" on page 68 or "Main PCB (RKXYQ8T)" on page 69). Check if the correct spare part is installed. Check if the main PCB compressor module receives power.	Restore the power to the main PCB compressor module. Replace main PCB compressor module when HAP LED is not blinking in regular intervals (see "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119 or "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121).
Faulty indoor PCB.	Check if error still occurs after turning off power and turning it back on again. Check if the indoor PCB receives power. Check if the HAP LED is blinking in regular intervals. Check if the correct spare part is installed. Check the wiring to indoor PCB.	Adjust power to the indoor PCB. Replace indoor PCB when HAP LED is not blinking in regular intervals. Install correct spare part or update indoor PCB. Adjust wiring to indoor PCB when required.
Internal wiring is not OK.	Check if wiring between PCB’s is correct (see "Wiring diagram" on page 148).	Adjust wiring between indoor unit and outdoor unit when required. Replace wiring between indoor unit and outdoor unit when required.
Wiring abnormality between indoor unit and compressor module.	Check wiring between indoor unit and compressor module.	Adjust wiring between indoor unit and compressor module when required. Replace wiring between indoor unit and outdoor unit when required.
Mismatch of compressor module and indoor units.	Verify connection on combination database.	Replace indoor units when required.

Possible cause	Check	Corrective action
Defective DC voltage detection circuit.	Check PCB compressor module ±16 DCV at F1F2/IND terminals. Check PCB VRV indoor ±16 DCV at F1F2 and pins connector X35.	Replace PCB compressor module when required. Replace PCB VRV indoor when required.
Unspecified voltages.	Check supply voltage.	Adjust when required.
External factor (e.g. electrical noise) (cause when error is reset after power reset, and error happens again after a while).	Check for source which could cause electrical interference.	Avoid electrical interference.

2.2.3. Others

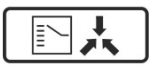
Not applicable.

2.3. Symptom based troubleshooting

Overview of symptom based error situations:

None of the units operate 50
Operation sometimes stops 50
Some indoor units do not operate 51
Equipment operates but does not cool or does not heat 51
Large operation noise and vibration 52

2.3.1. None of the units operate

Possible failures	Root cause	Check	Corrective action
Root cause category: Component - electrical			
Units do not operate.	Missing power supply to compressor module or/and heat-exchanger module.	Check to make sure that the rated voltage is supplied.	Restore the power supply.
	Power supply compressor module missing phase or reverse phase.	When trouble with power supply, fault indication will appear (U1 or L1) on main compressor module.	Arrange correct power supply to compressor module.
Root cause category: Installation			
Indoor units show fan-only mode.	Initialisation not completed.	Check indication main board compressor module initialisation end. Check that during initialisation voltage F1F2/IND changes between approx.16 V & 0 VDC.	Wait till initialisation ended (maximum 12 minutes from power connection). End initialisation: - 5 hp: LED8 off. - 8 hp: segment display blank.
Units do not operate.	Mismatch of combination compressor module, heat-exchanger module or/and indoor units.	Check the same size for compressor module and heat-exchanger module. Check type of indoor units (only VRV type).	Install match of combination compressor module, heat-exchanger module or/and indoor units.
	Indoor unit no controller (no control “BRC….” or no DCS…+ group number).	Check presence of central control (DCS…) and group numbers are found. Check presence of central control (DCS…) and group numbers are found.	If no central control device DCS…, connected wired control BRC… If only central control and no indoor found, use wired control BRC… to set each indoor group number.
Root cause category: Operating conditions			
Units do not operate.	Unit operates out of the operating range.	Check the outdoor air temperature.	Heating operation cannot be used when the outdoor temperature is ≥ 26°C.
	Outdoor request cool/heat master indoor unit.	Check symbol on wired remote control is off or on. 	If symbol blinks, confirm a VRV indoor unit as cool/heat master (press once cool/heat selector button).

2.3.2. Operation sometimes stops

Possible failures	Root cause	Check	Corrective action
Root cause category: Component - electrical			
Operation sometimes stops.	A power failure of 2 to 10 cycles can stop the air-conditioner operation (operation lamp off).	Check the power supply.	Restore the power supply.
Root cause category: Operating conditions			
Units do not operate.	Unit operates out of the operating range.	Check the outdoor air temperature.	Heating operation cannot be used when the outdoor temperature is ≥ 26°C.

Possible failures	Root cause	Check	Corrective action
Cooling/heating operation stops for 3 minutes and restarts.	Compressor module stops by “retry” by: HP or LP or current or discharge temperature or current.	Check the retry error code (refer to 2.1.2. Error codes via outdoor unit.	Follow troubleshooting according to the error code found in the retry (refer to "Error based troubleshooting" on page 28).

2.3.3. Some indoor units do not operate

Possible failures	Root cause	Check	Corrective action
Root cause category: Installation			
Some indoor units do not operate.	In- and outdoor units are not compatible.	Check to make sure that the indoor unit is compatible with the outdoor unit.	Install compatible units.
	Indoor board does not receive power supply.	Check presence 230 VAC. Check fuse(s) on board. Check HAP blinks.	Reconnect power supply. Replace fuse. Replace board.

2.3.4. Equipment operates but does not cool or does not heat

Possible failures	Root cause	Check	Corrective action
Root cause category: Installation			
Equipment operates but does not cool or does not heat.	Piping/wiring mismatch.	Perform “wiring/piping check” described in the installation manual.	Adjust piping/wiring.
	Insufficient refrigerant in the refrigerant system.	Diagnosis by service port pressure and operating current.	Recharge the unit when required.
Root cause category: Component - Mechanical			
Equipment operates but does not cool or does not heat.	Incorrect thermistor values.	Check if all thermistors are still firmly attached in there thermistor pocket.	Remount the thermistor if it is not correct installed in the pocket.
Root cause category: Component - Electrical			
Equipment operates but does not cool or does not heat.	Incorrect or no operation of the electronic expansion valve.	Set the units to cooling operation, and compare the temperatures of the liquid side connection pipes of the connection section among the rooms. This to check the opening and closing operation of the electronic expansion valves of the individual units.	Replace the coil and/or body of the indoor unit(s) indicating faulty operation of the expansion valve.

2.3.5. Large operation noise and vibration

Possible failures	Root cause	Check	Corrective action
Root cause category: Component - Electrical			
Large operation noise and vibration.	Instable output voltage of the inverter PCB.	Verify the operation of the inverter via the inverter checker.	Replace the inverter PCB when the inverter check is not OK.
Root cause category: Installation			
Large operation noise and vibration.	Unit is not installed according the installation manual.	Check to make sure that the required spaces for the installation are provided.	Install the unit according the installation manual.
	Liquid compression.	Check thermistors gas and coil. Check expansion valve of evaporator controls the superheat (default 5°C). Check refrigerant charge.	Replace thermistor(s) if faulty signal. Replace expansion valve coil or/and body when thermistors are correct. Recover and weight the refrigerant and recharge correct value.

2.4. Component checklist

Overview of component checklists:

Compressor and heat exchanger module 54
4-way valve 54
AC fan motor (RKXYQ-T) 56
High pressure switch 58
High pressure sensor 59
Low pressure sensor 61
Inverter PCB (RKXYQ5T & RKXYQ8T) 63
Main PCB (RKXYQ5T) 68
Main PCB (RKXYQ8T) 69
Refrigerant thermistors 70
EC fan motor (RDXYQ-T) 72
Compressor 75
Electronic expansion valve 77
Main PCB (RDXYQ-T) 79
System 79
Others 79

2.4.1. Compressor and heat exchanger module

2.4.1.1. 4-way valve

Technical specification	Description
The 4 way valve is controlled from a pilot valve set in position by a magnetic coil: • 0 V = discharge pressure to RDKXYQ. • 230 VAC = suction pressure to RDKXYQ.	The 4-way valve directs the super heated refrigerant discharged from the compressor to the indoor heat exchanger in case of heating operation or to the outdoor heat exchanger in case of defrosting and cooling operation.

Location			
Piping diagram	**Wiring diagram**	**Switch box**	**Component overview of unit**
See "Heat exchanger module - compressor module 5 hp" on page 150 or "Heat exchanger module - compressor module 8 hp" on page 150.	See "Wiring diagram" on page 148.	See "Compressor module 5 hp" on page 151 or "Compressor module 8 hp" on page 152.	See "Compressor module 5 hp" on page 151 or "Compressor module 8 hp" on page 152.

Check procedure

Mechanical check

1. Switch off the Daikin unit(s) via the user interface.
2. Switch off the power supply to the compressor module with the field supplied circuit breaker.
3. Remove plate work when required, refer to "Basic removal" on page 86.
4. Loosen the screw and remove the coil from the 4-way valve (refer to "Replacing 4-way valve coil" on page 96).



WARNING: RISK OF FIRE

When reconnecting a connector to the PCB, do not apply force, as this may damage the connector or connector pins of the PCB.

5. Unplug 4-way valve connector from the applicable PCB, refer to "Component checklist" on page 155.
6. Switch on the power supply to the compressor module with the field supplied circuit breaker.
   - If the temperature after the heat exchanger drops, proceed with step 7.
   - If the temperature after the heat exchanger rises, the 4-way valve is stuck in heating position, replace the 4-way valve body (refer to "Replacing 4-way valve body" on page 94).

   If the temperature after the heat exchanger does not rise, check the refrigerant pressure by connecting a manifold to one of the service ports.
   - If no pressure is measured, perform a pressure test and fix any leaks.
   - If pressure is measured, the 4-way valve is stuck in the middle, confirm by determining the position of the 4-way valve as described below and replace the 4-way valve (refer to "Replacing 4-way valve body" on page 94).



CAUTION - RISK OF LIQUID ENTERING THE COMPRESSOR

To prevent damage to the compressor the step below must only be done once.

7. While listening to the 4-way valve, place a round permanent magnet on the core of the solenoid valve. If you do not hear the 4-way valve switching, it must be replaced (refer to "Replacing 4-way valve body" on page 94).

Electrical check

1. Switch off Daikin unit via the user interface.
2. Switch off the power supply to the compressor module with the field supplied circuit breaker.

3. Remove plate work when required, refer to "Basic removal" on page 86.

4. Switch on the Daikin unit, start heating operation.

> **WARNING: RISK OF FIRE**
>
> When reconnecting a connector to the PCB, do not apply force, as this may damage the connector or connector pins of the PCB.

5. Measure the voltage on 4-way valve connector: pin 1-3. If the measured voltage does not range 220-240 VAC during switching / 15 VAC after switching, unplug 4-way valve connector from PCB and measure the voltage directly on the PCB: pin 1-3 of 4-way valve connection.
   - If the voltage, measured directly on the PCB does not range 220-240 VAC during switching / 15 VAC after switching, replace main PCB (refer to "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119 or "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121).
   - If the voltage, measured directly on the PCB does range 220-240 VAC during switching / 15 VAC after switching, replace the 4-way valve coil (refer to "Replacing 4-way valve coil" on page 96).

> **WARNING: RISK OF FIRE**
>
> When reconnecting a connector to the PCB, do not apply force, as this may damage the connector or connector pins of the PCB.

6. Unplug 4-way valve connector from PCB and measure the resistance of the 4-way valve coil. If the measured resistance does not range 1000 - 2000 Ω, replace the 4-way valve coil (refer to "Replacing 4-way valve coil" on page 96).

7. Switch on the Daikin indoor unit(s). Start cooling operation.
   - If the temperature after the indoor unit heat exchanger rises, the control of the 4-way valve is wrong. Replace main PCB (refer to "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119 or "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121).

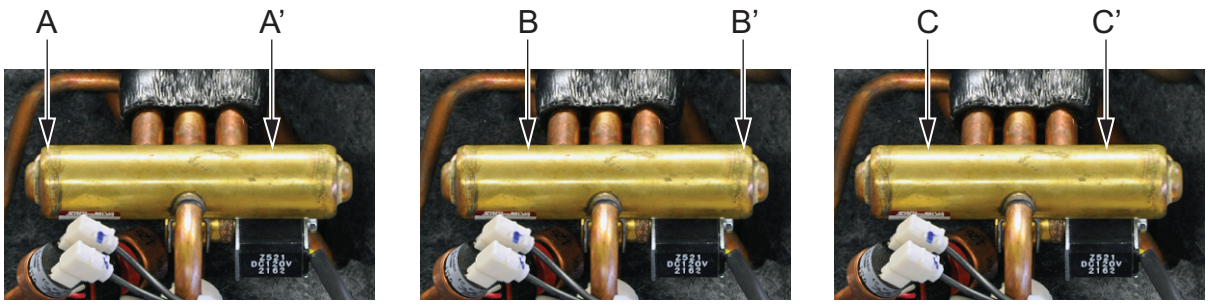
Determine the position of the 4-way valve

1. Switch off Daikin unit via the user interface.

2. Switch off the power supply to the compressor module with the field supplied circuit breaker.

3. Slide a magnet over the front and the rear of the 4-way valve body and sense the attraction of the magnet to determine the valve position.

4. If the magnet is attracted in positions A,A' or B,B', the 4-way valve is OK; if the magnet is attracted in positions C,C' the 4-way valve must be replaced (refer to "Replacing 4-way valve body" on page 94).



2.4.1.2. AC fan motor (RKXYQ-T)

Technical specification	Description
The AC fan motor assembly contains: • An AC motor equipped with a single connector for 230 VAC power supply. • A 5 blade fan propeller.	The fan motor location behind the switchbox operates when the inverter temperature requires cooling.

Location			
Piping diagram	**Wiring diagram**	**Switch box**	**Component overview of unit**
See "Piping diagram" on page 150.	See "Wiring diagram" on page 148.	See "Compressor module 5 hp - control board" on page 161 or "Compressor module 8 hp - control board" on page 162.	See "Compressor module 5 hp" on page 151 or "Compressor module 8 hp" on page 152.

Check procedure

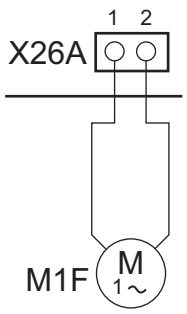
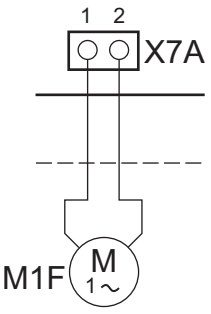
Mechanical check

1. Switch off the Daikin unit via the user interface.
2. Switch of the power supply of the compressor module with the field supplied circuit breaker.
3. Check all electrical connections of the fan motor.
4. Check all electrical connections of the power supply.
5. Check propeller rotates free.

Electrical check

Without power supply

1. Switch off the power supply to the heat-exchanger module with the field supplied circuit breaker.
2. Disconnect plug at fan motor, refer to the table below.
3. Measure the circuits using the table below.

	RKXYQ5T7V1B	RKXYQ8T7V1B
Symbols wiring diagram		
Check Method	Resistance check 2.075 kΩ (20°C) (tolerance ±10%)	

With power supply

1. Reconnect the plug of the fan motor.
2. Switch on the power supply to the compressor module with the field supplied circuit breaker.

3. Start indoor unit by User interface.
4. Confirm output 230 VAC when inverter temperature reaches 65°C (fin temperature read out by service checker Type III or D-checker).
5. Confirm motor runs when output 230 VAC is measured on main board compressor module.
6. Confirm motor does not make abnormal noise.
7. Check air circulation (±90 m^3/hr).

2.4.1.3. High pressure switch

Technical specification		Description	
The high pressure switch has a normally closed contact. If the pressure exceeds 41.7 (+0 / -1) bar the contact will open; if the pressure drops below 32 (±2) bar the contact will close.		The high pressure switch is a safety component that stops the compressor if overpressure is detected in the refrigerant circuit.	
Location			
Piping diagram	**Wiring diagram**	**Switch box**	**Component overview of unit**
See "Piping diagram" on page 150.	See "Wiring diagram" on page 148.	See "Compressor module 5 hp - inverter board" on page 159 or "Compressor module 8 hp - inverter board" on page 160.	See "Compressor module 5 hp" on page 151 or "Compressor module 8 hp" on page 152.
Check procedure			
Electrical check			

PRELIMINARY ACTIONS

1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Remove plate work when required, refer to "Basic removal" on page 86.

PROCEDURE

1. Disconnect the high pressure switch connector from applicable PCB, see table "Component checklist" on page 155.
2. Recover the refrigerant.
3. Pressurize the refrigerant circuit at 41.7 bar with nitrogen.
4. Measure the switch contacts between high pressure switch connector: pins 1-2; the switch must be open.
5. Replace the high pressure switch if the contact is not open, refer to "Replacing high pressure switch" on page 108.
6. Lower the refrigerant circuit pressure to 30 bar.
7. Measure the switch contacts between high pressure switch connector: pins 1-2; the switch must be closed.
8. Replace the high pressure switch if the contact is not closed, refer to "Replacing high pressure switch" on page 108.

2.4.1.4. High pressure sensor

Technical specification		Description	
The pressure sensor is an analog pressure sensor.		The pressure sensor measures the pressure in the high pressure section of the refrigerant circuit.	
Location			
Piping diagram	**Wiring diagram**	**Switch box**	**Component overview of unit**
See "Piping diagram" on page 150.	See "Wiring diagram" on page 148.	See "Compressor module 5 hp - control board" on page 161 or "Compressor module 8 hp - control board" on page 162.	See "Compressor module 5 hp" on page 151 or "Compressor module 8 hp" on page 152.
Check procedure			

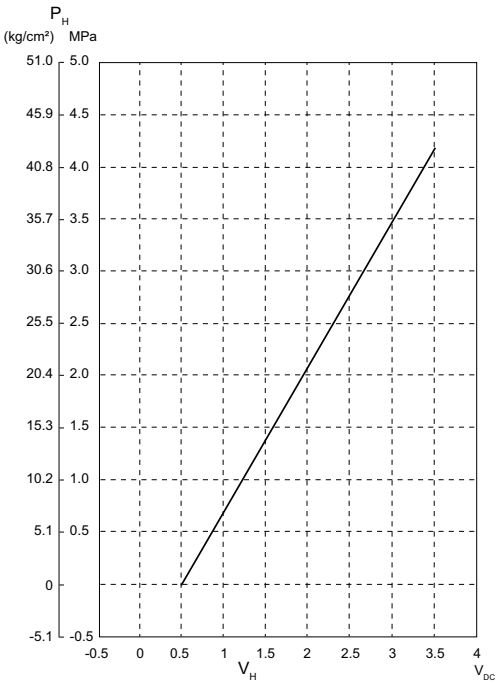
Electrical check

PRELIMINARY ACTIONS

1. Switch off the Daikin unit via the user interface.
2. Remove plate work when required, refer to "Basic removal" on page 86.

PROCEDURE

1. Connect a pressure gauge to the pressure service port gas stop valve to heat-exchanger module and read the pressure.
2. Start the unit from the user interface.
3. From the graph below, determine the expected high pressure sensor output signal.



P_H: High pressure (MPa)

V_H: Output voltage [high side] VDC

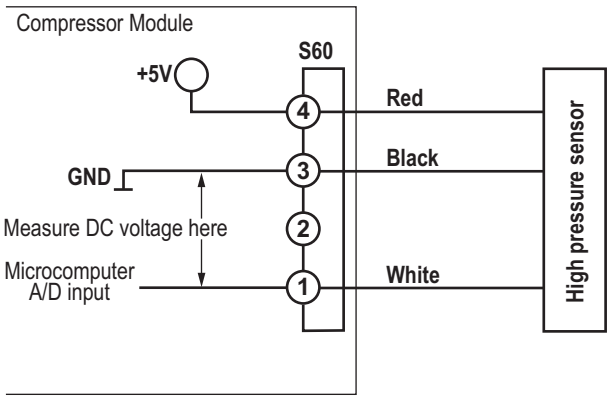
$P_H = 1.38\ V_H - 0.69$

4. Power the Daikin unit.

INFORMATION

To know where to plug in the high pressure sensor connector, refer to "Component checklist" on page 155.

5. Measure the voltage across high pressure sensor connector: pin 1-3 on the PCB; compare the measured voltage with the expected voltage.



6. In case no voltage is measured across high pressure sensor connector: pin 1-3; do following checks:

> **INFORMATION**
>
> If 1 or more checks fail, replace the high pressure sensor.

Check 1

1. Check main PCB (refer to "Main PCB (RDXYQ-T)" on page 79).

Check 2

1. Check if the high pressure sensor connector is plugged into PCB.

Check 3

1. Measure the voltage across high pressure sensor connector: pin 4-3; the measured voltage must be 5 VDC, if not replace PCB (refer to "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119 or "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121).

2.4.1.5. Low pressure sensor

Technical specification		Description	
The low pressure sensor is an analog pressure sensor.		The pressure sensor measures the pressure in the low pressure section of the refrigerant circuit.	
Location			
Piping diagram	**Wiring diagram**	**Switch box**	**Component overview of unit**
See "Piping diagram" on page 150.	See "Wiring diagram" on page 148.	See "Compressor module 5 hp - control board" on page 161 or "Compressor module 8 hp - control board" on page 162.	See "Compressor module 5 hp" on page 151 or "Compressor module 8 hp" on page 152.
Check procedure			

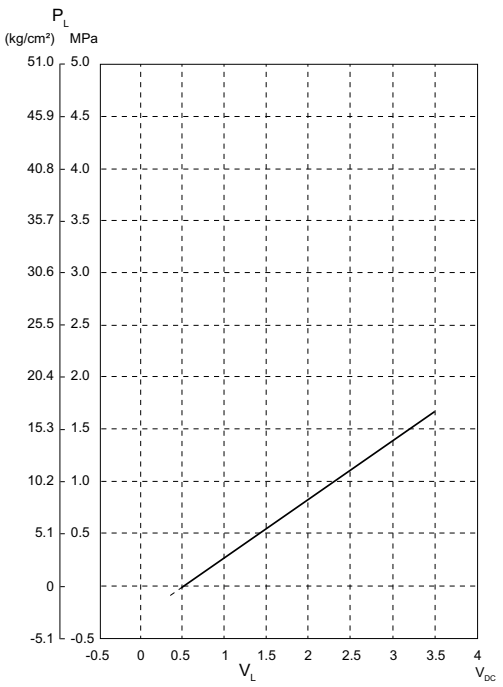
Electrical check

PRELIMINARY ACTIONS

1. Switch off the Daikin unit via the user interface.
2. Remove plate work when required, refer to "Basic removal" on page 86.

PROCEDURE

1. Connect a pressure gauge to the pressure service port gas stop valve to heat-exchanger module and read the pressure.
2. Start the unit from the user interface.
3. From the graph below, determine the expected sensor output signal.



P_L: Low pressure (MPa)

V_L: Output voltage [high side] VDC

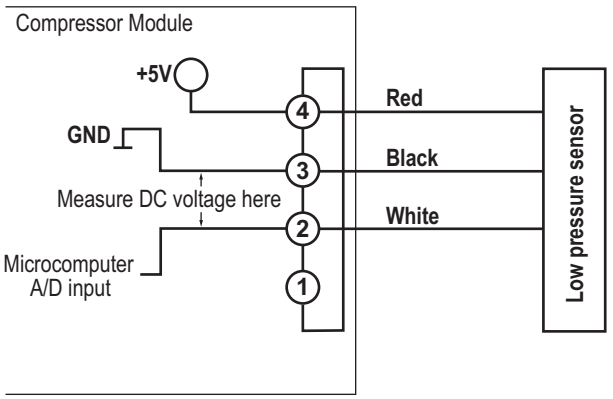
$P_L = 0.57\ V_L - 0.28$

4. Power the Daikin unit.

INFORMATION

To know where to plug in the high pressure sensor connector, refer to "Component checklist" on page 155.

5. Measure the voltage across low pressure sensor connector: pin 2-3 on the PCB; compare the measured voltage with the expected voltage.



6. In case no voltage is measured across low pressure sensor connector: pin 2-3; do following checks:

> **INFORMATION**
>
> If 1 or more checks fail, replace the low pressure sensor.

Check 1

1. Check main PCB (refer to "Main PCB (RDXYQ-T)" on page 79).

Check 2

1. Check if the low pressure sensor connector is plugged into PCB.

Check 3

1. Measure the voltage across low pressure sensor connector: pin 4-3; the measured voltage must be 5 VDC, if not replace PCB (refer to "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119 or "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121).

2.4.1.6. Inverter PCB (RKXYQ5T & RKXYQ8T)

Technical specification	Description
-	The inverter PCB outputs 3 phase PWM voltage to the compressor motor windings. The target rotation speed is set by main PCB based offset to target saturated pressure. Rotation speed can be lowered preventively when reaching abnormal level on low pressure, high pressure, current, discharge pipe temperature or inverter temperature.

Location			
Piping diagram	**Wiring diagram**	**Switch box**	**Component overview of unit**
-	See "Compressor module 5 hp" on page 148.	See "Compressor module 5 hp - inverter board" on page 159 or "Compressor module 8 hp - inverter board" on page 160.	See "Compressor module 5 hp" on page 151 or "Compressor module 8 hp" on page 152.

Check procedure

Mechanical check

1. Check the inverter PCB for cracks, replace main PCB, refer to "Replacing inverter board 5 hp (T7 & T8)" on page 116 or "Replacing inverter board 8 hp (T7) & 5 hp (TA)" on page 118.
2. Check the inverter PCB for burned components, replace main PCB, refer to "Replacing inverter board 5 hp (T7 & T8)" on page 116 or "Replacing inverter board 8 hp (T7) & 5 hp (TA)" on page 118.
3. If any mechanical damage, replace inverter PCB, refer to "Replacing inverter board 5 hp (T7 & T8)" on page 116 or "Replacing inverter board 8 hp (T7) & 5 hp (TA)" on page 118.

Electrical check

Check connectors unplugged (5 hp)

1. Switch off the Daikin unit via the user interface.
2. Switch off the power supply of the compressor module with the field supplied circuit breaker.
3. Remove plate work when required (refer to "Basic removal" on page 86).
4. Open the compressor insulation, refer to "Removing the compressor jacket" on page 91.



WARNING: RISK OF ELECTROCUTION

The smoothing capacitor must discharge below 10 VDC before removing the compressor wiring.

5. Measure the 500 VDC check point (refer to "Component checklist" on page 155) and wait until it drops below 10 VDC.



INFORMATION

Note the position of the cables on the compressor wire terminals to allow identical wiring during reinstallation.

6. Disconnect the Faston connectors U, V and W from the compressor.
7. Using a multimeter in diode measurement, check the compressor inverter board as described in the illustration and table below.

Figure 2-1: Inverter board transistor/diode check (5 hp)

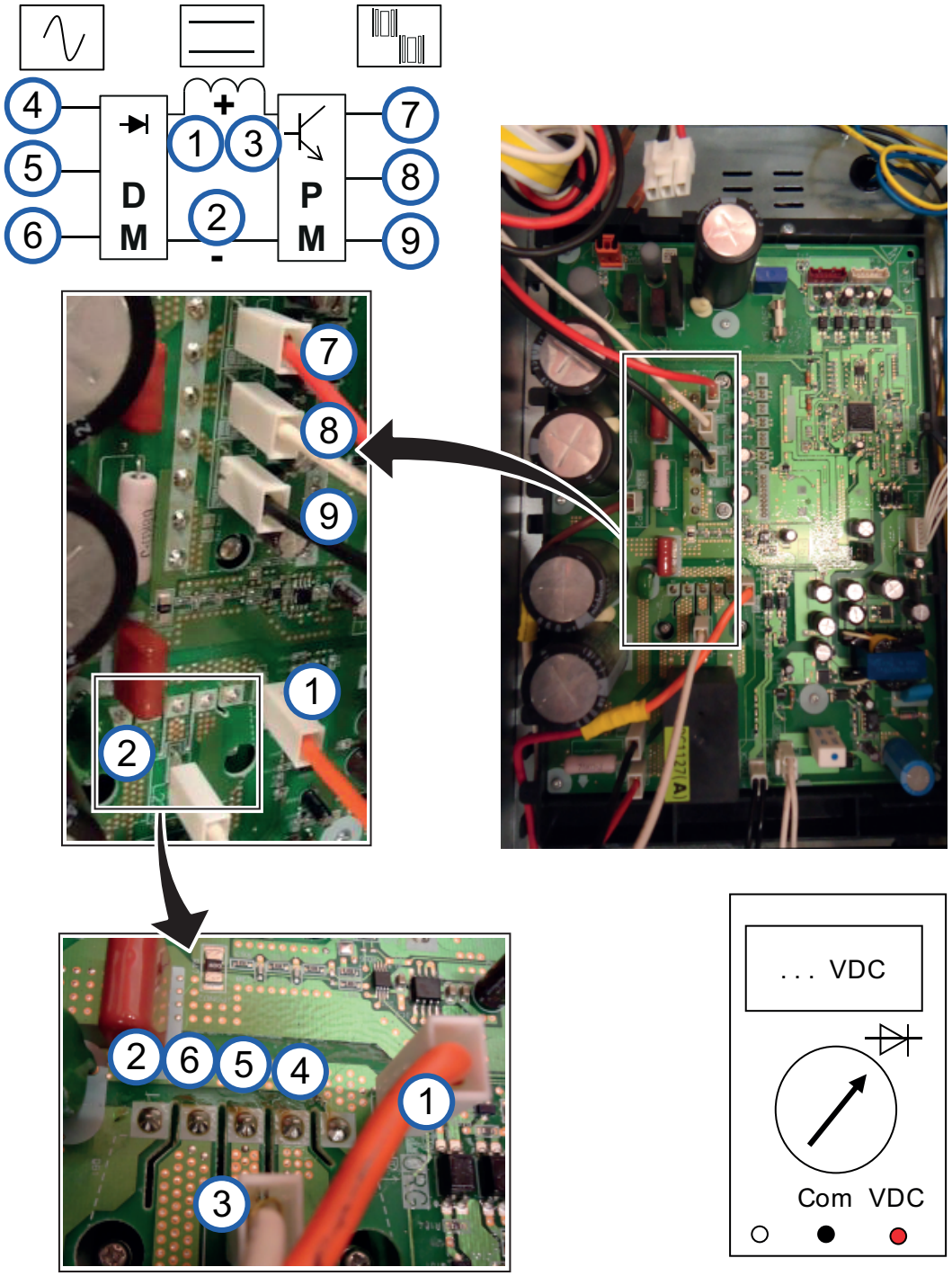


Table 2-1: Transistor/diode check of compressor inverter (5 hp)

DM			-			PM			-		
	DCV		④	⑤	⑥		DCV		⑦	⑧	⑨
	+	①	0.4	0.4	0.4		+	③	0.4	0.4	0.4
		②	O.L.	O.L.	O.L.			②	O.L.	O.L.	O.L.
			+						+		
	DCV		④	⑤	⑥		DCV		⑦	⑧	⑨
	-	①	O.L.	O.L.	O.L.		-	③	O.L.	O.L.	O.L.
		②	0.4	0.4	0.4			②	0.4	0.4	0.4

Check connectors unplugged (8 hp)

1. Switch off the Daikin unit via the user interface.
2. Switch off the power supply of the compressor module with the field supplied circuit breaker.
3. Remove plate work when required (refer to "Basic removal" on page 86).
4. Open the compressor insulation, refer to "Removing the compressor jacket" on page 91.

> **WARNING: RISK OF ELECTROCUTION**
> The smoothing capacitor must discharge below 10 VDC before removing the compressor wiring.

5. Measure the 500 VDC check point, refer to "Component checklist" on page 155 and wait until it drops below 10 VDC.

> **INFORMATION**
> Note the position of the cables on the compressor wire terminals to allow identical wiring during reinstallation.

6. Disconnect the Faston connectors U, V and W from the compressor.
7. Using a multimeter in diode measurement, check the compressor inverter board as described in the illustration and table below.

Figure 2-2: Inverter board transistor/diode check (8 hp)

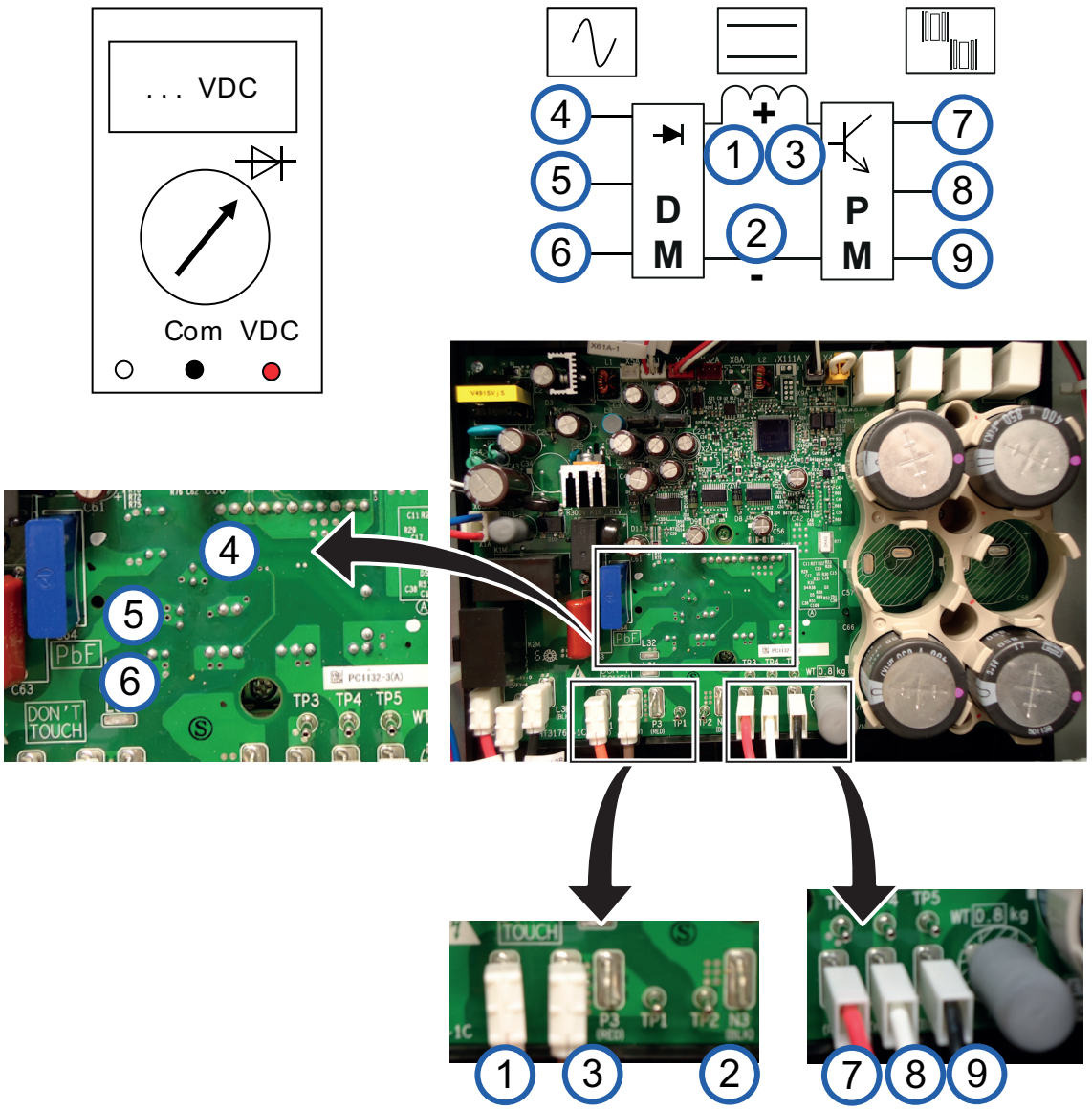


Table 2-2: Transistor/diode check of compressor inverter (8 hp)

DM			-			PM			-		
	DCV		④	⑤	⑥		DCV		⑦	⑧	⑨
	+	①	0.4	0.4	0.4		+	③	0.4	0.4	0.4
		②	O.L.	O.L.	O.L.			②	O.L.	O.L.	O.L.
			+						+		
	DCV		④	⑤	⑥		DCV		⑦	⑧	⑨
	-	①	O.L.	O.L.	O.L.		-	③	O.L.	O.L.	O.L.
		②	0.4	0.4	0.4			②	0.4	0.4	0.4

Check connectors reconnected to the compressor (5 and 8 hp)

1. Switch off the Daikin unit via the user interface.
2. Switch off the power supply of the compressor module with the field supplied circuit breaker.
3. Remove plate work when required, refer to "Basic removal" on page 86.
4. Open the compressor insulation, refer to "Removing the compressor jacket" on page 91.
5. Remove the cover from the compressor terminal.

WARNING: RISK OF ELECTROCUTION

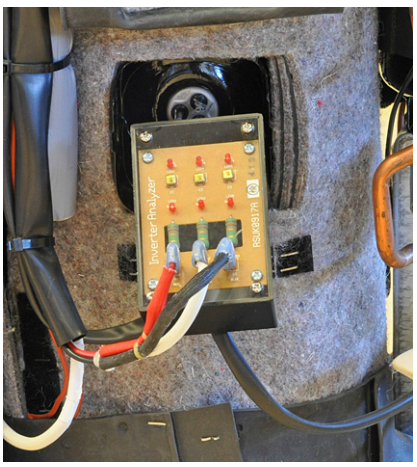
The smoothing capacitor must discharge below 10 VDC before removing the compressor wiring.

6. Measure the 500 VDC check point, refer to "Component checklist" on page 155 and wait until it drops below 10 VDC.

INFORMATION

Note the position of the cables on the compressor wire terminals to allow identical wiring during reinstallation.

7. Disconnect the compressor wires and connect the compressor wires to the Inverter Analyzer (SPP number 1368521).



8. Power the Daikin unit.

WARNING

Electrical shock hazard. Do not touch live wires.

9. Activate the inverter test (refer to "Component checklist" on page 155).
10. Check that all LED's on the Inverter Analyzer are blinking 10 times/second; if not, replace the inverter board (refer to "Replacing inverter board 5 hp (T7 & T8)" on page 116 or "Replacing inverter board 8 hp (T7) & 5 hp (TA)" on page 118).

11. Switch off the power supply of the compressor module with the field supplied circuit breaker.
12. Wait a few minutes and confirm that the LED's on the Inverter Analyzer are off.
13. Disconnect the Inverter Analyzer from the U V W wiring.

	**CAUTION** When wiring the compressor, observe U V W as indicated on the compressor.
	**CAUTION** When above described test on inverter board is correct, first check the compressor motor windings before operating the equipment (refer to "Compressor" on page 75): 1. Check the correct resistance between U/V/W and 2. No earth leakage (use a Megger minimum 500 VDC) between ground and each U/V/W (minimum 1 MOhm).

14. Reconnect the U V W leads to the compressor.

2.4.1.7. Main PCB (RKXYQ5T)

Technical specification	Description
-	The main PCB judges rotation direction of power supply (L1 & L3 to N), input of temperature and pressure, output to multiple components based on logic of processor.

Location			
Piping diagram	**Wiring diagram**	**Switch box**	**Component overview of unit**
See "Piping diagram" on page 150.	See "Wiring diagram" on page 148.	See "Compressor module 5 hp - control board" on page 161.	See "Compressor module 5 hp" on page 151.

Check procedure

Mechanical check

1. Check the main PCB for cracks, replace main PCB, refer to "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119.
2. Check the main PCB for burned components, replace main PCB, refer to "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119.
3. If any mechanical damage, replace main PCB, refer to "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119.

Electrical check

1. Switch off the Daikin unit via the user interface.
2. Switch off the power supply to the compressor module with the field supplied circuit breaker.
3. Remove plate work when required, refer to "Basic removal" on page 86.
4. Switch on the power supply of the compressor module with the field supplied circuit breaker.
5. Check if the HAP LED is blinking in regular intervals (2 times per second), if not blinking check if low DC voltage present, refer to "Component overview of unit" on page 151. If low DC voltage check OK, replace the main PCB board, refer to "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119.
6. Measure the supply voltage to the main PCB board: there should be ± 230 V (see 230 VAC power supply check, "Component checklist" on page 155). If not correct voltage, replace main PCB, refer to "Replacing main PCB 5 hp (T7 & T8) (compressor module)" on page 119.

2.4.1.8. Main PCB (RKXYQ8T)

Technical specification		Description	
-		The main PCB judges rotation direction of power supply (L1 & L3 to N), input of temperature and pressure, output to multiple components based on logic of processor.	
Location			
Piping diagram	**Wiring diagram**	**Switch box**	**Component overview of unit**
See "Piping diagram" on page 150.	See "Wiring diagram" on page 148.	See "Compressor module 8 hp - control board" on page 162.	See "Compressor module 8 hp" on page 152.
Check procedure			

Mechanical check

1. Check the main PCB for cracks, replace main PCB, refer to "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121.
2. Check the main PCB for burned components, replace main PCB, refer to "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121.
3. If any mechanical damage, replace main PCB, refer to "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121.

Electrical check

1. Switch off the Daikin unit via the user interface.
2. Switch off the power supply to the compressor module with the field supplied circuit breaker.
3. Remove plate work when required, refer to "Basic removal" on page 86.
4. Switch on the power supply of the compressor module with the field supplied circuit breaker.
5. Check if the HAP LED is blinking in regular intervals (2 times per second), if not blinking check if low DC voltage present, refer to "Component checklist" on page 155. If low DC voltage check OK, replace the main PCB board, refer to "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121.
6. Measure the supply voltage to the main PCB board: there should be ± 230 V (230 VAC power supply check, refer to "Component overview of unit" on page 151). If the voltage is not correct, replace main PCB; refer to "Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)" on page 121.

2.4.1.9. Refrigerant thermistors

Technical specification	Description
A single type of thermistor is used; the resistance vs. temperature characteristics is shown in below table "Thermistor resistance / temperature characteristics (type 1)".	The thermistors are used to measure the temperature at multiple locations inside the Daikin unit. The measured temperatures are processed by the main board.

Location			
Piping diagram	**Wiring diagram**	**Switch box**	**Component overview of unit**
See "Heat exchanger module - compressor module 5 hp" on page 150 or "Heat exchanger module - compressor module 8 hp" on page 150.	See "Compressor module 5 hp" on page 148 and "Heat exchanger module 5 hp" on page 149.	See "Compressor module 5 hp - control board" on page 161, "Compressor module 8 hp - control board" on page 162, "Heat exchanger module 5 hp - main PCB" on page 163 and "Heat exchanger module 8 hp - main PCB" on page 164.	See "Compressor module 5 hp" on page 151 or "Compressor module 8 hp" on page 152 and "Heat exchanger module 5 hp" on page 153 or "Heat exchanger module 8 hp" on page 154.

Check procedure

Check with monitoring tool

1. Switch off the Daikin unit via the user interface.
2. Confirm both heat-exchanger module and compressor module stop operation.
3. Wait for about 15 minutes before checking value of thermistors.
4. Compare deviation of read out (maximum 5% to ambient temperature).
5. If any thermistor read out shows “out of range”, use the electric check method to judge if change of thermistor (resistance check fails) or main PCB (resistance check pass).
   - out of range if < -47°C or > 103°C.

Mechanical check

1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Locate the thermistor and check if thermal contact with the piping or ambient is ensured.

Electrical check

INFORMATION

If a thermistor check fails, replace the thermistor.

1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Remove plate work when required.
4. From the table in the appendix ("Component checklist" on page 155), select the thermistor that must be checked.
5. Measure the temperature of the thermistor using a contact thermometer.

WARNING: RISK OF FIRE

When reconnecting a connector to the PCB, do not apply force, as this may damage the connector or connector pins of the PCB.

6. Unplug the connector from the appropriate PCB and measure the resistance between the pins listed in the table in the appendix ("Component checklist" on page 155).
   - Compare the measured resistance with the range determined by the lower and higher temperature.
7. If the measured resistance does not match the listed value, the thermistor must be replaced. If resistance value matches, replace main PCB.

INFORMATION

All thermistors have a tolerance of 5%.

E.g. R3T - main PCB - connector, see table "Component overview of unit" on page 151" - type 1

- Measured temperature with contact thermometer: 23.1°C.
- Unplug the sensor and measure the resistance, see table "Component overview of unit" on page 151.
- The resistance values are defined by below table "Thermistor resistance / temperature characteristics (type 1)":
  - Resistance at 23°C: 21.85 kΩ.
  - Resistance at 24°C: 20.90 kΩ.
- The measured value 21.86 kΩ is inside the range, thermistor R3T passes the check.

INFORMATION

The user interface allows to monitor most thermistors.

If the measured resistance of the thermistor matches the temperature measured with the contact thermometer but the temperature for the corresponding thermistor is not correct on the user interface display, replace applicable PCB.

Table 2-3: Thermistor resistance / temperature characteristics (type 1)

T °C	kΩ	T °C	kΩ	T °C	kΩ	T °C	kΩ	T °C	kΩ
-20	197.81	0	65.84	20	25.01	40	10.63	60	4.87
-19	186.53	1	62.54	21	23.91	41	10.21	61	4.70
-18	175.97	2	59.43	22	22.85	42	9.81	62	4.54
-17	166.07	3	56.49	23	21.85	43	9.42	63	4.38
-16	156.80	4	53.71	24	20.90	44	9.06	64	4.23
-15	148.10	5	51.09	25	20.00	45	8.71	65	4.08
-14	139.94	6	48.61	26	19.14	46	8.37	66	3.94
-13	132.28	7	46.26	27	18.32	47	8.05	67	3.81
-12	125.09	8	44.05	28	17.54	48	7.75	68	3.68
-11	118.34	9	41.95	29	16.80	49	7.46	69	3.56
-10	111.99	10	39.96	30	16.10	50	7.18	70	3.44
-9	106.03	11	38.08	31	15.43	51	6.91	71	3.32
-8	100.41	12	36.30	32	14.79	52	6.65	72	3.21
-7	95.14	13	34.62	33	14.18	53	6.41	73	3.11
-6	90.17	14	33.02	34	13.59	54	6.65	74	3.01
-5	85.49	15	31.50	35	13.04	55	6.41	75	2.91
-4	81.08	16	30.06	36	12.51	56	6.18	76	2.82
-3	76.93	17	28.70	37	12.01	57	5.95	77	2.72
-2	73.01	18	27.41	38	11.52	58	5.74	78	2.64
-1	69.32	19	26.18	39	11.06	59	5.14	79	2.55
								80	2.47

2.4.1.10. EC fan motor (RDXYQ-T)

Technical specification	Description
The EC (= Electronically Commutated) fan motor assembly contains: • An EC motor equipped with a single connector for 230 VAC power supply, and variable signal 0-10 VDC to set rotation speed. • A back curved "Plug" fan.	The speed of the fan motor is adjusted to control the refrigerant pressure of the heat-exchanger in the heat-exchanger module. The heat-exchanger will be used as: • Condenser in cooling mode. In this operation mode, the fan speed is adjusted to keep minimum saturated condensing temperature. • Evaporator in heating mode. In this operation mode, the fan speed default runs as nominal speed, but can be lowered to avoid excessive raising of saturated condensing temperature or evaporation temperature.

Location			
Piping diagram	**Wiring diagram**	**Switch box**	**Component overview of unit**
See "Piping diagram" on page 150.	See "Wiring diagram" on page 148.	See "Heat exchanger module 5 hp - main PCB" on page 163 and "Heat exchanger module 8 hp - main PCB" on page 164.	See "Heat exchanger module 5 hp" on page 153 or "Compressor module 8 hp" on page 152.

Check procedure

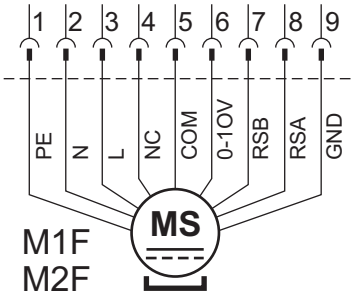
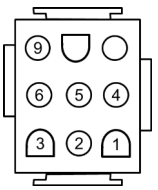
Mechanical check

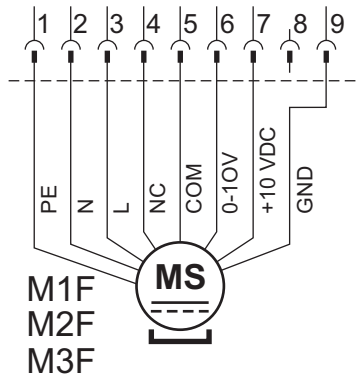
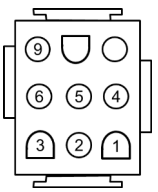
1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Check all electrical connections of the fan motor.
4. Check all electrical connections of the power supply.

Electrical check

Without power supply

1. Measure the circuits using the table below.
2. Switch off the power supply to the heat-exchanger module with the field supplied circuit breaker.
3. Disconnect plug at fan motor (air discharge side).
4. Measure the circuits using the table below.

	Label	No.	Colour	RDXYQ5T7V1B	Motor plug
Symbols wiring diagram	PE	1	Black		
	N	2	Blue		
	L	3	Ylw/Grn		
	NC	4	White		
	Com	5	White		
	0~10 V	6	Yellow		
	GND	9	Blue		
Resistance Check Method	Terminals			Read out multimeter	
	L	N		7~8 MΩ	
	NC	COM		Open if L-N 0 VAC Closed if L-N 230 VAC	
	0~10 V	GND		90~95 kΩ	
Operation Check Method	L	N		230 VAC (power to unit)	
	0~10 V (AP-X20A)	GND (A1P-X20A)		AA or AAA battery: +: 0~10 V; -: GND	

	Label	No.	Colour	RDXYQ8T7V1B	Motor plug
Symbols wiring diagram	PE	1	Ylw/Grn		
	N	2	Blue		
	L	3	Black		
	NC	4	White		
	Com	5	White		
	0~10 V	6	Yellow		
	+10V DC	7	Red		
	GND	9	Blue		
Resistance Check Method	Terminals			Read out multimeter	
	L	N		7~8 MΩ	
	NC	COM		Open if L-N 0 VAC Closed if L-N 230 VAC	
	0~10 V	GND		90~95 kΩ	
Diode check	+10 V (+)	GND (--)		Open loop	
	+10 V (-)	GND (+)		0.7 ~ 0.9 VDC	
Operation Check Method	L	N		230 VAC (power to unit)	
	0~10 V (AP-X20A)	GND (A1P-X20A)		AA or AAA battery: +: 0~10 V; -: GND	

With power supply

1. Reconnect the plug of the fan motors.
2. Remove plug 0-10 VDC:
   - RDXYQ5T: X20 on A1P.
   - RDXYQ8T: X2A on A2P.
3. Insert 2 test wires into plug for 0-10 VDC at
   - yellow wire = “+” side, and

- blue wire = “0V” side.
- Make sure wires do not touch any metal or electric part.

4. Switch on the power supply to the Daikin heat-exchanger module with the field supplied circuit breaker.
5. Confirm on each motor safety circuit between terminals “NC” & “COM” is closed.
6. Take an AA or AAA battery. Connect:
   - the test wire “+” to the + side of the battery, and
   - the test wire “0V” to the - side of the battery.
7. Confirm all fan motors run at low speed.
8. Check for noise and vibrations.

2.4.1.11. Compressor

Technical specification		Description	
Type: RKXYQ5T: inverter driven, double swing. RKXYQ8T: inverter driven, scroll.		The compressor compresses the refrigerant in the refrigerant circuit.	
Location			
Piping diagram	**Wiring diagram**	**Switch box**	**Component overview of unit**
See "Heat exchanger module - compressor module 5 hp" on page 150 or "Heat exchanger module - compressor module 8 hp" on page 150.	See "Compressor module 5 hp" on page 148 and "Heat exchanger module 8 hp" on page 149.	See "Compressor module 5 hp - inverter board" on page 159 and "Compressor module 8 hp - inverter board" on page 160.	See "Compressor module 5 hp" on page 151 and "Compressor module 8 hp" on page 152.
Check procedure			

Preliminary check

1. Check if the Daikin unit is connected to earth.
2. Check if the stop valve is open.

Mechanical check

1. Switch off the Daikin unit via the user interface.
2. Switch off the power supply to the compressor module with the field supplied circuit breaker.
3. Remove plate work when required, refer to "Basic removal" on page 86.
4. Open the compressor insulation, refer to "Removing the compressor jacket" on page 91.
5. Check if the condition of the compressor dampers and piping is correct.

Electrical check

1. Switch off the Daikin unit via the user interface.
2. Switch off the power supply to the compressor module with the field supplied circuit breaker.
3. Remove plate work when required, refer to "Basic removal" on page 86.
4. Open the compressor insulation, refer to "Removing the compressor jacket" on page 91.
5. Switch on the compressor module and measure the U, V, W inverter voltages. All voltages must be identical, if not, replace the inverter PCB.
6. Switch off the Daikin unit via the user interface.
7. Switch off the compressor module with the field supplied circuit breaker.

INFORMATION

Note the position of the cables on the compressor wire terminals to allow identical wiring during reinstallation.

8. Disconnect the Faston connectors U, V and W from the compressor, take picture.
9. Measure the compressor motor windings U-V, V-W and U-W, refer to "Product specific information" on page 155.
10. Megger the compressor using 500 or 1000 VDC, the insulation must be higher than 3 MΩ.
11. Replace the compressor if the windings and/or insulation measurements fail, refer to "Replacing compressor 5 hp" on page 97

or "Replacing compressor 8 hp" on page 100.

12. Run the compressor and measure the current in each phase; the current for each phase should be identical (refer to "Product specific information" on page 155). In that case it can be decided to preventively replace the compressor, refer to "Replacing compressor 5 hp" on page 97 or "Replacing compressor 8 hp" on page 100.

2.4.1.12. Electronic expansion valve

Technical specification	Description
The electronic expansion valve has a hermetically sealed body with a slide-on stepping motor drive coil. Sub-cool exp. valve in compressor modules: 480 pulses. Main exp. valve in RDXYQ5T heat exch. module: 480 pulses. Main exp. valve in RDXYQ8T heat exch. module: 3000 pulses.	The electronic expansion valve is used: • To control the flow of refrigerant. Depending on location, the trigger point is sub-cool or superheat. • To stop the flow of refrigerant completely when closing (= 0 pulses).

Location			
Piping diagram	**Wiring diagram**	**Switch box**	**Component overview of unit**
See "Heat exchanger module - compressor module 5 hp" on page 150 or "Heat exchanger module - compressor module 8 hp" on page 150.	See "Compressor module 5 hp" on page 148 and "Heat exchanger module 8 hp" on page 149.	See "Compressor module 5 hp - control board" on page 161, "Compressor module 8 hp - control board" on page 162, "Heat exchanger module 5 hp - main PCB" on page 163 and "Heat exchanger module 8 hp - main PCB" on page 164.	See "Compressor module 5 hp" on page 151 and "Compressor module 8 hp" on page 152.

Check procedure

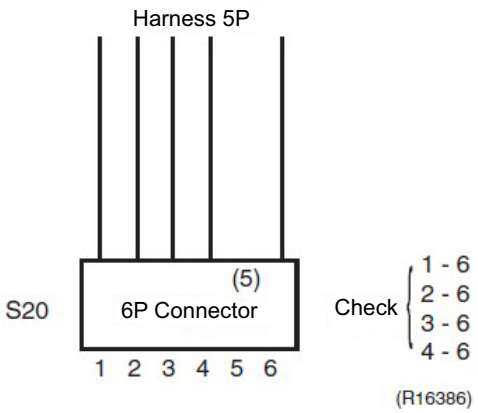
Mechanical check

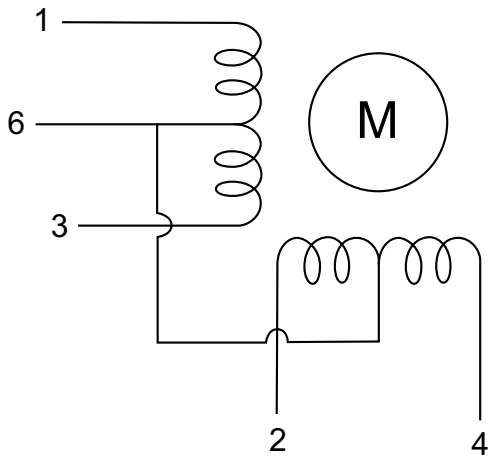
1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Switch on the Daikin unit and listen to the expansion valve assembly, if the expansion valve body does not create a latching sound, continue with the electrical check.
4. Switch off the Daikin unit via the user interface.
5. Switch off the Daikin unit with the field supplied circuit breaker.
6. Remove plate work when required (refer to "Basic removal" on page 86).
7. Remove the expansion valve coil from the expansion valve body.
8. Slide the magnet (tool part N° 99S0038 for small type expansion valve, 999133T for large type expansion valve) over the expansion valve body and gently rotate the magnet to manually operate the expansion valve body clockwise (closing) and counterclockwise (opening).
9. If it is not possible to open the expansion valve body with the magnet, the expansion valve body is blocked and the expansion valve body must be replaced (refer to "Replacing expansion valve body" on page 105).

Electrical check

1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Remove plate work when required (refer to "Basic removal" on page 86).
4. Check if the electrical connector of the expansion valve coil was correctly connected to the PCB, if not, connect the electrical connector.
5. Disconnect the electrical connector of the expansion valve coil and check the continuity between below pins using a multi meter. It should be ± the same value.
   - Connector pin 1-6: connected
   - Connector pin 2-6: connected

- Connector pin 3-6: connected
- Connector pin 4-6: connected





6. If one or more of the windings have no continuity, replace the expansion valve coil, "Replacing expansion valve coil" on page 106.

Plug no.	Coil no.	Wire colour	
		480 pulses	3000 pulses
1	1	orange	white
2	2	red	yellow
3	3	yellow	orange
4	4	black	blue
6	com	grey	red
Resistance		46 Ω (±3 Ω)	150 Ω (±15 Ω)
Connector	RKXYQ5T	X22A	
	RKXYQ8T	X21A	
	RDXYQ5T	X7A	
	RDXYQ8T		X7A

2.4.1.13. Main PCB (RDXYQ-T)

Technical specification		Description	
		The main PCB judges rotation direction of power supply (L1 & L3 to N), input of temperature and pressure, output to multiple components based on logic of processor.	
Location			
Piping diagram	**Wiring diagram**	**Switch box**	**Component overview of unit**
-	See "Heat exchanger module 5 hp" on page 149 or "Heat exchanger module 8 hp" on page 149.	See "Heat exchanger module 5 hp - main PCB" on page 163 and "Heat exchanger module 8 hp - main PCB" on page 164.	See "Heat exchanger module 5 hp" on page 153 or "Heat exchanger module 5 hp" on page 153.
Check procedure			

Mechanical check

1. Check the main PCB for cracks, replace main PCB, refer to "Replacing main PCB (heat exchanger)" on page 136.
2. Check the main PCB for burned components, replace main PCB, refer to "Replacing main PCB (heat exchanger)" on page 136.
3. If any mechanical damage, replace main PCB, refer to "Replacing main PCB (heat exchanger)" on page 136.

Electrical check

1. Switch off the Daikin unit via the user interface.
2. Switch off the power supply to the heat-exchanger module with the field supplied circuit breaker.
3. Remove plate work when required (refer to "Basic removal" on page 124).
4. Switch on the power supply of the heat-exchanger with the field supplied circuit breaker.
5. Check if the HAP LED is blinking in regular intervals (2 times per second), if not blinking, replace the main PCB board (refer to "Replacing main PCB (heat exchanger)" on page 136).
6. Measure the supply voltage to the main PCB board: there should be ± 230 V between brown and blue cable. If not correct voltage, check power at field supplied circuit breaker.

2.4.2. System

Not applicable.

2.4.3. Others

Not applicable.

2.5. Other capacity range

Not applicable.

Part 3. Repair

This part contains the following chapters:

Refrigerant repair procedures 81
Service tools 84
Unit specific repair procedures 85

3.1. Refrigerant repair procedures

Overview:

Refrigerant piping handling 81
Recovery procedure 81
Refrigerant pump down 82
Piping repair procedures 83

3.1.1. Refrigerant piping handling

- Make sure the applied pressure is never higher than the unit design pressure as indicated on the nameplate (PS).
- Work according the F-gas regulation and/or local regulations.
- Make sure the correct amount of refrigerant according the F-gas regulation label on the unit (factory + additional where required) is charged after repair.
- Make sure to use the appropriate equipment and tools according to the refrigerant and unit type.
- Charge non-azeotropic refrigerant (e.g. R-410A) always in a liquid state.
- Make sure to use a digital scale (no charging cylinder).
- Execute correct vacuum drying procedure after repair work:
  - -0,1 MPa / -760 mmHg / -750 Torr / -1 bar for at least 1 hour.
  - Connect the unit according the available service ports, refer to "Recovery procedure" on page 81.
  - Use related field setting where necessary to open expansion valve/solenoid valve.

3.1.2. Recovery procedure

3.1.2.1. Outdoor unit casing

1. Switch off the Daikin unit via the user interface.
2. Open expansion valves:

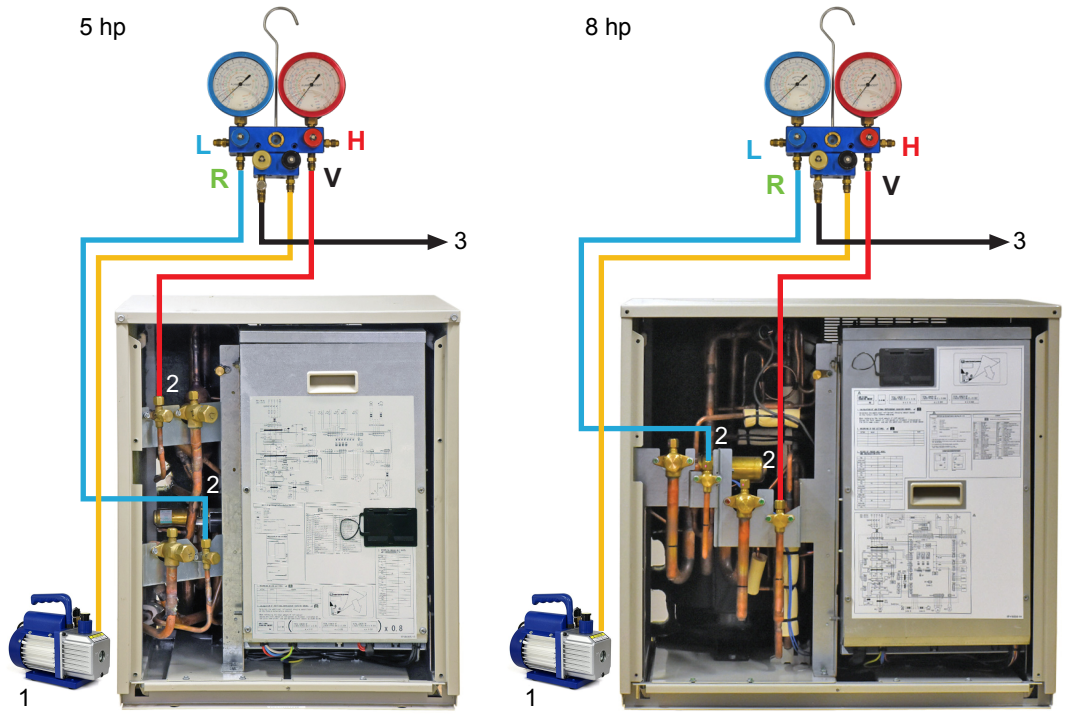
   1: In case power supply is present on compressor module, heat-exchanger module and connected indoor units, set mode 2 - code 21, recovery mode-on (refer to "Field setting" on page 141),

   2: In case some unit of the system have no power, manually open the expansion valve at compressor module and heat-exchanger module. Use the tool part number 99S0038 for the smaller type expansion valve, and the tool part number 999133T for the larger type expansion valve.
3. Connect the vacuum pump, manifold, recovery unit and refrigerant bottle to the service port as shown below.

   For the location of the service ports, refer to figure 3-1 on page 82.

In case of 1 service port at the stop valves

Figure 3-1: 1 Service port at the stop valves



1. Vacuum pump
2. Connect flexible hose to service port 3 stop valve
3. To recovery pump

INFORMATION

See instruction of the recovery pump supplier how to recover the refrigerant.

3.1.3. Refrigerant pump down

This unit is not equipped with an automatic pump down operation which will collect all refrigerant from the field piping and indoor unit in the outdoor unit. To protect the environment, refrigerant should be fully recovered before opening any part of the refrigerant circuit.

WARNING: RISK OF EXPLOSION

- When the refrigeration circuit has a leak, do not use again the recovered refrigerant. There is a risk of contamination or foreign substance or non-condensible gas (e.g. air).
- Use recovery system into separate cylinder.
- Warning, explosive hazard exists when executing pump down.
- Pump down with compressor can lead to self-combustion due to air entering during pump down.

INFORMATION

The compressor module is equipped with a low pressure sensor to protect the compressor by switching it off.

Never short-circuit the low pressure sensor!

3.1.3.1. 5 hp compressor module

1. Remove the valve lid from liquid stop valve and gas stop valve.
2. Activate the recovery mode by changing field setting 2-21 from 1 (LED 7) to 2 (LED 6) and press BS3 “Return” twice. During the recovery of the refrigerant do not exit the field settings.

	**CAUTION** Follow the procedure for field settings - refer "Field setting" on page 141.

3. When vacuum is reached by the recovery unit,
   - stop the operation of the recovery unit,
   - close the valves at the manifold,
   - end the recovery mode by pushing once BS1 (“Mode”) PCB compressor module.

3.1.3.2. 8 hp compressor module

1. Stop all demands for the Daikin unit.

2. Activate the recovery mode by changing field setting 2-21 from 0 to 1 and press BS3 “Return” twice. “t01” is displayed on the control PCB. During the recovery of the refrigerant do not exit the field settings.

3. When vacuum is reached by the recovery unit,
   - stop the operation of the recovery unit,
   - close the valves at the manifold,
   - end the recovery mode by pushing once BS3 (“Return”) PCB compressor module.

	**CAUTION** Follow the procedure for field settings - refer "Field setting" on page 141.
	**NOTE** • Make sure to all stop valves are open before restart operation of the unit. • After a repair it is highly recommended to perform a test run at first operation (same as during commissioning).

3.1.4. Piping repair procedures

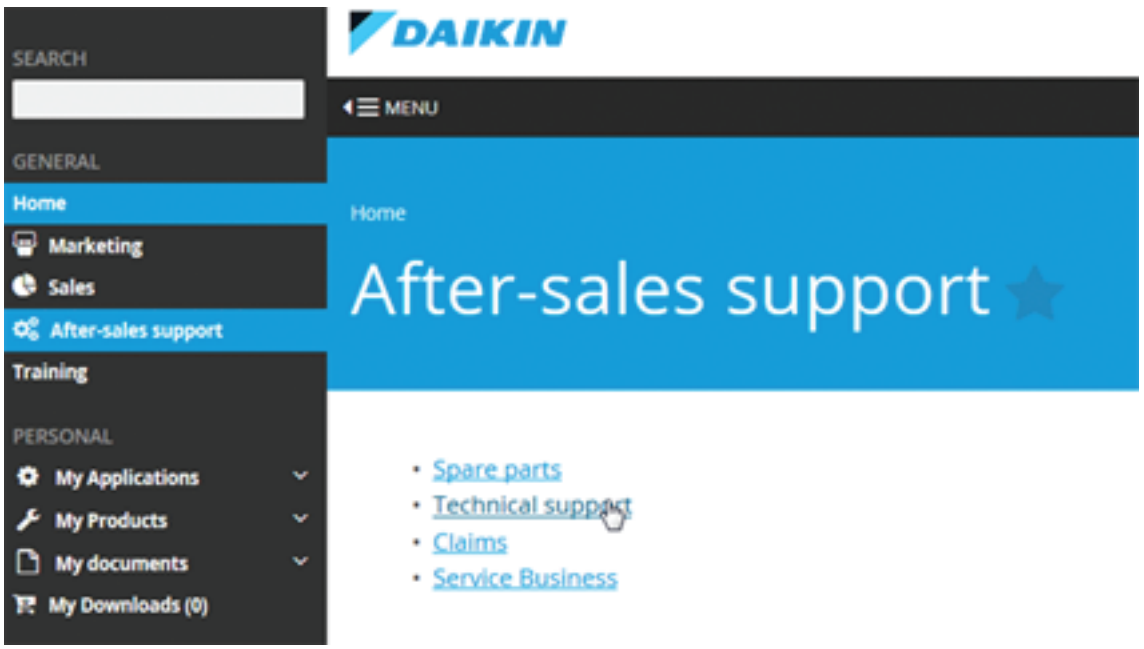
- Make sure to cover open pipe ends during repair work so no dust or moisture can enter.
- Make sure to re-apply insulation removed during repair.
- Pipe expansion / flare making:
  - Remove any burrs on the cut surface and use correct tool such as reamer or scraper (note that excessive deburring can thin the pipe walls and cause cracking of the pipe).
  - Make sure the flare connections at the indoor unit(s) has (have) the correct size (use a flare gauge).
  - Make sure no particles remain in the piping.
  - Apply just a drop of refrigerant oil on the inner surface of the flare.
  - Make sure the flare connection is tightened with the correct torque (torque values refer to installation manual).
- Brazing:
  - Use correct brazing tool.
  - Use a phosphor copper filler metal (silver composition of 0 to 2%). Do not use flux material.
  - Flush the piping before brazing with nitrogen to avoid oxidation of the inside of the copper tubes (nitrogen purity ≥ 99,99%).

3.2. Service tools

For an overview of the applicable service tools, please check the Daikin Business Portal of your country.

Country	Link Daikin Business Portal
Belgium	https://my.daikin.eu/dab/nl_BE/home.html https://my.daikin.eu/dab/fr_BE/home.html
Central Europe	https://my.daikin.eu/dace-at/de_AT/home.html
France	https://my.daikin.eu/daf/fr_FR/home.html
Germany	https://my.daikin.eu/dag/de_DE/home.html
Middle East & Africa	https://my.daikin.eu/dame/en_US/home.html
Netherlands	https://my.daikin.eu/danl/nl_NL/home.html
Poland	https://my.daikin.eu/content/dapo/pl_PL/home.html
Portugal	https://my.daikin.eu/dapt/pt_PT/home.html
Spain	https://my.daikin.es/dacs/es_ES/home.html
Sweden	https://my.daikin.eu/dasw/sv_SE/home.html
United Kingdom	https://my.daikin.eu/dauk/en_GB/home.html
Other	https://my.daikin.eu/content/denv/en_US/login.html

In case you do not have yet access to the Daikin Business portal, please contact the Daikin distributor in your country to be registered and receive a valid password.



You will then find a button “Service tools” which gives you an overview on which service tool to use for which product. Also additional information on the service tool (instruction, latest software) can be found there.

3.3. Unit specific repair procedures

Overview:

Indoor unit 85
CPR module 86
Basic removal 86
Replacing thermistor 93
Replacing 4-way valve body 94
Replacing 4-way valve coil 96
Replacing compressor 5 hp 97
Replacing compressor 8 hp 100
Replacing crankcase heater 103
Replacing AC fan inverter cooling 104
Replacing expansion valve body 105
Replacing expansion valve coil 106
Replacing high pressure sensor 107
Replacing high pressure switch 108
Replacing low pressure sensor 110
Replacing oil separator 8 hp 111
Replacing accumulator 8 hp 113
Replacing reactor 115
Replacing inverter board 5 hp (T7 & T8) 116
Replacing inverter board 8 hp (T7) & 5 hp (TA) 118
Replacing main PCB 5 hp (T7 & T8) (compressor module) 119
Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module) 121
Replacing electrical noise filter (8 hp only) 123
HEX module 124
Basic removal 124
Replacing EC fan motor assembly 129
Replacing expansion valve body 131
Replacing expansion valve coil 133
Replacing the heat exchanger 134
Replacing main PCB (heat exchanger) 136

3.3.1. Indoor unit

Not applicable.

3.3.2. CPR module

3.3.2.1. Basic removal

3.3.2.1.1 Removing front plate

PRELIMINARY ACTIONS

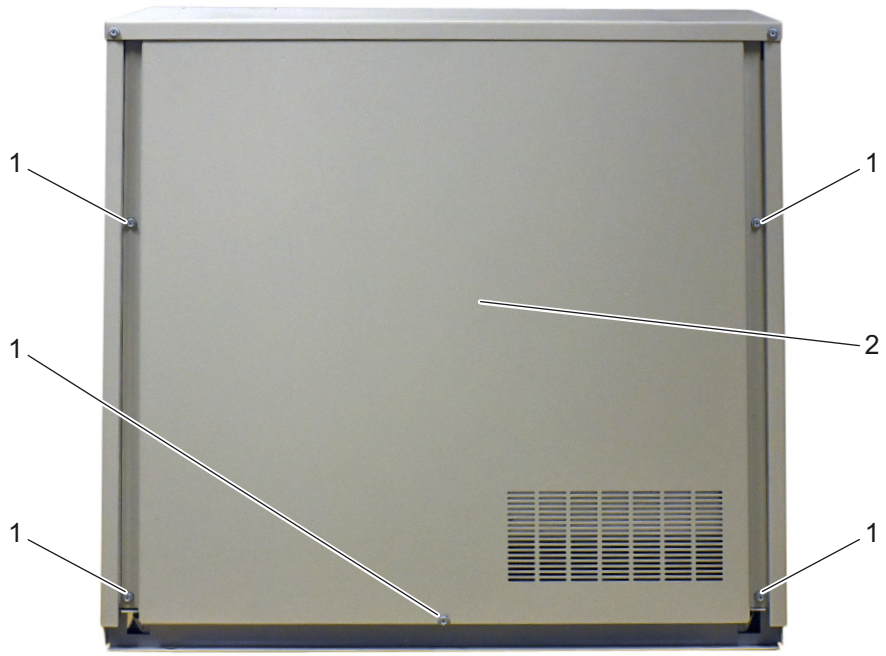
1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.

PROCEDURE

Removal

1. Loosen and remove the 5 screws (1) that fix the front plate (2).
2. Lift the front plate (2) and push it slightly backwards, before lifting and removing it from the unit.

Figure 3-2: Removing the front plate



1. Screw	2. Front plate

Installation

1. Proceed in reverse order.

3.3.2.1.2 Removing top plate

PRELIMINARY ACTIONS

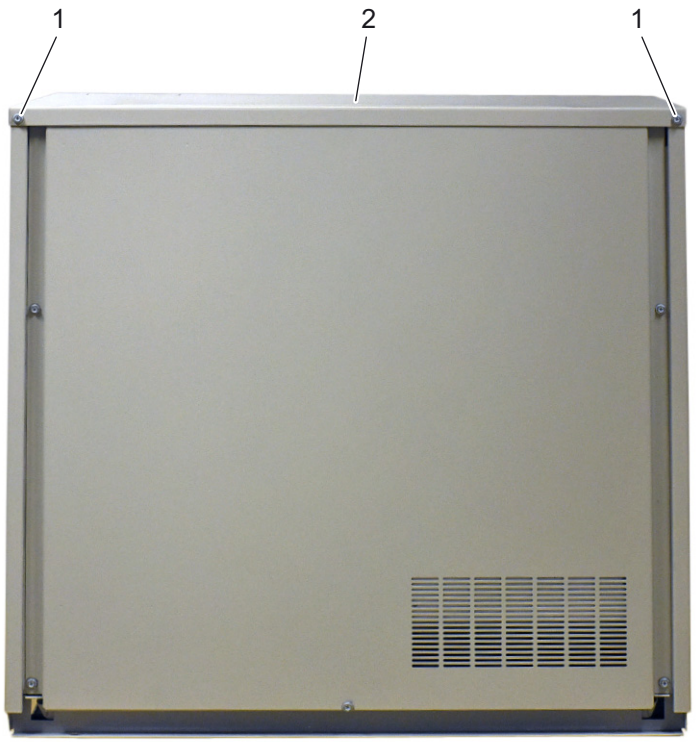
1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.

PROCEDURE

Removal

1. Loosen and remove the 2 screws (1) that fix the top plate (2).
2. Lift the top plate (2) at the front and remove it from the unit.

Figure 3-3: Removing the top plate



1. Screw 2. Top plate

Installation

1. Proceed in reverse order.

3.3.2.1.3 Removing left side plate

PRELIMINARY ACTIONS

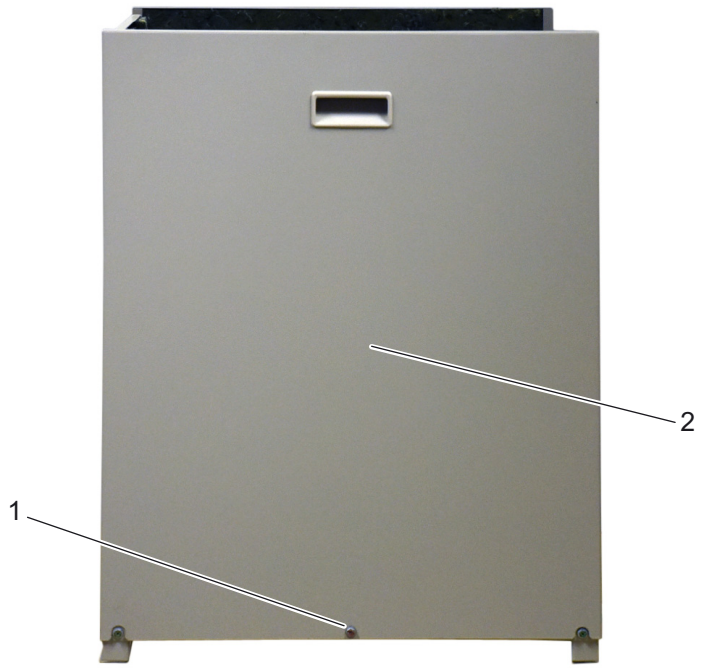
1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Remove the top plate, refer to "Removing top plate" on page 87.

PROCEDURE

Removal

1. Loosen but do not remove the screw (1) that fixes the left side plate (2).
2. Lift the front plate assembly (2) and remove it from the unit.

Figure 3-4: Removing the left side plate



1. Screw
2. Left side plate

Installation

1. Proceed in reverse order.

3.3.2.1.4 Lowering switch box

PRELIMINARY ACTIONS

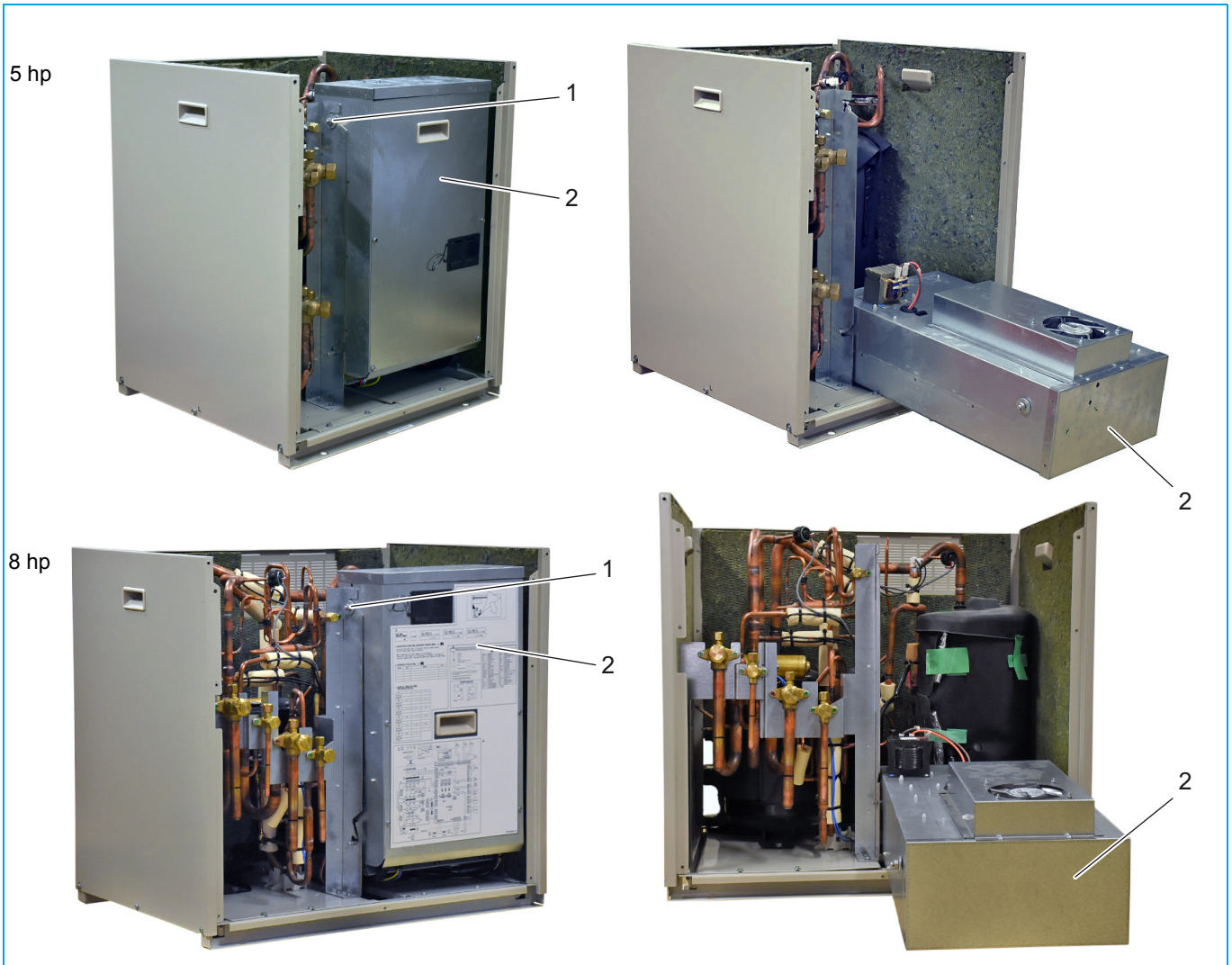
1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Remove the top plate, refer to "Removing top plate" on page 87.
4. Remove the front plate, refer to "Removing front plate" on page 86.

PROCEDURE

Removal

1. Loosen and remove the screw (1) that fixes the switch box (2).
2. Lower the switch box (2).

Figure 3-5: Lowering the switch box



1. Screw
2. Switch box

Installation

1. Proceed in reverse order.

3.3.2.1.5 Opening switch box

PRELIMINARY ACTIONS

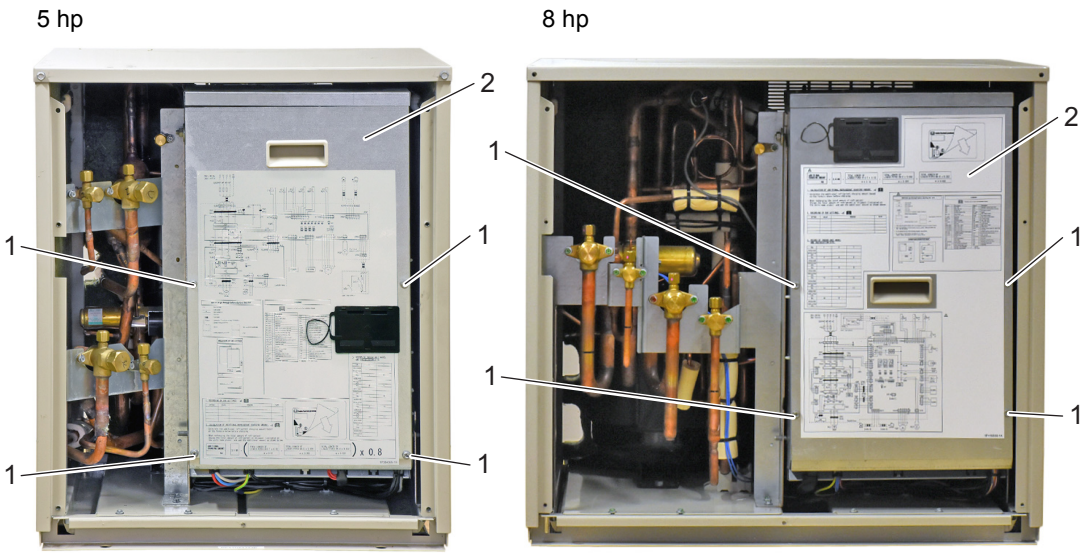
1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Remove the front plate, refer to "Removing front plate" on page 86.

PROCEDURE

Removal

1. Loosen and remove the 4 screws (1) that fix the switch box cover (2).
2. Lift and remove the switch box cover (2).

Figure 3-6: Opening the switch box



1. Screw
2. Switch box cover

Installation

1. Proceed in reverse order.

3.3.2.1.6 Removing the compressor jacket

PRELIMINARY ACTIONS

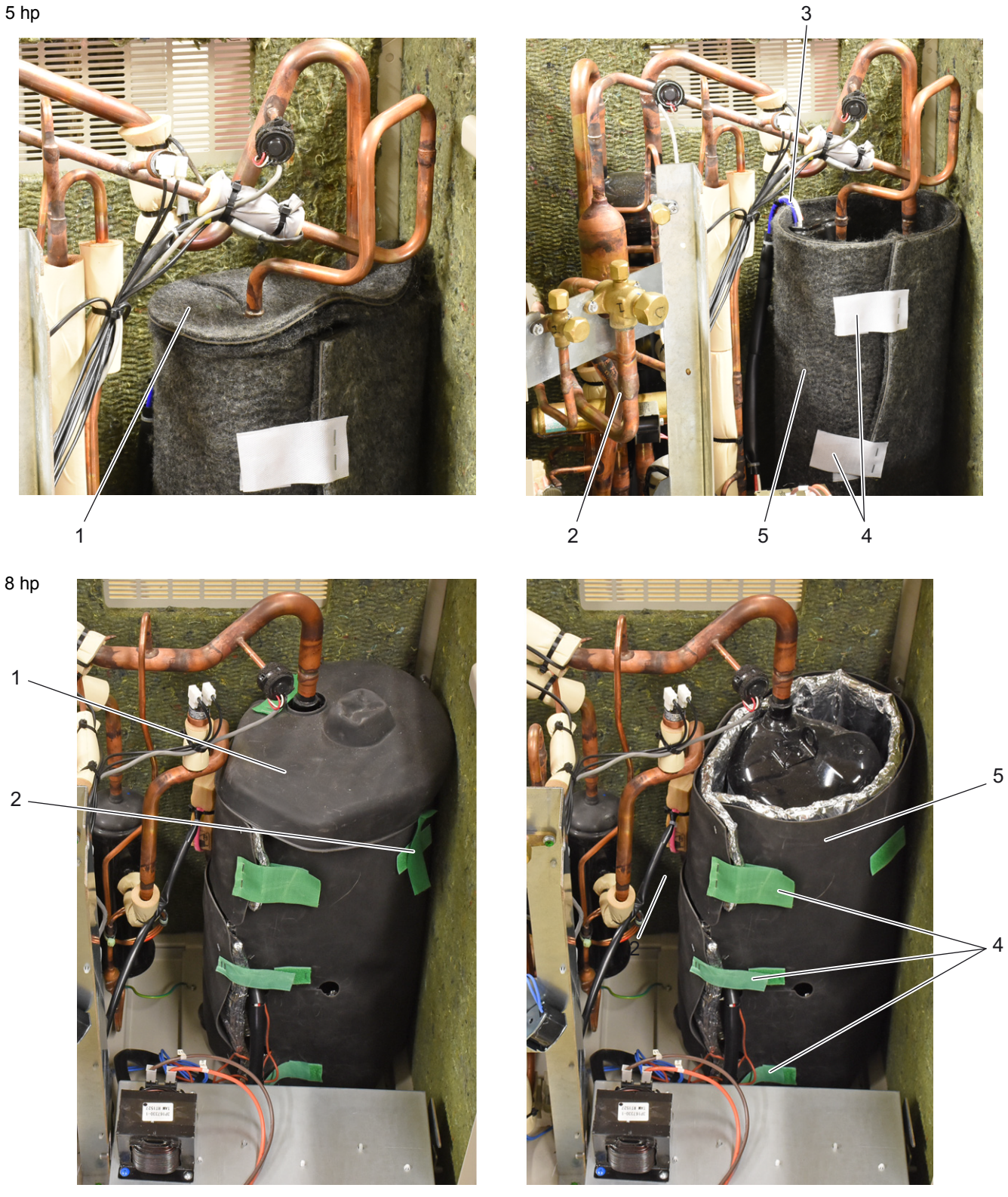
1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Remove the top plate, refer to "Removing top plate" on page 87.
4. Remove the front plate, refer to "Removing front plate" on page 86.
5. Lower the switch box, refer to "Lowering switch box" on page 89.

PROCEDURE

Removal

1. Detach the velcro strips (2) (8 hp version only).
2. Remove the top jacket (1) from the compressor.
3. Remove the compressor wiring (3) from between the compressor body jacket (5) (5 hp version only).
4. Detach the velcro strips (4) and remove the body jacket (5) from the compressor.

Figure 3-7: Removing the compressor jacket



1. Compressor top jacket
2. Velcro strip
3. Compressor wiring
4. Velcro strip
5. Compressor body jacket

Installation

1. Proceed in reverse order.

3.3.2.2. Replacing thermistor

PRELIMINARY ACTIONS

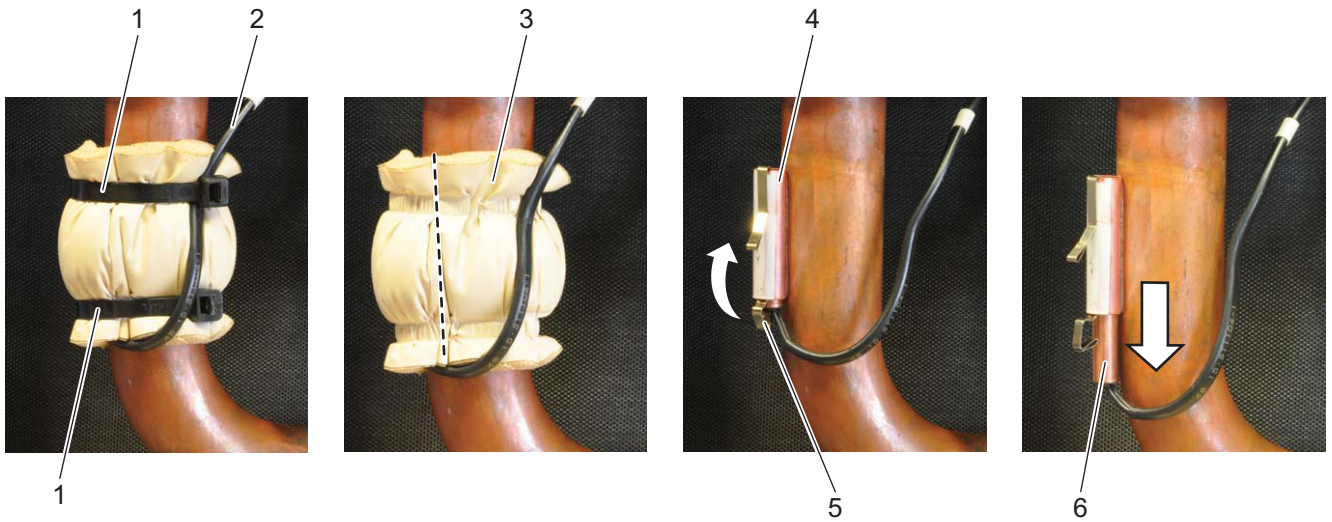
1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Remove plate work when required, see "Basic removal" on page 86.

PROCEDURE

Removal

1. Locate thermistor that needs to be replaced, see "Component overview of unit" on page 151.
2. Cut the cable ties (1) that fix the insulation (3) and the thermistor wire (2).
3. Cut the insulation (3) and remove it.
4. Pull the clip (5) that fixes the thermistor (6).
5. Remove the thermistor (6) from the thermistor holder (4).

Figure 3-8: Replacing a thermistor



1. Cable tie
2. Thermistor wire
3. Insulation
4. Thermistor holder
5. Clip
6. Thermistor

Installation

1. Proceed in reverse order.

3.3.2.3. Replacing 4-way valve body

PRELIMINARY ACTIONS

1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Recover the refrigerant, refer to "Recovery procedure" on page 81.
4. Remove plate work when required, refer to "Basic removal" on page 86.
5. Remove the 4-way valve coil, refer to "Replacing 4-way valve coil" on page 96.
6. Connect a nitrogen hose to the gas service ports (VRV indoor & RDXYQ-T).
7. Attach a hose with core-depressor to the liquid service port (RDXYQ-T) to allow the release of the nitrogen.

PROCEDURE

Removal

1. Remove any parts that block the way to the 4-way valve.

	INFORMATION Follow local regulations and Daikin refrigerant repair procedures during the repair of your unit, refer to "Refrigerant repair procedures" on page 81.

	CAUTION The maximum applied Nitrogen pressure must not exceed 0.02 MPa.

2. Cut the 4-way valve pipes (1).
3. Remove the 4-way valve (2).

Figure 3-9: Removing the 4-way valve body



1. 4-way valve pipe	2. 4-way valve

Installation



WARNING

Overheating the 4-way valve will damage or destroy it.

1. Wrap a wet rag around the 4-way valve (2).
2. Proceed in reverse order.

3.3.2.4. Replacing 4-way valve coil

PRELIMINARY ACTIONS

1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Remove plate work when required, refer to "Basic removal" on page 86.
4. Open the switch box, refer to "Basic removal" on page 86.

PROCEDURE

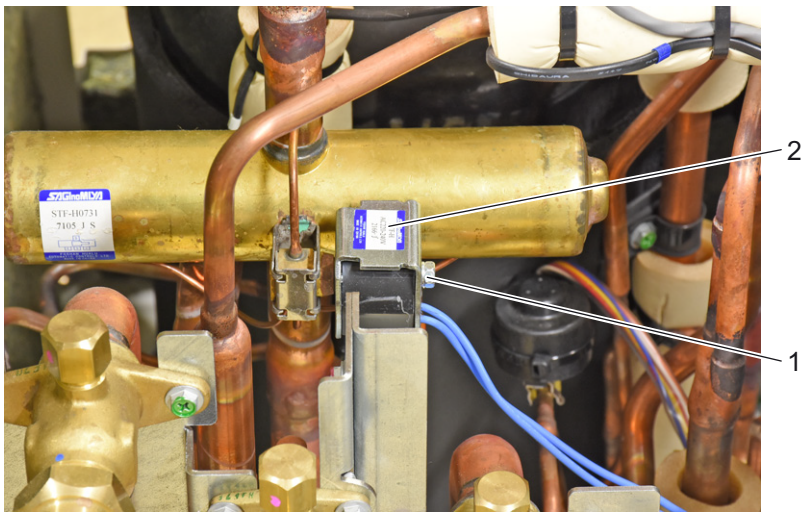
Removal

1. Loosen and remove the screw (1) that fixes the 4-way valve coil (2).
2. Cut the cable ties that fix the 4-way valve coil wiring.

> **WARNING: RISK OF FIRE**
>
> When reconnecting a connector to the PCB, do not apply force, as this may damage the connector or connector pins of the PCB.

3. Unplug 4-way valve connector from PCB.
4. Remove the 4-way valve coil from the 4 way valve.

Figure 3-10: Removing the 4-way valve coil



1. Screw
2. 4-way valve coil

Installation

1. Proceed in reverse order.

3.3.2.5. Replacing compressor 5 hp

PRELIMINARY ACTIONS

1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Recover the refrigerant, refer to "Recovery procedure" on page 81.
4. Remove plate work when required, refer to "Basic removal" on page 86.
5. Lower the switch box, refer to "Lowering switch box" on page 89.
6. Remove the compressor jacket, refer to "Removing the compressor jacket" on page 91.
7. Remove any part that blocks the way to the compressor.
8. Connect a nitrogen hose to the gas service ports (VRV indoor & RDXYQ-T).
9. Attach a hose with core-depressor to the liquid service port (RDXYQ-T) to allow the release of the nitrogen.

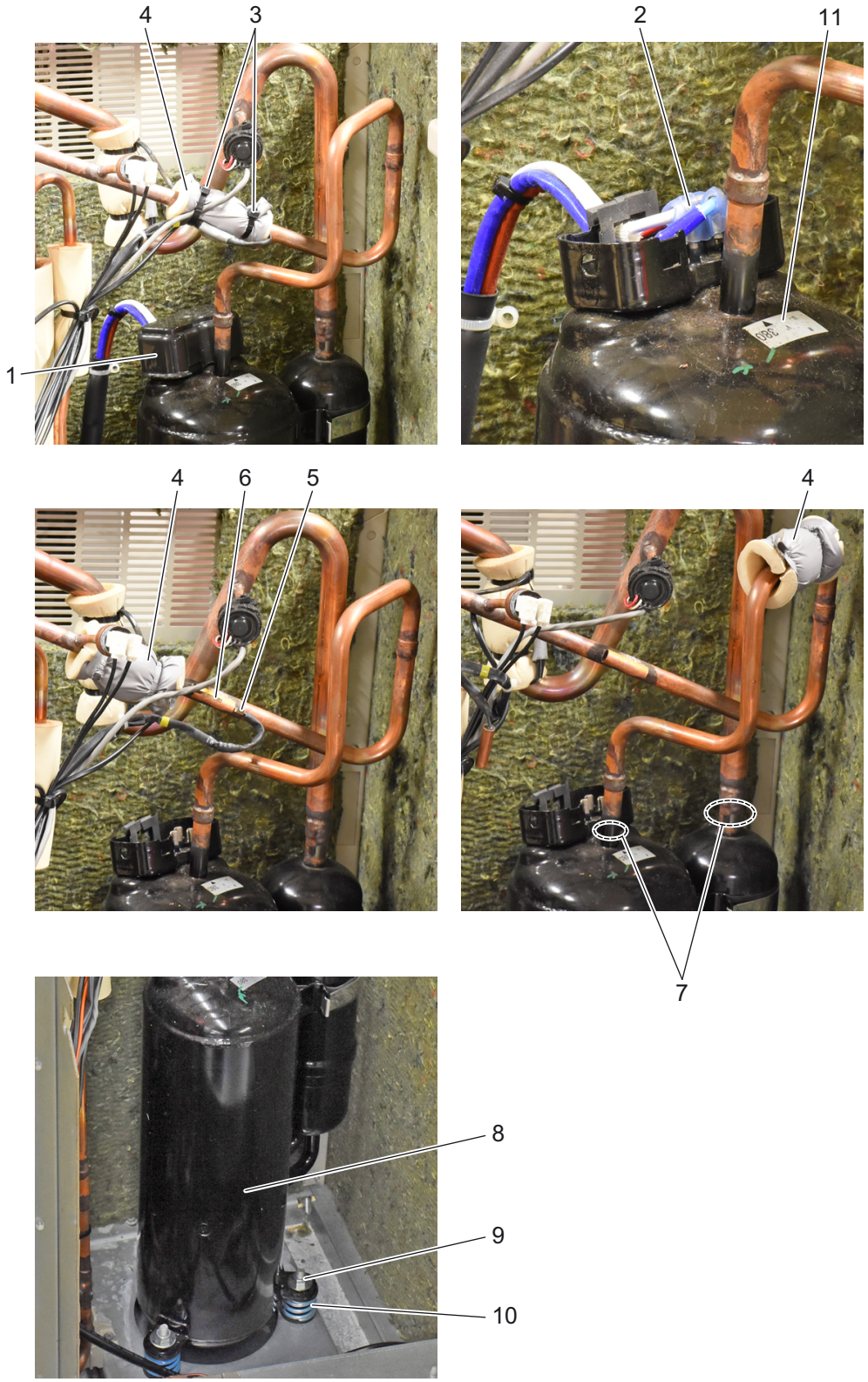
PROCEDURE

	**INFORMATION** Follow local regulations and Daikin refrigerant repair procedures during the repair of your unit, refer to "Refrigerant repair procedures" on page 81.
	**CAUTION** The maximum applied Nitrogen pressure must not exceed 0.02 MPa.

Removal

1. Remove the terminal cover (1).
2. Take a picture of the wiring and unplug the compressor wiring (2).
3. Cut the cable ties (3) that fix the insulation (4).
4. Slide the insulation (4) to the left.
5. Remove the thermistor (5) from the thermistor holder, put the thermistor away from the compressor.
6. Remove the clip (6) from the thermistor holder.
7. Slide the insulation (4) to the right.
8. Using a pipe cutter, cut the compressor pipes (7) below the soldered joint.
9. Loosen and remove the 3 bolts (9) that fix the compressor (8).
10. Remove the compressor (8).
11. Remove the dampers (10) from the compressor (8).
12. Supply nitrogen to the piping circuit.
13. Heat the 2 compressor pipes (7) using an oxygen acetylene torch.
14. When the solder is liquid, remove the 2 compressor pipes (7).
15. Cut the nitrogen supply when the piping has cooled down.

Figure 3-11: Removing the compressor 5 hp



1. Terminal cover
2. Compressor wiring
3. Cable ties
4. Insulation
5. Thermistor
6. Clip
7. Compressor pipe
8. Compressor
9. Bolt
10. Dampers
11. Compressor wiring label

Installation

	**CAUTION** The oil in the compressor is hygroscopic. Remove the caps from the compressor piping as late as possible.
	**INFORMATION** Before installing a new compressor, determine the cause of the compressor failure and take all required corrective actions.
	**INFORMATION** If the dampers are worn, replace the dampers. The bushings inside the dampers are recuperated for use with the new dampers.
	**INFORMATION** Install the compressor sound insulation in the same location.

1. When installing the new compressor, remove the caps from the compression pipe and the suction pipe as late as possible.
2. When soldering the compressor pipes, cover the compressor pipes with a wet cloth to prevent overheating the compressor (and the oil in the compression pipe).
3. Reconnect the compressor wires are indicated on the compressor wiring label (11).
4. Proceed in reverse order.

3.3.2.6. Replacing compressor 8 hp

PRELIMINARY ACTIONS

1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Recover the refrigerant, refer to "Recovery procedure" on page 81.
4. Remove plate work when required, refer to "Basic removal" on page 86.
5. Lower the switch box, refer to "Lowering switch box" on page 89.
6. Remove the compressor jacket, refer to "Removing the compressor jacket" on page 91.
7. Remove the crankcase heater, refer to "Replacing crankcase heater" on page 103.
8. Remove any part that blocks the way to the compressor.
9. Connect a nitrogen hose to the gas service ports (VRV indoor & RDXYQ-T).
10. Attach a hose with core-depressor to the liquid service port (RDXYQ-T) to allow the release of the nitrogen.

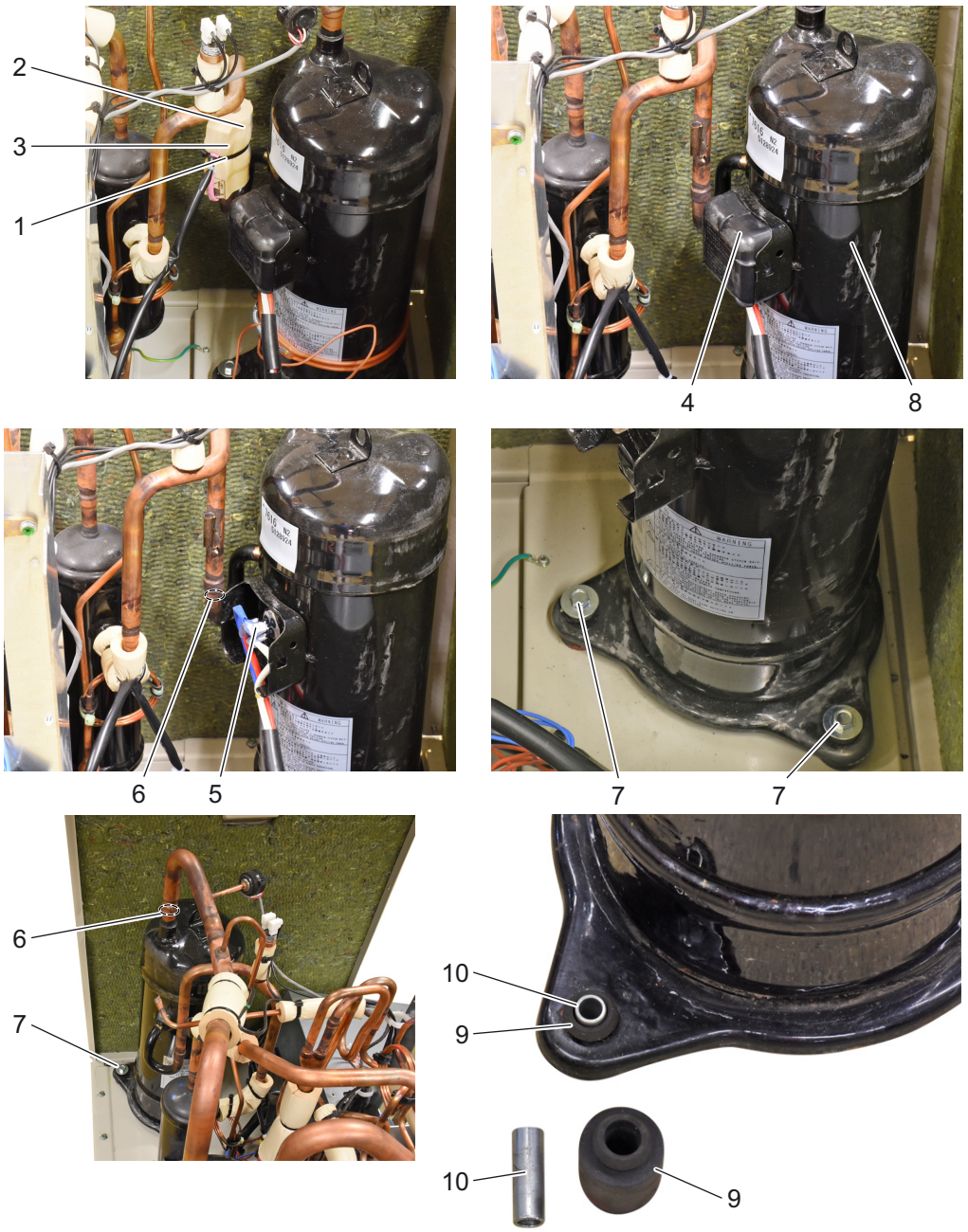
PROCEDURE

	**INFORMATION** Follow local regulations and Daikin refrigerant repair procedures during the repair of your unit, refer to "Refrigerant repair procedures" on page 81.
	**CAUTION** The maximum applied Nitrogen pressure must not exceed 0.02 MPa.

Removal

1. Cut the cable tie (1) that fixes the discharge thermistor wiring.
2. Remove the insulation (2) of the discharge thermistor (3).
3. Remove the discharge thermistor (3) from the thermistor holder, put it away from the compressor.
4. Remove the clip from the thermistor holder.
5. Remove the terminal cover (4).
6. Take a picture of the wiring and unplug the compressor wiring (5).
7. Using a pipe cutter, cut the compressor pipes (6) below the soldered joint.
8. Loosen and remove the 3 bolts (7) that fix the compressor (8).
9. Remove the compressor (8).
10. Remove the dampers (9) with bushings (10) from the compressor (8).
11. Supply nitrogen to the piping circuit.
12. Heat the 2 compressor pipes (6) using an oxygen acetylene torch.
13. When the solder is liquid, remove the 2 compressor pipes (6).
14. Cut the nitrogen supply when the piping has cooled down.

Figure 3-12: Removing the compressor 8 hp



1. Cable tie
2. Insulation
3. Discharge thermistor
4. Terminal cover
5. Compressor wiring
6. Compressor pipe
7. Bolt
8. Compressor
9. Dampers
10. Bushing

Installation

CAUTION

The oil in the compressor is hygroscopic. Remove the caps from the compressor piping as late as possible.

INFORMATION

Before installing a new compressor, determine the cause of the compressor failure and take all required corrective actions.

	INFORMATION If the dampers are worn, replace the dampers. The bushings inside the dampers are recuperated for use with the new dampers.

	INFORMATION Install the compressor sound insulation in the same location.

1. Check damper status, replace when worn.
2. First install the 3 (new) dampers (without the bushings) on the new compressor.
3. Install the 3 bushings in the dampers.
4. When installing the new compressor, remove the caps from the compression pipe and the suction pipe as late as possible.
5. When soldering the compressor pipes, cover the compressor pipes with a wet cloth to prevent overheating the compressor (and the oil in the compression pipe).
6. Proceed in reverse order.

3.3.2.7. Replacing crankcase heater

PRELIMINARY ACTIONS

1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Remove plate work when required, refer to "Basic removal" on page 86.
4. Lower the switch box, refer to "Lowering switch box" on page 89.

PROCEDURE

Removal

WARNING: RISK OF FIRE

When reconnecting a connector to the PCB, do not apply force, as this may damage the connector or connector pins of the PCB.

1. Unplug crankcase heater connector from PCB.
2. Detach the spring (1) that fixes the crankcase heater (2) on the compressor.
3. Cut all cable ties that fix the crankcase heater wiring.
4. Remove the crankcase heater.

Figure 3-13: Removing the crankcase heater



1. Spring
2. Crankcase heater

Installation

INFORMATION

Replace all cable ties that were cut during removal.

1. Proceed in reverse order.

3.3.2.8. Replacing AC fan inverter cooling

PRELIMINARY ACTIONS

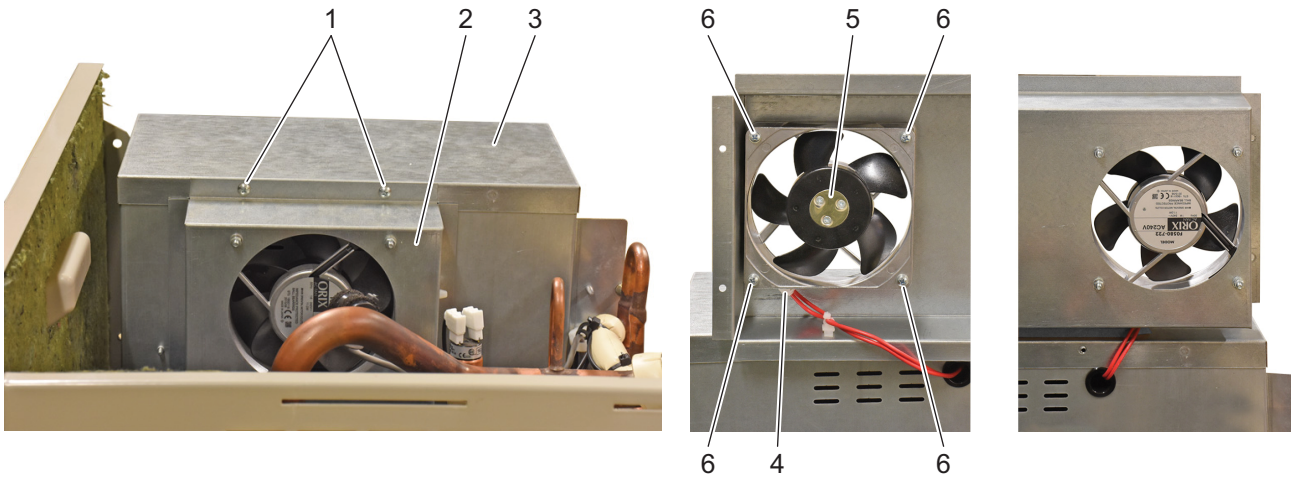
1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Remove plate work when required, refer to "Basic removal" on page 86.

PROCEDURE

Removal

1. Loosen the 2 screws (1) that fix the fan cover (2) to the switch box (3).
2. Place the fan cover (2) on the switch box (3).
3. Disconnect the 2 Faston connectors (4) from the AC fan (5).
4. Loosen the 4 screws (6) that fix the AC fan (5) to the fan cover (2).
5. Remove the AC fan (5) from the fan cover (2).

Figure 3-14: Removing the AC fan inverter cooling



1. Screw	4. Faston connector
2. Fan cover	5. AC fan
3. Switch box	6. Screw

Installation

1. Proceed in reverse order.

3.3.2.9. Replacing expansion valve body

PRELIMINARY ACTIONS

1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Remove plate work when required, refer to "Basic removal" on page 86.
4. Recover the refrigerant (refer to "Recovery procedure" on page 81).
5. Remove the expansion valve coil (refer to "Replacing expansion valve coil" on page 133).
6. Connect a nitrogen hose to the gas service ports (VRV indoor & RDXYQ-T).
7. Attach a hose with core-depressor to the liquid service port (RDXYQ-T) to allow the release of the nitrogen.

PROCEDURE

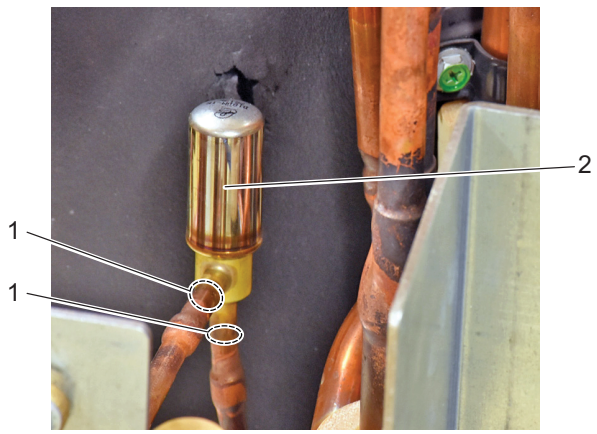
Removal

1. Cut the 2 expansion valve pipes (2).
2. Remove the expansion valve (3).

> **CAUTION**
> The maximum applied Nitrogen pressure must not exceed 0.02 MPa.

3. Supply nitrogen to the piping circuit.
4. Using an oxygen acetylene torch, heat the 2 expansion valve pipes (1).
5. When the solder material is liquid, pull the 2 expansion valve pipes (1).
6. Cut the nitrogen supply when the piping has cooled down.

Figure 3-15: Removing the expansion valve



1. Expansion valve pipe
2. Expansion valve

Installation

1. Wrap a wet rag around the expansion valve (2).

> **WARNING**
> Overheating the expansion valve will damage or destroy it.

2. Proceed in reverse order.

3.3.2.10. Replacing expansion valve coil

PRELIMINARY ACTIONS

1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Remove plate work when required, refer to "Basic removal" on page 86.

PROCEDURE

Removal

1. Pull the expansion valve coil (1) to remove it from the expansion valve body (2).
2. Cut all cable ties that fix the expansion valve coil wiring.

> **WARNING: RISK OF FIRE**
>
> When reconnecting a connector to the PCB, do not apply force, as this may damage the connector or connector pins of the PCB.

3. Unplug the expansion valve coil connector, see "Component checklist" on page 155.

Figure 3-16: Removing expansion valve coil



1. Expansion valve coil
2. Expansion valve body

Installation

> **INFORMATION**
>
> Replace all cable ties that were cut during removal.

1. Proceed in reverse order.
2. When installing the expansion valve coil (1), lock it on the expansion valve body (2).

3.3.2.11. Replacing high pressure sensor

PRELIMINARY ACTIONS

1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Remove plate work when required, refer to "Basic removal" on page 86.
4. Recover the refrigerant, refer to "Recovery procedure" on page 81.
5. Connect a nitrogen hose to the gas service ports (VRV indoor & RDXYQ-T).
6. Attach a hose with core-depressor to the liquid service port (RDXYQ-T) to allow the release of the nitrogen.

PROCEDURE

Removal

1. Unplug the high pressure sensor connector, refer to "Component checklist" on page 155.
2. Cut the cable ties that fix the high pressure sensor wiring.

> **CAUTION**
> The maximum applied Nitrogen pressure must not exceed 0.02 MPa.

3. Supply nitrogen to the piping circuit.
4. Heat the high pressure sensor pipe (1) using an oxygen acetylene torch.
5. When the solder is liquid, pull the high pressure sensor (2).
6. Cut the nitrogen supply when the piping has cooled down.

Figure 3-17: Removing high pressure sensor



1. High pressure sensor pipe
2. High pressure sensor

Installation

> **CAUTION**
> Overheating the high pressure sensor will damage or destroy it.

1. Wrap a wet rag around the high pressure sensor.
2. Proceed in reverse order.

3.3.2.12. Replacing high pressure switch

PRELIMINARY ACTIONS

1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Remove plate work when required, refer to "Basic removal" on page 86.
4. Recover the refrigerant, refer to "Recovery procedure" on page 81.
5. Connect a nitrogen hose to the gas service ports (VRV indoor & RDXYQ-T).
6. Attach a hose with core-depressor to the liquid service port (RDXYQ-T) to allow the release of the nitrogen.

PROCEDURE

Removal

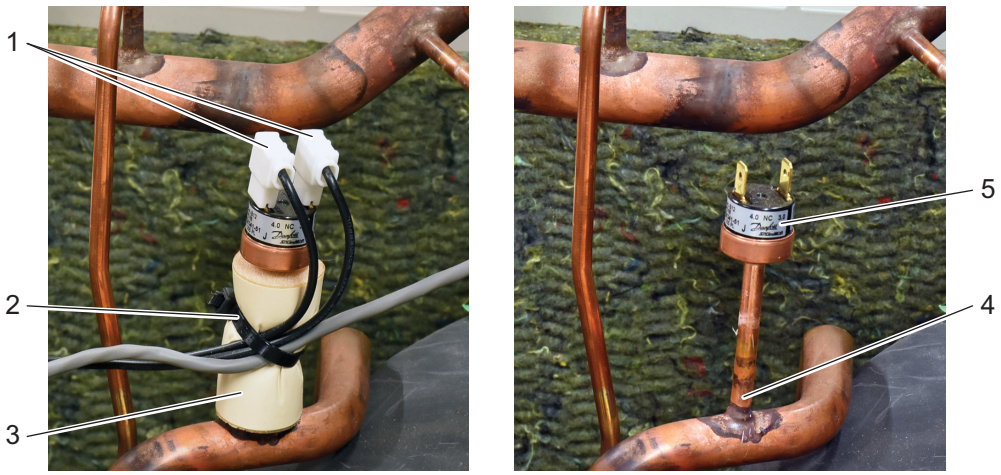
1. Unplug the high pressure switch Faston connector (1).
2. Cut the cable tie (2).
3. Remove the high pressure switch insulation (3).

CAUTION

The maximum applied Nitrogen pressure must not exceed 0.02 MPa.

4. Supply nitrogen to the piping circuit.
5. Heat the high pressure switch pipe (4) using an oxygen acetylene torch.
6. When the solder is liquid, pull the pressure switch (5).
7. Cut the nitrogen supply when the piping has cooled down.

Figure 3-18: Removing high pressure switch



1. Faston connector
2. Cable tie
3. Insulation
4. High pressure switch pipe
5. High pressure switch

Installation

	**CAUTION** Overheating the high pressure switch will damage or destroy it.

1. Wrap a wet rag around the high pressure sensor.
2. Proceed in reverse order.

3.3.2.13. Replacing low pressure sensor

PRELIMINARY ACTIONS

1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Remove plate work when required, refer to "Basic removal" on page 86.
4. Recover the refrigerant, refer to "Recovery procedure" on page 81.
5. Connect a nitrogen hose to the gas service ports (VRV indoor and RDXYQ-T).
6. Attach a hose with core-depressor to the liquid service port (RDXYQ-T) to allow the release of the nitrogen.

PROCEDURE

Removal

1. Unplug the low pressure sensor connector, refer to "Component checklist" on page 155.
2. Cut the cable ties that fix the low pressure sensor wiring.

> **CAUTION**
> The maximum applied Nitrogen pressure must not exceed 0.02 MPa.

3. Supply nitrogen to the piping circuit.
4. Heat the low pressure sensor pipe (1) using an oxygen acetylene torch.
5. When the solder is liquid, pull the low pressure sensor (2).
6. Cut the nitrogen supply when the piping has cooled down.

Figure 3-19: Removing low pressure sensor



1. Low pressure sensor pipe
2. Low pressure sensor

Installation

> **CAUTION**
> Overheating the low pressure sensor will damage or destroy it.

1. Wrap a wet rag around the low pressure sensor.
2. Proceed in reverse order.

3.3.2.14. Replacing oil separator 8 hp

PRELIMINARY ACTIONS

1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Remove plate work when required, refer to "Recovery procedure" on page 81.
4. Lower the switch box, refer to "Lowering switch box" on page 89.
5. Recover the refrigerant, refer to "Recovery procedure" on page 81.
6. Connect a nitrogen hose to the gas service ports (VRV indoor & RDXYQ-T).
7. Attach a hose with core-depressor to the liquid service port (RDXYQ-T) to allow the release of the nitrogen.

PROCEDURE

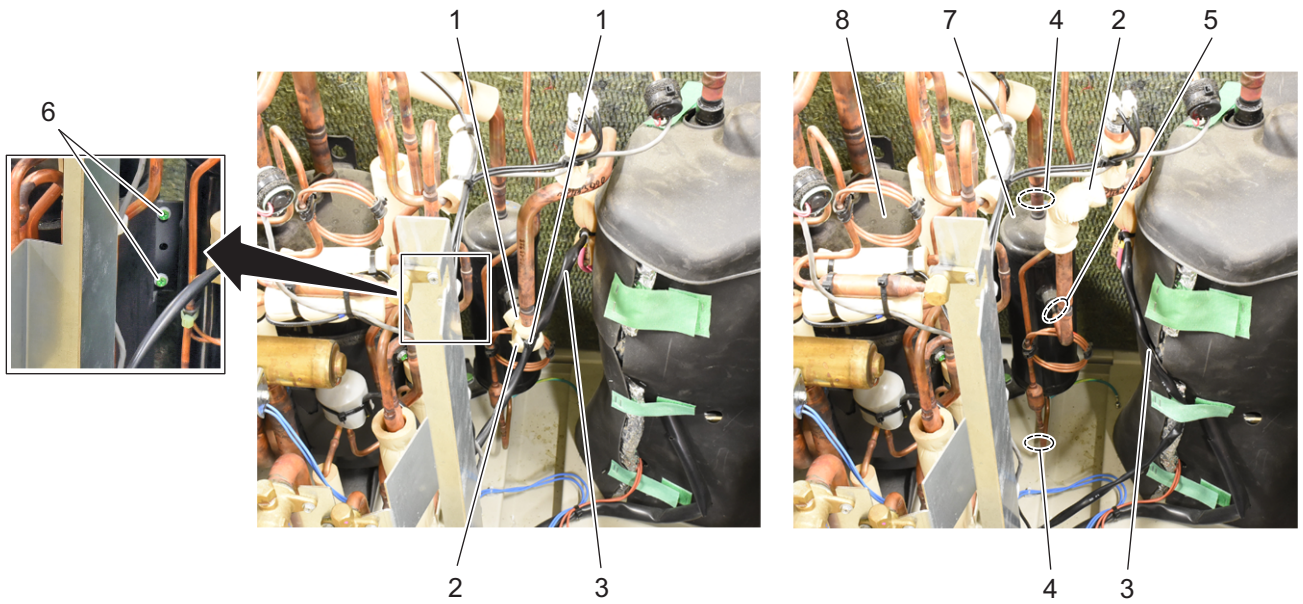
Removal

1. Cut the 2 cable ties (1), move the insulation (2) upwards.
2. Put aside the thermistor cable (3).
3. Using a pipe cutter, cut the oil separator pipes (4) below the soldered joint.
4. Using a pipe cutter cut the pipe (5) between soldering joint and shell oil separator.
5. Loosen and remove the 2 screws (6) that fix the oil separator (7) to the accumulator (8).
6. Remove the oil separator (7).

	**CAUTION** The maximum applied Nitrogen pressure must not exceed 0.02 MPa.

7. Supply nitrogen to the piping circuit.
8. Heat the 3 pipes (4, 5) using an oxygen acetylene torch.
9. When the solder is liquid, remove the 3 oil separator pipes (4, 5).
10. Cut the nitrogen supply when the piping has cooled down.

Figure 3-20: Removing the oil separator



1. Cable tie
2. Insulation
3. Thermistor cable
4. Pipe
5. Oil separator pipe
6. Screw
7. Oil separator
8. Accumulator

Installation

1. Proceed in reverse order.

3.3.2.15. Replacing accumulator 8 hp

PRELIMINARY ACTIONS

1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Remove plate work when required, refer to "Basic removal" on page 86.
4. Lower the switch box, refer to "Lowering switch box" on page 89.
5. Recover the refrigerant, refer to "Recovery procedure" on page 81.
6. Connect a nitrogen hose to the gas service ports (VRV indoor & RDXYQ-T).
7. Attach a hose with core-depressor to the liquid service port (RDXYQ-T) to allow the release of the nitrogen.

PROCEDURE

Removal

1. Using a pipe cutter, cut the 2 accumulator pipes (1) below the soldered joint.
2. Loosen the 2 screws (2) that fix the accumulator (3) to the oil separator (4).
3. Loosen the 3 screws (5) that fix the accumulator (3).
4. Remove the accumulator (3).

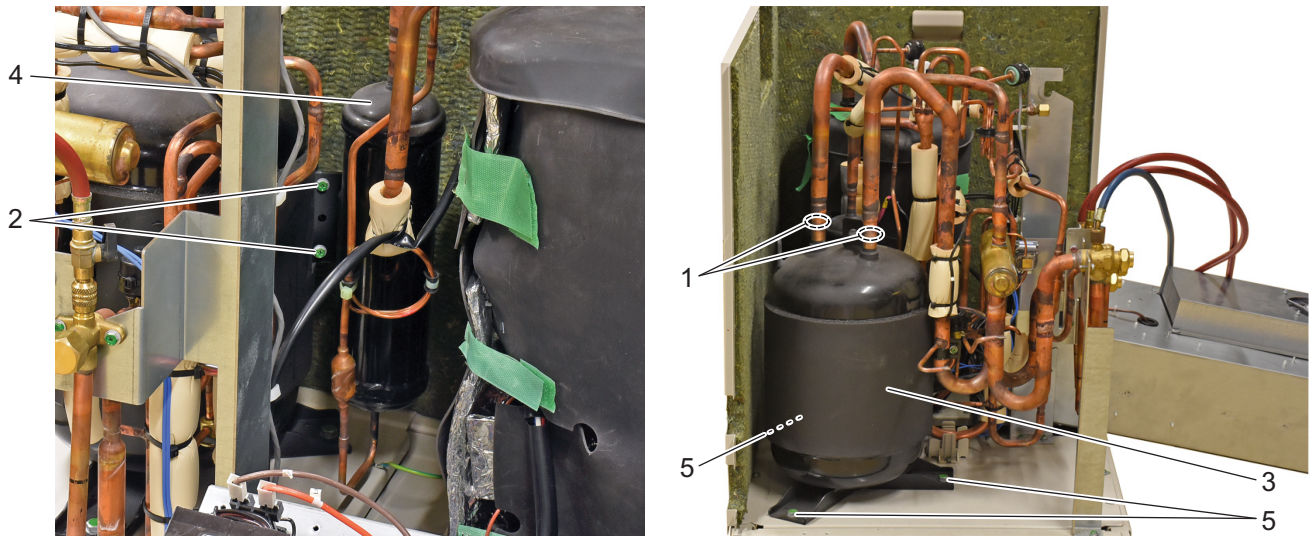


CAUTION

The maximum applied Nitrogen pressure must not exceed 0.02 MPa.

5. Supply nitrogen to the piping circuit.
6. Heat the 2 accumulator pipes (1) using an oxygen acetylene torch.
7. When the solder is liquid, remove the 2 accumulator pipes (1).
8. Cut the nitrogen supply when the piping has cooled down.

Figure 3-21: Removing the accumulator (e.g. 8 hp)



1. Accumulator pipe
2. Screw
3. Accumulator
4. Oil separator
5. Screw

Installation

1. Proceed in reverse order.

3.3.2.16. Replacing reactor

PRELIMINARY ACTIONS

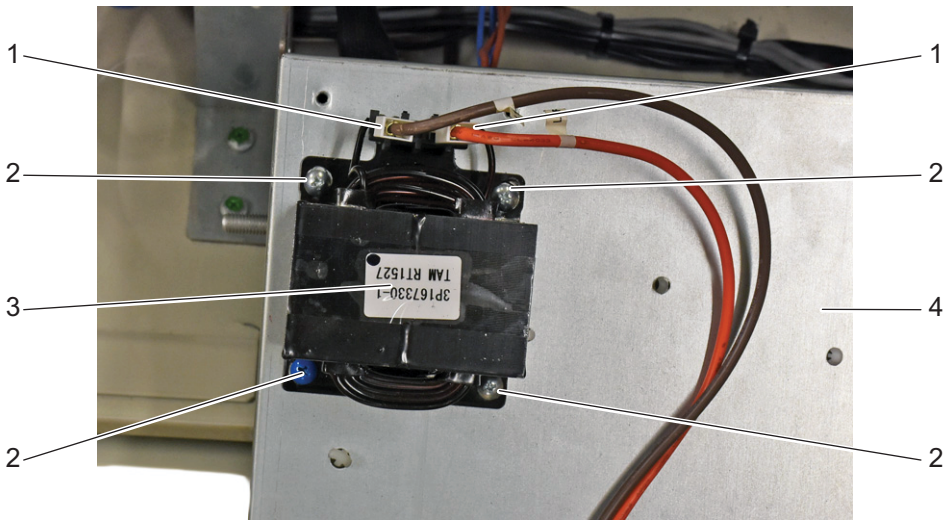
1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Remove the front plate, refer to "Removing top plate" on page 87.
4. Lower the switch box, refer to "Lowering switch box" on page 89.

PROCEDURE

Removal

1. Unplug the 2 Faston connectors (1).
2. Loosen the 4 screws (2) that fix the reactor (3) to the switch box (4).

Figure 3-22: Removing the reactor



1. Faston connector
2. Screw
3. Reactor
4. Switch box

Installation

INFORMATION

Replace all cable ties that were cut during removal.

1. Proceed in reverse order.

3.3.2.17. Replacing inverter board 5 hp (T7 & T8)

PRELIMINARY ACTIONS

1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Remove the front plate, refer to "Removing front plate" on page 86.
4. Open the switch box, refer to "Opening switch box" on page 90.

PROCEDURE

Removal

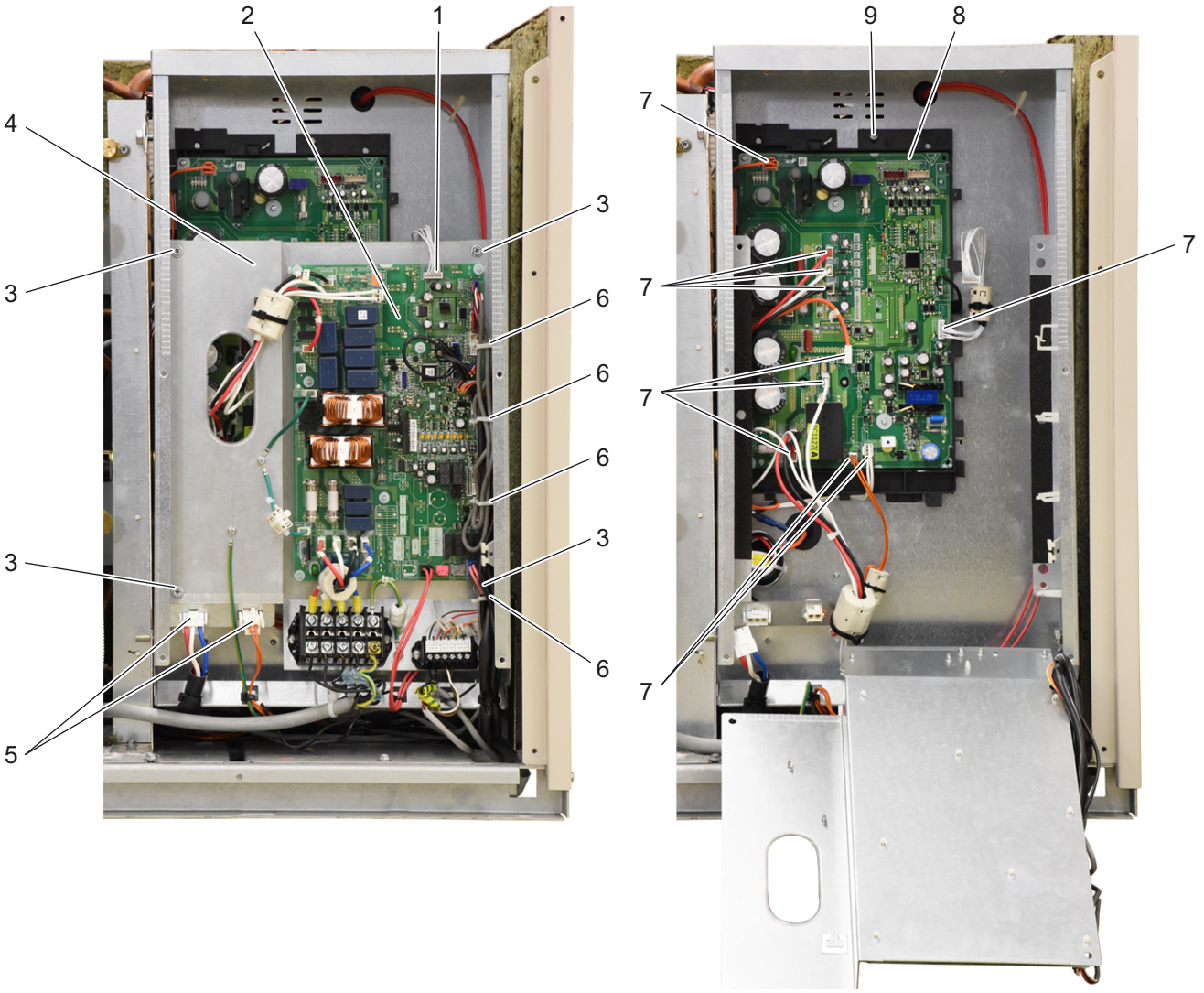


WARNING: RISK OF FIRE

When reconnecting a connector to the PCB, do not apply force, as this may damage the connector or connector pins of the PCB.

1. Unplug one connector (1) from the main PCB (2), refer to "Component checklist" on page 155.
2. Remove the 4 screws (3) that fix the electric component mounting plate (4).
3. Remove the wiring from the cable clamps (5).
4. Turn over and lower the electric component mounting plate (4).
5. Unplug the 2 connectors (6) from the electric component mounting plate (4).
6. Unplug the connectors (7) from the inverter board (8), refer to "Component checklist" on page 155.
7. Remove the 2 screws (9) that fix the inverter board (8).

Figure 3-23: Removing the inverter board 5 hp



1. Connector
2. Main PCB
3. Screw
4. Electric component mounting plate
5. Cable clamp
6. Connector
7. Connector
8. Inverter board
9. Screw

Installation

1. Proceed in reverse order.

3.3.2.18. Replacing inverter board 8 hp (T7) & 5 hp (TA)

PRELIMINARY ACTIONS

1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Remove the front plate, refer to "Removing front plate" on page 86.
4. Open the switch box, refer to "Opening switch box" on page 90.

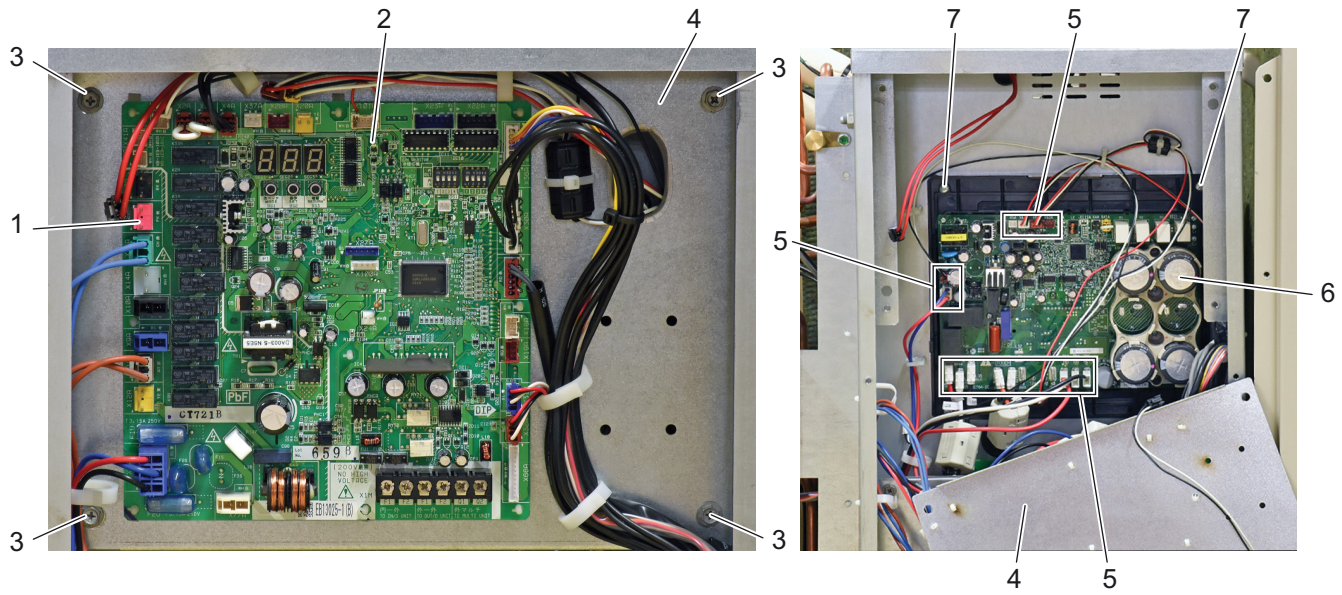
PROCEDURE

Removal

> **WARNING: RISK OF FIRE**
>
> When reconnecting a connector to the PCB, do not apply force, as this may damage the connector or connector pins of the PCB.

1. Unplug one connector (1) from the main PCB (2), refer to "Component checklist" on page 155.
2. Remove the 4 screws (3) that fix the electric component mounting plate (4).
3. Turn over and lower the electric component mounting plate (4).
4. Unplug the connectors (5) from the inverter board (6), refer to "Component checklist" on page 155.
5. Remove the 2 screws (7) that fix the inverter board (6).

Figure 3-24: Removing the inverter board 8 hp



1. Connector
2. Main PCB
3. Screw
4. Electric component mounting plate
5. Connector
6. Inverter board
7. Screw

Installation

1. Proceed in reverse order.

3.3.2.19. Replacing main PCB 5 hp (T7 & T8) (compressor module)

PRELIMINARY ACTIONS

1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Remove the front plate, refer to "Removing front plate" on page 86.
4. Open the switch box, refer to "Opening switch box" on page 90.

PROCEDURE

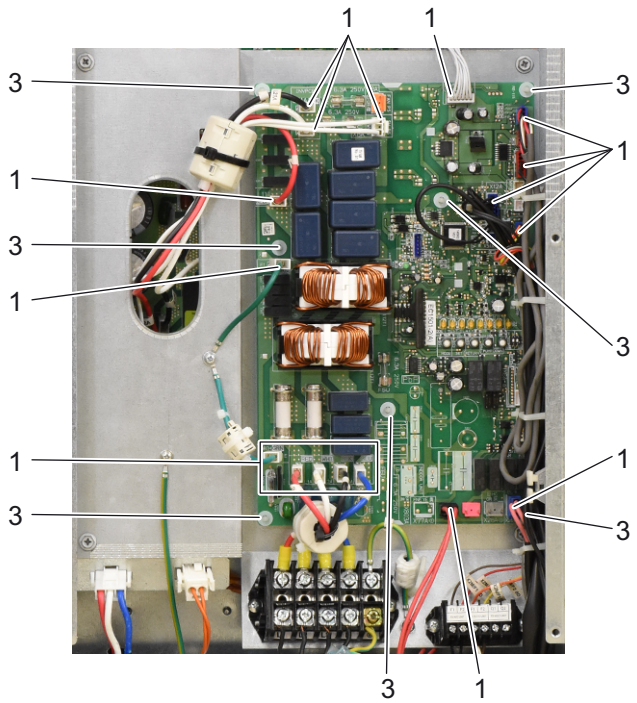
Removal

WARNING: RISK OF FIRE

When reconnecting a connector to the PCB, do not apply force, as this may damage the connector or connector pins of the PCB.

1. Unplug all connectors (1) from the main PCB (2), refer to "Component checklist" on page 155.
2. Unlatch all PCB stand-offs (3) that fix the main PCB (2).
3. Remove the main PCB (2).

Figure 3-25: Removing the main PCB 5 hp



1. Connector
2. Main PCB
3. PCB stand-off

Installation

1. Proceed in reverse order.

2. Mount the capacity adapter, part number 065335J (label “J63”) onto connector X15A (for the location, refer to "Compressor module 5 hp - control board" on page 161) prior to reconnecting power supply to the unit.

3. Perform a re-initialization of the communication: hold the BS5 “Reset” button for minimum 5 seconds. Check that the voltage at the terminals “F1F2 IN/D” changes few times between ±16 VDC and ±0 VDC. (Re-)initialization takes maximum 12 minutes. At the end of the initialization, LED 8 “Multi” should be off.

4. Perform a test run: after (re-)initialization is completed, press and hold BS4 “TEST” till LED 2 “TEST” blinks and LED HP7 “Demand” lights up. Test run will take about 20 minutes.

5. Test run is completed normally when LED H2P is off and only LED H3P or LED H4P or LED H5P is lighted up.

3.3.2.20. Replacing main PCB 8 hp (T7) & 5 hp (TA) (compressor module)

PRELIMINARY ACTIONS

1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Remove the front plate, refer to "Removing front plate" on page 86.
4. Open the switch box, refer to "Opening switch box" on page 90.

PROCEDURE

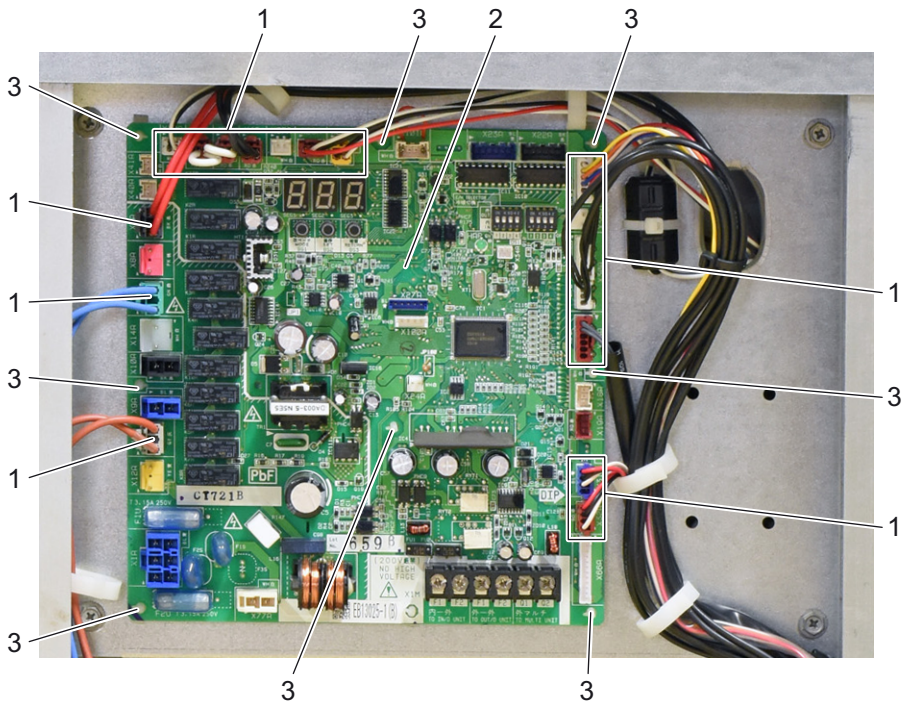
Removal

WARNING: RISK OF FIRE

When reconnecting a connector to the PCB, do not apply force, as this may damage the connector or connector pins of the PCB.

1. Unplug all connectors (1) from the main PCB (2), refer to "Component checklist" on page 155.
2. Unlatch all PCB stand-offs (3) that fix the main control board (2).
3. Remove the main PCB (2).

Figure 3-26: Removing the main PCB 8 hp

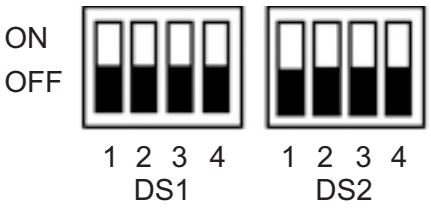


1. Connector
2. Main PCB
3. PCB stand-off

Installation

1. Proceed in reverse order.

2. Set dip switch on control board (for the location, refer to "Compressor module 8 hp - control board" on page 162), refer to table below. After confirmation correct position of dip switches, reconnecting power supply to the unit.

Dip switch position		
Default	RKXYQ8T7Y1B, RKXYQ5TAY1B	Detail
		Set Dip switch DS2-2 to “ON” (upper position)

3. Perform a re-initialization of the communication: hold the BS3 “Return” button for minimum 5 seconds. Check that the voltage at the terminals “F1F2 IN/D” changes few times between ±16 VDC and ±0 VDC. (Re-)initialization takes maximum 12 minutes. At the end of the initialization, the segment display goes off.

4. Perform a test run: after (re-)initialization is completed, press and hold BS2 “SET” till segment display indicates “t01”. Test run will take about 20 minutes.

5. Test run is completed normally when segment display goes off.

3.3.2.21. Replacing electrical noise filter (8 hp only)

PRELIMINARY ACTIONS

1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Remove the front plate, refer to "Removing front plate" on page 86.
4. Open the switch box, refer to "Opening switch box" on page 90.

PROCEDURE

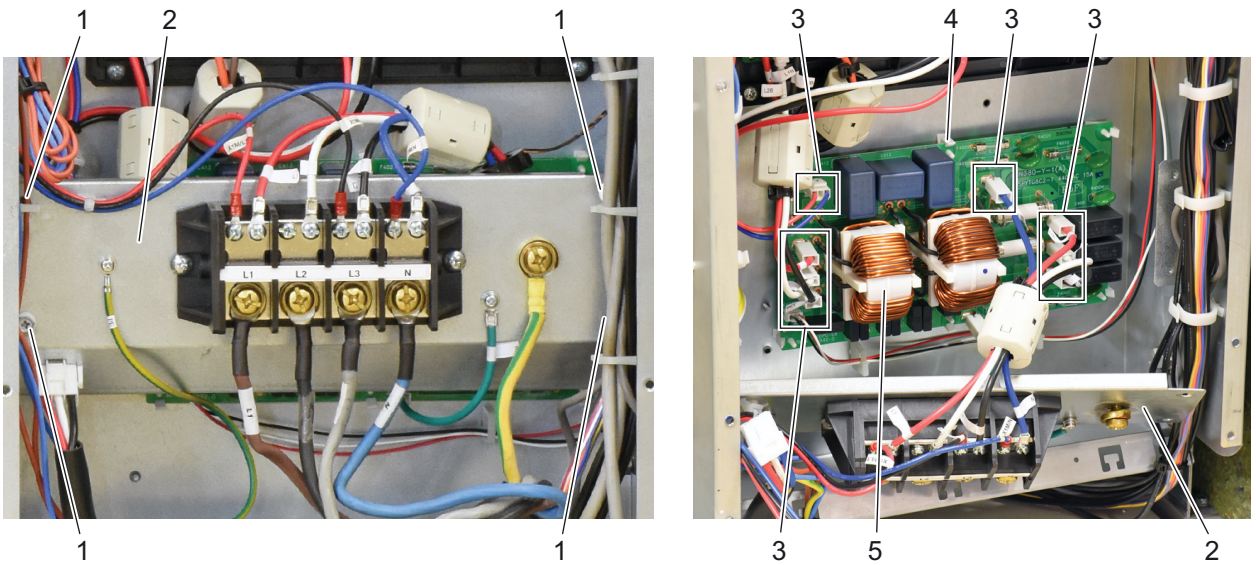
Removal

WARNING: RISK OF FIRE

When reconnecting a connector to the PCB, do not apply force, as this may damage the connector or connector pins of the PCB.

1. Loosen the 4 screws (1) that fix the terminal support plate (2).
2. Slightly tilt and lower the terminal support plate (2).
3. Unplug all connectors (3) from the electrical noise filter (5), refer to "Component checklist" on page 155.
4. Unlatch all PCB stand-offs (4) that fix the electrical noise filter (5).
5. Remove the electrical noise filter (5).

Figure 3-27: Removing the electrical noise filter (8 hp only)



1. Screw
2. Terminal support plate
3. Connector
4. PCB stand-off
5. Electrical noise filter

Installation

INFORMATION

Replace all cable ties that were cut during removal.

1. Proceed in reverse order.

3.3.3. HEX module

3.3.3.1. Basic removal

3.3.3.1.1 Removing the bottom plate (sheet metal) (fan zone)

PRELIMINARY ACTIONS

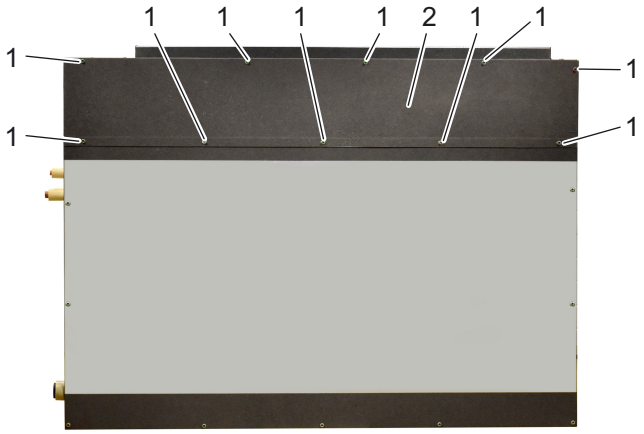
1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.

PROCEDURE

Removal

1. Loosen and remove the 10 screws (1) that fix the bottom plate (2).
2. Remove the bottom plate (2) from the unit.

Figure 3-28: Removing the bottom plate (sheet metal) (fan zone)



1. Screw
2. Bottom plate

Installation

1. Proceed in reverse order.

3.3.3.1.2 Removing the bottom plate (EPS)

PRELIMINARY ACTIONS

1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Remove the bottom plate (fan zone), refer to "Removing the bottom plate (sheet metal) (fan zone)" on page 124.

PROCEDURE

Removal

1. Unlatch and remove the bottom plate (EPS) (1) from the unit.

Figure 3-29: Removing the bottom plate (EPS)



1. Bottom plate (EPS)

Installation

1. Proceed in reverse order.

3.3.3.1.3 Removing the bottom plate (sheet metal) (heat exchanger zone)

PRELIMINARY ACTIONS

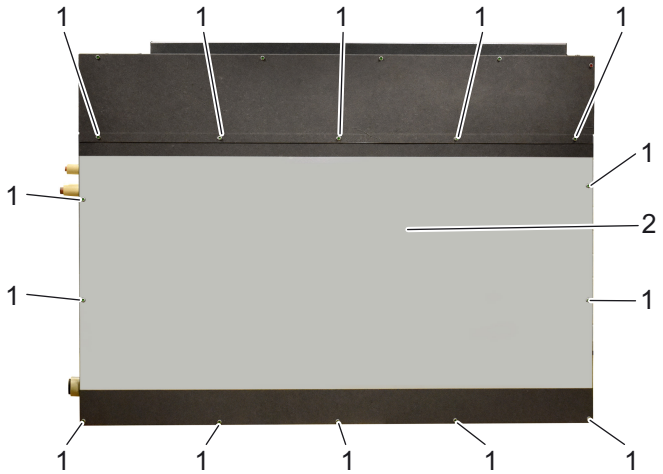
1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.

PROCEDURE

Removal

1. Loosen and remove the 14 screws (1) that fix the bottom plate (metal sheet) (2).
2. Remove the bottom plate (2) from the unit.

Figure 3-30: Removing the bottom plate (sheet metal) (heat exchanger zone)



1. Screw 2. Bottom plate (metal sheet)

Installation

1. Proceed in reverse order.

3.3.3.1.4 Removing the drain pan (resin)

PRELIMINARY ACTIONS

1. Switch off the Daikin unit via the user interface.

2. Switch off the Daikin unit with the field supplied circuit breaker.

3. Remove the bottom plate (sheet metal) (heat exchanger zone), refer to "Removing the bottom plate (sheet metal) (heat exchanger zone)" on page 125.

PROCEDURE

Removal

1. Unlatch and remove the drain pan (resin) (1) from the unit.

Figure 3-31: Removing the drain pan (resin)



1. Bottom plate (resin)

Installation

1. Proceed in reverse order.

3.3.3.1.5 Removing the electrical component box cover

PRELIMINARY ACTIONS

1. Switch off the Daikin unit via the user interface.

2. Switch off the Daikin unit with the field supplied circuit breaker.

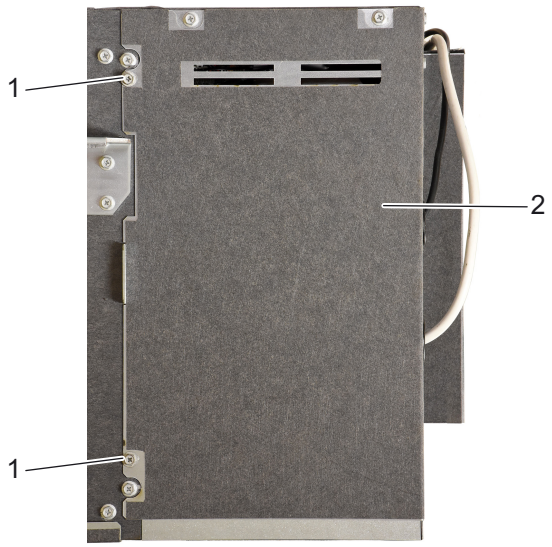
PROCEDURE

Removal

1. Loosen and remove the 2 screws (1) that fix electrical component box cover (2).

2. Remove electrical component box cover (2) from the unit.

Figure 3-32: Removing the electrical component box cover



1. Screw	2. Electrical component box cover

Installation

1. Proceed in reverse order.

3.3.3.1.6 Removing the cover (service) and service cover (EPS)

PRELIMINARY ACTIONS

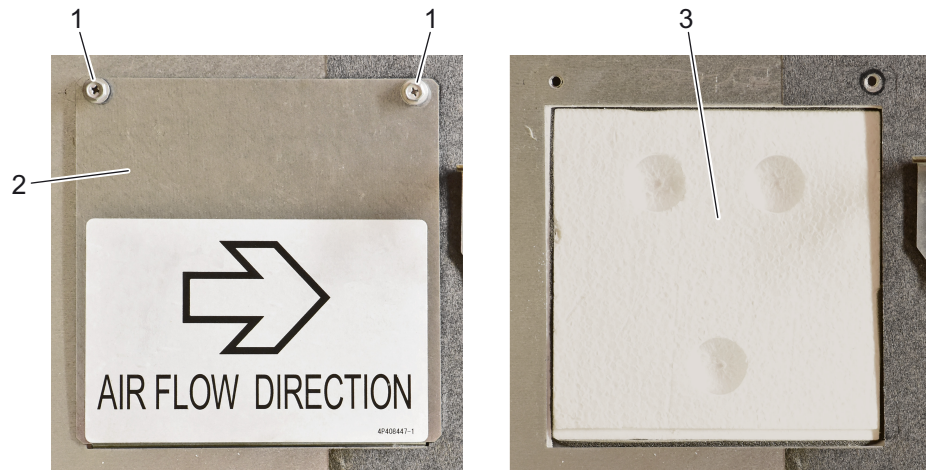
1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.

PROCEDURE

Removal

1. Loosen and remove the 2 screws (1) that fix the cover (service) (2).
2. Remove the cover (service) (2) from the unit.
3. Remove the service cover (EPS) (3) from the unit.

Figure 3-33: Removing the service cover en service cover (EPS)



1. Screw
2. Cover (service)
3. Service cover (EPS)

Installation

1. Proceed in reverse order.

3.3.3.2. Replacing EC fan motor assembly

PRELIMINARY ACTIONS

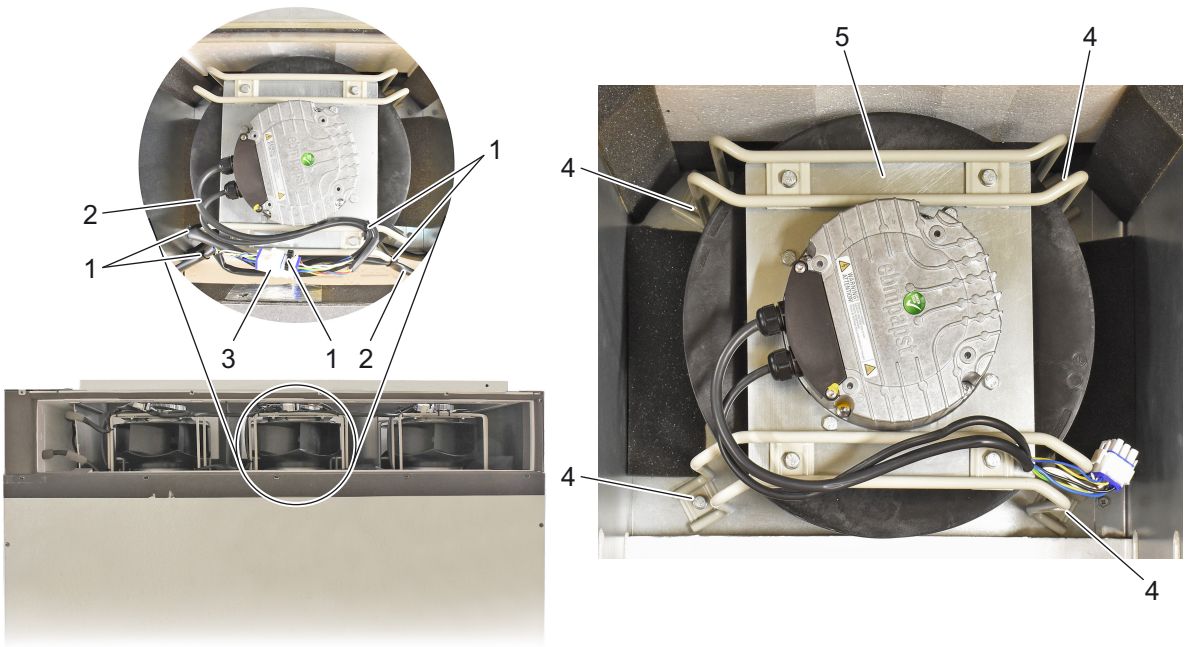
1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Recover the refrigerant, refer to "Recovery procedure" on page 81.
4. Remove the bottom plate (sheet metal) (fan zone), refer to "Removing the bottom plate (sheet metal) (fan zone)" on page 124.
5. Remove the bottom plate (EPS), refer to "Removing the bottom plate (EPS)" on page 124.

PROCEDURE

Removal

1. Cut the cable tie (1) that fix the EC fan motor wiring (2) and the connector (3).
2. Loosen and remove the 4 screws (4) that fix the EC fan assembly (5).
3. Remove the EC fan assembly (5) from the unit.

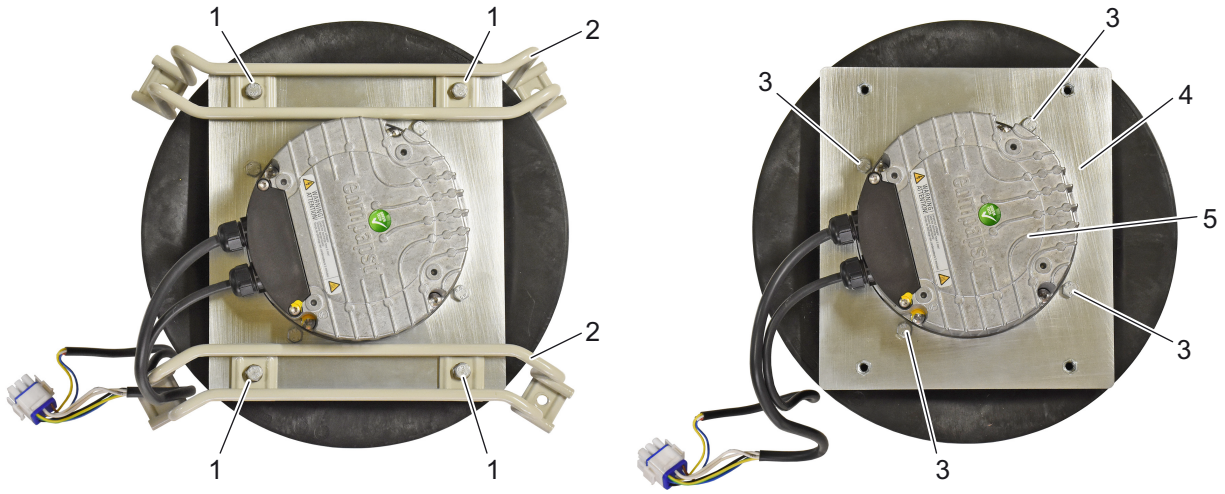
Figure 3-34: Removing the EC fan motor assembly



1. Cable tie
2. EC fan motor wiring
3. EC fan motor connector
4. Screw
5. EC fan motor assembly

4. Loosen and remove the 4 screws (1) that fix the 2 fan housing frames (2).
5. Remove the 2 fan housing frames from the EC fan motor assembly.
6. Loosen and remove the 4 screws (3) that fix the fan mounting plate (4).
7. Remove the fan mounting plate (4) from the fan (5).

Figure 3-35: Disassembling the EC fan motor assembly



1. Screw
2. Fan housing frame
3. Screw
4. Fan mounting plate
5. Fan

Installation

1. Proceed in reverse order.

3.3.3.3. Replacing expansion valve body

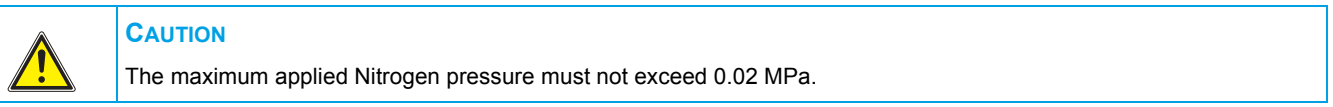
PRELIMINARY ACTIONS

1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Remove the cover (service) and service cover (EPS) (fan zone), refer to "Removing the cover (service) and service cover (EPS)" on page 127.
4. Recover the refrigerant, refer to "Recovery procedure" on page 81.
5. Remove the expansion valve coil, refer to "Replacing expansion valve coil" on page 133.
6. Connect a nitrogen hose to the gas service ports (VRV indoor & RDXYQ-T).
7. Attach a hose with core-depressor to the liquid service port (RDXYQ-T) to allow the release of the nitrogen.

PROCEDURE

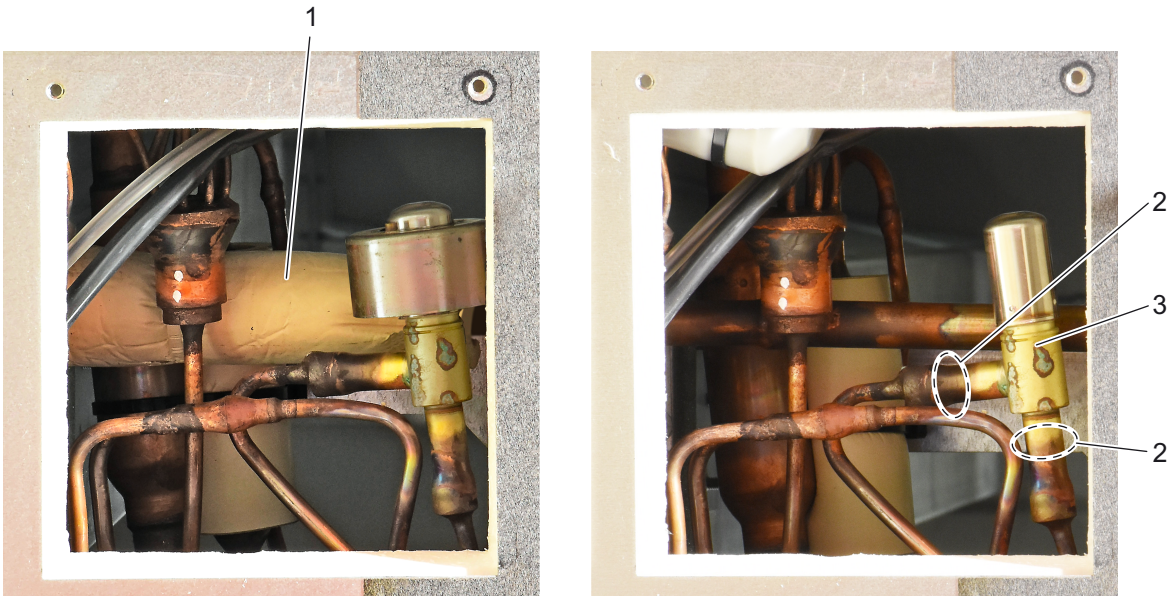
Removal

1. Remove the insulation (1).
2. Cut the 2 expansion valve pipes (2).
3. Remove the expansion valve body (3).



4. Supply nitrogen to the piping circuit.
5. Using an oxygen acetylene torch, heat the 2 expansion valve pipes (2).
6. When the solder material is liquid, pull the 2 expansion valve pipes (2).
7. Cut the nitrogen supply when the piping has cooled down.

Figure 3-36: Removing the expansion valve body



1. Insulation
2. Expansion valve pipe
3. Expansion valve body

Installation

1. Wrap a wet rag around the expansion valve.

WARNING

Overheating the expansion valve body will damage or destroy it.

2. Proceed in reverse order.

3.3.3.4. Replacing expansion valve coil

PRELIMINARY ACTIONS

1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Remove the cover (service) and service cover (EPS) (fan zone), refer to "Removing the cover (service) and service cover (EPS)" on page 127.

PROCEDURE

Removal

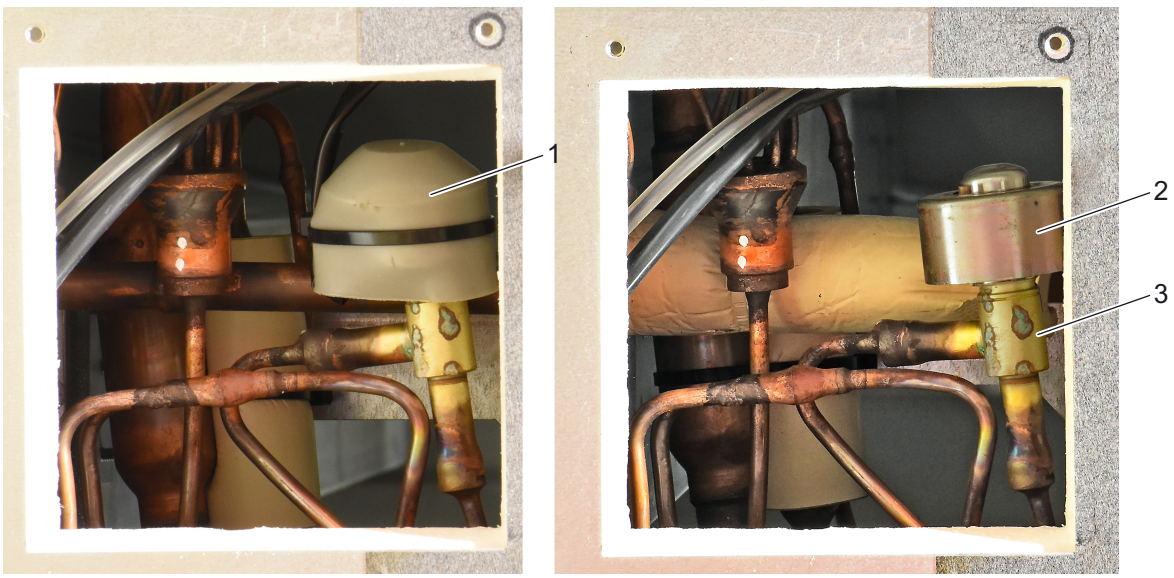
1. Remove the expansion valve cover (1) from the expansion valve body (3).
2. Turn the expansion valve coil (2) 1/8th turn counter clockwise to unlock it.
3. Remove the expansion valve coil (2) from the expansion valve body (3).
4. Cut all cable ties that fix the expansion valve coil wiring.

WARNING: RISK OF FIRE

When reconnecting a connector to the PCB, do not apply force, as this may damage the connector or connector pins of the PCB.

5. Unplug the expansion valve coil connector from the main PCB, refer to "Component checklist" on page 155.

Figure 3-37: Removing the expansion valve coil



1. Expansion valve cover
2. Expansion valve coil
3. Expansion valve body

Installation

INFORMATION

Replace all cable ties that were cut during removal.

1. Proceed in reverse order.
2. When installing the expansion valve coil (2), lock it on the expansion valve body (3).

3.3.3.5. Replacing the heat exchanger

PRELIMINARY ACTIONS

1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Recover the refrigerant (refer to "Recovery procedure" on page 81).
4. Remove the bottom plate (sheet metal) (heat exchanger zone), refer to "Removing the bottom plate (sheet metal) (heat exchanger zone)" on page 125.
5. Remove the drain pan (resin), refer to "Removing the drain pan (resin)" on page 125.
6. Connect a nitrogen hose to the gas service ports (VRV indoor & RDXYQ-T).
7. Attach a hose with core-depressor to the liquid service port (RDXYQ-T) to allow the release of the nitrogen.

PROCEDURE

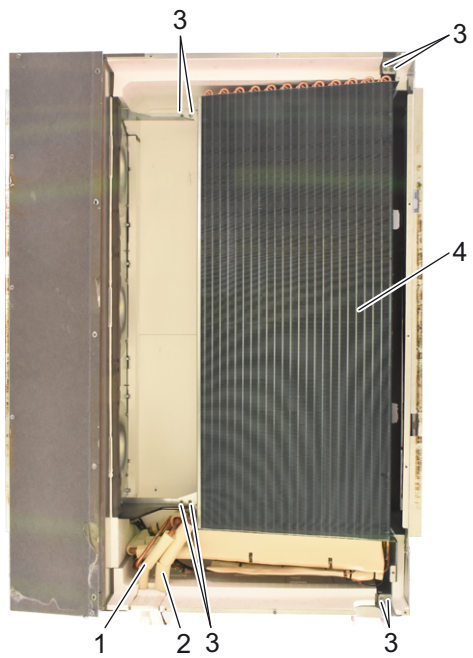
Removal

1. Cut the gas and liquid pipes (1, 2) from the heat exchanger.

> **WARNING**
> Support the heat exchanger while loosening the screws.
> The heat exchanger weighs about 36 kg, 2 persons are required to carry the heat exchanger.

2. While supporting the heat exchanger, loosen and remove the 8 screws (3) that fix the heat exchanger (4).
3. Remove the heat exchanger (4).

Figure 3-38: Removing the heat exchanger



1. Gas pipe	3. Screw
2. Liquid pipe	4. Heat exchanger



CAUTION

The maximum applied Nitrogen pressure must not exceed 0.02 MPa.

4. Supply nitrogen to the piping circuit.
5. Using an oxygen acetylene torch, heat the gas and liquid pipes (1, 2).
6. When the solder material is liquid, pull the 2 gas and liquid pipes (1, 2).
7. Cut the nitrogen supply when the piping has cooled down.

Installation

1. Proceed in reverse order.

3.3.3.6. Replacing main PCB (heat exchanger)

Removal

1. Switch off the Daikin unit via the user interface.
2. Switch off the Daikin unit with the field supplied circuit breaker.
3. Remove the electrical component box cover, refer to "Removing the electrical component box cover" on page 126.

PROCEDURE

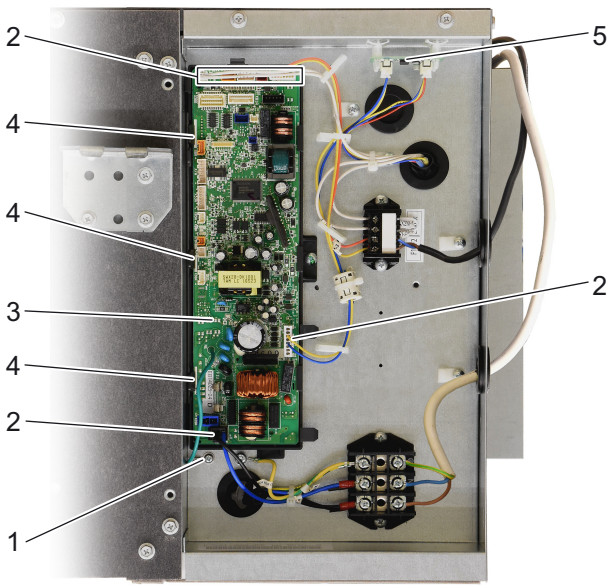
Removal

1. Loosen and remove the screw (1) that fixes the ground wire.

> **WARNING: RISK OF FIRE**
>
> When reconnecting a connector to the PCB, do not apply force, as this may damage the connector or connector pins of the PCB.

2. Unplug all connectors (2) from the main PCB (3) refer to "Component checklist" on page 155.
3. Press the 3 levers (4) to unlatch the main PCB (3).
4. Remove the main PCB holder (3) from the unit.

Figure 3-39: Removing the main PCB (heat exchanger)



1. Screw
2. Connector
3. Main PCB
4. Lever
5. Auxiliary PCB (8 hp only)

Installation

1. Proceed in reverse order.

Part 4. Maintenance

This part contains the following chapters:

Indoor unit 137
Outdoor unit.....138

4.1. Indoor unit

4.1.1. General maintenance indoor unit

1. Optimal operation conditions

	Cooling	Heating
Differential between suction temperature and discharge temperature	8~18°C	14~30°C
DB	27°C	20°C
WB	19°C	NA

2. Correlation of air-conditioner's operation status, pressure and running current

COOLING	Low pressure	High pressure	Running current
Dirty air filter	Lower	Lower	Lower
Short circuit of air inlet/outlet	Lower	Lower	Lower
Air mixed in refrigerant	Higher	Higher	Higher
Water mixed in refrigerant	Lower*	Lower	Lower
Dirt mixed in refrigerant	Lower**	Lower	Lower
Refrigerant shortage (gas)	Lower	Lower	Lower
Unsatisfactory compression	Higher***	Lower	Lower

* Water in the refrigerant freezes inside the electronic expansion valve and is basically the same phenomenon as pump down.

** Dirt in the refrigerant clogs filters inside the piping and is basically the same phenomenon as pump down.

*** Pressure differential between high and low pressure becomes low.

4.2. Outdoor unit

4.2.1. General maintenance outdoor unit

1. Outdoor unit coil:
   - Straighten hair fins.
   - Clear coil from dust, leaves, etc. with a fin-comb, or compressed air/N2. Avoid bending or damaging of the Alu fins during the cleaning process.



CAUTION

Make sure not to bend the hair fins.

2. Correlation of air-conditioner's operation status, pressure and running current.

COOLING	Low pressure	High pressure	Running current
Dirty air filter	Higher	Higher	Higher
Short circuit of air inlet/outlet	Higher	Higher	Higher
Air mixed in refrigerant	Higher	Higher	Higher
Water mixed in refrigerant	Lower*	Lower	Lower
Dirt mixed in refrigerant	Lower**	Lower	Lower
Refrigerant shortage (gas)	Lower***	Lower	Lower

* Water in the refrigerant freezes inside the electronic expansion valve and is basically the same phenomenon as pump down.

** Dirt in the refrigerant clogs filters inside the piping and is basically the same phenomenon as pump down.

*** Pressure differential between high and low pressure becomes low.

Part 5. Appendix

This part contains the following chapters:

Field setting 141
Detailed information setting mode 144
Wiring diagram 148
Piping diagram 150
Component overview of unit 151
Product specific information 155
Switch box 159
Field information report 164

5.1. Field setting

5.1.1. Compressor unit

Mode 2 code no.	Default set	RKXYQ5T7Y1B
		Description setting
0	0	Cooling/heating selection
1	0	Address cooling/heating (+DTA104A61/62)
2	0	Low noise/demand address
3	1	Do not change
4	1	Do not change
5	1	Indoor forced fan H-tap
6	1	Indoor forced thermostat ON
7	0	Do not change
8	0	Te target set °C
9	0	Tc target set °C
10	2	Defrost start °C shift
11	1	Do not change
12	0	Low noise/demand input DTA104A61/62
13	0	Inet (Airnet) address
14	0	Do not change
15	1	ESP setting RDXYQ-T
16	1	Do not change
17	0	Do not change
18	1	Do not change
19	0	Do not change
20	0	Manual refrigerant charge
21	0	Refrigerant recovery mode
22	0	Night time low noise automatic
23	0	Do not change
24	1	Do not change
25	2	Low noise setting (level)
26	2	START time auto night time low noise operation
27	4	END time auto night time low noise operation
28	1	Power transistor check mode
29	1	Capacity priority setting
30	2	Level demand step 1
31	2	Level demand step 2

Mode 2 code no.	Default set	RKXYQ5T7Y1B
		Description setting
32	1	Forced demand set
33	2	Do not change
34	1	Do not change
35	0	Do not change
36	2	Do not change
37	1	Do not change
38	1	Do not change
39	1	Do not change
40	2	Do not change
41	1	Comfort set Te (cool)
42	1	Comfort set Tc (heat)
43	1	Do not change
44	0	Do not change
45	0	Do not change
46	0	Do not change
47	0	Do not change
48	4	Do not change
49	1	Do not change
50	1	Do not change
51	1	Do not change
52	2	Do not change
53	3	Do not change
54	0	Do not change
55	1	Do not change
56	1	Do not change
57	1	Do not change
58	0	Do not change
59	1	Do not change
60	0	Do not change
61	1	Do not change
62	1	Do not change
63	1	Do not change

Mode 2 code no.	LED							Default set	LED							RKXYQ5T7Y1B
	1	2	3	4	5	6	7		1	2	3	4	5	6	7	Description setting
0	○	●	●	●	●	●	●	0	○	●	●	●	●	●	●	Cooling/heating selection
1	○	●	●	●	●	●	○	0	○	●	●	●	●	●	●	Address cooling/heating (+DTA104A61/62)
2	○	●	●	●	●	○	●	0	○	●	●	●	●	●	●	Low noise/demand address
3	○	●	●	●	●	○	○	1	○	●	●	●	●	●	○	Do not change
4	○	●	●	●	○	●	●	1	○	●	●	●	●	●	○	Do not change
5	○	●	●	●	○	●	○	1	○	●	●	●	●	●	○	Indoor forced fan H-tap
6	○	●	●	●	○	○	●	1	○	●	●	●	●	●	○	Indoor forced thermostat ON
7	○	●	●	●	○	○	○	0	○	●	●	●	●	●	●	Do not change
8	○	●	●	○	●	●	●	0	○	●	●	●	●	●	●	Te target set °C
9	○	●	●	○	●	●	○	0	○	●	●	●	●	●	●	Tc target set °C
10	○	●	●	○	●	○	●	2	○	●	●	●	●	○	●	Defrost start °C shift
11	○	●	●	○	●	○	○	1	○	●	●	●	●	●	○	Do not change
12	○	●	●	○	○	●	●	0	○	●	●	●	●	●	●	Low noise/demand input DTA104A61/62
13	○	●	●	○	○	●	○	0	○	●	●	●	●	●	●	Inet (Airnet) address
14	○	●	●	○	○	○	●	0	○	●	●	●	●	●	●	Do not change
15	○	●	●	○	○	○	○	1	○	●	●	●	●	●	○	ESP setting RDXYQ-T
16	○	●	○	●	●	●	●	1	○	●	●	●	●	●	○	Do not change
17	○	●	○	●	●	●	○	0	○	●	●	●	●	●	●	Do not change
18	○	●	○	●	●	○	●	1	○	●	●	●	●	●	○	Do not change
19	○	●	○	●	●	○	○	0	○	●	●	●	●	●	●	Do not change
20	○	●	○	●	○	●	●	0	○	●	●	●	●	●	●	Manual refrigerant charge
21	○	●	○	●	○	●	○	0	○	●	●	●	●	●	●	Refrigerant recovery mode
22	○	●	○	●	○	○	●	0	○	●	●	●	●	●	●	Night time low noise automatic
23	○	●	○	●	○	○	○	0	○	●	●	●	●	●	●	Do not change
24	○	●	○	○	●	●	●	1	○	●	●	●	●	●	○	Do not change
25	○	●	○	○	●	●	○	2	○	●	●	●	●	○	●	Low noise setting (level)
26	○	●	○	○	●	○	●	2	○	●	●	●	●	○	●	START time auto night time low noise operation
27	○	●	○	○	●	○	○	4	○	●	●	●	○	●	●	END time auto night time low noise operation
28	○	●	○	○	○	●	●	1	○	●	●	●	●	●	○	Power transistor check mode
29	○	●	○	○	○	●	○	1	○	●	●	●	●	●	○	Capacity priority setting
30	○	●	○	○	○	○	●	2	○	●	●	●	●	○	●	Level demand step 1
31	○	●	○	○	○	○	○	2	○	●	●	●	●	○	●	Level demand step 2
32	○	○	●	●	●	●	●	1	○	●	●	●	●	●	○	Forced demand set
33	○	○	●	●	●	●	○	2	○	●	●	●	●	○	●	Do not change
34	○	○	●	●	●	○	●	1	○	●	●	●	●	●	○	Do not change
35	○	○	●	●	●	○	○	0	○	●	●	●	●	●	●	Do not change
36	○	○	●	●	○	●	●	2	○	●	●	●	●	○	●	Do not change
37	○	○	●	●	○	●	○	1	○	●	●	●	●	●	○	Do not change
38	○	○	●	●	○	○	●	1	○	●	●	●	●	●	○	Do not change
39	○	○	●	●	○	○	○	1	○	●	●	●	●	●	○	Do not change
40	○	○	●	○	●	●	●	2	○	●	●	●	●	○	●	Do not change
41	○	○	●	○	●	●	○	1	○	●	●	●	●	●	○	Comfort set Te (cool)
42	○	○	●	○	●	○	●	1	○	●	●	●	●	●	○	Comfort set Tc (heat)
43	○	○	●	○	●	○	○	1	○	●	●	●	●	●	○	Do not change
44	○	○	●	○	○	●	●	0	○	●	●	●	●	●	●	Do not change
45	○	○	●	○	○	●	○	0	○	●	●	●	●	●	●	Do not change
46	○	○	●	○	○	○	●	0	○	●	●	●	●	●	●	Do not change
47	○	○	●	○	○	○	○	0	○	●	●	●	●	●	●	Do not change
48	○	○	○	●	●	●	●	4	○	●	●	●	○	●	●	Do not change
49	○	○	○	●	●	●	○	1	○	●	●	●	●	●	○	Do not change
50	○	○	○	●	●	○	●	1	○	●	●	●	●	●	○	Do not change
51	○	○	○	●	●	○	○	1	○	●	●	●	●	●	○	Do not change
52	○	○	○	●	○	●	●	2	○	●	●	●	●	○	●	Do not change
53	○	○	○	●	○	●	○	3	○	●	●	●	●	○	○	Do not change
54	○	○	○	●	○	○	●	0	○	●	●	●	●	●	●	Do not change
55	○	○	○	●	○	○	○	1	○	●	●	●	●	●	○	Do not change
56	○	○	○	○	●	●	●	1	○	●	●	●	●	●	○	Do not change
57	○	○	○	○	●	●	○	1	○	●	●	●	●	●	○	Do not change
58	○	○	○	○	●	○	●	0	○	●	●	●	●	●	●	Do not change
59	○	○	○	○	●	○	○	1	○	●	●	●	●	●	○	Do not change
60	○	○	○	○	○	●	●	0	○	●	●	●	●	●	●	Do not change
61	○	○	○	○	○	●	○	1	○	●	●	●	●	●	○	Do not change
62	○	○	○	○	○	○	●	1	○	●	●	●	●	●	○	Do not change
63	○	○	○	○	○	○	○	1	○	●	●	●	●	●	○	Do not change

Mode 2 code no.	Default set	RKXYQ8T7Y1B
		Description setting
0	0	Cooling/heating selection
1	0	Address cooling/heating (+DTA104A61/62)
2	0	Low noise/demand address
3	0	Do not change
4	0	Do not change
5	0	Indoor forced fan H-tap
6	0	Indoor forced thermostat ON
7	0	Do not change
8	0	Te target set °C
9	0	Tc target set °C
10	1	Defrost start °C shift
11	0	Do not change
12	0	Low noise/demand input DTA104A61/62
13	0	Inet (Airnet) address
14	0	Do not change
15	1	ESP setting RDXYQ-T
16	0	Do not change
17	0	Do not change
18	0	Do not change
19	0	Do not change
20	0	Manual refrigerant charge
21	0	Refrigerant recovery mode
22	0	Night time low noise automatic
23	0	Do not change
24	0	Do not change
25	0	Low noise setting (level)
26	1	START auto night time low noise operation
27	2	END auto night time low noise operation
28	0	Power transistor check mode
29	0	Capacity priority setting
30	2	Level demand step 1
31	1	Level demand step 2
32	0	Forced demand set
33	0	Do not change
34	0	Indoor fan limitation (> 130%)
35	1	Height difference (cooling mode)
36	2	Do not change
37	0	Do not change
38	1	Do not change
39	1	Do not change
40	0	Do not change
41	0	Do not change

Mode 2 code no.	Default set	RKXYQ8T7Y1B
		Description setting
42	0	Do not change
43	0	Do not change
44	0	Do not change
45	0	Do not change
46	0	Do not change
47	0	Do not change
48	0	Do not change
49	0	Do not change
50	0	Do not change
51	0	Do not change
52	0	Do not change
53	0	Do not change
54	0	Do not change
55	1	Do not change
56	0	Do not change
57	0	Do not change
58	0	Do not change
59	0	Do not change
60	0	Do not change
61	0	Do not change
62	0	Do not change
63	1	Do not change
64	0	Do not change
65	0	Do not change
66	0	Do not change
67	0	Do not change
68	180	Do not change
69	0	Do not change
70	0	Do not change
71	0	Do not change
73	0	Do not change
81	1	Cooling comfort setting
82	1	Heating comfort setting
83		Spare setting
84	1	Do not change
85	0	Do not change
86	0	Do not change
87	1	Do not change
88	0	Do not change
89	0	Do not change
90	0	Do not change

5.1.2. Heat exchanger unit

5.2. Detailed information setting mode

5.2.1. Indoor unit

See service manual VRV4 indoor units.

5.2.2. Compressor module

5.2.2.1. Field setting method mode 1 & 2

Setting mode 1 (monitoring)

			Display										
			5 hp							8 hp			
Step			LED no.							7 segment no.			
No.	Description	?	1	2	3	4	5	6	7	1	2	3	Action
1	Not normal display	≠	●	●	○	●	●	●	●	8	8	8	BS1 “Mode” 1x
			●	●	●	○	●	●	●	o	o	o	
			●	●	●	●	○	●	●	o	o	o	
2	Normal display	=	●	●	○	●	●	●	●	8	8	8	-
			●	●	●	○	●	●	●	o	o	o	
			●	●	●	●	○	●	●	o	o	o	
3	Enter mode 1	=	◎	●	●	●	●	●	●	1	o	o	BS1 “Mode” 1x
4	Choose subject	=	See table mode 1							1	See table monitoring		BS2 “Set” till = indication subject in table mode 1
5	Enter view info	=	See table mode 1							1	Info data lights up		BS3 “Return” 1x
6	If info contains > 1 display	=	See table mode 1								Chosen set blinks		BS2 “Set” 1x = next display of info is visible
7	Other info to check?		-							-			Go step 4
8	Exit mode 1	=	●	●	○	●	●	●	●	8	8	8	BS1 “Mode” 1x
			●	●	●	○	●	●	●	o	o	o	
			●	●	●	●	○	●	●	o	o	o	
	Display legend		● LED off							888	Display off		
			◎ LED blinking							ooo	Display blinking		
			○ LED lights up							ooo	Display lights up		

Remark: to view number of indoor units or outdoor units, wait till systems have (re-)initialised.
(5 hp = LED no. 8 off, 8 hp = segment display is off)

Setting mode 2 (field settings)

			Display										
			5 hp							8 hp			
Step			LED no.							7 segment no.			
No.	Description	?	1	2	3	4	5	6	7	1	2	3	Action
1	Not normal display	≠	●	●	○	●	●	●	●	8	8	8	BS1 “Mode” 1x
			●	●	●	○	●	●	●	o	o	o	
			●	●	●	●	○	●	●	o	o	o	
2	Normal display	=	●	●	○	●	●	●	●	8	8	8	-
			●	●	●	○	●	●	●	o	o	o	
			●	●	●	●	○	●	●	o	o	o	
3	Enter mode 2	=	○	●	●	●	●	●	●	2	0	0	BS1 “Mode” ⌛ till = display
4	Choose subject	=	See table mode 2							2	See table mode 2		BS2 “Set” till = indication subject in table mode 2
5	Enter settings	=	See table mode 2							2	Default set blinks		BS3 “Return” 1x
6	Choose setting	=	See table mode 2							2	Chosen set blinks		BS2 “Set” till = indication setting in table mode 2
7	Confirm setting	=	See table mode 2							2	Set lights up		BS3 “Return” 1x
8	Activate setting	=	○	●	●	●	●	●	●	2	0	0	BS3 “Return” 1x
9	Other setting?												Go step 4
10	Exit setting	=	●	●	○	●	●	●	●	8	8	8	BS1 “Mode” 1x
			●	●	●	○	●	●	●	o	o	o	
			●	●	●	●	○	●	●	o	o	o	
	Display legend		● LED off							888	Display off		
			◎ LED blinking							ooo	Display blinking		
			○ LED lights up							ooo	Display lights up		

Remark:

1. To activate following functions, wait till systems have (re-)initialised:

(5 hp = LED no. 8 off, 8 hp = segment display is off)

- 2-5: forced indoor fan,
- 2-6: forced thermostat,
- 2-20: manual refrigerant charge,
- 2-21: refrigerant recovery,
- 2-28: power transistor checking.

2. To end the above functions, in case of 8 hp, change setting back to default prior to exit mode 2.

5.2.2.2. Field setting overview mode 1 & 2

	RKXYQ5T- mode 1 (monitoring mode)		
No.	**LEDs 1~7**	**Description**	**Range**
1	●●●●●●❍	Cool/heat zone address + DTA104A!!	●●●●●● = 0 ~ ❍❍❍❍❍❍ = 63
2	●●●●●❍●	Low noise and demand address + DTA104A!!	●●●●●● = 0 ~ ❍❍❍❍❍❍ = 63
4	●●●●❍●●	i-Net address (“Airnet”)	●●●●●● = 0 ~ ❍❍❍❍❍❍ = 63
5	●●●●❍●❍	Quantity VRV indoor units wired to F1F2/IND + RDKXYQ-T	●●●●●● = 0 ~ ❍❍❍❍❍❍ = 63
8	●●●❍●●●	Quantity VRV system(s) wired to F1F2/OUTD	●●●●●● = 0 ~ ❍❍❍❍❍❍ = 63
12	●●●❍❍●●	Quantity all VRV indoor units of system(s) looped by F1F2/OUTD + all RDXYQ-T (4 upper digits)	●●●●●● = 0 ~ ●❍❍❍❍❍ = 15
13	●●●❍❍●❍	Quantity all VRV indoor units of system(s) looped by F1F2/OUTD + all RDXYQ-T (4 lower digits)	●●●●●● = 0 ~ ●❍❍❍❍❍ = 15
14	●●●❍❍❍●	Error code last forced off	4 columns search method (see "How to retrieve error codes" on page 22)
15	●●●❍❍❍❍	Error code 2nd last forced off	4 columns search method (see "How to retrieve error codes" on page 22)
16	●●❍●●●●	Error code 3rd last forced off	4 columns search method (see "How to retrieve error codes" on page 22)
17	●●❍●●●❍	Software ID number	5 digits binary ● = 0, ❍ = 1 (LED 4~7)
18	●●❍●●❍●	Horsepower value outdoor unit	●●❍ = 4 hp (LED 7), ●❍● = 5 hp (LED 6), ●❍❍ = 6 hp (LED 6+7)
19	●●❍●●❍❍	Software sub-number	3 digits binary ● = 0, ❍ = 1 (LED 5~7)
20	●●❍●❍●●	Error code last retry stop	4 columns search method (see "How to retrieve error codes" on page 22)
21	●●❍●❍●❍	Error code 2nd last retry stop	4 columns search method (see "How to retrieve error codes" on page 22)
22	●●❍●❍❍●	Error code 3rd last retry stop	4 columns search method (see "How to retrieve error codes" on page 22)
23	●●❍●❍❍❍	Number of F1F2 transmission retries	●●●●●● = 0 ~ ❍❍❍❍❍❍ = 63
24	●●❍❍●●●	Number of INet transmission retries	●●●●●● = 0 ~ ❍❍❍❍❍❍ = 63
25	●●❍❍●●❍	PCB normal judgment	●●●●●●❍ = normal ●●●●●❍● = abnormal

	RKXYQ8T - mode 1 (monitoring mode)										
			Range								
No.	**Description**	**Blank**	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
0	Unit function	Not set	Main	Sub 1	Sub 2	-	-	-	-	-
1	Low noise input	-	No	Yes	-	-	-	-	-	-
2	Demand control input	-	No	Yes	-	-	-	-	-	-
5	Target T-evaporation	-	Auto	3	6	7	8	9	10	11
6	Target T-condensation	-	Auto	41	-	43	-	-	46	-
7	Cool/heat address	-	0~63							
8	Low noise/demand address	-	0~63							
9	Airnet address	-	0~63							
10	Quantity VRV indoor units wired to F1F2/IND + RDKXYQ-T	-	0~63							
13	Quantity VRV system(s) wired to F1F2/OUTD	-	0~10							
16	Quantity all VRV indoor units of system(s) looped by F1F2/OUTD + all RDXYQ-T	-	0~10							
17	Latest stop malfunction code	-	E0~UJ							
18	2nd last stop malfunction code	-	E0~UJ							
19	3rd last stop malfunction code	-	E0~UJ							
20	Software number	-	4 digits							
21	Horsepower	-	0~9							
22	Software version	-	3 digits							
23	Latest retry malfunction code	-	E0~UJ							
24	2nd last retry malfunction code	-	E0~UJ							
25	3rd last retry malfunction code	-	E0~UJ							
26	D3 retry	-	0~10							
27	ASC retry	-	0~10							
32	P. board normal	-	0~10							
33	P. board bad detection	-	0~10							
40	Current cooling comfort setting	-	Eco	Mild	Quick	Powerful	-	-	-	-
41	Current heating comfort setting	-	Eco	Mild	Quick	Powerful	-	-	-	-

	RKXYQ5T - mode 2 (field setting mode)		
No.	**LEDs 1~7**	**Description**	**Range by LED**
1	❍●●●●❍	❄/☼ address + DTA104	**<u>●●●●● = 0</u>** ~ ❍❍❍❍❍ = 31
2	❍●●●●❍●	LNO/DE address = DTA104	**<u>●●●●● = 0</u>** ~ ❍❍❍❍❍ = 31
5	❍●●●❍●❍	“Cross wiring check”	**<u>●●❍ = OFF</u>** ●❍● = ON
6	❍●●●❍❍●	Forced thermostat-on	**<u>●●❍ = OFF</u>** ●❍● = ON
8	❍●●❍●●●	Te target (cooling)	**<u>●●● = Auto</u>** ●●❍ = 3°C ●❍● = 6°C ●❍❍ = 7°C ❍●● = 8°C ❍●❍ = 9°C ❍❍● = 10°C ❍❍❍ = 11°C
9	❍●●❍●●❍	Tc target (heating)	**<u>●●● = Auto</u>** ●●❍ = 41°C ●❍● = 43°C ❍●● = 46°C
10	❍●●❍●❍●	Defrost start °C shift	●●❍ = Delayed (coil °C 2°C down) **<u>●❍● = Standard</u>** mll = earlier (coil °C 2°C up)
12	❍●●❍❍●●	Use input DTA104	**●●❍ = NO** ●❍● = YES
13	❍●●❍❍●❍	i-Net address	**<u>●●●●●● = 0</u>** ~ ❍❍❍❍❍❍ = 63
15	❍●●❍❍❍❍	ESP fan heat-exchanger module	●●● = 30 Pa **<u>●●❍ = 60 Pa</u>** ●❍● = 90 Pa ●❍❍ = 120 Pa ❍●● = 150 Pa
20	❍●❍●❍●●	+R410A manual charge	**<u>●●❍ = NO</u>** ●❍● = YES
21	❍●❍●❍●❍	Refrigerant recovery	**<u>●●❍ = NO</u>** ●❍● = YES
22	❍●❍●❍❍●	LNO auto night time	**<u>●●❍ = OFF</u>** ●●❍ = Level 1 ●❍● = Level 2 ●❍❍ = Level 3
25	❍●❍❍●●❍	LNO level input DTA104	●●❍ = Level 1 **<u>●❍● = Level 2</u>** ●❍❍ = Level 3
26	❍●❍❍●❍●	LNO auto start time	●●❍ = 8:00 PM **<u>●❍● = 10:00 PM</u>** ❍●● = 12:00 PM
27	❍●❍❍●❍❍	LNO auto end time	●●❍ = 6:00 PM ●❍● = 7:00 PM **<u>❍●● = 8:00 PM</u>**
28	❍●❍❍❍●●	Power transistor mode 10 Hz	**<u>●●❍ = NO</u>** ●❍● = YES
29	❍●❍❍❍●❍	Capacity priority set LNO	**<u>●●❍ = NO</u>** ●❍● = YES
30	❍●❍❍❍❍●	Demand level 1	●●❍ = Limitation 1 (60%) **<u>●❍● = Limitation 2 (70%)</u>** ❍●● = Limitation 3 (80%)
31	❍●❍❍❍❍❍	Demand level 2	●●❍ = Limitation 1 (30%) **<u>●❍● = Limitation 1 (40%)</u>** ❍●● = Limitation 1 (50%)
32	❍❍●●●●●	Permanent demand	**<u>●●❍ = NO</u>** ●❍● = Yes Demand level 1 ❍●● = Yes Demand level 2
41	❍❍●❍●●❍	Cooling comfort setting	●●● = Eco **<u>●●❍ = Mild</u>** ●❍● = Quick ●❍❍ = Powerful
42	❍❍●❍●❍●	Heating comfort setting	●●● = Eco **<u>●●❍ = Mild</u>** ●❍● = Quick ●❍❍ = Powerful

<u>xxx: default setting</u>

	RKXYQ8T - mode 2 (field setting mode)									
		Range								
No.	**Function**	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
0	Cool/heat selection	**Individual**	Main	Sub	-	-	-	-	-	-
1	C/H address for DTA104	**0** ~ 63								
2	Power limit address for DTA104	**0** ~ 63								
5	Indoor fan forced H speed	**Disabled**	Enabled	-	-	-	-	-	-	-
6	Indoor forced thermostat-on	**Disabled**	Enabled	-	-	-	-	-	-	-
8	Target Tevapo (cool) °C	**Auto**	3	6	7	8	9	10	11	
9	Target Tcondens (heat) °C	**Auto**	41		43	-	-	46	-	-
10	Defrost start °C shift	Earlier	**Standard**	Later	-	-	-	-	-	-
12	Enable input DTA104	**Disabled**	Enabled	-	-	-	-	-	-	-
13	ACNSS address	**0** ~ 63								
15	ESP set RDXYQ-T (Pa)	30	**60**	90	120	150	-	-	-	-
16	Hot water output KRP iso compr	**No**	Yes	-	-	-	-	-	-	-
20	Manual refrigerant charge	**Disabled**	Enabled	-	-	-	-	-	-	-
21	Refrigerant recovery	**Disabled**	Enabled	-	-	-	-	-	-	-
22	Automatic low noise	**Disabled**	Enabled	-	-	-	-	-	-	-
25	Level low noise by DTA104	-	1	**2**	3	-	-	-	-	-
26	Start auto low noise	-	20:00	**22:00**	24:00:00	-	-	-	-	-
27	Stop auto low noise	-	6:00	7:00	**8:00**	-	-	-	-	-
28	Power transistor check	**Disabled**	Enabled	-	-	-	-	-	-	-
29	Capacity priority set	**Disabled**	Enabled	-	-	-	-	-	-	-
30	Power% limit step 1 (DTA104)	-	60	65	**70**	75	80	85	90	95
31	Power% limit step 2 (DTA104)	-	**40**	50	55	-	-	-	-	-
32	Forced power limit	**No limit**	Step 1	Step 2		-	-	-	-	-
34	Indoor fan limitation (130%)	**Yes**	**No**	-	-	-	-	-	-	-
35	Heights difference cool	Yes	No	Do NOT set						
48	Snow-sensor	**No**	Yes	-	-	-	-	-	-	-
49	Height difference	**No**	Yes	-	-	-	-	-	-	-
52	Output (BPH) drainpan heater	**Disabled**	Enabled	-	-	-	-	-	-	-
81	Cooling comfort setting	Eco	**Mild**	Quick	Powerful	-	-	-	-	-
82	Heating comfort setting	Eco	**Mild**	Quick	Powerful	-	-	-	-	-
90	Software multi tenant indoor w/o power max 30% max 24 hour	**Disabled**	Enabled	-	-	-	-	-	-	-
91	Drainpan heater activate	**Ta < 3°C + defrost cond.**	Ta < 3°C without defrost cond.	-	-	-	-	-	-	-

xxx: default setting

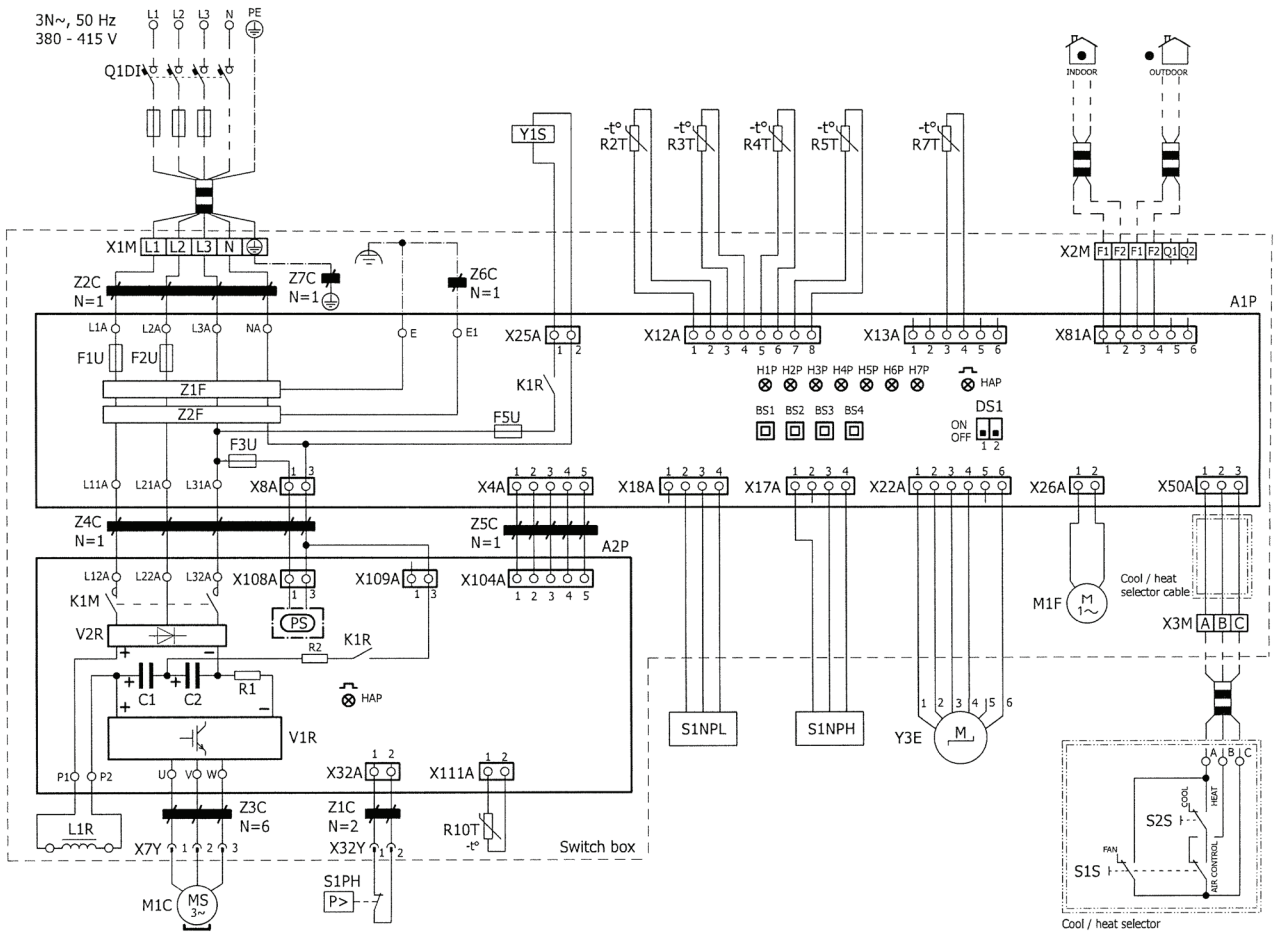
5.2.3. Remote controller

See service manual ESIE15-11 (VRV4 indoor units).

5.3. Wiring diagram

5.3.1. Compressor module 5 hp

Figure 5-1: Wiring diagram - compressor module 5 hp

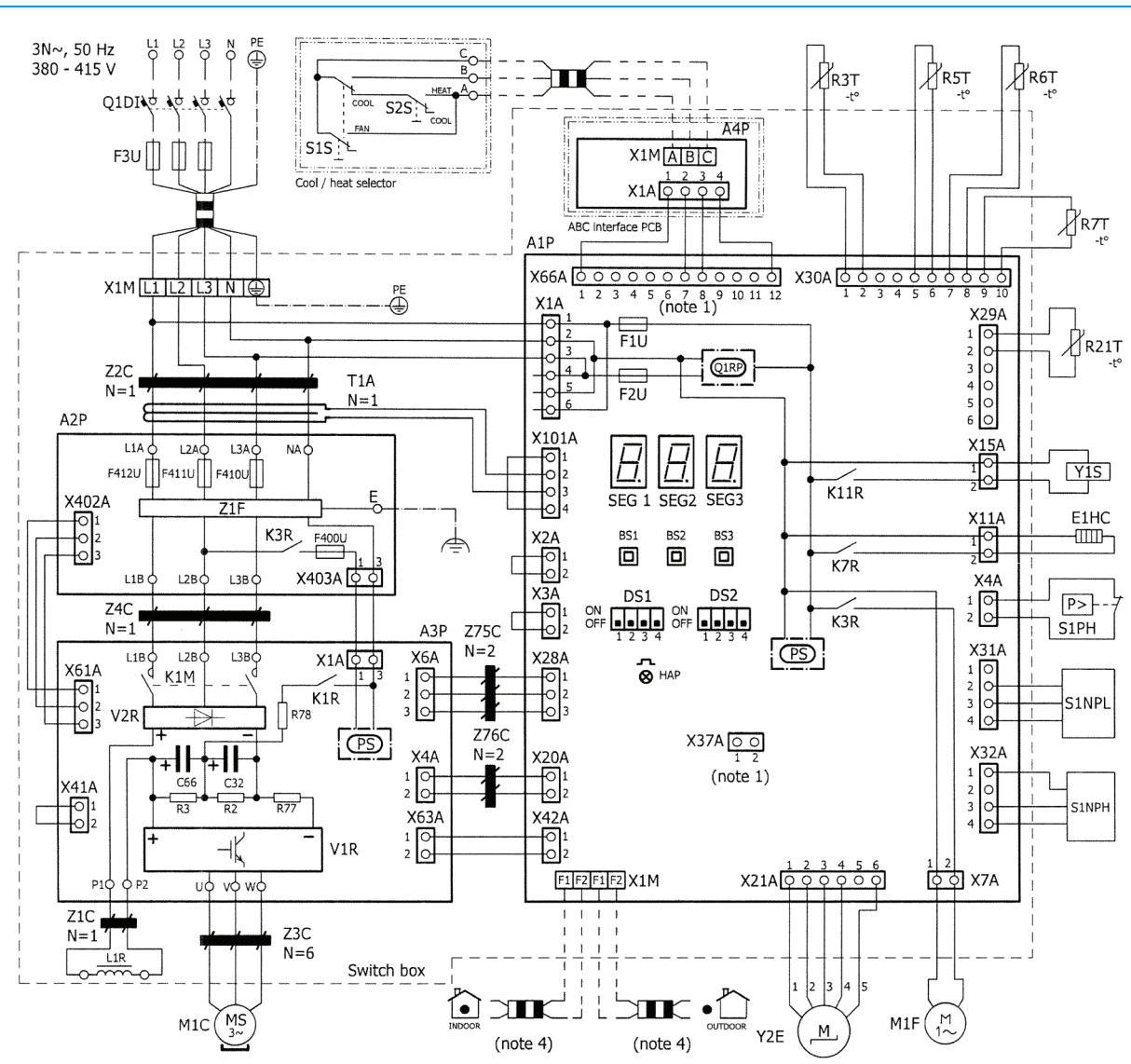


Part n°		Description
A1P		main PCB
A2P		inverter PCB (INV)
BS* (A1P)		push button
C* (A2P)		capacitor
DS1 (A1P)		dipswitch
F1U (A1P)		fuse T 31,5 A 250 V for PCB
F2U (A1P)		fuse T 31,5 A 250 V for PCB
F3U (A1P)		fuse T 6,3 A 250 V for PCB
F5U (A1P)		fuse T 6,3 A 250 V for PCB
H*P (A1P)		LED (service monitor-orange)
HAP (A*P)		running LED (service monitor-green)
K1M (A2P)		magnetic contactor
K1R (A*P)		magnetic relay
L1R		reactor
M1C		motor (compressor)
M1F		motor (FAN)
PS (A2P)		switching power supply
Q1DI		earth leakage circuit breaker
R* (A2P)		resistor
R2T		thermistor (discharge)
R3T		thermistor (suction accumulatior)
R4T		thermistor (subcool HE gas)
R5T		thermistor (suction compressor)
R7T		thermistor (liquid)
R10T		thermistor (fin)
S1NPL		pressure sensor (low)
S1NPH		pressure sensor (high)
S1PH		high pressure switch
S*S	*	switch cool/heat selector
V1R (A2P)		IGBT power module
V2R (A2P)		diode module
X1M		terminal strip (power supply)
X2M		terminal strip (low voltage)
X3M		terminal strip (cool/heat selector)
X*Y		connector
Y3E		electronic expansion valve
Y1S		solenoïd valve (4 way valve)
Z*C		noise filter (ferrit core)
Z*F (A1P)		noise filter

* : optional # : field supply

5.3.2. Compressor module 8 hp

Figure 5-2: Wiring diagram - compressor module 8 hp

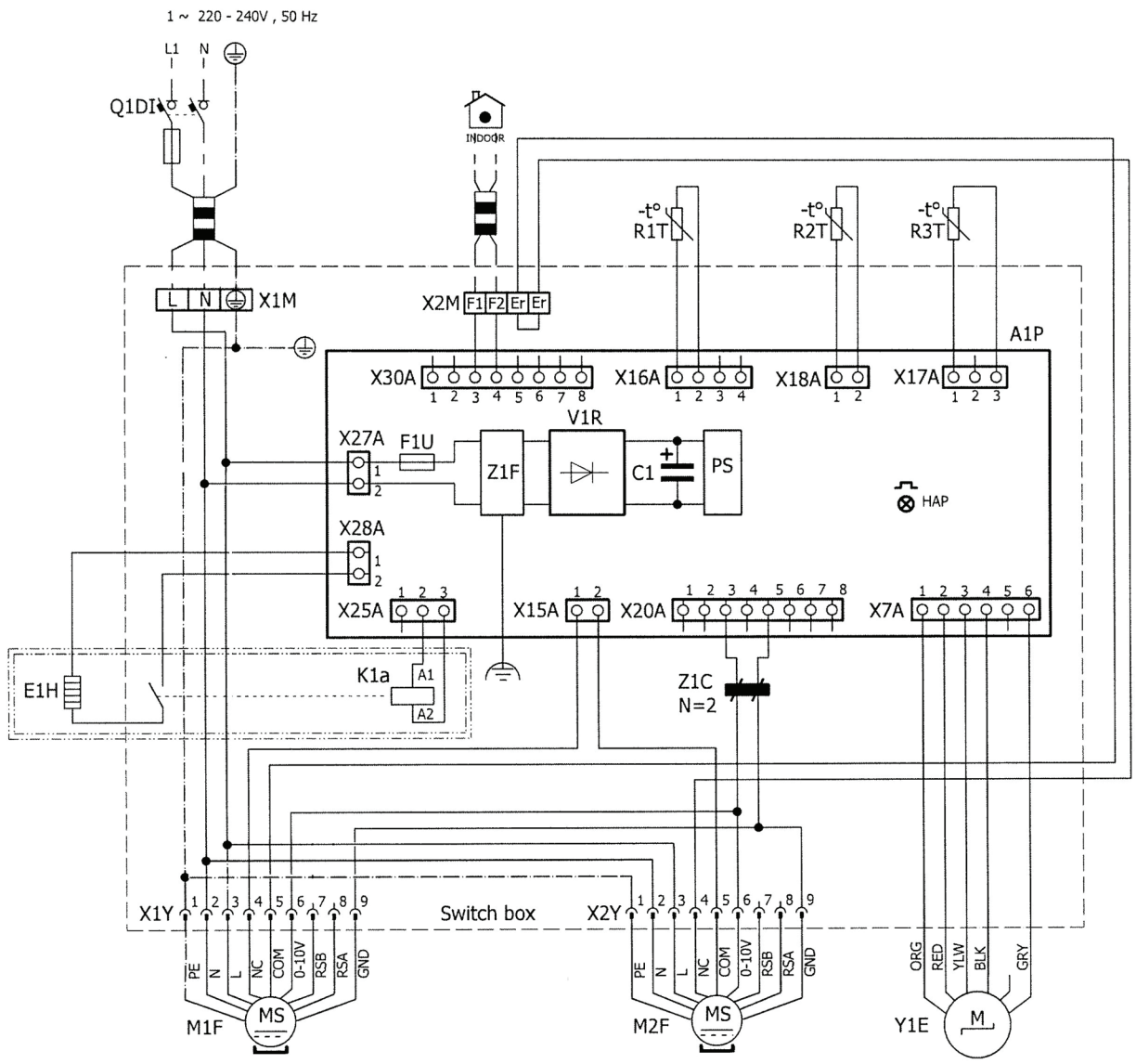


Part n°		Description
A1P		main PCB
A2P		noise filter PCB
A3P		inverter PCB
A4P		cool/heat selector PCB
BS* (A1P)		push buttons (mode , set, return)
C* (A3P)		capacitors
DS* (A1P)		dipswitch
E1HC		crankcase heater
F*U (A1P)		fuse T 3,15 A 250 V
F3U		field fuse
F400U (A2P)		fuse T 6.3 A 250 V
F410U (A2P)		fuse T 40 A 500 V
F411U (A2P)		fuse T 40 A 500 V
F412U (A2P)		fuse T 40 A 500 V
HAP (A1P)		running LED (service monitor-green)
K1M (A3P)		magnetic contactor
K*R (A*P)		magnetic relay
L1R		reactor
M1C		motor (compressor)
M1F		motor (fan)
PS (A1P,A3P)		power supply
Q1DI	#	earth leakage circuit breaker
Q1RP (A1P)		phase reversal detect circuit
R21T		thermistor (M1C discharge)
R3T		thermistor (accumulator)
R5T		thermistor (subcool liquid. pipe)
R6T		thermistor (heat exchanger gas pipe)
R7T		thermistor (suction)
R* (A3P)		resistor
S1NPH		high pressure sensor
S1NPL		low pressure sensor
S1PH		high pressure switch (disch)
S1S	*	air control switch
S2S	*	cool / heat switch
SEG1 SEG3		7-segment display
T1A		current sensor
V1R (A3P)		IGBT power module
V2R (A3P)		diode module
X37A	*	connector (power supply for option PCB)
X66A	*	connector (remote switching cool/heat selector)
X1M		terminal strip (power supply)
X*A		PCB connector
X*M (A*P)		terminal strip on PCB
X*Y		connector
Y2E		electronic expansion valve
Y*S		solenoïd valve (4-way valve)
Z*C		noise filter (ferrit core)
Z*F		noise filter

* : optional
: field supply

5.3.3. Heat exchanger module 5 hp

Figure 5-3: Wiring diagram - heat exchanger module 5 hp

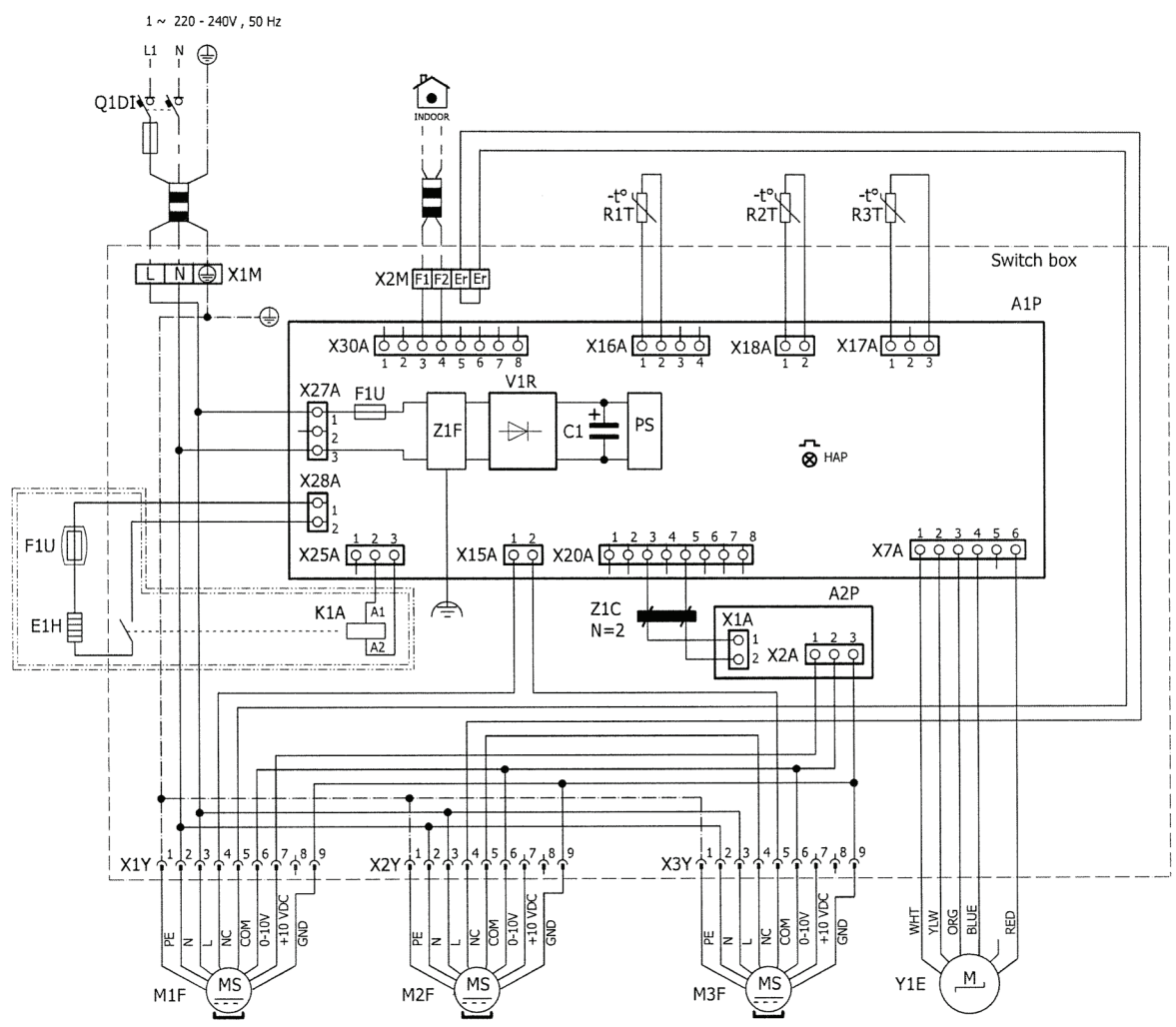


Part n°		Description
A1P		main PCB
C1 (A1P)		capacitor
E1H	*	drain pan heater
F1U (A1P)		fuse T 6.3 A 250 V for PCB
HAP (A1P)		running LED (service monitor-green)
K1a	*	auxilary relay
M*F		motor (fan)
Q1DI		earth leakage circuit breaker
PS (A1P)		switching power supply
R1T		thermistor air
R2T		thermistor gas
R3T		thermistor coil
V1R (A1P)		diode module
X1M		main terminal
X2M		field wiring terminal
X*M		terminal strip
X*Y		connector
Y1E		electronic expansion valve
Z1C		ferrite core
Z1F (A1P)		noise filter

* : optional
: field supply

5.3.4. Heat exchanger module 8 hp

Figure 5-4: Wiring diagram - heat exchanger module 8 hp



Part n°		Description
A1P		main PCB
A2P		adapter PCB
C1 (A1P)		capacitor
E1H	*	drain pan heater
F1U	*	fuse F 1 A 250 V
F1U (A1P)		fuse T 6.3 A 250 V for PCB
HAP (A1P)		running LED (service monitor-green)
K1A	*	auxilary relay
M*F		motor (fan)
Q1DI	#	earth leakage circuit breaker
PS (A1P)		switching power supply
R1T		thermistor air
R2T		thermistor gas
R3T		thermistor coil
V1R (A1P)		diode module
X1M		main terminal
X2M		field wiring terminal
X*Y		connector
Y1E		electronic expansion valve
Z1C		ferrite core
Z1F (A1P)		noise filter

* : optional
: field supply

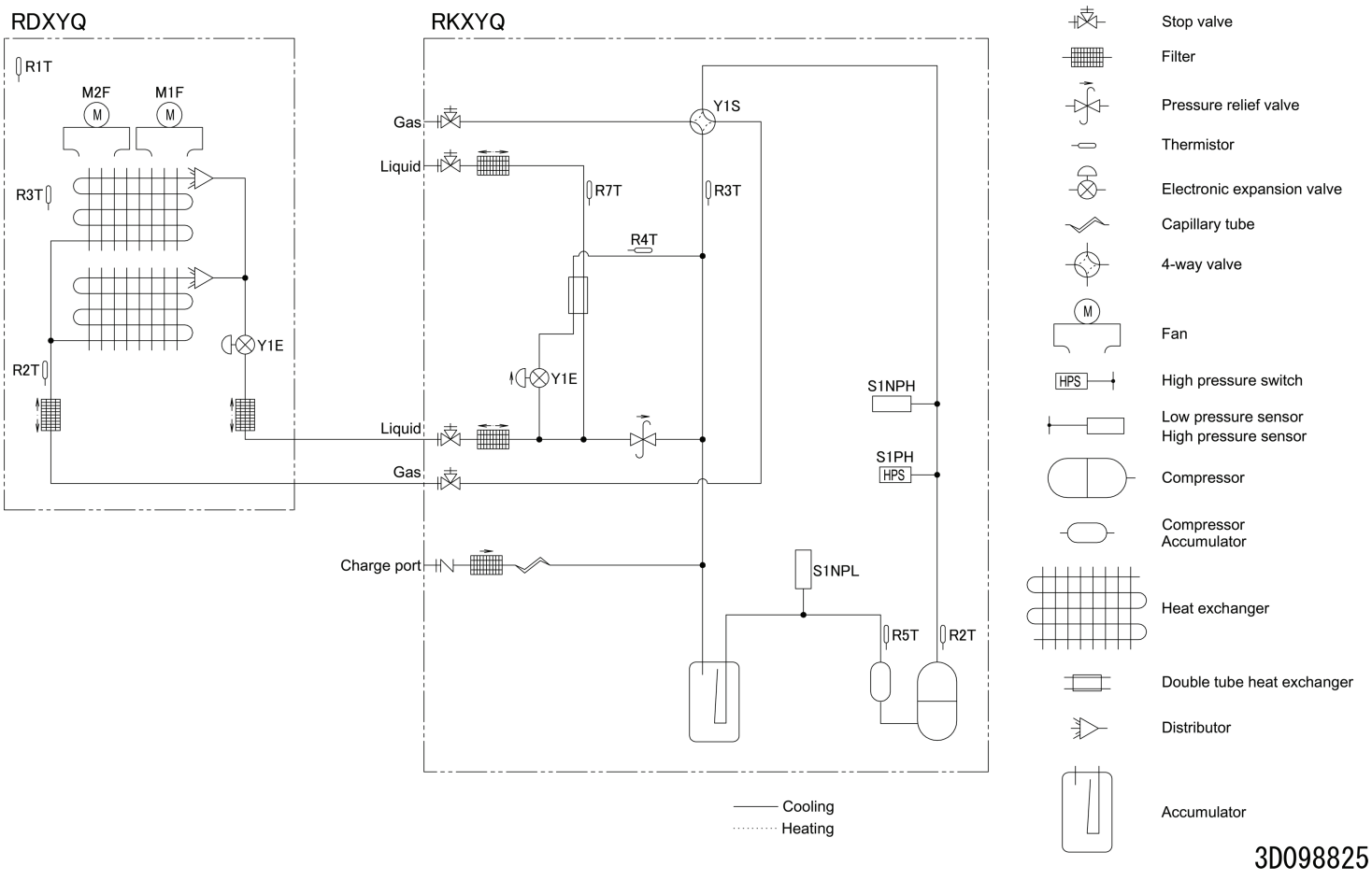
5.3.5. Field wiring

Not applicable.

5.4. Piping diagram

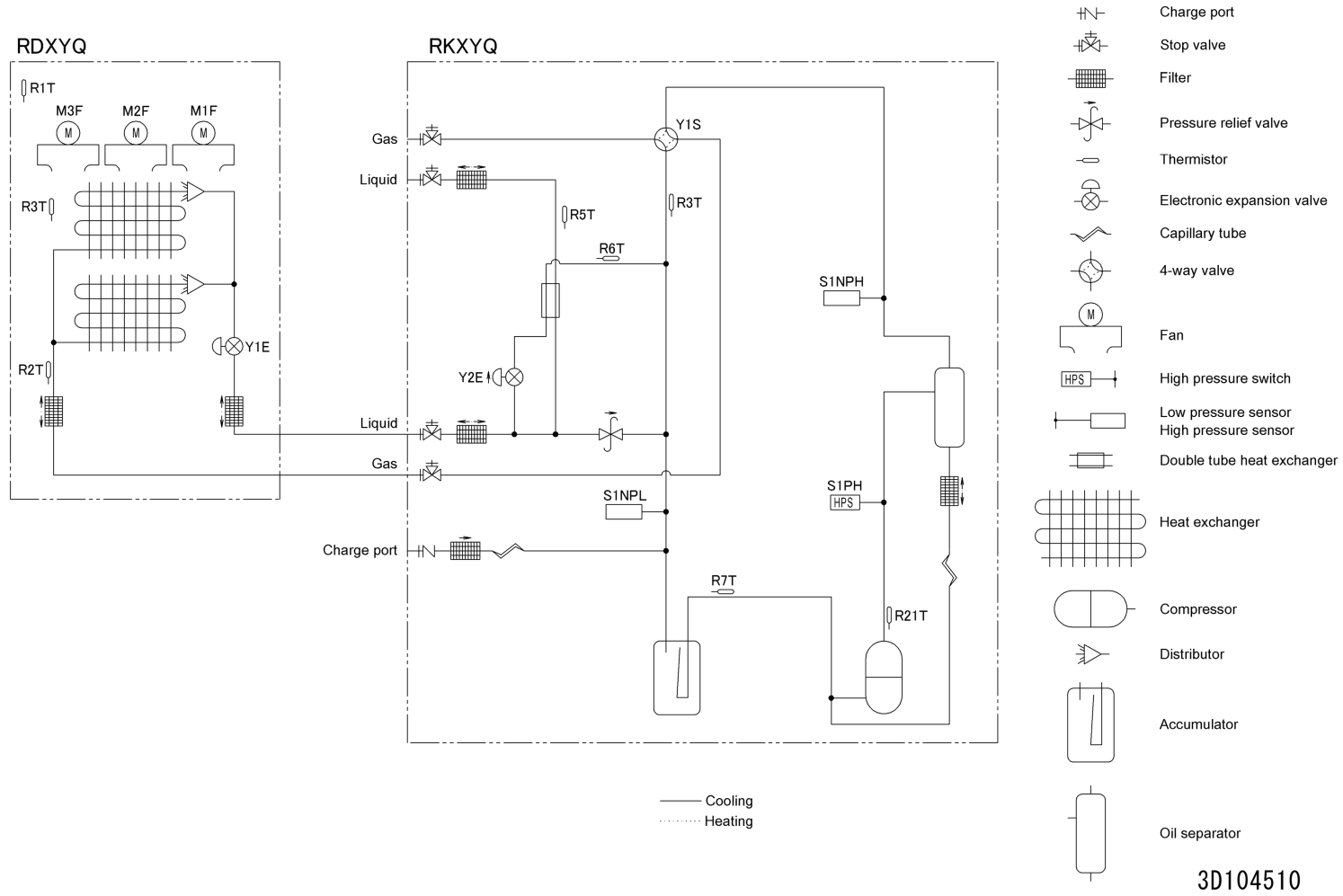
5.4.1. Heat exchanger module - compressor module 5 hp

Figure 5-5: Piping diagram - heat exchanger module / compressor module 5 hp



5.4.2. Heat exchanger module - compressor module 8 hp

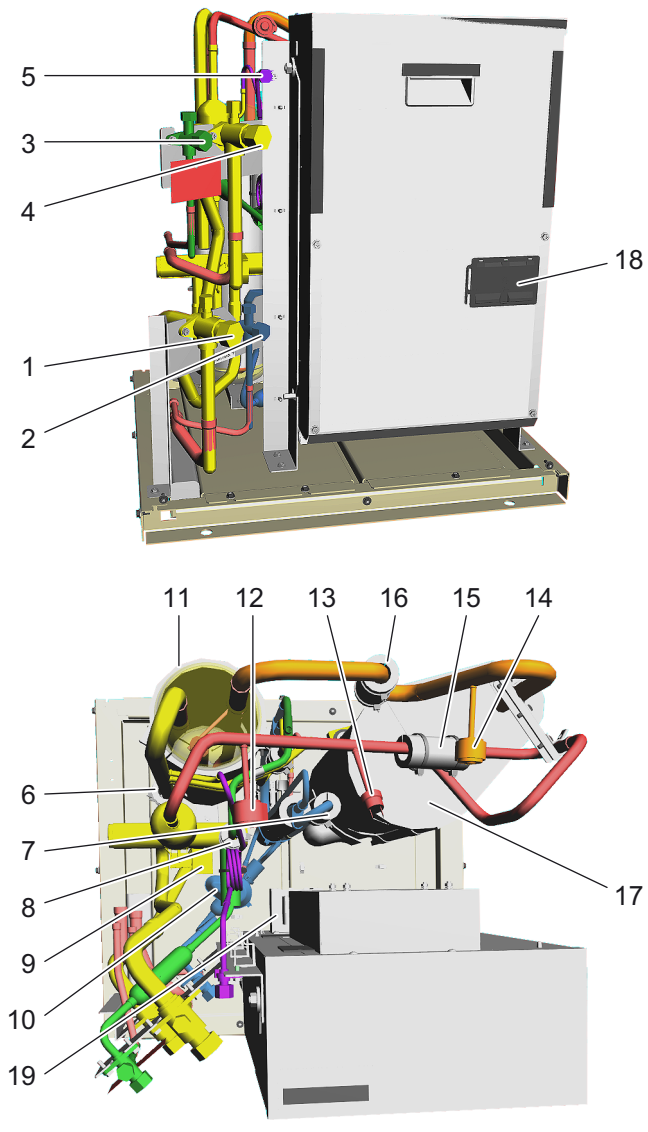
Figure 5-6: Piping diagram - heat exchanger module / compressor module 8 hp



5.5. Component overview of unit

5.5.1. Compressor module 5 hp

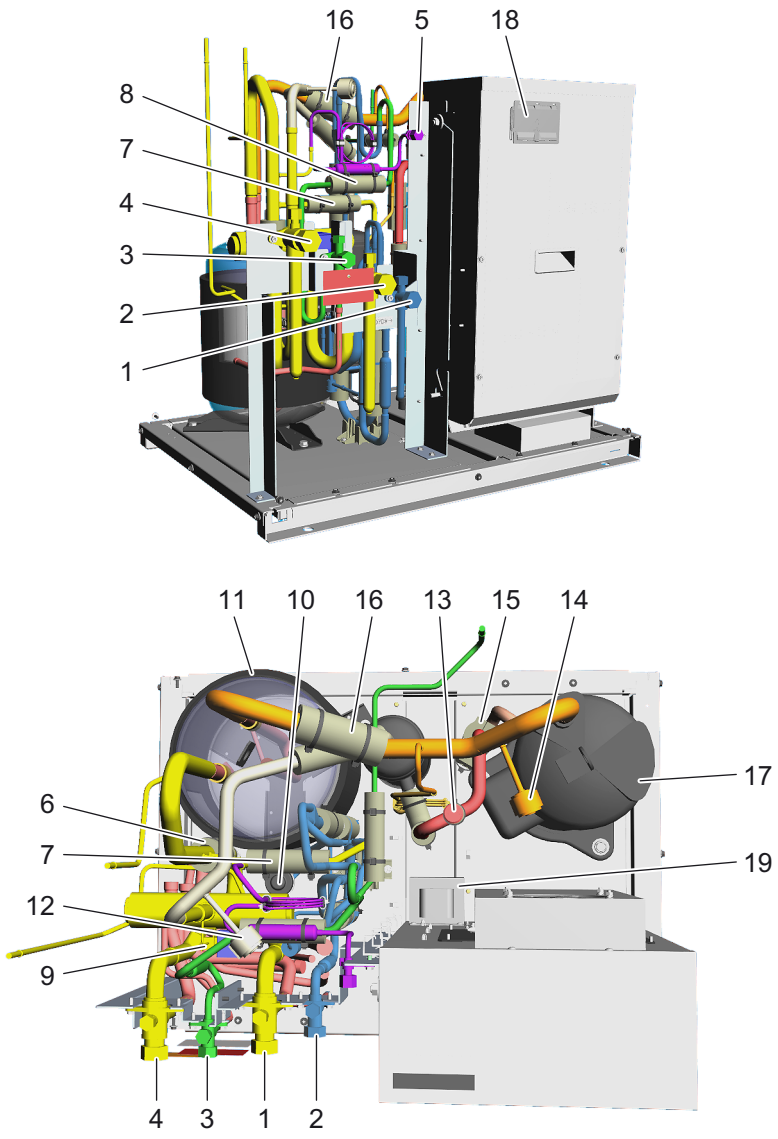
Figure 5-7: Component overview - compressor module 5 hp



1. Stop valve gas RDXYQ	8. Thermistor liquid	15. Thermistor discharge pipe
2. Stop valve liquid RDXYQ	9. 4-way valve	16. Thermistor compressor in
3. Stop valve liquid VRV indoor	10. Expansion valve sub-cool	17. Compressor (swing type)
4. Stop valve gas VRV indoor	11. Accumulator	18. Cover access push buttons and LED display
5. R410 charge port	12. High pressure sensor	19. Reactor
6. Thermistor accumulator in	13. High pressure switch	
7. Thermistor gas out sub-cool	14. Low pressure sensor	

5.5.2. Compressor module 8 hp

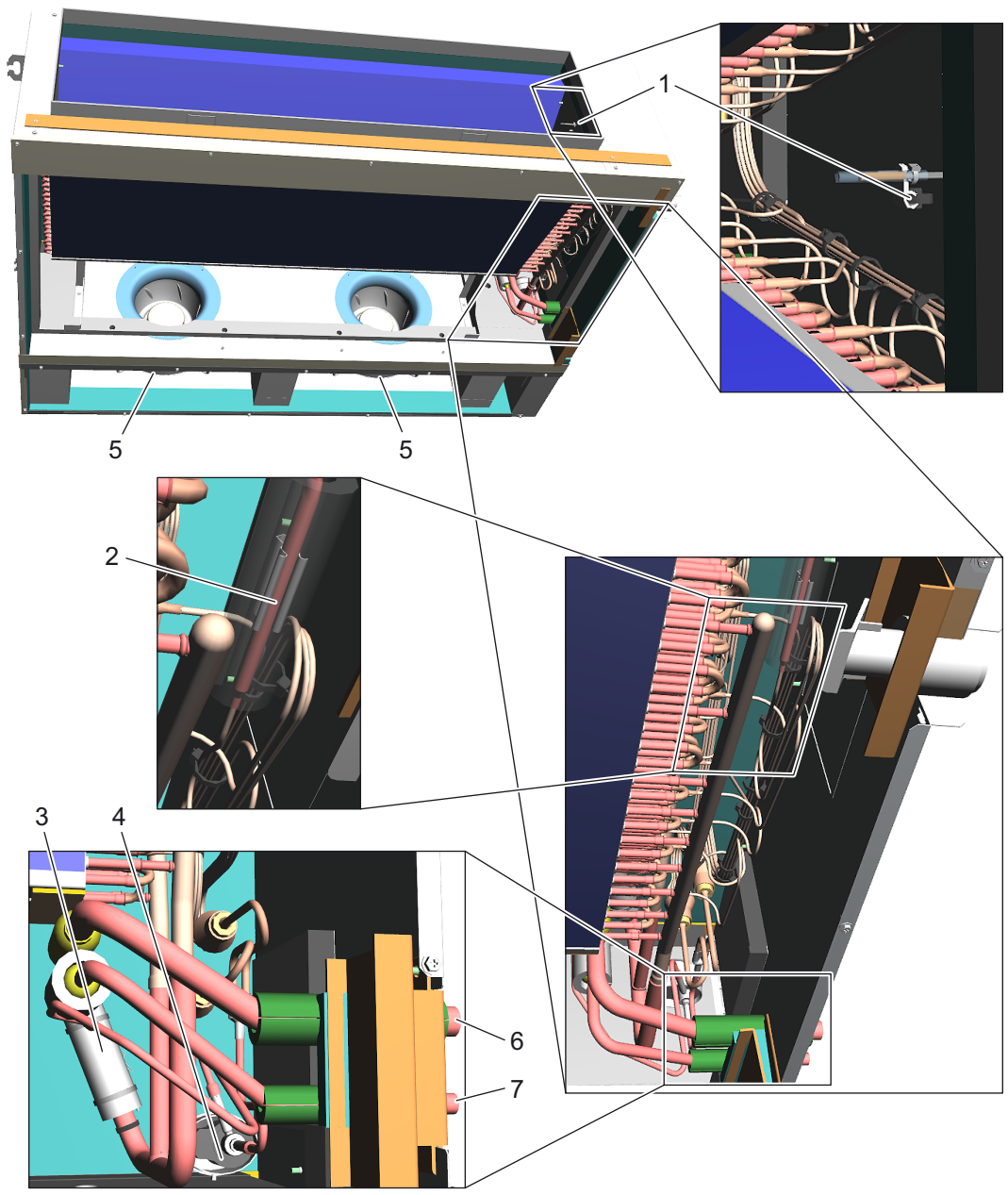
Figure 5-8: Component overview - compressor module 8 hp



1. Stop valve gas RDXYQ	8. Thermistor liquid	15. Thermistor discharge pipe
2. Stop valve liquid RDXYQ	9. 4-way valve	16. Thermistor compressor in
3. Stop valve liquid VRV indoor	10. Expansion valve sub-cool	17. Compressor (scroll type)
4. Stop valve gas VRV indoor	11. Accumulator	18. Cover access push buttons and LED display
5. R410 charge port	12. High pressure sensor	19. Reactor
6. Thermistor accumulator in	13. High pressure switch	
7. Thermistor gas out sub-cool	14. Low pressure sensor	

5.5.3. Heat exchanger module 5 hp

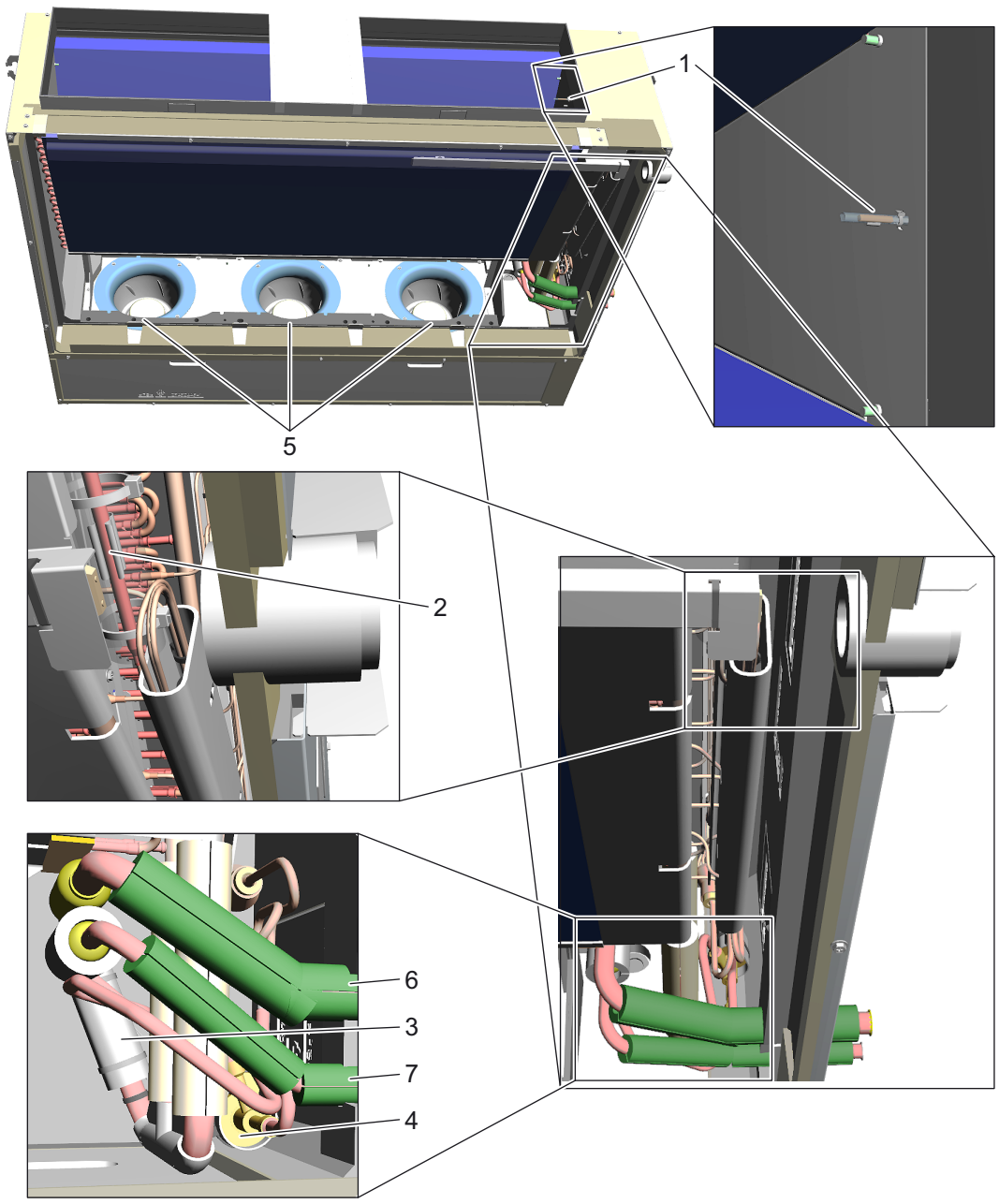
Figure 5-9: Component overview - heat exchanger module



1. Thermistor air inlet	4. Expansion valve	7. Liquid pipe
2. Thermistor coil	5. EC fan motor	
3. Thermistor gas	6. Gas pipe	

5.5.4. Heat exchanger module 8 hp

Figure 5-10: Component overview - heat exchanger module



1. Thermistor air inlet	4. Expansion valve	7. Liquid pipe
2. Thermistor coil	5. EC fan motor	
3. Thermistor gas	6. Gas pipe	

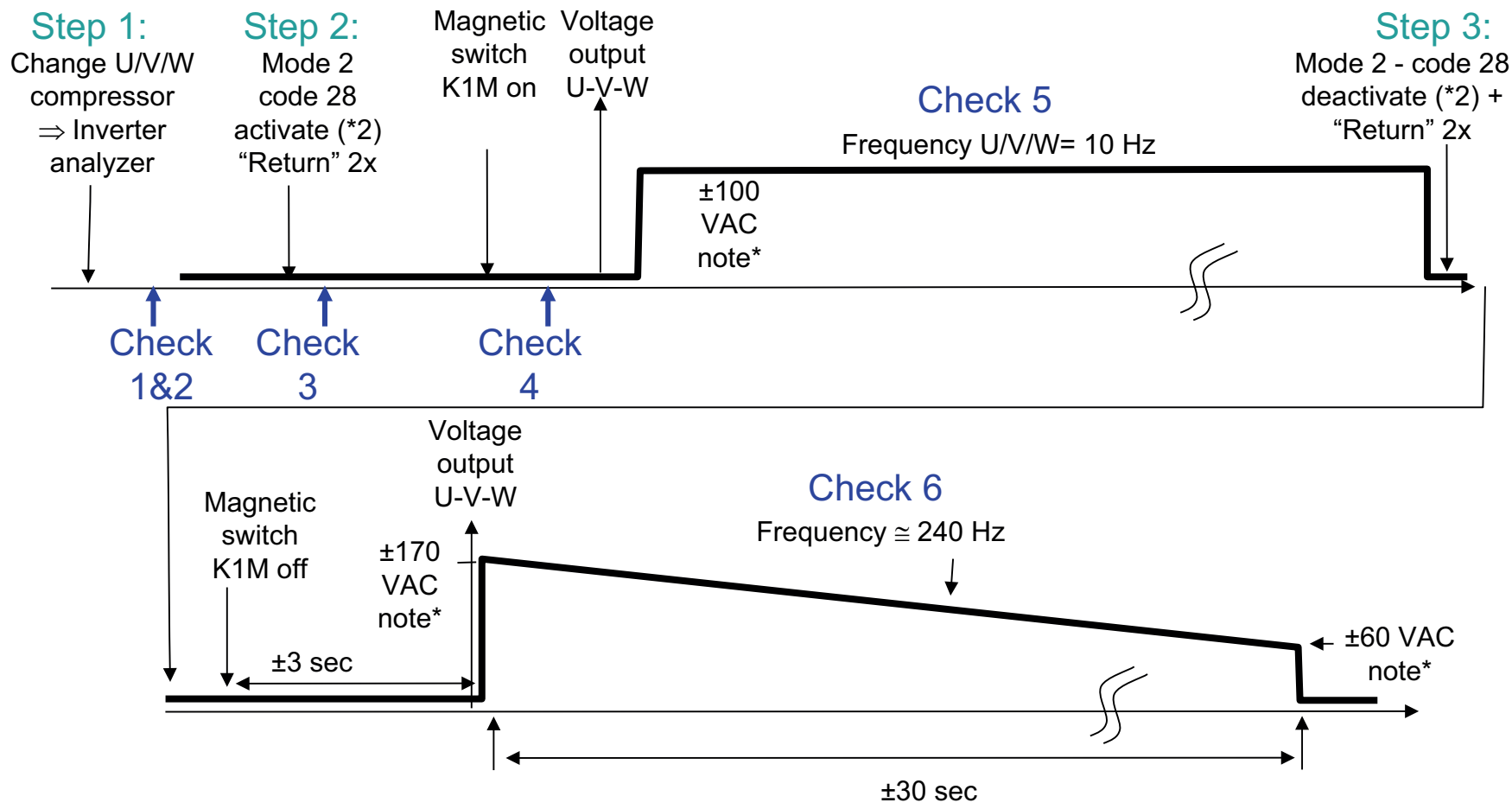
5.6. Product specific information

A (°C)	B (°C)	C (°C)	D	E (min)	F (min)
135	120	100	2	100	10

5.6.1. Component checklist

5.6.1.1. How to activate inverter test

Power transistor check mode RKXYQ: disconnect U/V/W compressor



Check 1: LED HAP inverter board blinks. If not, activate forced thermostat-on (set 2-6). When HAP blinks, deactivate 2-6 again.

Check 2: AC power input (L1-L2-L3 inverter board compressor) 380-415 V unbalance max. 2%.

Check 3: Relay "K1R" on inverter PCB switches: check DC voltage on P & N increase to ±500 VDC.

Check 4: DC= 1.42 x VAC power supply L1~L3: check at terminals P2-N3 on inverter board compressor.

Check 5: AC UVW 10 Hz intermediate: check 6 LED on inverter checker blink.

Check 6: AC UVW 240 Hz continuous output while voltage drop (discharge capacitors DC). Check difference between UVW on inverter checker. All 6 LED light on (because high frequency) while brightness reduces.

(*1): Actual voltage value depends on meter characteristics.

(*2): Activate: 5 HP: LED ❍●●●●❍●, 8 HP: 1, Disactivate: 5 HP: LED ❍●●●●●❍, 8 HP: 0

5.6.1.2. Component checklist

Component	Component name	Connector		PCB	Specific
Compressor module 5 hp		Reference	Pin no.		
M1F	Fan motor cooling inverter	X26A	1+2	AP	230 VAC
M1C	Compressor motor	U/V/W	U/V/W	A2P	Double swing (1.78 Ohm)
Y3E	Electronic expansion valve	X22A	1~6	A1P	Type 1 (480 pulses)
R2T	Thermistor (discharge pipe)	X12A	1+2	A1P	Type 2
R3T	Thermistor (accumulator inlet)	X12A	3+4	A1P	Type 1
R4T	Thermistor (gas out sub-cool)	X12A	5+6	A1P	Type 1
R5T	Thermistor (suction compressor)	X12A	7+8	A1P	Type 1
R7T	Thermistor (liquid stop valve)	X13A	3+4	A1P	Type 1
R10T	Fin temperature	X111A	1+2	A2P	Type 1
S1NPH	High pressure sensor	X17A	1+2+4	A1P	
S1NPHL	Low pressure sensor	X18A	1+2+3	A1P	
S1PH	High pressure switch	X23A	1+2	A2P	
	230 VAC power supply check	X8A	1+2	A1P	
	500 VDC check inverter	X106A	4+7	A2P	500 V (±15%)
	Low DC voltage check	X4A	3+1	A1P	21 VDC
	Low DC voltage check	X4A	4+1	A1P	12.5 VDC
	Low DC voltage check	X4A	6+1	A1P	7.5 VDC
	Check communication main-inverter	X4A	2+1	A1P	0~10 VDC

"Wiring diagram" on page 148

Component	Component name	Connector		PCB	Specific
Compressor module 8 hp		Reference	Pin no.		
M1F	Fan motor cooling inverter	X7A	1+2	A1P	230 VAC
M1C	Compressor motor	U/V/W	U/V/W	A2P	Scroll (0.91 Ohm)
Y2E	Electronic expansion valve	X21A	1~6	A1P	Type 1 (480 pulses)
R21T	Thermistor (discharge pipe)	X29A	1+2	A1P	Type 2
R3T	Thermistor (accumulator inlet)	X30A	1+2	A1P	Type 1
R5T	Thermistor (liquid stop valve)	X30A	5+6	A1P	Type 1
R7T	Thermistor (suction compressor)	X30A	9+10	A1P	Type 1
S1NPH	High pressure sensor	X17A	1+2+4	A1P	
S1NPL	Low pressure sensor	X18A	1+2+3	A1P	
S1PH	High pressure switch	X4A	1+2	A1P	
	230 VAC power supply check	X1A	1+2 and 3+2	A1P	
	500 VDC check inverter	P3 + N3		A2P	500 V (±15%)
	Low DC voltage check	X37A	1+2	A1P	16 VDC
	Check communication main-inverter	X28A	1+2	A1P	16.6 VDC
	Check communication main-inverter	X28A	3+1	A1P	8.5 VDC

Component	Component name	Connector: pin no.		PCB		Specific	
Heat exchanger module		5 hp	8 hp	5 hp	8 hp	5 hp	8 hp
M1F	Fan motor 1	230 VAC: X1M - X1Y 10 VDC: X20A - X1Y	230 VAC: X1M - X1Y 10 VDC: X2A - X1Y	A1P A1P	A1P A2P	Type 1	Type 2
M2F	Fan motor 2	230 VAC: X1M - X2Y 10 VDC: X20A - X1Y	230 VAC: X1M - X2Y 10 VDC: X2A - X3Y	A1P A1P	A1P A2P	Type 1	Type 2
M3F	Fan motor 3		230 VAC: X1M - X1Y 10 VDC: X2A - X1Y	A1P A1P	A1P A2P	Type 1	Type 2
Y1E	Electronic expansion valve	X7A	X7A	A1P	A1P	Type 1	Type 2
R1T	Thermistor (air)	X16A	X16A	A1P	A1P	Type 1	Type 1
R2T	Thermistor (coil)	X18A	X18A	A1P	A1P	Type 1	Type 1
R3T	Thermistor (gas)	X17A	X17A	A1P	A1P	Type 1	Type 1
	230 VAC power supply check	X27A	X27A	A1P		230 VAC	
	16 VDC power supply check	X35A	X35A	A1P		16 VDC	

5.6.2. Safety devices

		Wiring symbol		RDXYQ..-T7V1B		RKXYQ..-T7Y1B	
Name part	Description	5 hp	8 hp	5	8	5	8
Overcurrent	Compressor	M1C	M1C			2YC90CXD#C	JT1GCVDKYR@BA
	overcurrent set L8					13.5 2 A	17.4 A
	overcurrent set L5					33 A > 5 msec	54 A > 5 msec
Leak current	Power supply		T1A				75 mA (±25%)
Protection	Fan motor	M1F~M2F	MF1~M3F	4.6 A	7.0 A		
Low pressure sensor	LP protection	S1NPL				< 0,07 MPa	
High pressure sensor	HP protection	S1NPH				> 3.79 MPa	
Discharge temperature	Compressor	R2T	R21T			off > 135°C 2 times in 100 minutes	
Inverter fin temperature	Compressor	R10T	V1R			> 99°C	> 99°C
Fuse control	Compressor module	F5U	F1U			6.3 A (T)	3.15 A (T)
			F2U				3.15 A (T)
Fuse noise filter	Compressor module	F3	F400U			6.3 A (T)	
Fuse inverter circuit	Compressor module	F1U, F2	F410~412U			31.5 A (T)	40.0 A (T)
Fuse control	Heat-exchange module	F1	F1U	6.3 A (T)			
Fuse heater tape	Heat-exchange module		F1U		1.0 A (F)		

5.6.3. Control range

5.6.3.1. Compressor motor capacity control range

❄		Frequency (Hz)		Rotation speed (rps)	
Type	**HP**	**Min**	**Max**	**Min**	**Max**
Swing	5	45	264	15	88
Scroll	8	52	255,6	26	127,8
Control	Reach target Tevaporation				

☼		Frequency (Hz)		Rotation speed (rps)	
Type	**HP**	**Min**	**Max**	**Min**	**Max**
Swing	5	45	327	15	109
Scroll	8	52	255,6	26	127,8
Control	Reach target Tcondensation				

	Max. frequency (Hz)		Max. rotation speed (rps)	
	5 HP	**8 HP**	**5 HP**	**8 HP**
LNO1	183	211,8	61,0	105,9
LNO2	145,5	185,4	48,5	92,7
LNO3	118,5	171	39,5	85,5

Demand reference current (100%)= RKXYQ5T7Y1B: 11,3 A, RKXYQ8T7Y1B: 14,6 A.

5.6.3.2. Fan motor rpm control range

Mode	Function	Fan step	
		RDXYQ5T	**RDXYQ8T**
❄	Pre-start	8	16
	Soft-start	13	16
	Nominal	15	30
	Maximum	16	31
	Tc control	0~16	0~31
	LNO1	12	20
	LNO2	11	18
	LNO3	10	15

Mode	Function	Fan step	
		RDXYQ5T	**RDXYQ8T**
☼	Pre-start	8	16
	Soft-start	13	26
	Nominal	15	30
	Maximum	16	31
	Tc limit	0~16	0~31
	LNO1	12	20
	LNO2	11	18
	LNO3	10	15
	Defrost	0	0
	Air > 24°C	1	1

Figure 5-11: RDXYQ5T7V1B-fan

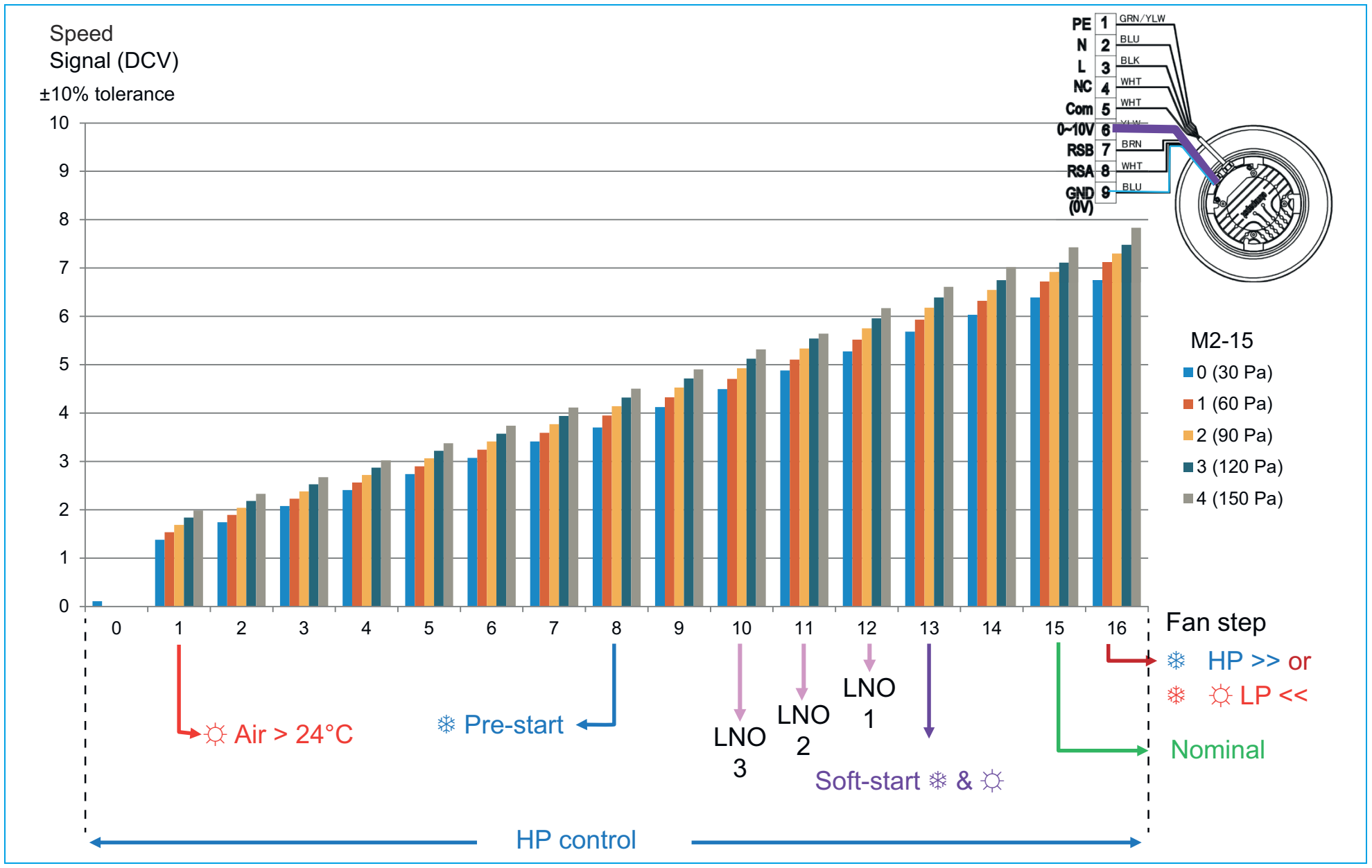
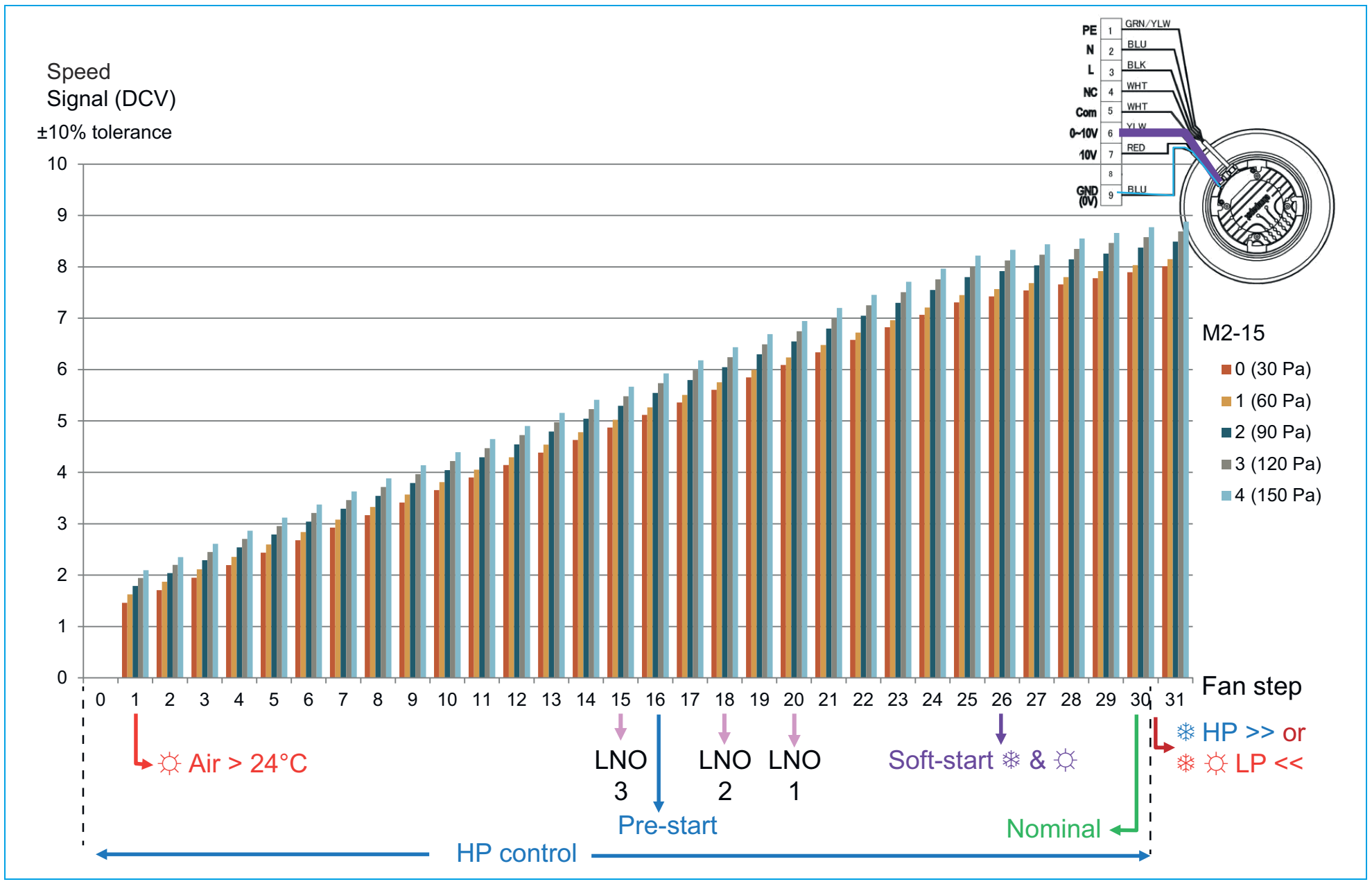


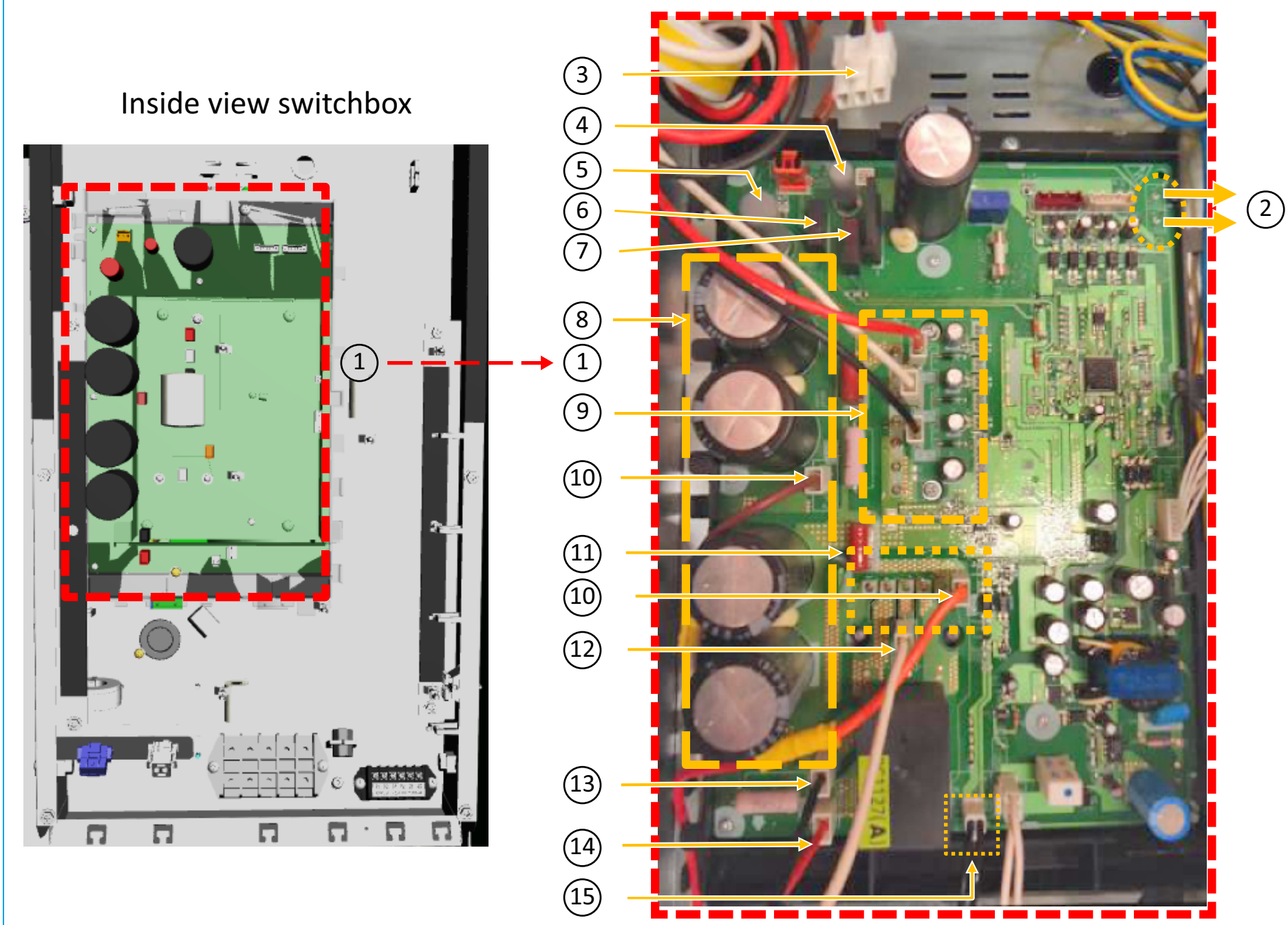
Figure 5-12: RDXYQ8T7V1B-fan



5.7. Switch box

5.7.1. Compressor module 5 hp - inverter board

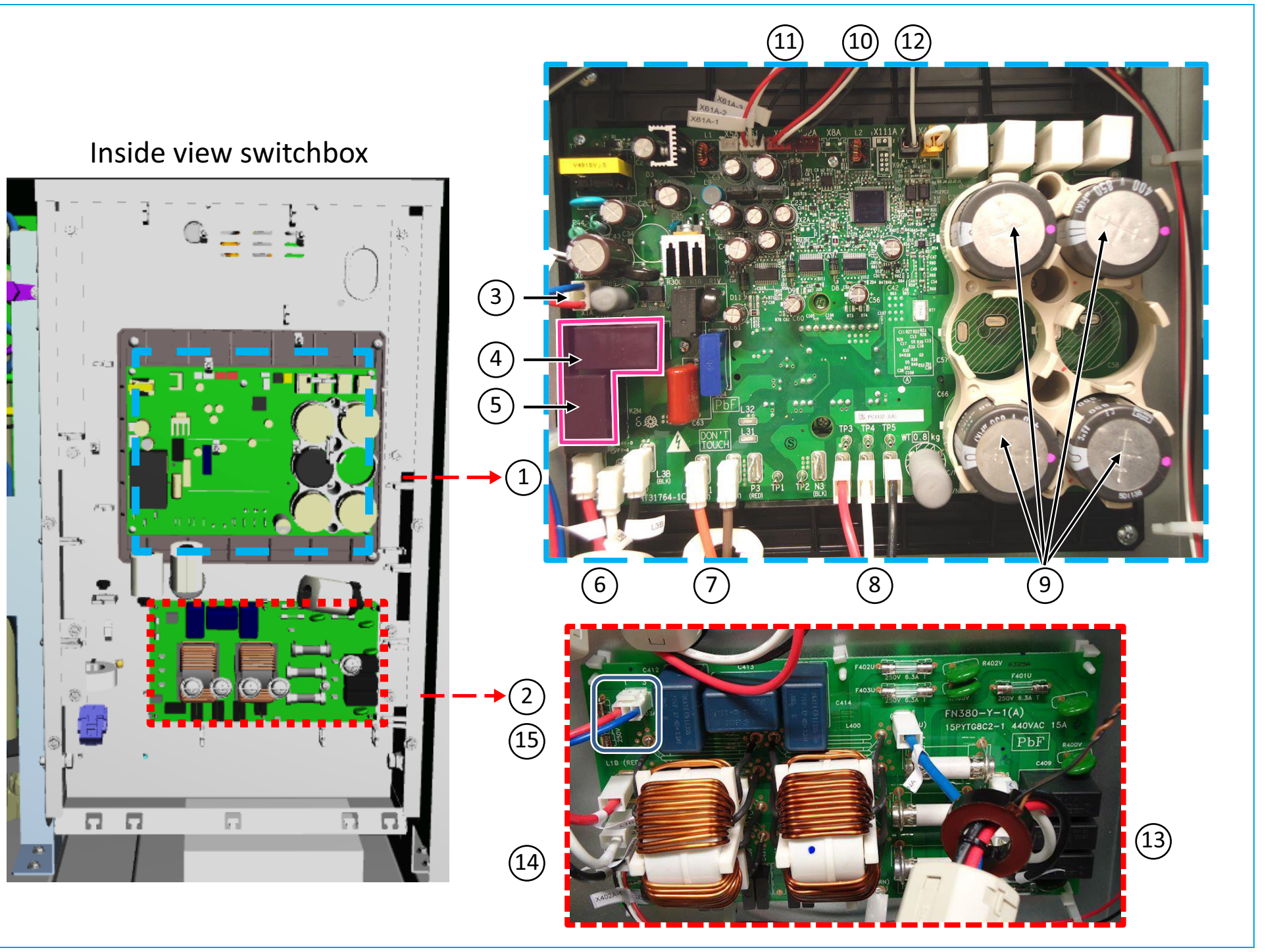
Figure 5-13: Switch box - compressor module 5 hp - inverter board



Item	Description	Wiring symbol	Connector
1	Inverter board	A2P	
2	DCV check before 🛠		TP1 + TP2
3	Output inverter U-V-W	X7Y	X7Y
4	Resistor R1	R1	
5	Resistor R180	R180	
6	Relay power L1	K1R	
7	Relay power L3	K2R	
8	Capacitors ±500 VDC	C1~C4	
9	Power module	V1R	
10	To reactor	L1R	P1 + P2
11	Diode module	V2R	
12	Power L2 input		L22A
13	Power L3 input		L32A
14	Power L1 input		L12A
15	High pressure switch	S1PH	X32A

5.7.2. Compressor module 8 hp - inverter board

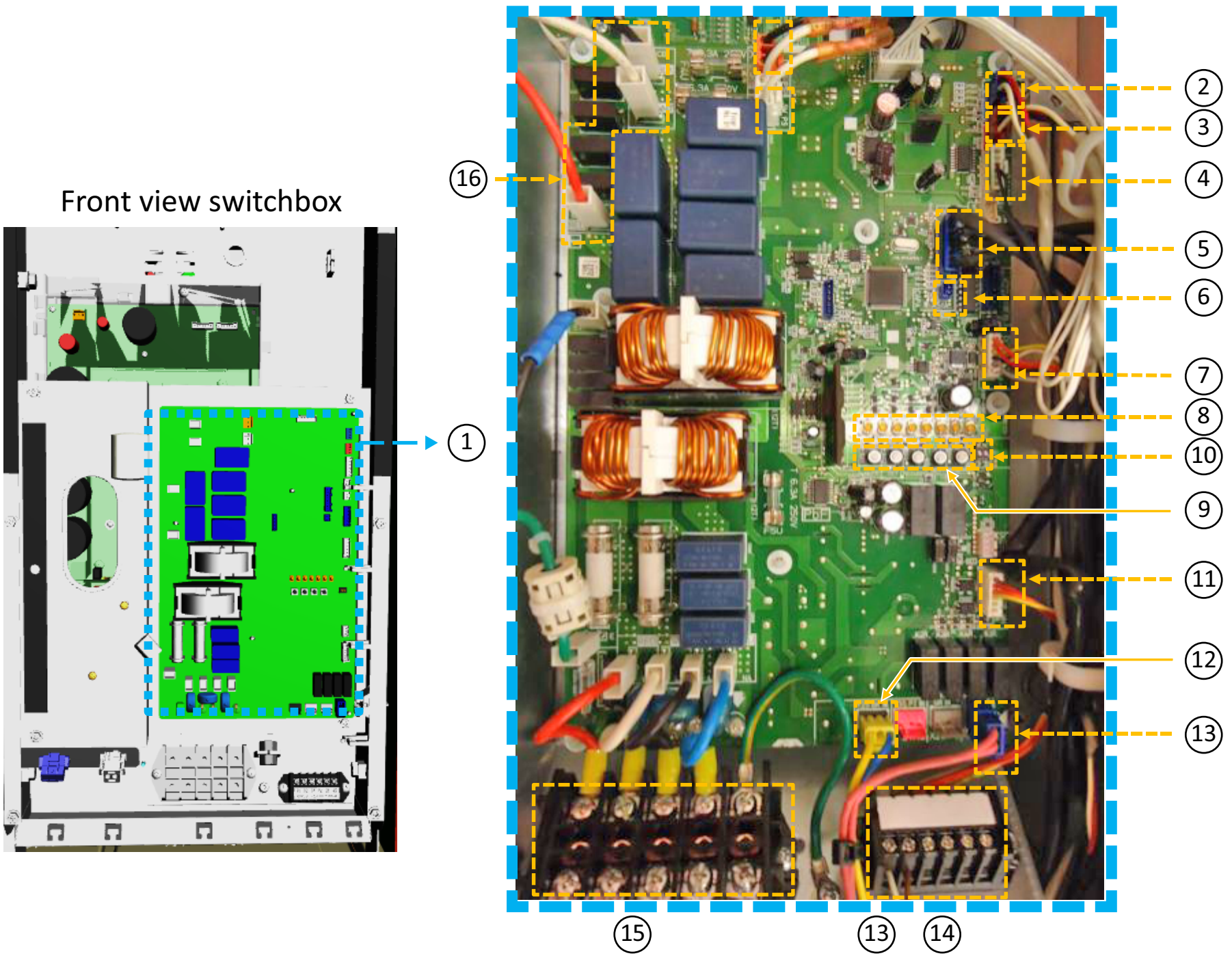
Figure 5-14: Switch box - compressor module 8 hp - inverter board



Item	Description	Wiring symbol	Connector
1	Inverter board	A3P	
2	Noise filter	A2P	
3	230 VAC power	L2 + N	A3P - X1A
4	Relay power supply L1	K1R	
5	Relay power supply L3	K2R	
6	400 VAC power input L1 + L2 + L3		L1B + L2B + L3B
7	To reactor		P1 + P2
8	Output to compressor U + V + W		U + V + W
9	Capacitors ±500 VDC	C32 + 66	
10	DC power processor inverter board		X6A
11	Communication inverter board		X4A
12	Communication inverter board		X63A
13	Noise filter power input	L1 + L2 + L3 + N + G	L1~3A + N + E
14	Noise filter power output 400 VAC	L1~L3	L1~3B
15	Noise filter power output 230 VAC	L2 + N	X403

5.7.3. Compressor module 5 hp - control board

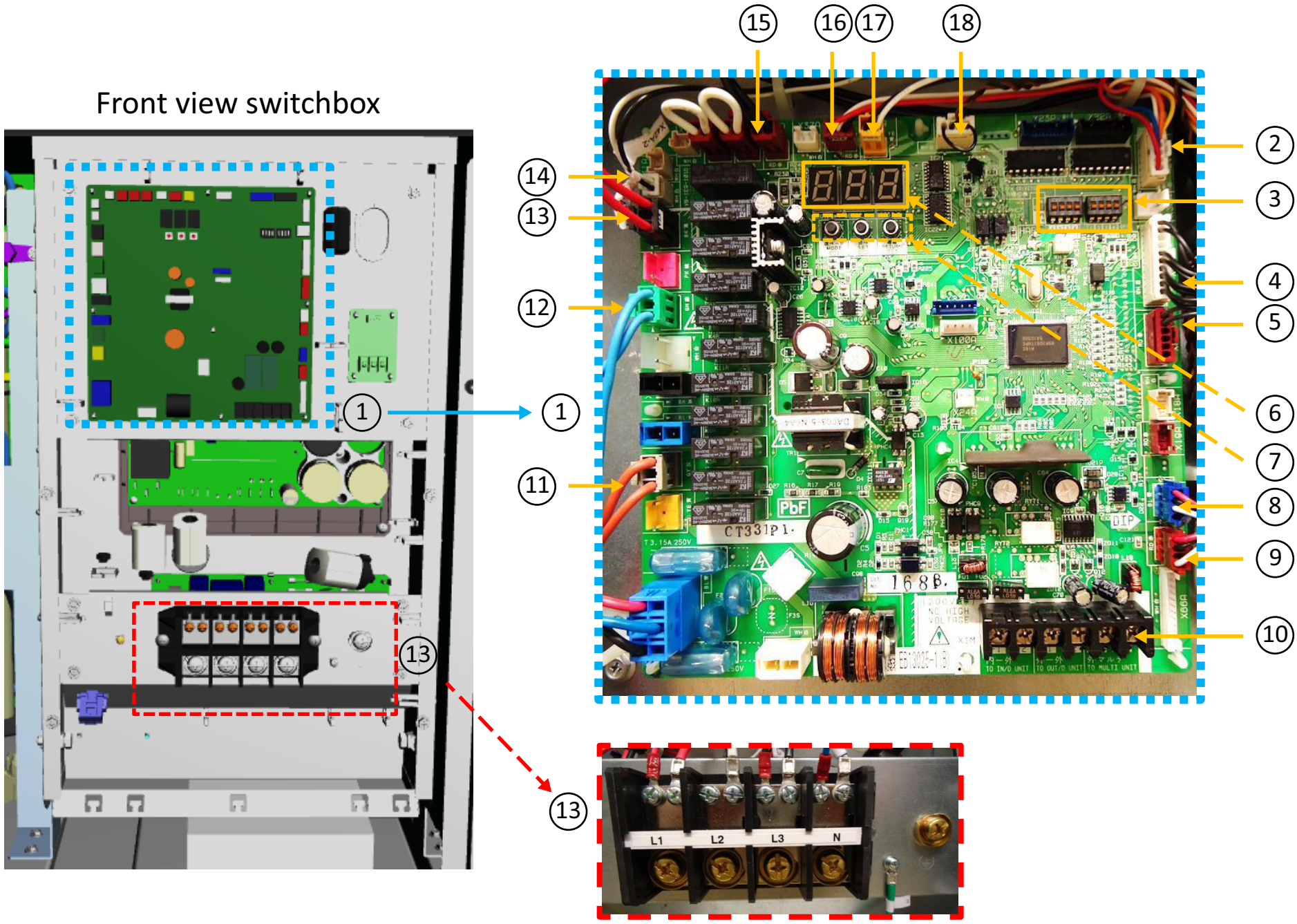
Figure 5-15: Switch box - compressor module 5 hp - control board



Item	Description	Wiring symbol	Connector
1	Control board	A1P	
2	LP sensor	S1NPL	X18A
3	HP sensor	S1NPH	X17A
4	Thermistors	R2~5T	X12A
5	Thermistor	R7T	X13A
6	Capacity adaptor “J63”		X15A
7	Expansion valve sub-cool	Y3E	X22A
8	7 LEDs display	H1~7P	
9	5 buttons field settings	BS1~5	
10	Dip switch cool/heat switch		
11	Communication indoor		X81A
12	Output fan motor inverter cooling	M1F	X26A
13	Output 4-way valve	Y1S	X25A
14	Field wiring indoor		X1M
15	Power supply 3*400 + N + G		X2M
16	3-phase 400 VAC to inverter	L11~L31A	

5.7.4. Compressor module 8 hp - control board

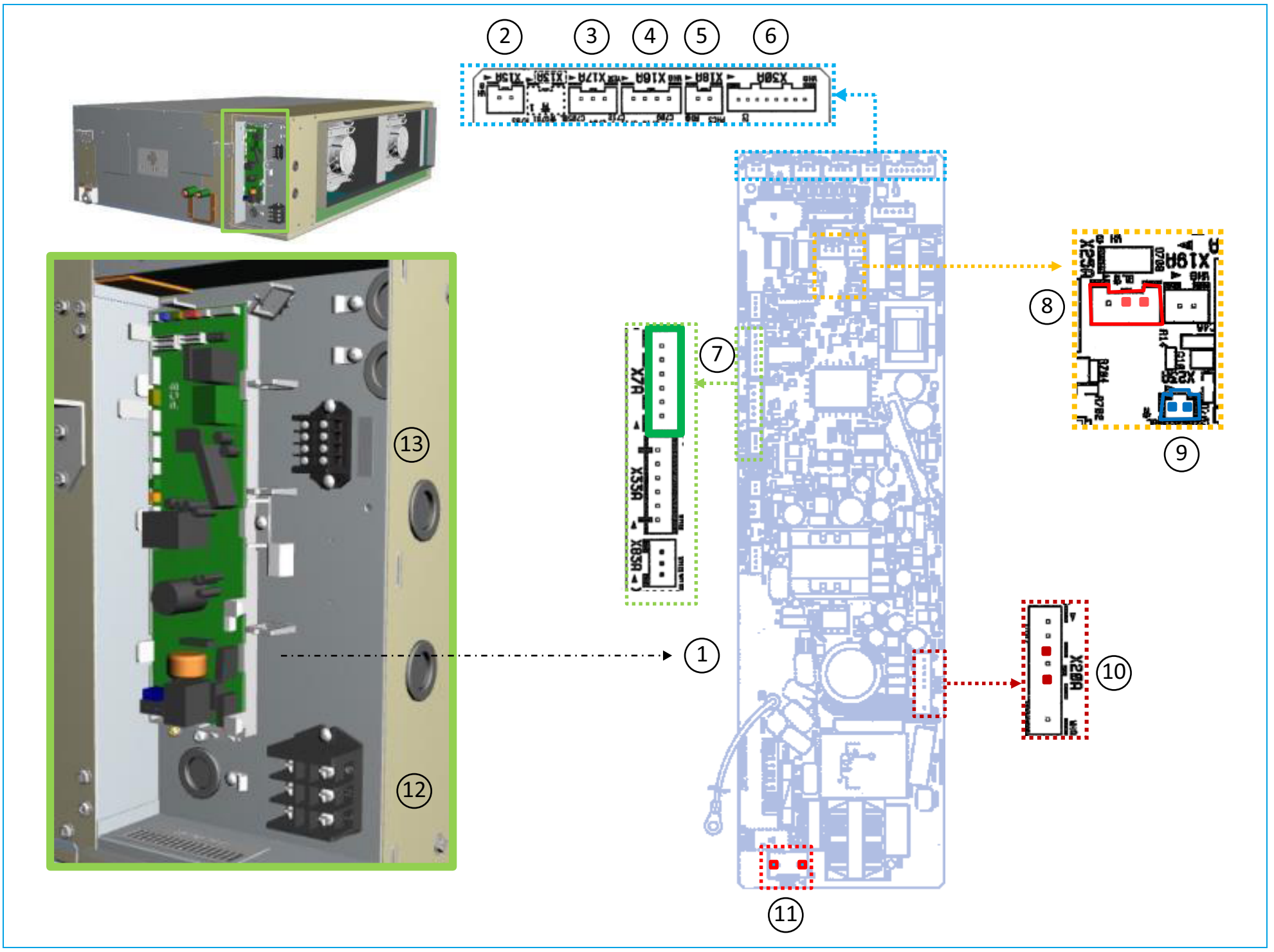
Figure 5-16: Switch box - compressor module 8 hp - control board



Item	Description	Wiring symbol	Connector
1	Main control board	A1P	
2	Expansion valve sub-cool	Y2E	X21A
3	Dip switch (to set spare part)	DS2-1~4	
4	Thermistors refrigerant circuit	R3 + 5 + 6 + 7T	X30A
5	Thermistor discharge compressor	R21T	X29A
6	LP sensor	S1NPL	X31A
7	HP sensor	S1NPH	X32A
8	Field wiring indoor	A1P	X1M
9	Power supply	L1 + L3 + N	X1A
10	Output crankcase heater	E1HC	X11A
11	Output 4-way valve	Y1S	X15A
12	Output fan motor inverter cooling	M1F	X7A
13	Power supply 3*400 + N + G	X1M	X1M
14	Communication inverter board		X20A
15	High pressure switch	H1PS	X4A
16	DC power processor inverter board		X28A
17	Communication inverter board		X42A
18	Earth leakage protection	T1A	X101A

5.7.5. Heat exchanger module 5 hp - main PCB

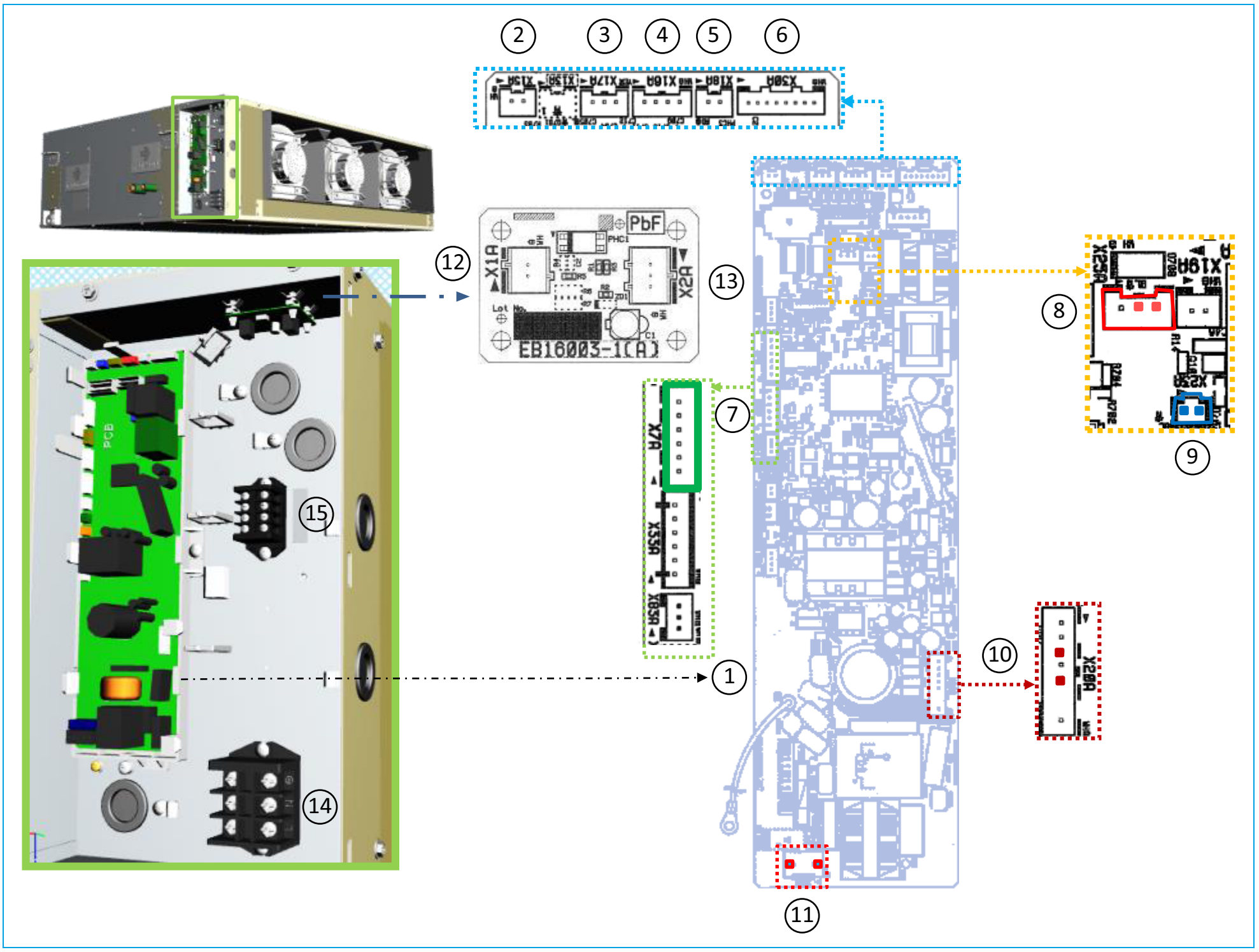
Figure 5-17: Switch box - heat exchanger module 5 hp - main PCB



Item	Description	Wiring symbol	Connector
1	Main board	A1P	
2	Motor protection	er	X15A
3	Gas thermistor	R2T	X18A
4	Air thermistor	R1T	X16A
5	Coil thermistor	R3T	X17A
6	F1F2 communication		X30A
7	Main expansion valve	Y1E	X7A
8	Output K1A (on: 13,5 VDC)	K1A	X25A
9	Capacity adaptor “J140”		X23A
10	RPM output 0~10 VDC		X20A
11	ACV 230 power supply		X27A
12	Power supply terminal block		X1M
13	Field wiring terminal block		X2M

5.7.6. Heat exchanger module 8 hp - main PCB

Figure 5-18: Switch box - heat exchanger module 8 hp - main PCB



Item	Description	Wiring symbol	Connector
1	Main board	A1P	
2	Motor protection	er	X15A
3	Gas thermistor	R2T	X18A
4	Air thermistor	R1T	X16A
5	Coil thermistor	R3T	X17A
6	F1F2 communication		X30A
7	Main expansion valve	Y1E	X7A
8	Output K1A (on: 13,5 VDC)	K1A	X25A
9	Capacity adaptor “J224”		X23A
10	RPM output 0~10 VDC		X20A
11	ACV 230 power supply		X27A
12	Auxiliary board input RPM	A2P	X1A
13	Auxiliary board output RPM	A2P	X2A
14	Power supply terminal block		X1M
15	Field wiring terminal block		X2M

5.8. Field information report

See next page.

In case a problem occurred on the unit which could not be resolved by using the content of this service manual or in case you have a problem which could be resolved but of which the manufacturer should be notified, we advise you to contact your distributor.

To facilitate the investigation, additional information is required. Please fill out the following form before contacting your distributor.

DAIKIN

FIELD INFORMATION REPORT

Key person info	
Name:	Company name:
Your contact details Phone number:	E-mail address:
Site address:	
Your reference:	Date of visit:

Claim info	
Title:	
Problem description:	
Error code:	Trouble date:
Problem frequency:	
Investigation steps done:	
Insert picture of the trouble.	
Current situation (solved, not solved, …):	
Countermeasures taken:	
Comments and proposals:	
Part available for return (if applicable):	

Application info
Application (house, apartment, office, …):
New project or refurbishment:
Heat emitters (radiators / under floor heating / fan coils / …):
Hydraulic layout (simple schematic):

Unit / Installation info	
Model name:	Serial number:
Installation / commissioning date:	Software version hydro PCB A1P:
	Software version hydro PCB A5P:
Software version user interface:	Software version outdoor PCB:
Minimum water volume:	Maximum water volume:
Brine composition and mixture:	
Brine freeze up temperature:	
Space heating control (leaving water temperature, room thermostat, ext. room thermostat):	
Space heating setpoint:	
Domestic hot water control (reheat only, schedule only, reheat + schedule):	
Domestic hot water setpoint:	

Provide pictures of the field settings overview (viewable on the user interface).