





1.2.2 Troubleshooting flow

(1) List of troubles

(a) FDT, FDTC, FDU, FDUM, FDE series

Remote control display	Description of trouble	Reference page
None	Operates but does not cool.	84
None	Operates but does not heat.	85
None	Earth leakage breaker activated	86
None	Excessive noise/vibration (1/3)	87
None	Excessive noise/vibration (2/3)	88
None	Excessive noise/vibration (3/3)	89
None	Louver motor failure (FDT, FDTC, FDE series)	90
None	Power source system error (Power source to indoor unit control PCB)	91
None	Power source system error (Power source to remote control)	92
INSPECT I/U	INSPECT I/U (When 1 or 2 remote controls are connected)	93
INSPECT I/U	INSPECT I/U (Connection of 3 units or more remote controls)	94
 WAIT 	Communication error at initial operation	95-97
None	No display	98
E1	Remote control communication circuit error	99
E5	Communication error during operation	100
E6	Indoor heat exchanger temperature sensor anomaly	101
E7	Return air temperature sensor anomaly	102
E8	Heating overload operation	103
E9	Drain trouble (FDT, FDTC, FDU, FDUM series)	104
E10	Excessive number of connected indoor units (more than 17 units) by controlling with one remote control	105
E11	Address setting error of indoor units	106
E14	Communication error between master and slave indoor units	107
E16	Indoor fan motor anomaly	108
E18	Address setting error of master and slave indoor unit	109
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E35	Cooling overload operation	113
E36	Discharge pipe temperature error	114
E37	Outdoor heat exchanger temperature sensor anomaly	115
E38	Outdoor air temperature sensor anomaly	116
E39	Discharge pipe temperature sensor anomaly	117
E40	High pressure error (63H1 activated)	118
E42	Current cut	119 • 120
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E49	Low pressure error	123 • 124
E51	Inverter and fan motor anomaly	125
E53	Suction pipe temperature sensor anomaly	126
E54	Low pressure sensor anomaly	127
E57	Insufficient refrigerant amount or detection of service valve closure	128
E59	Compressor startup failure	129 • 130

(b) SRK series

Remote control display	Description of trouble	Reference page
None	Operates but does not cool.	131
None	Operates but does not heat.	132
None	Earth leakage breaker activated	133
None	Excessive noise/vibration (1/3)	134
None	Excessive noise/vibration (2/3)	135
None	Excessive noise/vibration (3/3)	136
None	Louver motor failure	137
None	Power source system error (Power source to indoor unit control PCB)	138
None	Power source system error (Power source to remote control)	139
None	Limit switch anomaly	140
INSPECT I/U	INSPECT I/U (When 1 or 2 remote controls are connected)	141
INSPECT I/U	INSPECT I/U (Connection of 3 units or more remote controls)	142
 WAIT 	Communication error at initial operation	143-145
None	No display	146
E1	Remote control communication circuit error	147
E5	Communication error during operation	148
E6	Indoor heat exchanger temperature sensor anomaly	149
None	Room temperature sensor anomaly	150
E10	Excessive number of connected indoor units (more than 17 units) by controlling with one remote control	151
E11	Address setting error of indoor units	152
E14	Communication error between master and slave indoor units	153
E16	Indoor fan motor anomaly	154
E28	Remote control temperature sensor anomaly	155
E35	Cooling overload operation	156
E36	Discharge pipe temperature error	157
E37	Outdoor heat exchanger temperature sensor anomaly	158
E38	Outdoor air temperature sensor anomaly	159
E39	Discharge pipe temperature sensor anomaly	160
E40	High pressure error (63H1 activated)	161
E42	Current cut	162 • 163
E47	Active filter anomaly	164
E48	Outdoor fan motor anomaly	165
E49	Low pressure error or low pressure sensor anomaly	166 • 167
E51	Inverter and fan motor anomaly	168
E53	Suction pipe temperature sensor anomaly	169
E54	Low pressure sensor anomaly	170
E57	Insufficient refrigerant amount or detection of service valve closure	171
E59	Compressor startup failure	172 • 173

(a) FDT, FDTC, FDU, FDUM, FDE series

Error code Remote control: None	LED	Green	Red	Content Operates but does not cool
	Indoor	Keeps flashing	Stays OFF	
	Outdoor	Keeps flashing	Stays OFF	

1. Applicable model
All models
2. Error detection method
3. Condition of error displayed
4. Presumable cause
<ul style="list-style-type: none"> Poor compression of compressor Faulty expansion valve operation

5. Troubleshooting
Diagnosis
<p>Check the indoor unit fan operation. Check the temperature difference between return and supply air.</p> <pre> graph TD Start[Check fan operation and temp diff] --> D1{Is the temperature difference between return and supply air 10-20°C at cooling?} D1 -- YES --> D2{Does the heat load increase after installation?} D1 -- NO --> D3{Is the compressor operating?} D2 -- YES --> Box1[Mistake in model selection. Calculate heat load once more.] D2 -- NO --> Countermeasure Box1 --> Countermeasure D3 -- NO --> D4{"⌚WAIT⌚ message is displayed (for 3 seconds) when performing cooling, defrost and heating operations from the remote control."} D3 -- YES --> D5{Is the compressor rotation speed low?} D4 -- YES --> Countermeasure D4 -- NO --> Countermeasure D5 -- NO --> Countermeasure D5 -- YES --> Box2[Check which control "Determination control of compressor rotation speed" or "Protective control by controlling compressor rotation speed" is appropriate to this phenomenon.] Box2 --> D6{Are the temperature conditions of room and outdoor air close to the rated conditions? (1)} D6 -- YES --> Countermeasure D6 -- NO --> End[The unit is operating normally but is operating under the control for protecting compressor or other respective parts.] </pre>
Countermeasure
<p>It is normal. (This unit is designed to start in the soft start mode by detecting the under dome temperature of compressor when it restart after power reset.)</p> <p>It is necessary to replace to higher capacity one or to install additional unit.</p> <p>Compressor refrigerant oil protection control at starting is activated. For the contents of control, refer to the compressor start control of the microcomputer control functions.</p> <p>Compressor may be stopped by the error detection control. For the contents of control, refer to anomalous stop control by controlling compressor rotation speed of microcomputer control functions.</p> <p>Inspect the followings.</p> <ul style="list-style-type: none"> Minor clogging of filter Minor clogging of heat exchanger Minor short-circuit Minor shortage of refrigerant amount Poor compression of compressor <p>Considering appropriate operation control, check suspicious points. Inspect the followings for reference.</p> <ul style="list-style-type: none"> Major clogging of filter Major clogging of heat exchanger Major short-circuit Major shortage of refrigerant amount Compressor protection ON Indoor fan tap Valid setting of silent mode

Note:

Error code Remote control: None	LED	Green	Red	Content Operates but does not heat
	Indoor	Keeps flashing	Stays OFF	
	Outdoor	Keeps flashing	Stays OFF	

1. Applicable model
All models
2. Error detection method
3. Condition of error displayed
4. Presumable cause
<ul style="list-style-type: none"> Faulty 4-way valve operation Poor compression of compressor Faulty expansion valve operation

5. Troubleshooting				
<table border="1"> <thead> <tr> <th>Diagnosis</th> <th>Countermeasure</th> </tr> </thead> <tbody> <tr> <td> <p>Check the indoor unit fan operation. Check the temperature difference between return and supply air.</p> <p>Is the temperature difference between return and supply air 10-30°C at heating?</p> <p>YES → Does the heat load increase after installation?</p> <p>NO →</p> <p>YES → Mistake in model selection. Calculate heat load once again.</p> <p>NO →</p> <p>Is the compressor operating?</p> <p>NO → "WAIT" message is displayed (for 3 seconds) when performing cooling, defrost and heating operations from the remote control.</p> <p>YES →</p> <p>NO →</p> <p>Is the compressor rotation speed low?</p> <p>NO →</p> <p>YES → Check which control "Determination control of compressor rotation speed" or "Protective control by controlling compressor rotation speed" is appropriate to this phenomenon.</p> <p>Are the (1) temperature conditions of room and outdoor air close to the rated conditions?</p> <p>YES →</p> <p>NO → The unit is operating normally but is operating under the control for protecting compressor or other respective parts.</p> <p>Note (1) Outdoor: 7°C, Indoor: 20°C</p> </td> <td> <p>It is normal. (This unit is designed to start in the soft start mode by detecting the under dome temperature of compressor when it restart after power reset.)</p> <p>It is necessary to replace to higher capacity one or to install additional unit.</p> <p>Compressor refrigerant oil protection control at starting is activated. For the contents of control, refer to the compressor start control of the microcomputer control functions.</p> <p>Compressor may be stopped by the error detection control. For the contents of control, refer to anomalous stop control by controlling compressor rotation speed of microcomputer control functions.</p> <p>Inspect the followings.</p> <ul style="list-style-type: none"> Minor clogging of filter Minor clogging of heat exchanger Minor short-circuit Minor shortage of refrigerant amount Poor compression of compressor <p>Considering appropriate operation control, check suspicious points. Inspect the followings for reference.</p> <ul style="list-style-type: none"> Major clogging of filter Major clogging of heat exchanger Major short-circuit Major shortage of refrigerant amount Compressor protection ON Indoor fan tap Valid setting of silent mode </td> </tr> </tbody> </table>	Diagnosis	Countermeasure	<p>Check the indoor unit fan operation. Check the temperature difference between return and supply air.</p> <p>Is the temperature difference between return and supply air 10-30°C at heating?</p> <p>YES → Does the heat load increase after installation?</p> <p>NO →</p> <p>YES → Mistake in model selection. Calculate heat load once again.</p> <p>NO →</p> <p>Is the compressor operating?</p> <p>NO → "WAIT" message is displayed (for 3 seconds) when performing cooling, defrost and heating operations from the remote control.</p> <p>YES →</p> <p>NO →</p> <p>Is the compressor rotation speed low?</p> <p>NO →</p> <p>YES → Check which control "Determination control of compressor rotation speed" or "Protective control by controlling compressor rotation speed" is appropriate to this phenomenon.</p> <p>Are the (1) temperature conditions of room and outdoor air close to the rated conditions?</p> <p>YES →</p> <p>NO → The unit is operating normally but is operating under the control for protecting compressor or other respective parts.</p> <p>Note (1) Outdoor: 7°C, Indoor: 20°C</p>	<p>It is normal. (This unit is designed to start in the soft start mode by detecting the under dome temperature of compressor when it restart after power reset.)</p> <p>It is necessary to replace to higher capacity one or to install additional unit.</p> <p>Compressor refrigerant oil protection control at starting is activated. For the contents of control, refer to the compressor start control of the microcomputer control functions.</p> <p>Compressor may be stopped by the error detection control. For the contents of control, refer to anomalous stop control by controlling compressor rotation speed of microcomputer control functions.</p> <p>Inspect the followings.</p> <ul style="list-style-type: none"> Minor clogging of filter Minor clogging of heat exchanger Minor short-circuit Minor shortage of refrigerant amount Poor compression of compressor <p>Considering appropriate operation control, check suspicious points. Inspect the followings for reference.</p> <ul style="list-style-type: none"> Major clogging of filter Major clogging of heat exchanger Major short-circuit Major shortage of refrigerant amount Compressor protection ON Indoor fan tap Valid setting of silent mode
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Note:

Error code Remote control: None	LED	Green	Red	Content Earth leakage breaker activated
	Indoor	Stays OFF	Stays OFF	
	Outdoor	Stays OFF	Stays OFF	

<p>1. Applicable model</p> <p>All models</p>	5. Troubleshooting	
<p>2. Error detection method</p>	Diagnosis	Countermeasure
<p>3. Condition of error displayed</p>	<pre> graph TD D1{Are OK the insulation resistance and resistance between terminals (1) of compressor?} D2{Is insulation of respective harnesses OK? Is any harness bitten between panel and casing or etc?} P1[Check the outdoor unit grounding wire/earth leakage breaker.] C1[Replace compressor.*] C2[Secure insulation resistance.] D1 -- NO --> C1 D1 -- YES --> D2 D2 -- NO --> C2 D2 -- YES --> P1 P1 --> C3[Check of the outdoor unit grounding wire/earth leakage breaker] </pre> <p>Check of the outdoor unit grounding wire/earth leakage breaker</p> <p>① Run an independent grounding wire from the grounding screw of outdoor unit to the grounding terminal on the distribution panel. (Do not connect to another grounding wire.)</p> <p>② In order to prevent malfunction of the earth leakage breaker itself, confirm that it is conformed to higher harmonic regulation.</p> <p>* Insulation resistance of compressor</p> <ul style="list-style-type: none"> • Immediately after installation or when the unit has been left for long time without power source, the insulation resistance may drop to a few MΩ because of refrigerant migrated in the compressor. <p>When the earth breaker is activated at lower insulation resistance, check the following points.</p> <p>① 6 hours after power ON, check if the insulation resistance recovers to normal.</p> <p>When power ON, crankcase heater heat up compressor and evaporate the refrigerant migrated in the compressor.</p> <p>② Check if the earth leakage breaker is conformed to higher harmonic regulation or not.</p> <p>Since the unit is equipped with inverter, it is necessary to use components conformed to higher harmonic regulation in order to prevent malfunction of earth leakage breaker.</p>	
<p>4. Presumable cause</p> <ul style="list-style-type: none"> • Defective compressor • Noise 		

Note:

Error code Remote control: None	LED	Green	Red	Content Excessive noise/vibration (1/3)
	Indoor	—	—	
	Outdoor	—	—	

<p>1. Applicable model</p> <p>All models</p>	<p>5. Troubleshooting</p>	
<p>2. Error detection method</p>	<p>Diagnosis</p>	
<p>3. Condition of error displayed</p>	<pre> graph TD Q1{Does noise/vibration occur during or soon after stopping operation of air-conditioner?} Q2{[Installation work] Does noise/vibration occur not only from the air-conditioner but also from entire building?} Q3{Does the installation of indoor/outdoor unit loose?} Q4{Are pipes touching the wall, etc?} Q5{[Product] Does noise/vibration occur from operating fan (fan only)?} Q6{Is there a fan or louver touching other components?} Q1 -- NO --> CM1 Q1 -- YES --> Q2 Q2 -- YES --> Q3 Q2 -- NO --> Q4 Q3 -- YES --> CM2 Q3 -- NO --> Q4 Q4 -- YES --> CM3 Q4 -- NO --> CM4 Q5 -- YES --> Q6 Q5 -- NO --> CM5 Q6 -- YES --> CM6 Q6 -- NO --> CM7 </pre>	<p>Countermeasure</p> <p>If excessive noise/vibration persists when sufficient time has elapsed after stopping the unit, it is considered that the air-conditioner is not the source.</p> <p>Check the installed condition carefully, and correct the position or insert rubber cushions or others into the gap, if necessary.</p> <p>Prevent the vibration from transmitting to wall and etc by fixing pipes on the wall or wrapping rubber cushion around the pipe which goes through the hole in the wall or applying other appropriate means.</p> <p>Strength of ceiling wall, floor, etc. may be insufficient. Review the installing position or reinforce it.</p> <p>Check for leaning of installed unit or anomalous mounting of fan, louver or motor and specify the contacting point and correct it.</p> <p>When the heat exchanger or filter is clogged, clean them. In case that the unit is installed at the site where background noise is very low, small noise from indoor unit can be heard, but it is normal. Before installation, check for background noise. If background noise is very low, convince client prior to installation.</p>
<p>4. Presumable cause</p> <ul style="list-style-type: none"> ① Improper installation work <ul style="list-style-type: none"> • Improper anti-vibration work at installation • Insufficient strength of mounting face ② Defective product <ul style="list-style-type: none"> • Before/after shipping from factory ③ Improper adjustment during commissioning <ul style="list-style-type: none"> • Excess/shortage of refrigerant, etc. 		

Note:

Error code Remote control: None	LED	Green	Red	Content Excessive noise/vibration (2/3)
	Indoor	-	-	
	Outdoor	-	-	

1. Applicable model
All models
2. Error detection method
3. Condition of error displayed
4. Presumable cause

5. Troubleshooting	
Diagnosis	Countermeasure
<pre> graph TD Start[From previous page] --> D1{[Unit side] Does noise/vibration occur when the cooling/heating operation is performed normally?} D1 -- NO --> Next[To next page] D1 -- YES --> D2{Are the pipes contacting the casing?} D2 -- YES --> C1[Rearrange the piping to avoid contact with the casing.] D2 -- NO --> D3{Is it heard continuous hissing or roaring sound?} D3 -- YES --> C2[It is noise/vibration that is generated when the refrigerant gas or liquid flow through inside of piping of air-conditioner. It is likely to occur particularly during cooling or defrost operation in the heating mode. It is normal.] D3 -- NO --> D4{Are hissing sounds heard at the startup or stopping?} D4 -- YES --> C3[The noise/vibration occurs when the refrigerant starts or stops flowing. It is normal.] D4 -- NO --> D5{Is blowing sound heard at the start/stop of defrost operation during heating?} D5 -- YES --> C4[When the defrost operation starts or stops during heating, the refrigerant flow is reversed due to switching 4-way valve. This causes a large change in pressure which produces a blowing sound. It may accompany also the hissing sounds as mentioned above. They are normal.] D5 -- NO --> D6{Is cracking noise heard during heating operation?} D6 -- YES --> C5[After the start or stop of heating operation or during defrost operation, abrupt changes in temperature cause resin parts to shrink or expand. This is normal.] D6 -- NO --> D7{Hissing noise is heard during cooling operation or after stopping?} D7 -- YES --> C6[It is the sound produced by the drain pump that discharges drain from the indoor unit. The pump continues to run for 5 minutes after stopping the cooling operation. This is normal.] D7 -- NO --> C7[Apply the damper sealant at places considered to be the sources such as the pressure reducing mechanism (expansion valve), capillary, etc.] </pre>	<p>Rearrange the piping to avoid contact with the casing.</p> <p>It is noise/vibration that is generated when the refrigerant gas or liquid flow through inside of piping of air-conditioner. It is likely to occur particularly during cooling or defrost operation in the heating mode. It is normal.</p> <p>The noise/vibration occurs when the refrigerant starts or stops flowing. It is normal.</p> <p>When the defrost operation starts or stops during heating, the refrigerant flow is reversed due to switching 4-way valve. This causes a large change in pressure which produces a blowing sound. It may accompany also the hissing sounds as mentioned above. They are normal.</p> <p>After the start or stop of heating operation or during defrost operation, abrupt changes in temperature cause resin parts to shrink or expand. This is normal.</p> <p>It is the sound produced by the drain pump that discharges drain from the indoor unit. The pump continues to run for 5 minutes after stopping the cooling operation. This is normal.</p> <p>Apply the damper sealant at places considered to be the sources such as the pressure reducing mechanism (expansion valve), capillary, etc.</p>

Note:

Error code Remote control: None	LED	Green	Red	Content Excessive noise/vibration (3/3)
	Indoor	–	–	
	Outdoor	–	–	

1. Applicable model	5. Troubleshooting		
All models	Diagnosis		Countermeasure
2. Error detection method	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">From previous page</div> <div style="text-align: center;"> </div>		<p>If insufficient cooling/heating problem happens due to anomalous operating conditions at cooling/heating, followings are suspicious.</p> <ul style="list-style-type: none"> • Overcharge of refrigerant • Insufficient charge of refrigerant • Intrusion of air, nitrogen, etc. <p>In such occasion, it is necessary to recover refrigerant, vacuum-dry and recharge refrigerant.</p> <p>* Since there could be many causes of noise/vibration, the above do not cover all. In such case, check the conditions when, where, how the noise/vibration occurs according to following check point.</p> <ul style="list-style-type: none"> • Indoor/outdoor unit • Cooling/heating/fan mode • Startup/stop/during operation • Operating condition (Indoor/outdoor temperatures, pressure) • Time it occurred • Operation data retained by the remote control such as compressor rotation speed, heat exchanger temperature, EEV opening degree, etc. • Tone (If available, record the noise) • Any other anomalies
3. Condition of error displayed			
4. Presumable cause			

Note:

Error code Remote control: None	LED	Green	Red	Content Louver motor failure (FDT, FDTC, FDE series)
	Indoor	Keeps flashing	Stays OFF	
	Outdoor	Keeps flashing	Stays OFF	

1. Applicable model
All models

2. Error detection method

3. Condition of error displayed

4. Presumable cause
<ul style="list-style-type: none"> • Defective LM • LM wire breakage • Faulty indoor unit control PCB

5. Troubleshooting	
Diagnosis	Countermeasure
<p>▲ Check at the indoor unit side.</p> <pre> graph TD Start[Operate after waiting for more than 1 minute.] --> Q1{Does the louver operate at the power on?} Q1 -- NO --> Q2{Is LM wiring broken?} Q2 -- YES --> C1[Repair wiring.] Q2 -- NO --> Q3{Is LM locked?} Q3 -- NO --> C2[Defective indoor unit control PCB → Replace.] Q3 -- YES --> C3[Replace LM.] Q1 -- YES --> Q4{Is the louver operable with the remote control?} Q4 -- YES --> C4[Normal] Q4 -- NO --> C5[Adjust LM lever and then check again.] </pre> <p style="text-align: center;">LM: louver motor</p>	

Note:

Error code Remote control: None	LED	Green	Red	Content Power source system error (Power source to indoor unit control PCB)
	Indoor	Stays OFF	Stays OFF	
	Outdoor	Stays OFF	2-time flash	

1. Applicable model
All models

2. Error detection method

3. Condition of error displayed

4. Presumable cause
<ul style="list-style-type: none"> • Misconnection or breakage of connecting wires • Blown fuse • Faulty indoor unit control or power PCB • Broken harness • Faulty outdoor unit main PCB (Noise filter)

5. Troubleshooting				
<table border="1"> <thead> <tr> <th>Diagnosis</th> <th>Countermeasure</th> </tr> </thead> <tbody> <tr> <td> <pre> graph TD D1{Is AC220/240V detected between 1 and 2 on the terminal block of indoor unit?} D2{Are fuses OK (F1,2)?} D3{Is DC5V detected between ④-⑤ of CNW2?} D4{Is JX1 open?} D5{Is AC380/415V for 3-phase unit detected between 1, 2 and 3 on the terminal block of outdoor unit or is AC220/240V for 1-phase unit detected between 1 and 2 on the terminal block of outdoor unit?} D6{Is the check of resistance between ①-③ of CNW0 OK?} D7{Is the checked result of resistance of fan motor, louver motor, etc OK?} D1 -- YES --> D2 D1 -- NO --> D5 D2 -- YES --> D3 D2 -- NO --> D6 D3 -- YES --> D4 D3 -- NO --> C1[Defective indoor unit power PCB -> Replace.] D4 -- YES --> C2[Defective indoor unit control PCB -> Replace.] D4 -- NO --> C3[Open JX1.] D5 -- YES --> C4[Misconnection or breakage of connecting wires] D5 -- NO --> C5[Defective outdoor unit main PCB (Noise filter)] D6 -- YES --> C6[Replace fuse.] D6 -- NO --> C7[Defective indoor unit control or power PCB -> Replace.] D7 -- YES --> C8[Replace fuse.] D7 -- NO --> C9[Replace fan motor, louver motor, etc.] </pre> </td> <td> <p>Defective outdoor unit main PCB (Noise filter)</p> <p>Misconnection or breakage of connecting wires</p> <p>Defective indoor unit control or power PCB → Replace.</p> <p>Replace fan motor, louver motor, etc.</p> <p>Replace fuse.</p> <p>Defective indoor unit power PCB → Replace.</p> <p>Open JX1.</p> <p>Defective indoor unit control PCB → Replace.</p> </td> </tr> </tbody> </table>	Diagnosis	Countermeasure	<pre> graph TD D1{Is AC220/240V detected between 1 and 2 on the terminal block of indoor unit?} D2{Are fuses OK (F1,2)?} D3{Is DC5V detected between ④-⑤ of CNW2?} D4{Is JX1 open?} D5{Is AC380/415V for 3-phase unit detected between 1, 2 and 3 on the terminal block of outdoor unit or is AC220/240V for 1-phase unit detected between 1 and 2 on the terminal block of outdoor unit?} D6{Is the check of resistance between ①-③ of CNW0 OK?} D7{Is the checked result of resistance of fan motor, louver motor, etc OK?} D1 -- YES --> D2 D1 -- NO --> D5 D2 -- YES --> D3 D2 -- NO --> D6 D3 -- YES --> D4 D3 -- NO --> C1[Defective indoor unit power PCB -> Replace.] D4 -- YES --> C2[Defective indoor unit control PCB -> Replace.] D4 -- NO --> C3[Open JX1.] D5 -- YES --> C4[Misconnection or breakage of connecting wires] D5 -- NO --> C5[Defective outdoor unit main PCB (Noise filter)] D6 -- YES --> C6[Replace fuse.] D6 -- NO --> C7[Defective indoor unit control or power PCB -> Replace.] D7 -- YES --> C8[Replace fuse.] D7 -- NO --> C9[Replace fan motor, louver motor, etc.] </pre>	<p>Defective outdoor unit main PCB (Noise filter)</p> <p>Misconnection or breakage of connecting wires</p> <p>Defective indoor unit control or power PCB → Replace.</p> <p>Replace fan motor, louver motor, etc.</p> <p>Replace fuse.</p> <p>Defective indoor unit power PCB → Replace.</p> <p>Open JX1.</p> <p>Defective indoor unit control PCB → Replace.</p>
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Note:

Error code Remote control: None	LED	Green	Red	Content Power source system error (Power source to remote control)
	Indoor	Keeps flashing	Stays OFF	
	Outdoor	Keeps flashing	2-time flash	

1. Applicable model
All models

2. Error detection method

3. Condition of error displayed

4. Presumable cause
<ul style="list-style-type: none"> • Remote control wire breakage/short-circuit • Defective remote control • Malfunction by noise • Broken harness • Faulty indoor unit control PCB

5. Troubleshooting	
Diagnosis	Countermeasure
<pre> graph TD D1{Is the connection of the remote control's wiring OK? X (white), Y (black)} -- NO --> C[Correct.] D1 -- YES --> D2{Does the voltage between X and Y in the indoor terminal block exceed 15 VDC?} D2 -- NO --> R[Remove wire for the remote control] D2 -- YES --> P[Power source reset] P --> D3{Does resetting the power source return it to normal?} D3 -- YES --> C1[Malfunction by temporary noise.] D3 -- NO --> C2[Remote control wire breakage? Replace remote control.] R --> D4{Does the re-measured voltage between X and Y in the indoor terminal block exceed 15 VDC?} D4 -- YES --> C3[Remote control wire breakage? Replace remote control.] D4 -- NO --> C4[Defective indoor unit control PCB -> Replace.] </pre>	

Note:

Error code Remote control: INSPECT I/U	LED	Green	Red	Content INSPECT I/U (When 1 or 2 remote controls are connected)
	Indoor	Keeps flashing	Stays OFF	
	Outdoor	Keeps flashing	2-time flash	

1. Applicable model
All models
2. Error detection method
Communication between indoor unit and remote control is disabled for more than 30 minutes after the power on.
3. Condition of error displayed
Same as above
4. Presumable cause
<ul style="list-style-type: none"> • Improper setting • Surrounding environment • Defective remote control communication circuit • Faulty indoor unit control PCB

5. Troubleshooting	
Diagnosis	Countermeasure
<pre> graph TD Q1{Are 2 units of remote control connected?} Q2{Is it set at the slave remote control?} Q3{Does it become normal?} Q4{Do more than one indoor units have the same address?} Q5{Are remote control wires laid along high voltage wires?} Q6{Does DM start 60 seconds later automatically?} Q1 -- YES --> S1[Set one remote control for "Master" and the other for "Slave"] S1 --> Q3 Q3 -- NO --> Q4 Q1 -- NO --> Q2 Q2 -- NO --> Q4 Q2 -- YES --> C1[Set SW1 on remote control PCB at "Master".] Q4 -- YES --> C2[Set address again. (SW2 on indoor unit control PCB)] Q4 -- NO --> Q5 Q5 -- YES --> C3[Separate remote control wires from high voltage wires.] Q5 -- NO --> S2[Disconnect the connecting wire ③ between the indoor and outdoor unit.] S2 --> S3[Power source reset] S3 --> Q6 Q6 -- YES --> C4[Defective indoor unit control PCB -> Replace.] Q6 -- NO --> C5[Defective remote control -> Change.] Note1[Note (1) Use SW1 to set at master or slave.] Note2[Note (2) "Slave" is displayed on the remote control LCD.] S1 --- Note1 Q2 --- Note2 </pre>	

Note: If any error is detected 30 minutes after displaying “WAIT” on the remote control, the display changes to “INSPECT I/U”.

Error code Remote control: INSPECT I/U	LED	Green	Red	Content INSPECT I/U (Connection of 3 units or more remote controls)
	Indoor	Keeps flashing	Stays OFF	
	Outdoor	Keeps flashing	2-time flash	

1. Applicable model
All models

2. Error detection method
Indoor unit cannot communicate for more than 30 minutes after the power on with remote control.

3. Condition of error displayed
Same as above

4. Presumable cause
<ul style="list-style-type: none"> • Improper setting • Surrounding environment • Defective remote control communication circuit • Faulty indoor unit control PCB • Faulty outdoor unit main PCB

5. Troubleshooting	
Diagnosis	Countermeasure

Note: If any error is detected 30 minutes after displaying “WAIT” on the remote control, the display changes to “INSPECT I/U”.

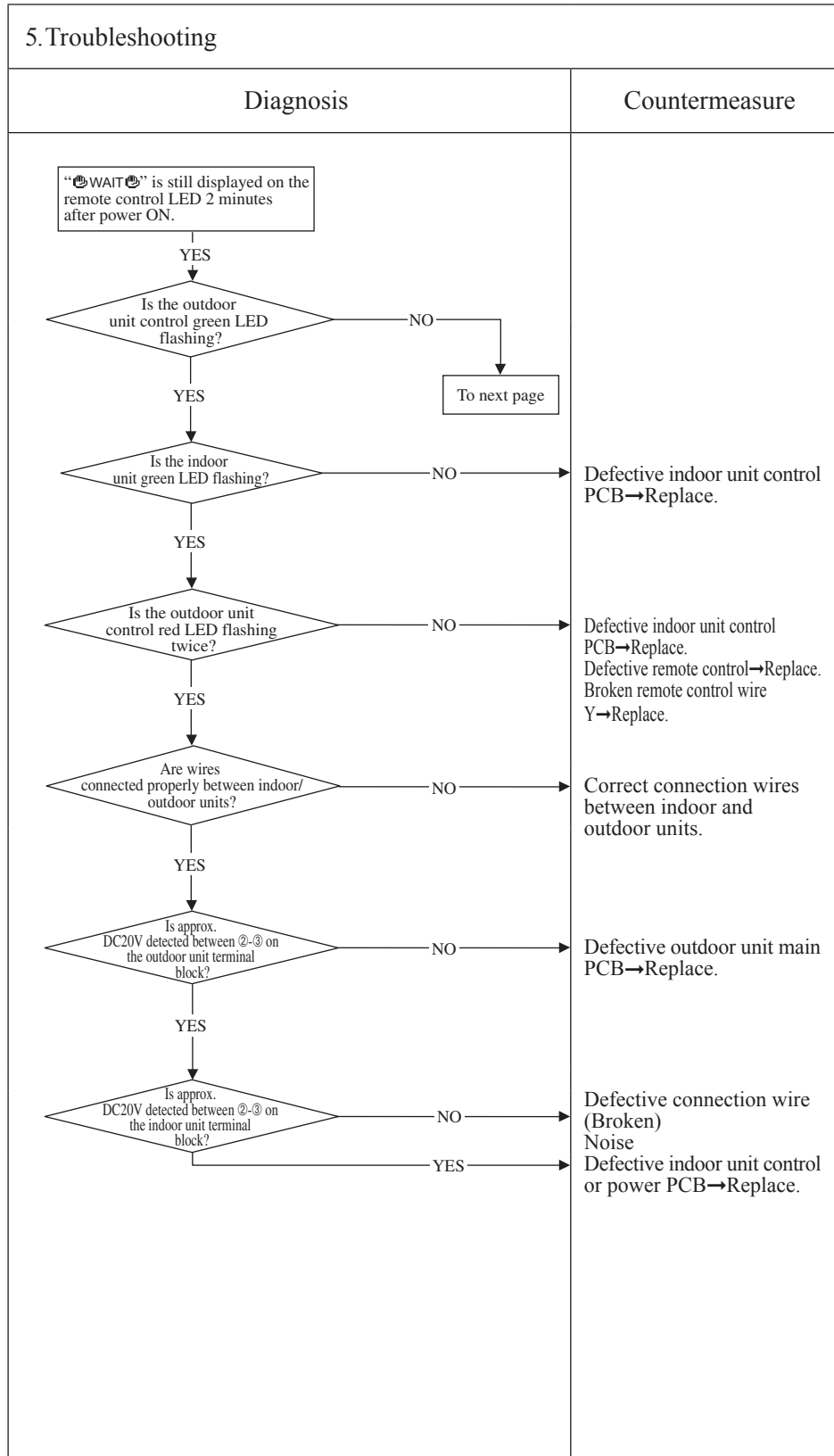
Error code Remote control: WAIT	LED	Green	Red	Content	Communication error at initial operation (1/3)
	Indoor	Keeps flashing	Stays OFF		
	Outdoor	Keeps flashing	2-time flash		

1. Applicable model
All models

2. Error detection method

3. Condition of error displayed

- 4. Presumable cause**
- Faulty indoor unit control or power PCB
 - Defective remote control
 - Broken remote control wire
 - Faulty outdoor unit main PCB
 - Broken connection wires



Note:

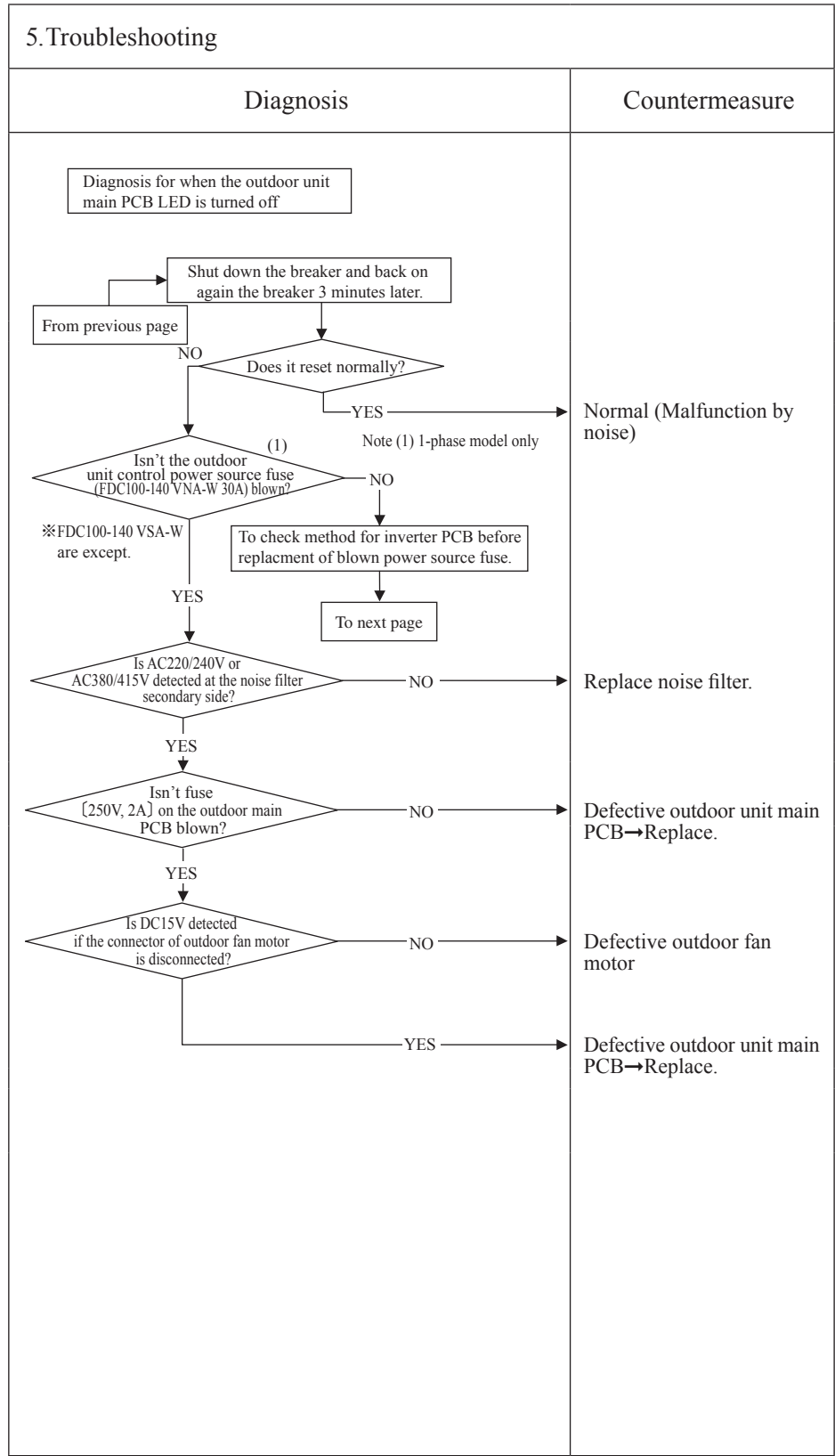
Error code Remote control: 🏠 WAIT 🏠	LED	Green	Red	Content Communication error at initial operation (2/3)
	Indoor	Keeps flashing	Stays OFF	
	Outdoor	Keeps flashing	2-time flash	

1. Applicable model
All models

2. Error detection method

3. Condition of error displayed

4. Presumable cause
- Faulty noise filter
 - Faulty indoor unit control PCB
 - Faulty outdoor unit main PCB
 - Faulty fan motor



Note:

Error code Remote control: 🗄️ WAIT 🗄️	LED	Green	Red	Content Communication error at initial operation (3/3)
	Indoor	Keeps flashing	Stays OFF	
	Outdoor	Keeps flashing	2-time flash	

1. Applicable model
All models

2. Error detection method

3. Condition of error displayed

4. Presumable cause

- Blown fuse
- Faulty noise filter
- Faulty outdoor unit main PCB
- Faulty reactor

5. Troubleshooting

Diagnosis	Countermeasure
<p>Method to check for outdoor unit main PCB before replacement of blown power source fuse.</p> <pre> graph TD Start([From previous page]) --> D1{Isn't there a short-circuit between phases of the noise filter?} D1 -- YES --> C1[Replace the noise filter.] D1 -- NO --> D2{Isn't there a short-circuit between phases of outdoor unit main PCB input terminals?} D2 -- YES --> C2[Replace the main PCB.] D2 -- NO --> D3{Isn't there any crack, burning on the power transistor module?} D3 -- YES --> C2 D3 -- NO --> D4{Is the reactor OK?} D4 -- NO --> C3[Replace the reactor.] D4 -- YES --> C4[Replace the power source fuse.] </pre>	

Note:

Error code Remote control: None	LED	Green	Red	Content No display
	Indoor	Stays OFF	Stays OFF	
	Outdoor	Stays OFF	Stays OFF	

<p>1. Applicable model</p> <p>All models</p>	<p>5. Troubleshooting</p>	
<p>2. Error detection method</p>	<p style="text-align: center;">Diagnosis</p> <pre> graph TD Start[Remote control does not display anything after the power on.] --> D1{Is DC10V or higher detected at remote control connection terminals?} D1 -- YES --> C1[Defective remote control] D1 -- NO --> D2{Is DC10V or higher detected on remote control wires if the remote control is removed?} D2 -- YES --> C2[Defective remote control] D2 -- NO --> D3{Are wires connected properly between the indoor/outdoor units?} D3 -- YES --> C3[Defective connecting wire. Defective remote control wire (Short-circuit, etc.)] D3 -- NO --> C4[Defective indoor unit control PCB -> Replace.] </pre>	<p style="text-align: center;">Countermeasure</p>
<p>3. Condition of error displayed</p>		
<p>4. Presumable cause</p> <ul style="list-style-type: none"> • Faulty indoor unit control PCB • Defective remote control • Broken remote control wire 		

Note:

Error code Remote control: E1	LED	Green	Red	Content
	Indoor	Keeps flashing	Stays OFF	
	Outdoor	Keeps flashing	Stays OFF	

Remote control communication circuit error

1. Applicable model
All models
2. Error detection method
When normal communication between the remote control and the indoor unit is interrupted for more than 2 minutes. (Detectable only with the remote control)
3. Condition of error displayed
Same as above
4. Presumable cause
<ul style="list-style-type: none"> • Defective communication circuit between remote control-indoor unit • Noise • Defective remote control • Faulty indoor unit control PCB

5. Troubleshooting	
Diagnosis	Countermeasure
<pre> graph TD A{Is it possible to reset normally by the power reset?} -- YES --> B[Malfunction by noise Check peripheral environment.] A -- NO --> C[Turn SW7-1 to OFF. → ON Remove the wire ③ connecting between indoor/outdoor units.] C --> D[Power source reset] D --> E{Does the drain pump restart automatically 1 minute later? (1)} E -- YES --> F[Defective indoor unit control PCB → Replace.] E -- NO --> G[Connect the wire ③ connecting between indoor/outdoor units.] G --> H[Move to E5. (Communication error during operation) check.] </pre>	

Note: If the indoor unit cannot communicate normally with the remote control for 180 seconds, the indoor unit PCB starts to reset automatically.

Error code Remote control: E5	LED	Green	Red	Content Communication error during operation
	Indoor	Keeps flashing	2-time flash	
	Outdoor	Keeps flashing	See below	

1. Applicable model
All models

2. Error detection method
When normal communication between indoor and outdoor unit is interrupted for more than 2 minutes.

3. Condition of error displayed
Same as above is detected during operation.

4. Presumable cause
<ul style="list-style-type: none"> • Unit No. setting error • Broken remote control wire • Faulty remote control wire connection • Faulty outdoor unit main PCB

5. Troubleshooting	
Diagnosis	Countermeasure
<p>In case that the outdoor unit red LED flashes 2-time</p> <p>Note (1) Inspect faulty connections (disconnection, looseness) on the outdoor unit terminal block.</p> <p>Is the connection of signal wires at the outdoor unit side OK?</p> <p>NO → Repair signal wires.</p> <p>YES</p> <p>Note (2) Check for faulty connection or breakage of signal wires between indoor-outdoor units.</p> <p>Is the connection of signal wires between indoor-outdoor units OK?</p> <p>NO → Repair signal wires.</p> <p>YES</p> <p>Power source reset</p> <p>Has the remote control LCD returned to normal state?</p> <p>NO → To the diagnosis of “WAIT”</p> <p>YES → Unit is normal. (Malfunction by temporary noise, etc.)</p>	

Note: Pressing the pump-down switch cancels communications between indoor and outdoor unit so that “communication error-E5” is displayed on indoor unit and remote control, but it is normal.

Error code Remote control: E6	LED	Green	Red	Content Indoor heat exchanger temperature sensor anomaly
	Indoor	Keeps flashing	1-time flash	
	Outdoor	Keeps flashing	Stays OFF	

1. Applicable model
All models

2. Error detection method
Anomalously low temperature or high temperature (resistance) is detected on the indoor heat exchanger temperature sensor (Thi-R1, R2 or R3).

3. Condition of error displayed

- When the temperature sensor detects -50°C or lower for 5 seconds continuously, the compressor stops. After 3-minute delay, the compressor starts again automatically, but if this error occurs again within 60 minutes after the initial detection.
- Or if 70°C or higher is detected for 5 seconds continuously.

4. Presumable cause

- Defective indoor heat exchanger temperature sensor connector
- Indoor heat exchanger temperature sensor anomaly
- Faulty indoor unit control PCB

5. Troubleshooting

Diagnosis	Countermeasure
<p>Is the connection of indoor heat exchanger temperature sensor connector OK?</p> <p>NO →</p> <p>YES →</p> <p>Are characteristics of indoor heat exchanger temperature sensor OK?</p> <p>NO →</p> <p>YES →</p>	<p>Correct. → Insert connector securely.</p> <p>Defective indoor heat exchanger temperature sensor → Replace.</p> <p>Defective indoor unit control PCB → Replace. (Defective indoor heat exchanger temperature sensor input circuit)</p>

(Broken wire) **Temperature-resistance characteristic**

Temperature (°C)	Temperature sensor resistance (kΩ)
0	~16
10	~11
20	~7
25	5
30	~4
40	~3
50	~2

Note:

Error code Remote control: E7	LED	Green	Red	Content Return air temperature sensor anomaly
	Indoor	Keeps flashing	1-time flash	
	Outdoor	Keeps flashing	Stays OFF	

1. Applicable model
All models

2. Error detection method
Anomalously low temperature or high temperature (resistance) is detected by indoor return air temperature sensor (Thi-A)

3. Condition of error displayed

- When the temperature sensor detects -50°C or lower for 5 seconds continuously, the compressor stops. After 3-minute delay, the compressor starts again automatically, but if this error occurs again within 60 minutes after the initial detection.

4. Presumable cause

- Defective return air temperature sensor connector
- Defective return air temperature sensor
- Faulty indoor unit control PCB

5. Troubleshooting

Diagnosis	Countermeasure
<p>Is the connection of return air temperature sensor connector OK?</p> <p>NO →</p> <p>YES →</p> <p>Are the characteristics of return air temperature sensor OK?</p> <p>NO →</p> <p>YES →</p>	<p>Correct. → Connect connector.</p> <p>Defective return air temperature sensor → Replace.</p> <p>Defective indoor unit control PCB → Replace. (Defective return air temperature sensor input circuit)</p>

Temperature-resistance characteristic

Temperature (°C)	Temperature sensor resistance (kΩ)
0	15
10	10
20	7
25	5
30	4
40	3
50	2

Note:

Error code Remote control: E8	LED	Green	Red	Content Heating overload operation
	Indoor	Keeps flashing	1-time flash	
	Outdoor	Keeps flashing	Stays OFF	

1. Applicable model
All models

2. Error detection method
Indoor heat exchanger temperature sensor (Thi-R1, R2, R3)

3. Condition of error displayed
When it is detected 5 times within 60 minutes from initial detection or when the overload condition is detected for 6 minutes continuously.

- 4. Presumable cause**
- Clogged air filter
 - Defective indoor heat exchanger temperature sensor connector
 - Defective indoor heat exchanger temperature sensor
 - Anomalous refrigerant system

5. Troubleshooting

Diagnosis	Countermeasure
<pre> graph TD Q1{Is the air filter clogged?} -- YES --> C1[Wash.] Q1 -- NO --> Q2{Is the indoor heat exchanger temperature sensor connection OK?} Q2 -- NO --> C2[Defective indoor heat exchanger temperature sensor connector → Correct.] Q2 -- YES --> Q3{Are the characteristics of indoor heat exchanger temperature sensor OK? (2)} Q3 -- NO --> C3[Defective indoor heat exchanger temperature sensor.] Q3 -- YES --> R1[Check the error data with the remote control.] R1 --> Q4{Is the unit operating in the state of heating overload?} Q4 -- NO --> C4[Check refrigerant system.] Q4 -- YES --> C5[Adjust.] </pre>	
<p>Note (1) Judge if it is in the state of overload or not as follows.</p> <ul style="list-style-type: none"> • Is there any short-circuit of air? • Isn't there any fouling or clogging on the indoor heat exchanger? • Is the outdoor fan control normal? • Isn't the room and outdoor air temperature too high? <p>Note (2) For characteristics of indoor heat exchanger temperature sensor, see the error display E6.</p> <p style="text-align: center;">Indoor heat exchanger temperature (°C)</p>	

Note: During heating operation; After starting compressor, compressor rotation speed is decreased by detecting indoor heat exchanger temperature (Thi-R) in order to control high pressure.

Error code Remote control: E9	LED	Green	Red	Content Drain trouble (FDT , FDTC , FDU , FDUM series)
	Indoor	Keeps flashing	1-time flash	
	Outdoor	Keeps flashing	Stays OFF	

1. Applicable model
FDT , FDTC , FDU , FDUM series only
2. Error detection method
Float switch is activated
3. Condition of error displayed
If the float switch OPEN is detected for 3 seconds continuously or if float switch connector or wire is disconnected.
4. Presumable cause
<ul style="list-style-type: none"> • Defective indoor unit control PCB • Float switch setting error • Humidifier drain motor interlock setting error • Option equipment setting error • Drain piping error • Defective drain pump motor • Disconnection of drain pump motor wiring

5. Troubleshooting	
Diagnosis	Countermeasure
<pre> graph TD Start[Check the error data in the remote control.] --> Overflow{Is there any overflow?} Overflow -- NO --> DC12V_CNI{Is DC12V at CNI connector?} DC12V_CNI -- YES --> FloatSwitch[Check float switch.] DC12V_CNI -- NO --> CNI{Is the CNI connected firmly?} CNI -- NO --> DefectivePCB1[Defective indoor unit control PCB → Replace.] CNI -- YES --> OptionEq{Is there any anomaly on the option equipment?} OptionEq -- NO --> DefectivePCB2[Defective indoor unit control PCB → Replace.] OptionEq -- YES --> CheckOption[Check option equipment.] Overflow -- YES --> Humidifier{Is the humidifier connected?} Humidifier -- YES --> Interlock{Is the humidifier drain pump motor interlocked by the indoor unit function setting of remote control?} Interlock -- NO --> CorrectSetting[Correct setting to "Humidifier drain pump motor interlock".] Interlock -- YES --> DrainMotorON[Drain motor ON from the remote control] DrainMotorON --> DrainMotorOperate{Does drain pump motor operate?} DrainMotorOperate -- NO --> DC12V_CNR{Is DC12V detected at CNR connector?} DC12V_CNR -- NO --> DefectivePCB3[Defective indoor unit control PCB → Replace.] DC12V_CNR -- YES --> CheckWiring[Check wiring of drain motor.] DrainMotorOperate -- YES --> DrainPipe{Is the drain piping unclogged? Is the drain pipe slope OK?} DrainPipe -- NO --> Correct[Correct.] DrainPipe -- YES --> CheckMotor[Check drain pump motor.] </pre>	

Note: When this error occurred at power ON, disconnection of wire or connector of the float switch is suspected. Check and correct it (or replace it, if necessary).

Error code Remote control: E10	LED	Green	Red	Content Excessive number of connected indoor units (more than 17 units) by controlling with one remote control
	Indoor	Keeps flashing	Stays OFF	
	Outdoor	Keeps flashing	Stays OFF	

<p>1. Applicable model</p> <p>All models</p>	<p>5. Troubleshooting</p> <table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 50%;">Diagnosis</th> <th style="width: 50%;">Countermeasure</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"> <pre> graph TD A{Aren't more than 17 indoor units connected to one remote control?} -- NO --> B[Defective remote control → Replace.] A -- YES --> C[Reduce to 16 or less units.] </pre> </td> <td style="vertical-align: top;"> <p>Defective remote control → Replace.</p> <p>Reduce to 16 or less units.</p> </td> </tr> </tbody> </table>		Diagnosis	Countermeasure	<pre> graph TD A{Aren't more than 17 indoor units connected to one remote control?} -- NO --> B[Defective remote control → Replace.] A -- YES --> C[Reduce to 16 or less units.] </pre>	<p>Defective remote control → Replace.</p> <p>Reduce to 16 or less units.</p>
Diagnosis	Countermeasure					
<pre> graph TD A{Aren't more than 17 indoor units connected to one remote control?} -- NO --> B[Defective remote control → Replace.] A -- YES --> C[Reduce to 16 or less units.] </pre>	<p>Defective remote control → Replace.</p> <p>Reduce to 16 or less units.</p>					
<p>2. Error detection method</p> <p>When it detects more than 17 of indoor units connected to one remote control</p>						
<p>3. Condition of error displayed</p> <p>Same as above</p>						
<p>4. Presumable cause</p> <ul style="list-style-type: none"> • Excessive number of indoor units connected • Defective remote control 						

Note:

Error code Remote control: E11	LED	Green	Red	Content Address setting error of indoor units
	Indoor	Keeps flashing	Keeps flashing	
	Outdoor	Keeps flashing	Stays OFF	

1. Applicable model
All models

2. Error detection method
IU address has been set using the “Master IU address set” function of remote control.

3. Condition of error displayed
Same as above

4. Presumable cause
Same as above

5. Troubleshooting	
Diagnosis	Countermeasure
<pre> graph TD A[E11 occurs] --> B{Is "Master IU address set" function of remote control used?} B -- YES --> C[Countermeasure] </pre>	
<p>In case the wiring is below and “Mastar IU address set” is used, E11 is appeared.</p>	
	<ul style="list-style-type: none"> • In cases of RC-EX3A Menu → Service setting → IU settings → Select IU • In cases of RC-E5 Return address No. to “IU ...” using [▲] or [▼] button.

Note:

Error code Remote control: E14	LED	Green	Red	Content Communication error between master and slave indoor units
	Indoor	Keeps flashing	3-time flash	
	Outdoor	Keeps flashing	Stays Off	

1. Applicable model
All models

2. Error detection method
When communication error between master and slave indoor units occurs

3. Condition of error displayed
Same as above

4. Presumable cause

- Unit address setting error
- Broken remote control wire
- Defective remote control wire connection
- Defective indoor unit control PCB

5. Troubleshooting

Diagnosis	Countermeasure																	
<pre> graph TD D1{Is it OK the unit address setting for master and slave indoor units?} D2{Isn't the remote control wiring between indoor units defective?} D3{Is it restored by resetting the power source?} D1 -- NO --> C1[Correct unit address setting.] D1 -- YES --> D2 D2 -- YES --> C2[Correct wiring.] D2 -- NO --> D3 D3 -- NO --> C3[Defective indoor unit control PCB -> Replace.] D3 -- YES --> C4["• Malfunction by noise • Check surrounding environment."] </pre>																		
<p>Note (1) Set DIP switches SW5-1 and SW5-2 as shown in the following table. (Factory default setting – “Master”)</p> <table border="1"> <thead> <tr> <th colspan="2" rowspan="2"></th> <th colspan="3">Indoor unit</th> </tr> <tr> <th>Master</th> <th>Slave-a</th> <th>Slave-b</th> </tr> </thead> <tbody> <tr> <th rowspan="2">DIP switch</th> <th>SW5-1</th> <td>OFF</td> <td>OFF</td> <td>ON</td> </tr> <tr> <th>SW5-2</th> <td>OFF</td> <td>ON</td> <td>OFF</td> </tr> </tbody> </table>				Indoor unit			Master	Slave-a	Slave-b	DIP switch	SW5-1	OFF	OFF	ON	SW5-2	OFF	ON	OFF
				Indoor unit														
		Master	Slave-a	Slave-b														
DIP switch	SW5-1	OFF	OFF	ON														
	SW5-2	OFF	ON	OFF														

Note:

Error code Remote control: E16	LED	Green	Red	Content Indoor fan motor anomaly
	Indoor	Keeps flashing	1-time flash	
	Outdoor	Keeps flashing	Stays OFF	

1. Applicable model
All models

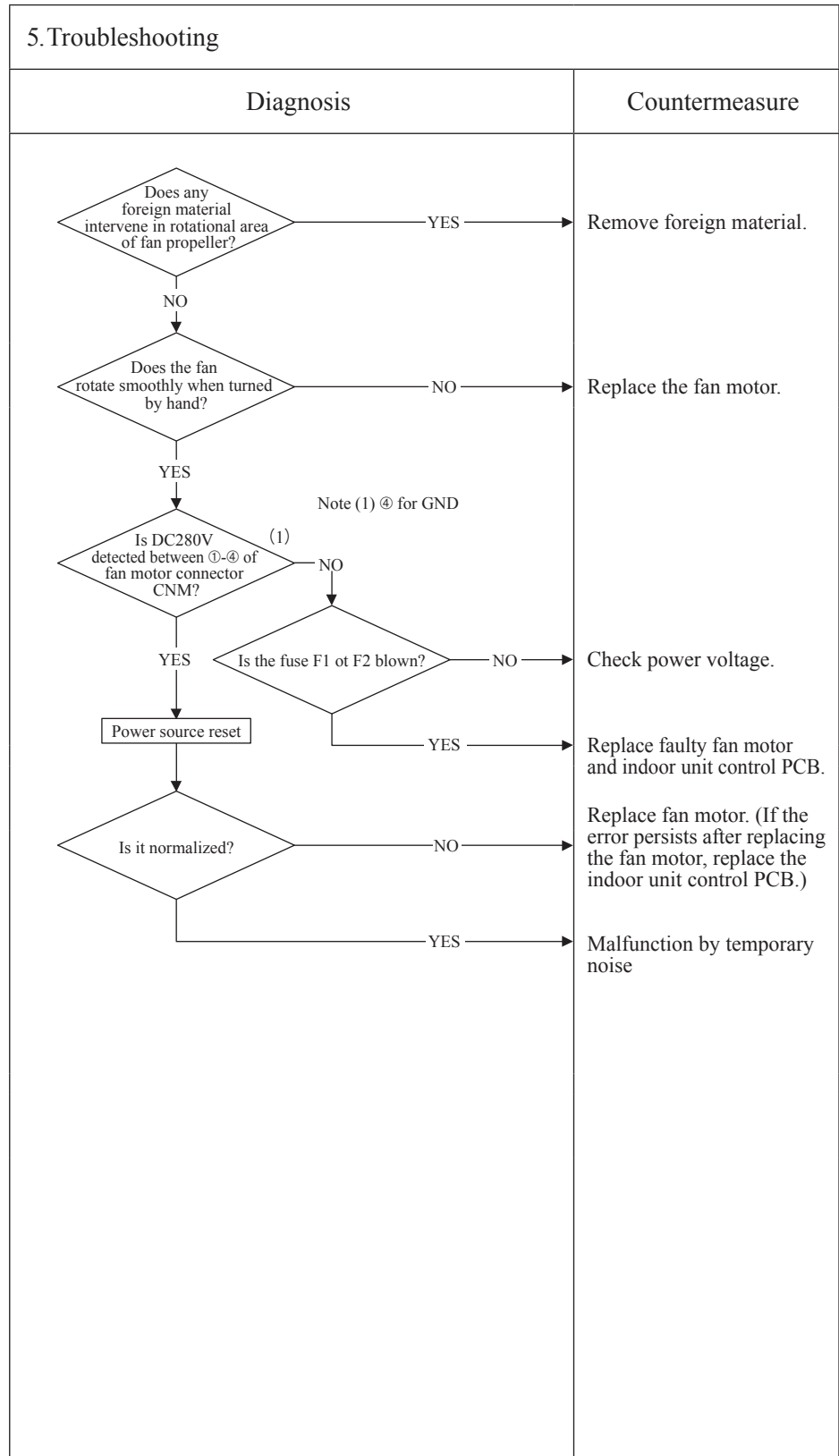
2. Error detection method
Detected by rotation speed of indoor fan motor

3. Condition of error displayed

- When actual rotation speed of indoor fan motor drops to lower than 200min^{-1} for 30 seconds continuously, the compressor and the indoor fan motor stop.
- After 2-seconds, it starts again automatically, but if this error occurs 4 times within 60 minutes after the initial detection.

4. Presumable cause

- Defective indoor unit control PCB
- Foreign material at rotational area of fan propeller
- Defective fan motor
- Dust on indoor unit control PCB
- Blown fuse
- External noise, surge



Note:

Error code Remote control: E18	LED	Green	Red	Content Address setting error of master and slave indoor units
	Indoor	Keeps flashing	1-time flash	
	Outdoor	Keeps flashing	Stays Off	

1. Applicable model
All models

2. Error detection method
IU address has been set using the “Master IU address set” function of remote control.

3. Condition of error displayed
Same as above

4. Presumable cause
Same as above

5. Troubleshooting	
Diagnosis	Countermeasure
<pre> graph TD A[E18 occurs] --> B{Is "Master IU address set" function of remote control used?} B -- YES --> C[Countermeasure] </pre>	
	<ul style="list-style-type: none"> • In cases of RC-EX3A Menu → Service setting → IU settings → Select IU • In cases of RC-E5 Return address No. to “IU ...” using [▲] or [▼] button.

Note:

Error code Remote control: E19	LED	Green	Red	Content Indoor unit operation check, drain pump motor check setting error
	Indoor	Keeps flashing	1-time flash	
	Outdoor	Keeps flashing	Stays OFF	

1. Applicable model
All models

2. Error detection method
After indoor operation check, when the communication between indoor and outdoor unit is established and SW7-1 is still kept ON.

3. Condition of error displayed
Same as above

4. Presumable cause
Mistake in SW7-1 setting (Due to forgetting to turn OFF SW7-1 after indoor operation check)

5. Troubleshooting	
Diagnosis	Countermeasure
<pre> graph TD Start[E19 occurs when the power ON] --> Decision{Is SW7-1 on the indoor unit control PCB ON?} Decision -- NO --> Countermeasure1[Defective indoor unit control PCB (Defective SW7) -> Replace.] Decision -- YES --> Countermeasure2[Turn SW7-1 on the indoor unit control PCB OFF and reset the power.] </pre>	

Note:

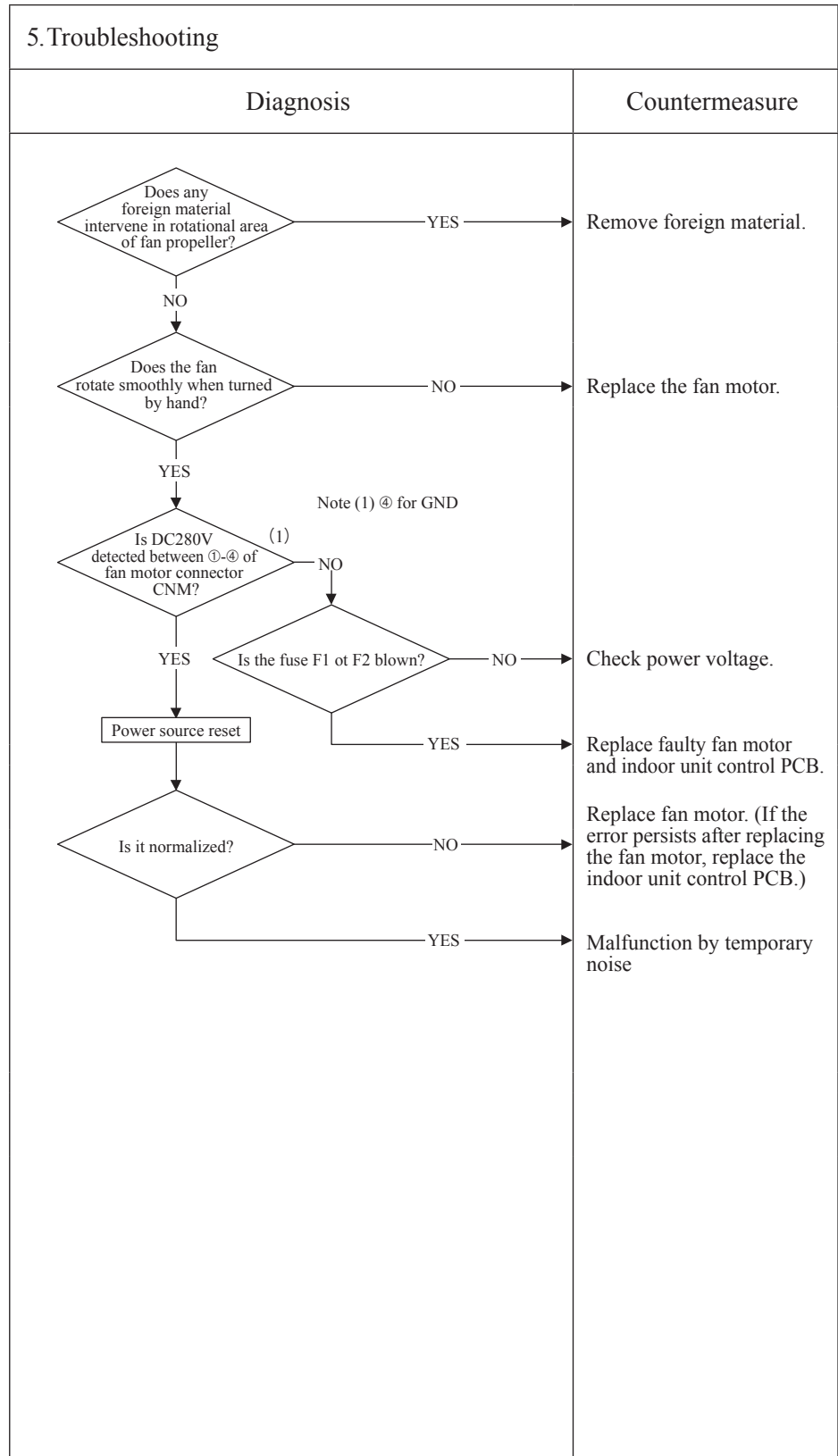
Error code Remote control: E20	LED	Green	Red	Content Indoor fan motor rotation speed anomaly
	Indoor	Keeps flashing	1-time flash	
	Outdoor	Keeps flashing	Stays OFF	

1. Applicable model
All models

2. Error detection method
Detected by rotation speed of indoor fan motor

3. Condition of error displayed
When the actual fan rotation speed does not reach to the speed of [required speed -50 min⁻¹] after 2 minutes have been elapsed since the fan motor rotation speed command was output, the unit stops by detecting indoor fan motor anomaly.

- 4. Presumable cause**
- Defective indoor unit control PCB
 - Foreign material at rotational area of fan propeller
 - Defective fan motor
 - Dust on indoor unit control PCB
 - Blown fuse
 - External noise, surge



Note:

Error code Remote control: E28	LED	Green	Red	Content Remote control temperature sensor anomaly
	Indoor	Keeps flashing	Stays OFF	
	Outdoor	Keeps flashing	Stays OFF	

1. Applicable model
All models

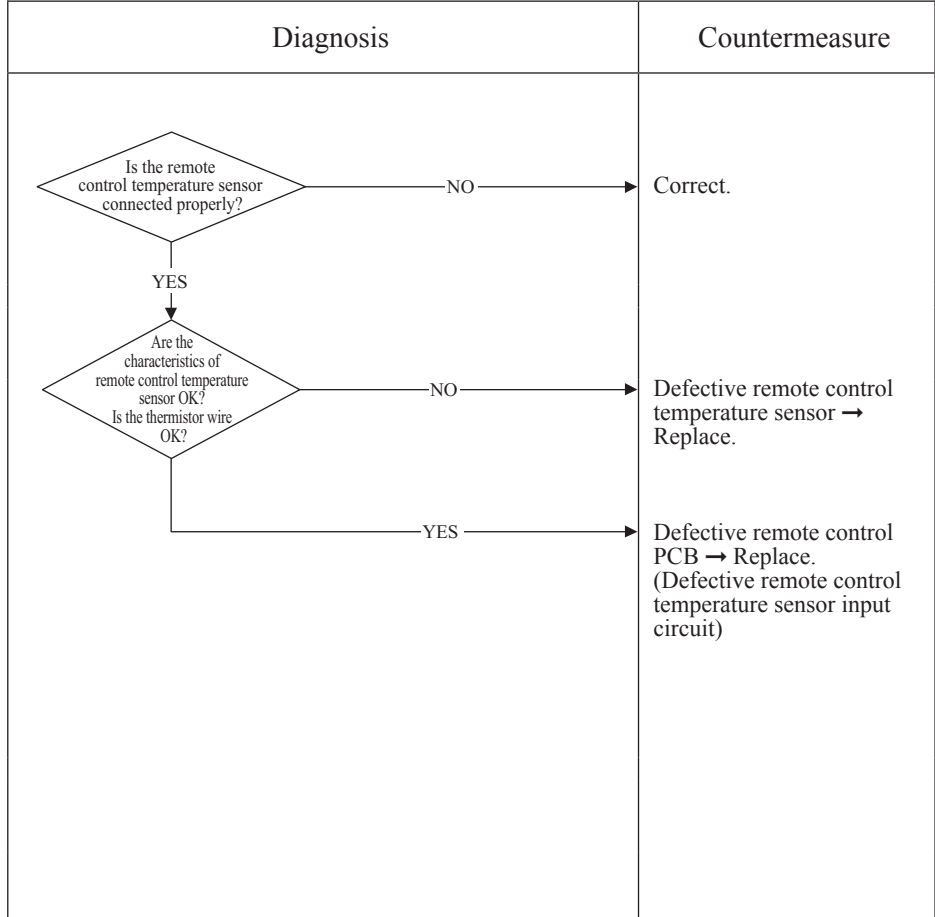
2. Error detection method
Detection of anomalously low temperature (resistance) of remote control temperature sensor (The)

3. Condition of error displayed
When the temperature sensor detects -50°C or lower for 5 seconds continuously, the compressor stops. After 3-minute delay, the compressor starts again automatically, but if this error occurs again within 60 minutes after the initial detection.

4. Presumable cause

- Faulty connection of remote control temperature sensor
- Defective remote control temperature sensor
- Defective remote control PCB

5. Troubleshooting



Resistance-temperature characteristics of remote control temperature sensor (The)

Temperature (°C)	Resistance value (kΩ)	Temperature (°C)	Resistance value (kΩ)
0	65	30	16
1	62	32	15
2	59	34	14
4	53	36	13
6	48	38	12
8	44	40	11
10	40	42	9.9
12	36	44	9.2
14	33	46	8.5
16	30	48	7.8
18	27	50	7.3
20	25	52	6.7
22	23	54	6.3
24	21	56	5.8
26	19	58	5.4
28	18	60	5.0

Note: After 10 seconds has passed since remote control temperature sensor was switched from valid to invalid, E28 will not be displayed even if the sensor harness is disconnected. At same time the sensor, which is effective, is switched from remote control temperature sensor to indoor return air temperature sensor. Even though the remote control temperature sensor is set to be Effective, the return air temperature displayed on remote control for checking still shows the value detected by indoor return air temperature sensor, not by remote control temperature sensor.

Error code Remote control: E35	LED	Green	Red	Content Cooling overload operation
	Indoor unit control PCB	Keeps flashing	Stays OFF	
	Outdoor unit control PCB	Keeps flashing	1-time flash	

1.Applicable model
All models

2.Error detection method
For the error detection method, refer to the protective control by controlling compressor rotation speed and cooling high pressure protective control of micro-computer control function for corresponding models.

3.Condition of error displayed
When outdoor heat exchanger temperature anomaly is detected 5 times within 60 minutes or this anomalous state is detected 60 minutes continuously including compressor stop.

4.Presumable cause
<ul style="list-style-type: none"> • Defective outdoor heat exchanger temperature sensor • Defective outdoor unit main PCB • Indoor, outdoor unit installation spaces • Short-circuit of air on indoor, outdoor units • Fouling, clogging of heat exchanger • Excessive refrigerant amount

5.Troubleshooting	
Diagnosis	Countermeasure
<p style="text-align: right;">* For the characteristics of outdoor heat exchanger temperature sensor, refer to E37.</p> <pre> graph TD Q1{Are the characteristics of outdoor heat exchanger temperature sensor normal?} Q2{Is the unit operating in the state of cooling overload?} Q3{Is the high pressure control normal?} Q4{Is the temperature (measured actually) at detection of error correct?} Q1 -- NO --> C1[Replace outdoor heat exchanger temperature sensor.] Q1 -- YES --> Q2 Q2 -- YES --> C2[Check unit side. • Isn't the air circulation of outdoor unit short-circuited? • Are installation spaces adequate? • Isn't there any fouling or clogging on heat exchanger?] Q2 -- NO --> Q3 Q3 -- NO --> C3[Control operation check *] Q3 -- YES --> Q4 Q4 -- NO --> C4[Defective outdoor unit main PCB -> Replace.] Q4 -- YES --> C5[Excessive refrigerant amount : Recharge refrigerant by weighting proper amount on a scale.] </pre>	
<p>* For the contents of control, refer to the protective control by controlling compressor rotation speed and cooling high pressure protective control of microcomputer control function for corresponding models.</p>	

Note:

Error code Remote control: E36	LED	Green	Red	Content Discharge pipe temperature error
	Indoor unit control PCB	Keeps flashing	Stays OFF	
	Outdoor unit control PCB	Keeps flashing	1-time flash	

1. Applicable model
All models

2. Error detection method
For the error detection method, refer to the protective control by controlling compressor rotation speed and cooling high pressure protective control of micro-computer control function for corresponding models.

3. Condition of error displayed
When discharge pipe temperature anomaly is detected 2 times within 60 minutes or this anomalous state is detected 60 minutes continuously including compressor stop.

4. Presumable cause
<ul style="list-style-type: none"> • Defective outdoor unit main PCB • Defective discharge pipe temperature sensor • Clogged filter • Indoor, outdoor unit installation spaces • Short-circuit of air on indoor, outdoor units • Fouling, clogging of heat exchanger

5. Troubleshooting	
Diagnosis	Countermeasure
<p style="text-align: right;">* For the characteristics of discharge pipe temperature sensor, refer to E39.</p> <pre> graph TD D1{Are the characteristics of discharge pipe temperature sensor normal?} D2{Is the discharge pipe temperature error persisted during cooling operation?} D3{Is the discharge pipe temperature control normal?} D4{Is the temperature (measured actually) at detection of error correct?} D1 -- NO --> C1[Replace discharge pipe temperature sensor.] D1 -- YES --> D2 D2 -- YES --> C2[Insufficient refrigerant amount : Recharge refrigerant by weighing proper amount on a scale.] D2 -- NO --> D3 D3 -- NO --> C3[Control operation check *] D3 -- YES --> D4 D4 -- NO --> C4[Defective outdoor unit main PCB -> Replace.] D4 -- YES --> C5[Check unit side: • Isn't filter clogged? • Are adequate indoor, outdoor unit installation spaces? • Isn't there any short-circuit of air? • Isn't there any fouling, clogging on indoor heat exchanger?] </pre> <p style="text-align: center;">* For the contents of control, refer to the protective control by controlling compressor rotation speed and cooling high pressure protective control of microcomputer control function for corresponding models.</p>	

Note:

Error code Remote control: E37	LED	Green	Red	Content Outdoor heat exchanger temperature sensor anomaly
	Indoor unit control PCB	Keeps flashing	Stays OFF	
	Outdoor unit control PCB	Keeps flashing	1-time flash	

1. Applicable model
All models

2. Error detection method
Detection of anomalously low temperature (resistance) on the outdoor heat exchanger temperature sensor

3. Condition of error displayed
<ul style="list-style-type: none"> When the temperature sensor detects -50°C or lower for 20 seconds continuously within 2 minutes to 2 minutes 20 seconds after the compressor ON, the compressor stops. After 3-minute delay, the compressor starts again automatically, but if this anomalous temperature is detected 3 times within 40 minutes. When -50°C or lower is detected for 5 seconds continuously within 20 second after compressor ON.

4. Presumable cause
<ul style="list-style-type: none"> Defective outdoor unit main PCB Broken sensor harness or temperature sensing section Disconnected wire connection (connector)

5. Troubleshooting	
Diagnosis	Countermeasure
<p style="text-align: center;">Temperature-resistance characteristics</p> <p>(Broken wire)</p> <p style="text-align: center;">Temperature sensor resistance (kΩ)</p> <p style="text-align: center;">Temperature (°C)</p>	

Note:

Error code Remote control: E38	LED	Green	Red	Content Outdoor air temperature sensor anomaly
	Indoor unit control PCB	Keeps flashing	Stays OFF	
	Outdoor unit control PCB	Keeps flashing	1-time flash	

1. Applicable model
All models

2. Error detection method
Detection of anomalously low temperature (resistance) on outdoor air temperature sensor

3. Condition of error displayed
<ul style="list-style-type: none"> When the temperature sensor detects -45°C or lower for 5 seconds continuously within 2 minutes to 2 minutes 20 seconds after the compressor ON, the compressor stops. After 3-minute delay, the compressor starts again automatically, but if this anomalous temperature is detected 3 times within 40 minutes. When -45°C or lower is detected for 5 seconds continuously within 20 second after compressor ON.

4. Presumable cause
<ul style="list-style-type: none"> Defective outdoor unit main PCB Broken sensor harness or temperature sensing section (Check molding.) Disconnected wire connection (connector)

5. Troubleshooting															
Diagnosis	Countermeasure														
<p style="text-align: center;">Is the outdoor air temperature sensor connector connected properly?</p> <p style="text-align: center;">NO → Correct connector.</p> <p style="text-align: center;">YES</p> <p style="text-align: center;">For the characteristics of outdoor air temperature sensor, see the following graph.</p> <p style="text-align: center;">Is the characteristics of the outdoor air temperature sensor OK?</p> <p style="text-align: center;">NO → Defective outdoor air temperature sensor → Replace.</p> <p style="text-align: center;">YES → Defective outdoor unit main PCB → Replace. (Defective outdoor air temperature sensor input circuit)</p>															
<p>Temperature-resistance characteristics</p> <table border="1"> <caption>Temperature-resistance characteristics data</caption> <thead> <tr> <th>Temperature (°C)</th> <th>Temperature sensor resistance (kΩ)</th> </tr> </thead> <tbody> <tr><td>0</td><td>35</td></tr> <tr><td>10</td><td>25</td></tr> <tr><td>20</td><td>18</td></tr> <tr><td>30</td><td>12</td></tr> <tr><td>40</td><td>8</td></tr> <tr><td>50</td><td>4</td></tr> </tbody> </table>		Temperature (°C)	Temperature sensor resistance (kΩ)	0	35	10	25	20	18	30	12	40	8	50	4
Temperature (°C)	Temperature sensor resistance (kΩ)														
0	35														
10	25														
20	18														
30	12														
40	8														
50	4														

Note:

Error code Remote control: E39	LED	Green	Red	Content Discharge pipe temperature sensor anomaly
	Indoor unit control PCB	Keeps flashing	Stays OFF	
	Outdoor unit control PCB	Keeps flashing	1-time flash	

1. Applicable model
All models

2. Error detection method
Detection of anomalously low temperature (resistance) on the discharge pipe temperature sensor

3. Condition of error displayed
When the temperature sensor detects -10°C or lower for 5 seconds continuously within 10 minutes to 10 minutes 20 seconds after the compressor ON, the compressor stops. After 3-minute delay, the compressor starts again automatically, but if this anomalous temperature is detected 3 times within 40 minutes.

4. Presumable cause
<ul style="list-style-type: none"> • Defective outdoor unit main PCB • Broken sensor harness or temperature sensing section (Check molding.) • Disconnected wire connection (connector)

5. Troubleshooting	
Diagnosis	Countermeasure
<div style="text-align: center;"> <pre> graph TD Q1{Is the discharge pipe temperature sensor connector connected properly?} -- NO --> C1[Correct connector.] Q1 -- YES --> Q2{Are the characteristics of discharge pipe temperature sensor OK?} Q2 -- NO --> C2[Defective discharge pipe temperature sensor -> Replace.] Q2 -- YES --> C3[Defective outdoor unit main PCB -> Replace. (Defective temperature sensor input circuit)] </pre> </div>	
<p style="text-align: center;">(Broken wire) Temperature-resistance characteristics</p> <p style="text-align: center;">(Short-circuit)</p>	

Note:

Error code	LED	Green	Red	Content
Remote control: E40	Indoor unit control PCB	Keeps flashing	Stays OFF	High pressure error (63H1 activated)
	Outdoor unit control PCB	Keeps flashing	1-time flash	

1.Applicable model
All models

2. Error detection method
When the high pressure switch 63H1 is activated.

3. Condition of error displayed
If 63H1 turns OFF (opened), the compressor stops. After 3-minutes delay, the compressor restarts. If this anomaly occurs 5 times within 60 minutes or continues for 60 minutes continuously.

4. Presumable cause
<ul style="list-style-type: none"> • Short-circuit of air flow, disturbance of air flow and clogging filter at outdoor heat exchanger/Breakdown of fan motor • Defective outdoor unit main PCB • Defective 63H1 connector • Defective electronic expansion valve connector • Closed service valve • Mixing of non-condensing gas (nitrogen, etc.)

5. Troubleshooting	
Diagnosis	Countermeasure
<p>If the power source breaker is turned OFF and ON too quickly, E40 may be displayed. (This is normal.)</p>	
<p>Is the service valve fully opened?</p> <p>NO → Open the service valve.</p> <p>YES</p> <p>Has 63H1 activated?</p> <p>NO → Is 63H1 connector connected properly?</p> <p>NO → Correct 63H1 connector.</p> <p>YES</p> <p>Is the electronic expansion valve connector connection OK?</p> <p>NO → Correct electronic expansion valve connector.</p> <p>YES → Defective outdoor unit main PCB → Replace. (Defective 63H1 input circuit)</p> <p>If any anomaly exists on the electronic expansion valve connector connection, the power source must be reset.</p>	
<p>On operation of 63H1</p> <p>1. During cooling</p> <ul style="list-style-type: none"> • Is the outdoor fan motor running? • Isn't any short-circuit of air on the outdoor unit? • Are sufficient return air/supply air space secured? <p>2. During heating</p> <ul style="list-style-type: none"> • Isn't the indoor heat exchanger temperature sensor disconnected from the sensor casing? • Isn't the filter clogged? <p>* Under the condition of overcharging refrigerant, 63H1 may activate due to delay of starting the preventive control by compressor speed control, because detected heat exchanger temperature, which conducts compressor speed control, becomes lower than normal condition due to excess sub-cooling degree.</p>	

Note: In the protective control range for compressor startup (initial startup after power ON), even if 63H1 is activated only once (63H1 turns OFF), immediately the error is displayed.

Error code Remote control: E42	LED	Green	Red	Content Current cut (1/2)
	Indoor unit control PCB	Keeps flashing	Stays OFF	
	Outdoor unit control PCB	Keeps flashing	1-time flash	

1. Applicable model
All models

2. Error detection method
In order to prevent from overcurrent of inverter, if the current exceeds the specifications, it makes the compressor stopping.

3. Condition of error displayed
<ul style="list-style-type: none"> • If the output current of inverter exceeds the specifications, it makes the compressor stopping. • After 3-minute delay, the compressor restarts, but if this anomaly occurs 4 times within 30 minute after the initial detection.

4. Presumable cause
<ul style="list-style-type: none"> • The service valves closed • Faulty power source • Insufficient refrigerant amount • Faulty compressor • Faulty power transistor module

5. Troubleshooting	
Diagnosis	Countermeasure
<pre> graph TD D1{Is the power source voltage OK?} -- NO --> C1[Check power source.] D1 -- YES --> D2{Are the service valves opened?} D2 -- NO --> C2[Open the service valves.] D2 -- YES --> D3{Is the high pressure during operation OK?} D3 -- NO --> C3[Check refrigerant amount and refrigerant circuit. *In case of transitional increase of high pressure and/or test run, several times restarting may recover it, because liquid refrigerant (migrated) in the compressor is discharged from the compressor.] D3 -- YES --> D4{Is the checked result of insulation resistance and resistance between terminals (1) of compressor motor OK?} D4 -- NO --> C4[Replace compressor.] D4 -- YES --> E[To next page.] </pre>	<p>Check power source.</p> <p>Open the service valves.</p> <p>Check refrigerant amount and refrigerant circuit. *In case of transitional increase of high pressure and/or test run, several times restarting may recover it, because liquid refrigerant (migrated) in the compressor is discharged from the compressor.</p> <p>Replace compressor.</p>

Note:

Error code Remote control: E42	LED	Green	Red	Content Current cut (2/2)
	Indoor	Keeps flashing	Stays OFF	
	Outdoor unit control PCB	Keeps flashing	1-time flash	

1. Applicable model
All models

2. Error detection method
In order to prevent from overcurrent of inverter, if the current exceeds the specifications, it makes the compressor stopping.

3. Condition of error displayed
<ul style="list-style-type: none"> • If the output current of inverter exceeds the specifications, it makes the compressor stopping. • After 3-minute delay, the compressor restarts, but if this anomaly occurs 4 times within 30 minute after the initial detection.

4. Presumable cause
<ul style="list-style-type: none"> • Defective outdoor unit main PCB • Faulty power source • Insufficient refrigerant amount • Faulty compressor • Faulty power transistor module

5. Troubleshooting	
Diagnosis	Countermeasure

Note:

Error code Remote control: E47	LED	Green	Red	Content Control PCB A/F module anomaly (Models FDC100-140VNA-W only)
	Indoor unit control PCB	Keeps flashing	Stays OFF	
	Outdoor unit control PCB	Keeps flashing	1-time flash	

1. Applicable model
Models FDC100-140VNA-W

2. Error detection method
In order to avoid an unexpected trouble, if the protective circuit defect unexpected voltage, current and movement of the power element, it makes the compressor stopping.

3. Condition of error displayed
<ul style="list-style-type: none"> • If the A/F anomaly occurs, it makes the compressor stopping. • After 3-minute delay, the compressor restarts if this anomaly occurs 4 times within 30 minutes or continues for 15 minutes continuously.

4. Presumable cause
<ul style="list-style-type: none"> • Defective main PCB • Defective reactor PCB

5. Troubleshooting	
Diagnosis	Countermeasure
<pre> graph TD A{Is the power source voltage OK?} -- NO --> B[Check power source.] A -- YES --> C{Are wires connected properly between the reactor PCB (PCB7) and the control PCB (PCB1)?} C -- NO --> D[Correct wires.] C -- YES --> E[Change the control PCB (PCB1)] E --> F{Does it become normal?} F -- NO --> G[Change the reactor PCB (PCB7) and the connection wire between the reactor PCB (PCB7) and the control PCB (PCB1).] F -- YES --> H[] </pre>	

Note:

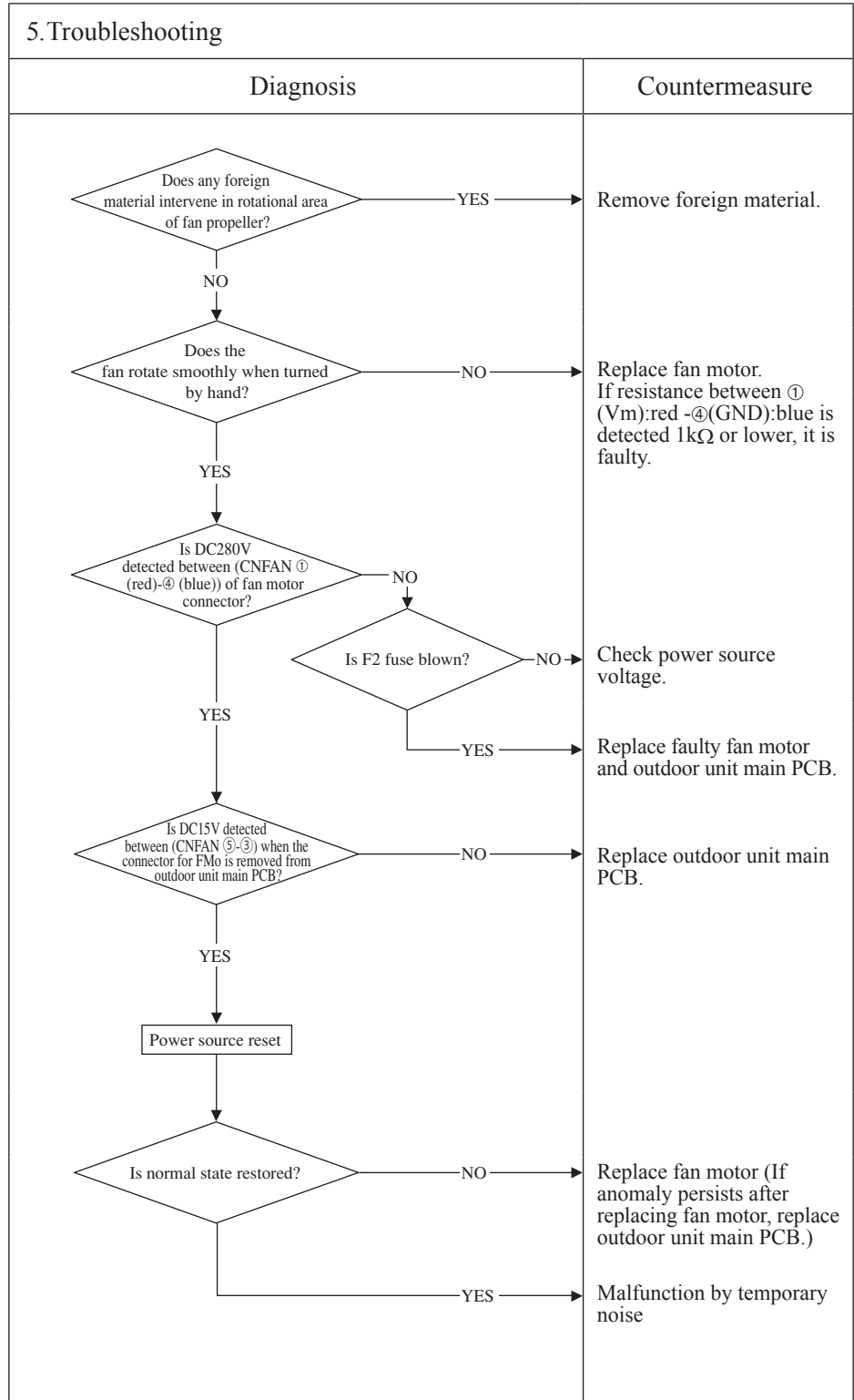
Error code	LED	Green	Red	Content
Remote control: E48	Indoor unit control PCB	Keeps flashing	Stays OFF	Outdoor fan motor anomaly
	Outdoor unit control PCB	Keeps flashing	1-time flash	

1. Applicable model
All models

2. Error detection method
Detected by rotation speed of outdoor fan motor

3. Condition of error displayed
When actual rotation speed of outdoor fan motor (FMo1) drops to 100min ⁻¹ or lower for 30 minutes continuously, the compressor and the outdoor fan motor stop. After 3-minute delay, it starts again automatically, but if this anomaly occurs 5 times within 60 minutes after the initial detection.

4. Presumable cause
<ul style="list-style-type: none"> • Defective outdoor unit main PCB • Foreign material at rotational area of fan propeller • Defective fan motor • Dust on outdoor unit main PCB • Blow fuse • External noise, surge



Note: When E48 error occurs, in almost cases F2 fuse (4A) on the outdoor unit main PCB is blown. There are a lot of cases that fuse is blown and E48 occurs due to defective fan motor. And even though only the outdoor unit main PCB (or fuse) is replaced, another trouble (*1) could occur. Therefore when fuse is blown, check whether the fan motor is OK or not.
 After confirming the fan motor normal, check by power ON. (Don't power ON without confirming the fan motor normal.)
 *1 The error which does not seem to relate E48 may occur like as "WAIT", Stay OFF of LED on outdoor unit main PCB, inverter communication error (E45) and etc.

Error code	LED	Green	Red	Content
Remote control: E49	Indoor unit control PCB	Keeps flashing	Stays OFF	Low pressure error (1/2)
	Outdoor unit control PCB	Keeps flashing	1-time flash	

1. Applicable model
All models

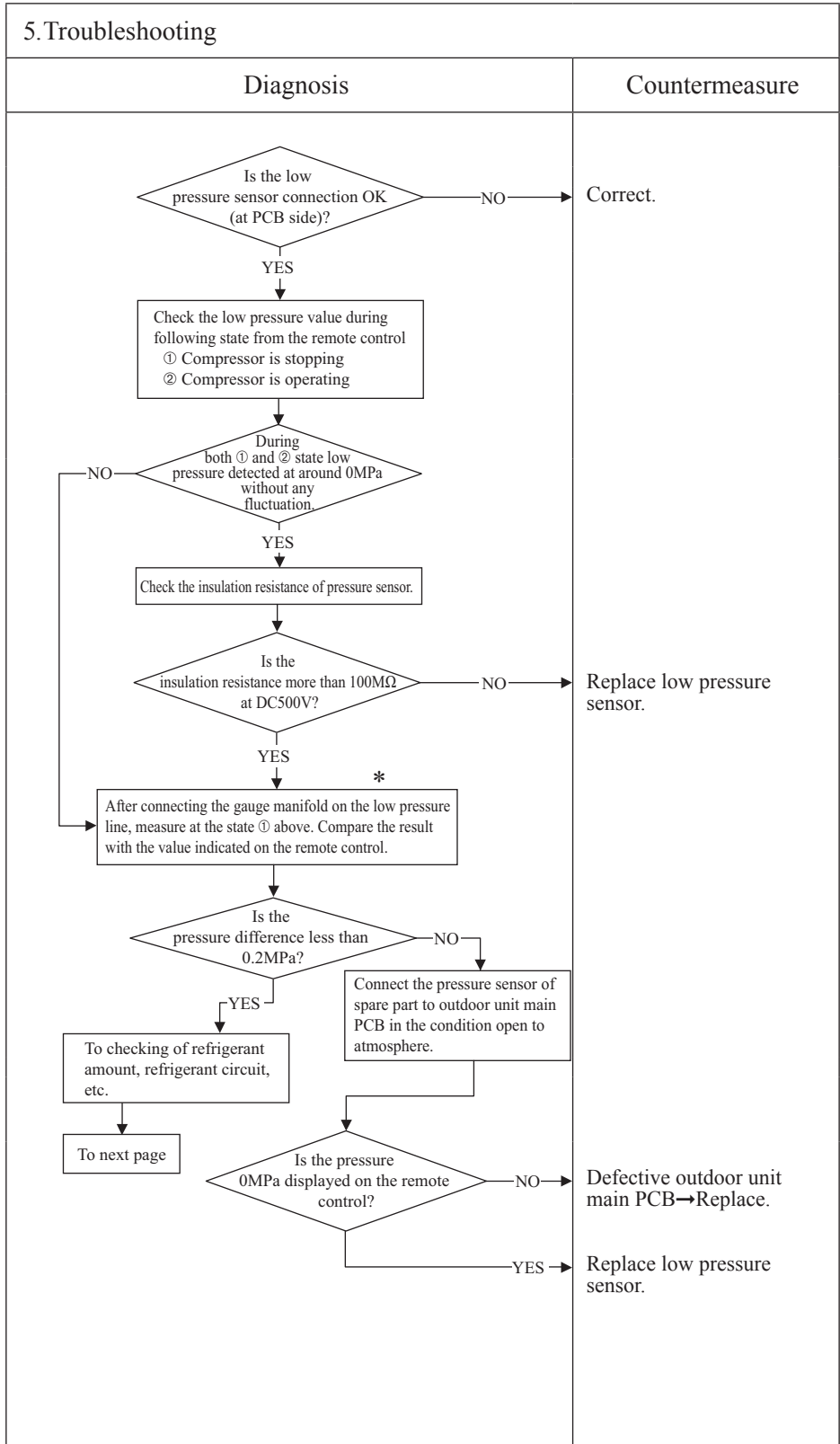
2. Error detection method
Detected by low pressure drop and suction superheat

3. Condition of error displayed

- ① When the low pressure sensor detects 0.079MPa or lower for 15 seconds continuously, compressor stops and it restarts automatically after 3-minute delay. And if this anomaly occurs 5 times within 60 minutes.
- ② 10 minutes after the compressor starts, if the low pressure sensor detects 0.15MPa or lower for 60 minutes continuously and compressor suction superheat is detected 30degC or higher for 60 seconds continuously. And if this anomaly occurs 5 times within 60 minutes.
- ③ If low pressure sensor detects 0.079MPa or lower for 5 minutes continuously (including the compressor stop status).

4. Presumable cause

- Defective outdoor unit main PCB
- Defective low pressure sensor connector
- Defective low pressure sensor
- Defective suction pipe temperature sensor connector
- Defective suction pipe temperature sensor



Note: * Connect the gauge manifold to the service valve check joint during cooling, or connect it to the check joint at internal piping of outdoor unit during heating.

Error code	LED	Green	Red	Content
Remote control: E49	Indoor unit control PCB	Keeps flashing	Stays OFF	
	Outdoor unit control PCB	Keeps flashing	1-time flash	
				Low pressure error (2/2)

1.Applicable model
All models

2.Error detection method

3.Condition of error displayed

4.Presumable cause

5.Troubleshooting	
Diagnosis	Countermeasure
<pre> graph TD Start[From previous page] --> D1{Is the service valve fully opened?} D1 -- NO --> C1[Open fully.] D1 -- YES --> D2{Are the connections of low pressure sensor and suction pipe temperature sensor connector OK?} D2 -- NO --> C2[Correct.] D2 -- YES --> D3{Are the characteristics of low pressure sensor, suction pipe temperature sensor OK?} D3 -- NO --> C3["Defective low pressure sensor, suction pipe temperature sensor -> Replace."] D3 -- YES --> D4{Is the low pressure normal during operation?} D4 -- NO --> C4[Charge refrigerant.] D4 -- YES --> C5["Defective outdoor unit main PCB -> Replace. (Defective low pressure sensor, suction pipe temperature sensor circuits)"] </pre>	

Note:

Error code	LED	Green	Red	Content
Remote control: E51	Indoor unit control PCB	Keeps flashing	Stays OFF	Inverter and fan motor anomaly
	Outdoor unit control PCB	Keeps flashing	1-time flash	

1. Applicable model	5. Troubleshooting	
All models	Diagnosis	Countermeasure
2. Error detection method	<ul style="list-style-type: none"> • Models FDC100-140VNA-W/VSA-W Replace immediately the main PCB. 	
When power transistor anomaly is detected for 15 minutes continuously		
3. Condition of error displayed		
Same as above		
4. Presumable cause		
<ul style="list-style-type: none"> • Outdoor fan motor anomaly • Outdoor unit main PCB anomaly 		

Note:

Error code	LED	Green	Red	Content
Remote control: E53	Indoor unit control PCB	Keeps flashing	Stays OFF	Suction pipe temperature sensor anomaly
	Outdoor unit control PCB	Keeps flashing	1-time flash	

1. Applicable model

All models

2. Error detection method

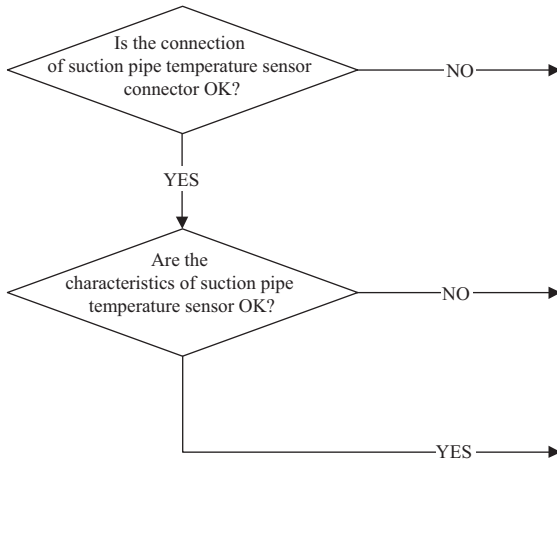
When the suction pipe temperature sensor detects anomalously low temperature

3. Condition of error displayed

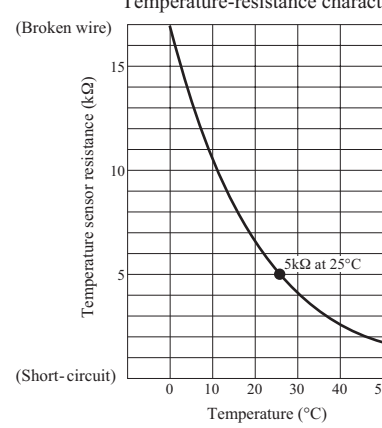
If the temperature sensor detects -50°C or lower for 5 seconds continuously within 10 minutes to 10 minutes 20 seconds after compressor ON, the compressor stops. When the compressor is restarted automatically after 3-minute delay, if this anomaly occurs 3 times within 40 minute.

- 4. Presumable cause**
- Defective suction pipe temperature sensor connection
 - Defective suction pipe temperature sensor
 - Defective outdoor unit main PCB

5. Troubleshooting

Diagnosis	Countermeasure
 <pre> graph TD Q1{Is the connection of suction pipe temperature sensor connector OK?} Q2{Are the characteristics of suction pipe temperature sensor OK?} C1[Correct connection of suction pipe temperature sensor connector.] C2[Defective suction pipe temperature sensor -> Replace.] C3[Defective outdoor unit main PCB -> Replace. (Defective suction pipe temperature sensor input circuit)] Q1 -- NO --> C1 Q1 -- YES --> Q2 Q2 -- NO --> C2 Q2 -- YES --> C3 </pre>	

Temperature-resistance characteristics



Temperature (°C)	Temperature sensor resistance (kΩ)
0	15
10	10
20	6
25	5
30	4
40	3
50	2

Note:

Error code Remote control: E54	LED	Green	Red	Content Low pressure sensor anomaly
	Indoor unit control PCB	Keeps flashing	Stays OFF	
	Outdoor unit control PCB	Keeps flashing	1-time flash	

1. Applicable model
All models

2. Error detection method
When anomalous voltage (pressure) is detected

3. Condition of error displayed
If the pressure sensor detects DC0V or lower and DC4.0V or higher for 5 seconds continuously within 2 minutes to 2 minutes 20 seconds after compressor ON, the compressor stops. When the compressor is restarted automatically after 3-minute delay, if this anomaly occurs 3 times within 40 minutes.

4. Presumable cause
<ul style="list-style-type: none"> • Defective low pressure sensor connection • Defective low pressure sensor • Defective outdoor unit main PCB • Improper amount of refrigerant • Anomalous refrigeration circuit

5. Troubleshooting	
Diagnosis	Countermeasure
<pre> graph TD Q1{Are the connection of low pressure sensor connectors (at sensor side and PCB side) OK?} Q2{Are the pressure (actual measurement) matched with the value indicated on the remote control?} P1[Replace the low pressure sensor.] Q3{Is normal condition restored?} Q1 -- NO --> C1[Correct low pressure sensor connector connection.] Q1 -- YES --> Q2 Q2 -- YES --> C2[Is refrigerant amount charged properly? Is there any anomaly on the refrigeration circuit?] Q2 -- NO --> P1 P1 --> Q3 Q3 -- NO --> C3[Defective outdoor unit main PCB → Replace. (Defective low pressure sensor input circuit)] Q3 -- YES --> C4[OK] </pre>	

Note:

Error code	LED	Green	Red	Content
Remote control: E57	Indoor unit control PCB	Keeps flashing	Stays OFF	Insufficient refrigerant amount or detection of service valve closure
	Outdoor unit control PCB	Keeps flashing	1-time flash	

1.Applicable model
All models

2. Error detection method
<ul style="list-style-type: none"> • Judge insufficient refrigerant amount by detecting the temperature difference between indoor heat exchanger (Thi-R) and indoor return air (Thi-A). • It detects at initial startup in cooling or dehumidifying mode after power ON.

3. Condition of error displayed
Anomalous stop at initial detection

4. Presumable cause
<ul style="list-style-type: none"> • Defective indoor heat exchanger temperature sensor • Defective indoor return air temperature sensor • Defective indoor unit main PCB • Insufficient refrigerant amount

5. Troubleshooting

Diagnosis	Countermeasure
	<p>Open fully.</p> <p>Correct indoor heat exchanger, return air temperature sensor connector connections.</p> <p>Defective indoor heat exchanger, return air temperature sensor → Replace.</p> <p>Charge refrigerant.</p> <p>Defective indoor unit control PCB → Replace. (Defective indoor heat exchanger, return air temperature sensor input circuits)</p>

Indoor heat exchanger, return air temperature sensor
Temperature-resistance characteristics

(Broken wire)

(Short-circuit)

Note: Insufficient refrigerant amount preventive control makes compressor stopped, if it judges insufficient refrigerant amount by detecting the temperature difference between indoor heat exchanger (Thi-R) and return air temperature (Thi-A) for 1 minute after compressor ON in cooling or dehumidifying mode and for 9 minutes after compressor ON in heating mode. [in cooling mode: (Thi-A)-(Thi-R)>4degC, in heating mode: (Thi-R)-(Thi-A)<4degC]

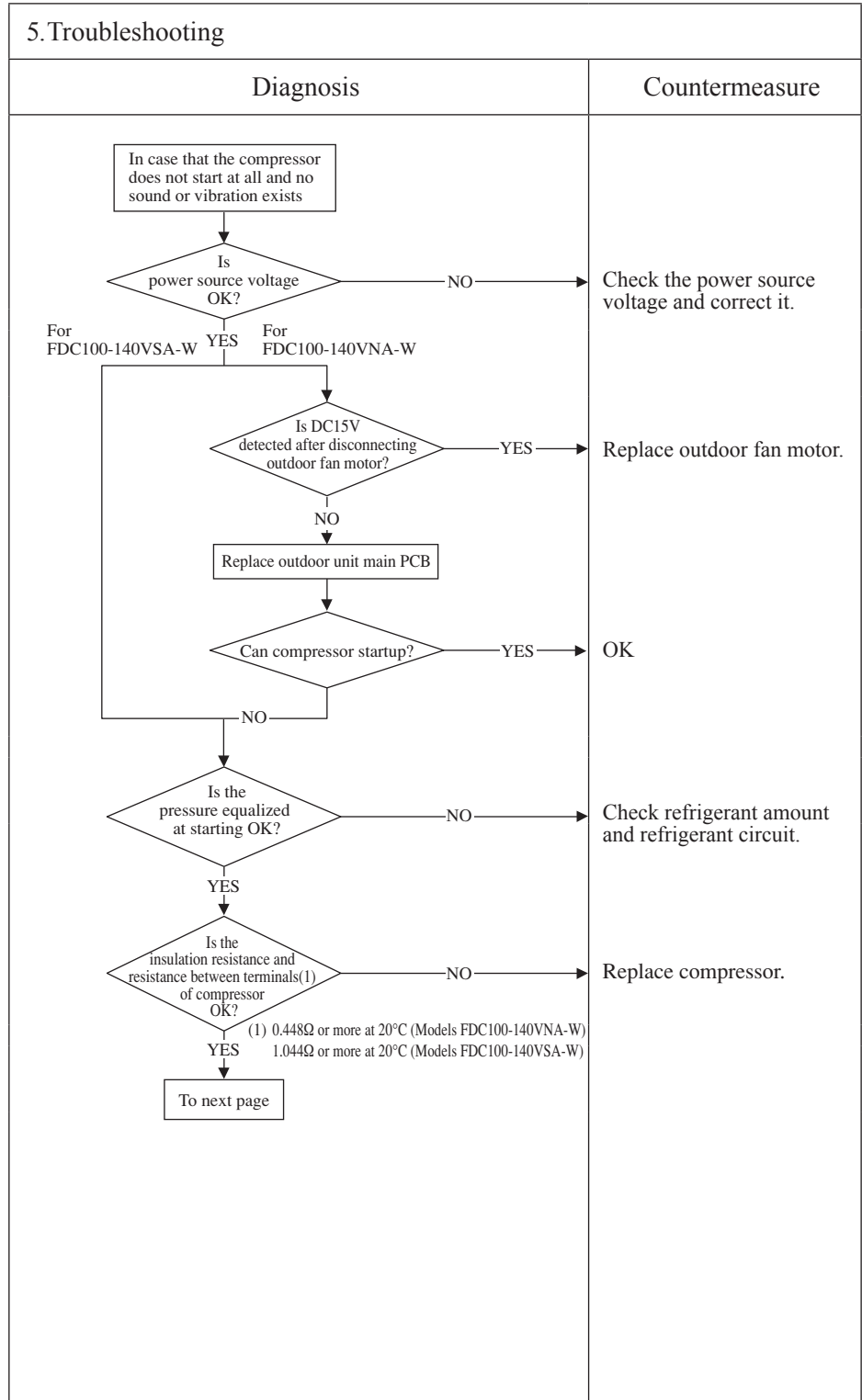
Error code Remote control: E59	LED	Green	Red	Content Compressor startup failure (1/2)
	Indoor unit control PCB	Keeps flashing	Stays OFF	
	Outdoor unit control PCB	Keeps flashing	5-time flash	

1.Applicable model
All models

2. Error detection method
When it fails to change over to the operation for rotor position detection of compressor motor

3. Condition of error displayed
If the compressor fails to startup for 20 times (10 patterns x2 times) continuously.

4. Presumable cause
<ul style="list-style-type: none"> • Outdoor fan motor anomaly • Outdoor unit main PCB anomaly • Anomalous power source voltage • Insufficient or excessive refrigerant amount • Faulty component for refrigerant circuit • Compressor anomaly (Motor or bearing)



Note: Insulation resistance

- The unit is left for long period without power source or soon after installation, insulation resistance may decrease to several MΩ or lower due to the liquid refrigerant migrated in the refrigerant oil in compressor. If the electric leakage breaker is activated due to low insulation resistance, check followings.
 - ① Check whether the insulation resistance can recover or not, after 6 hours has passed since power ON.
(By energize the crankcase heater, liquid refrigerant migrated in the refrigerant oil in compressor can be evaporated)
 - ② Check whether the electric leakage breaker conforms to high-harmonic specifications
(As inverter PAC units has inverter, in order to prevent from improper operation, be sure to use the breaker of high-harmonic type)

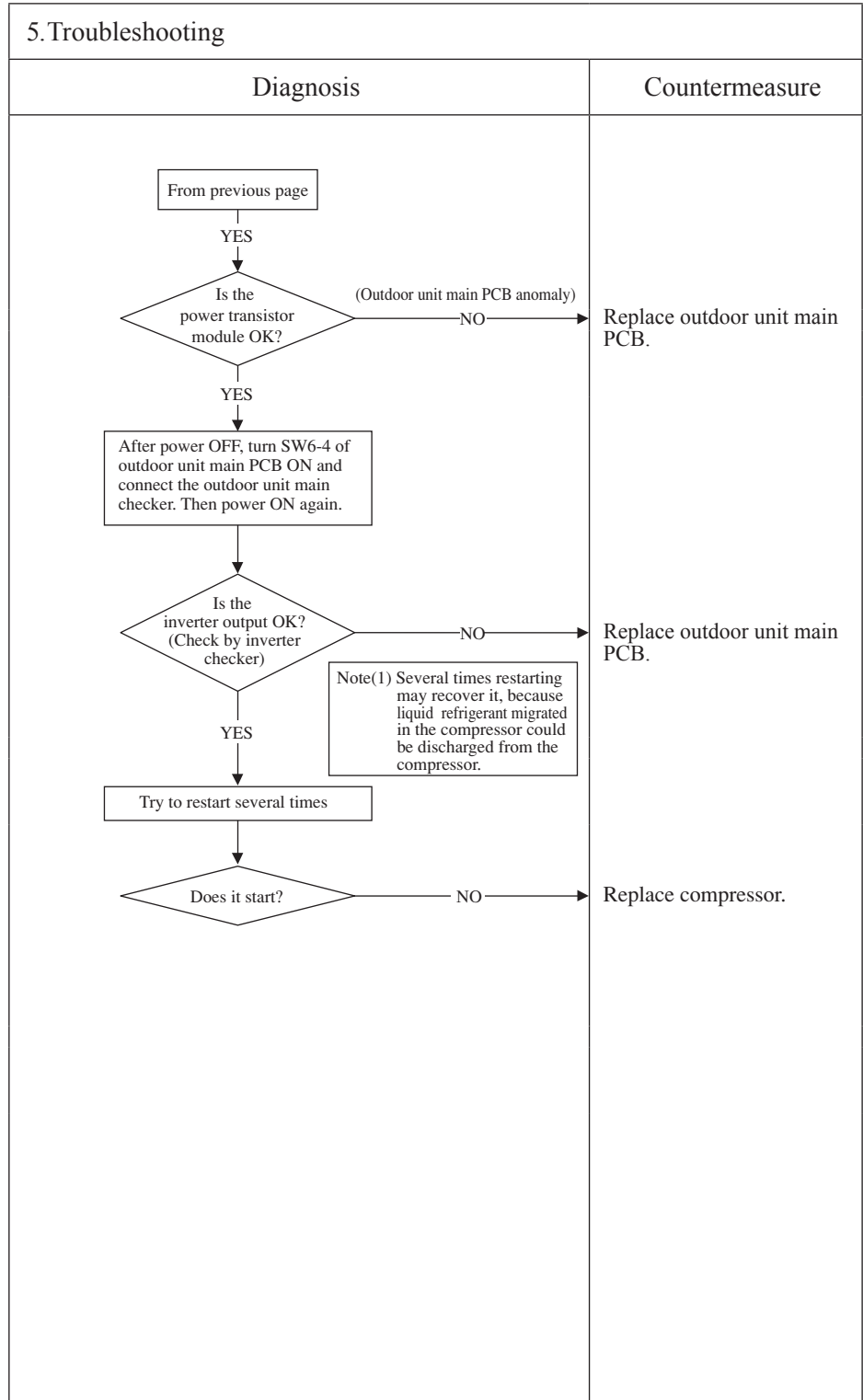
Error code	LED	Green	Red	Content
Remote control: E59	Indoor unit control PCB	Keeps flashing	Stays OFF	Compressor startup failure (2/2)
	Outdoor unit control PCB	Keeps flashing	5-time flash	

1.Applicable model
All models

2. Error detection method
When it fails to change over to the operation for rotor position detection of compressor motor

3. Condition of error displayed
If the compressor fails to startup for 20 times (10 patterns x2 times) continuously.

4. Presumable cause
<ul style="list-style-type: none"> • Outdoor fan motor anomaly • Outdoor unit main PCB anomaly • Anomalous power source voltage • Insufficient or excessive refrigerant amount • Faulty component for refrigerant circuit • Compressor anomaly (Motor or bearing)



Note:

(b) SRK series

Error code Remote control: None	Indoor display	RUN light —	TIMER light —	Content Operates but does not cool
	Outdoor unit control PCB	Green LED	Red LED	
		Keeps flashing	Stays OFF	

1. Applicable model
All models
2. Error detection method
3. Condition of error displayed
4. Presumable cause
<ul style="list-style-type: none"> Poor compression of compressor Faulty expansion valve operation

5. Troubleshooting	Countermeasure
Diagnosis	
<p>Check the indoor unit fan operation. Check the temperature difference between return and supply air.</p> <p>Is the temperature difference between return and supply air 10-20°C at cooling?</p> <p>NO</p> <p>Is the compressor operating?</p> <p>NO</p> <p>Does the heat load increase after installation?</p> <p>NO</p> <p>Mistake in model selection. Calculate heat load once more.</p> <p>Is the compressor rotation speed low?</p> <p>NO</p> <p>Check which control "Determination control of compressor rotation speed" or "Protective control by controlling compressor rotation speed" is appropriate to this phenomenon.</p> <p>Are the temperature conditions of room and outdoor air close to the rated conditions? (1)</p> <p>NO</p> <p>The unit is operating normally but is operating under the control for protecting compressor or other respective parts.</p> <p>Note (1) Outdoor: 35°C, Indoor: 27°C</p>	<p>It is normal. (This unit is designed to start in the soft start mode by detecting the under dome temperature of compressor when it restart after power reset.)</p> <p>It is necessary to replace to higher capacity one or to install additional unit.</p> <p>Compressor refrigerant oil protection control at starting is activated. For the contents of control, refer to the compressor start control of the microcomputer control functions.</p> <p>Compressor may be stopped by the error detection control. For the contents of control, refer to anomalous stop control by controlling compressor rotation speed of microcomputer control functions.</p> <p>Inspect the followings.</p> <ul style="list-style-type: none"> Minor clogging of filter Minor clogging of heat exchanger Minor short-circuit Minor shortage of refrigerant amount Poor compression of compressor <p>Considering appropriate operation control, check suspicious points. Inspect the followings for reference.</p> <ul style="list-style-type: none"> Major clogging of filter Major clogging of heat exchanger Major short-circuit Major shortage of refrigerant amount Compressor protection ON Indoor fan tap Valid setting of silent mode

Note:

Error code Remote control: None	Indoor display	RUN light -	TIMER light -	Content Operates but does not heat
	Outdoor unit control PCB	Green LED	Red LED	
		Keeps flashing	Stays OFF	

1. Applicable model
All models
2. Error detection method
3. Condition of error displayed
4. Presumable cause
<ul style="list-style-type: none"> Faulty 4-way valve operation Poor compression of compressor Faulty expansion valve operation

5. Troubleshooting				
<table border="1"> <thead> <tr> <th>Diagnosis</th> <th>Countermeasure</th> </tr> </thead> <tbody> <tr> <td> <p>Check the indoor unit fan operation. Check the temperature difference between return and supply air.</p> <p>Is the temperature difference between return and supply air 10-30°C at heating?</p> <p>NO</p> <p>Is the compressor operating?</p> <p>NO</p> <p>Is the compressor rotation speed low?</p> <p>NO</p> <p>Check which control "Determination control of compressor rotation speed" or "Protective control by controlling compressor rotation speed" is appropriate to this phenomenon.</p> <p>Are the temperature conditions of room and outdoor air close to the rated conditions? (1)</p> <p>NO</p> <p>The unit is operating normally but is operating under the control for protecting compressor or other respective parts.</p> <p>YES</p> <p>Does the heat load increase after installation?</p> <p>NO</p> <p>Mistake in model selection. Calculate heat load once again.</p> <p>NO</p> <p>"WAIT" message is displayed (for 3 seconds) when performing cooling, defrosting and heating operations from the remote control.</p> <p>NO</p> </td> <td> <p>It is normal. (This unit is designed to start in the soft start mode by detecting the under dome temperature of compressor when it restart after power reset.)</p> <p>It is necessary to replace to higher capacity one or to install additional unit.</p> <p>Compressor refrigerant oil protection control at starting is activated. For the contents of control, refer to the compressor start control of the microcomputer control functions.</p> <p>Compressor may be stopped by the error detection control. For the contents of control, refer to anomalous stop control by controlling compressor rotation speed of microcomputer control functions.</p> <p>Inspect the followings.</p> <ul style="list-style-type: none"> Minor clogging of filter Minor clogging of heat exchanger Minor short-circuit Minor shortage of refrigerant amount Poor compression of compressor <p>Considering appropriate operation control, check suspicious points. Inspect the followings for reference.</p> <ul style="list-style-type: none"> Major clogging of filter Major clogging of heat exchanger Major short-circuit Major shortage of refrigerant amount Compressor protection ON Indoor fan tap Valid setting of silent mode </td> </tr> </tbody> </table>	Diagnosis	Countermeasure	<p>Check the indoor unit fan operation. Check the temperature difference between return and supply air.</p> <p>Is the temperature difference between return and supply air 10-30°C at heating?</p> <p>NO</p> <p>Is the compressor operating?</p> <p>NO</p> <p>Is the compressor rotation speed low?</p> <p>NO</p> <p>Check which control "Determination control of compressor rotation speed" or "Protective control by controlling compressor rotation speed" is appropriate to this phenomenon.</p> <p>Are the temperature conditions of room and outdoor air close to the rated conditions? (1)</p> <p>NO</p> <p>The unit is operating normally but is operating under the control for protecting compressor or other respective parts.</p> <p>YES</p> <p>Does the heat load increase after installation?</p> <p>NO</p> <p>Mistake in model selection. Calculate heat load once again.</p> <p>NO</p> <p>"WAIT" message is displayed (for 3 seconds) when performing cooling, defrosting and heating operations from the remote control.</p> <p>NO</p>	<p>It is normal. (This unit is designed to start in the soft start mode by detecting the under dome temperature of compressor when it restart after power reset.)</p> <p>It is necessary to replace to higher capacity one or to install additional unit.</p> <p>Compressor refrigerant oil protection control at starting is activated. For the contents of control, refer to the compressor start control of the microcomputer control functions.</p> <p>Compressor may be stopped by the error detection control. For the contents of control, refer to anomalous stop control by controlling compressor rotation speed of microcomputer control functions.</p> <p>Inspect the followings.</p> <ul style="list-style-type: none"> Minor clogging of filter Minor clogging of heat exchanger Minor short-circuit Minor shortage of refrigerant amount Poor compression of compressor <p>Considering appropriate operation control, check suspicious points. Inspect the followings for reference.</p> <ul style="list-style-type: none"> Major clogging of filter Major clogging of heat exchanger Major short-circuit Major shortage of refrigerant amount Compressor protection ON Indoor fan tap Valid setting of silent mode
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Note:

Error code Remote control: None	Indoor display	RUN light -	TIMER light -	Content Earth leakage breaker activated
	Outdoor unit control PCB	Green LED	Red LED	
		Stays OFF	Stays OFF	

1. Applicable model
All models
2. Error detection method
3. Condition of error displayed
4. Presumable cause
<ul style="list-style-type: none"> • Defective compressor • Noise

5. Troubleshooting	
Diagnosis	Countermeasure
	<p>Replace compressor.*</p> <p>Secure insulation resistance.</p>

Note:

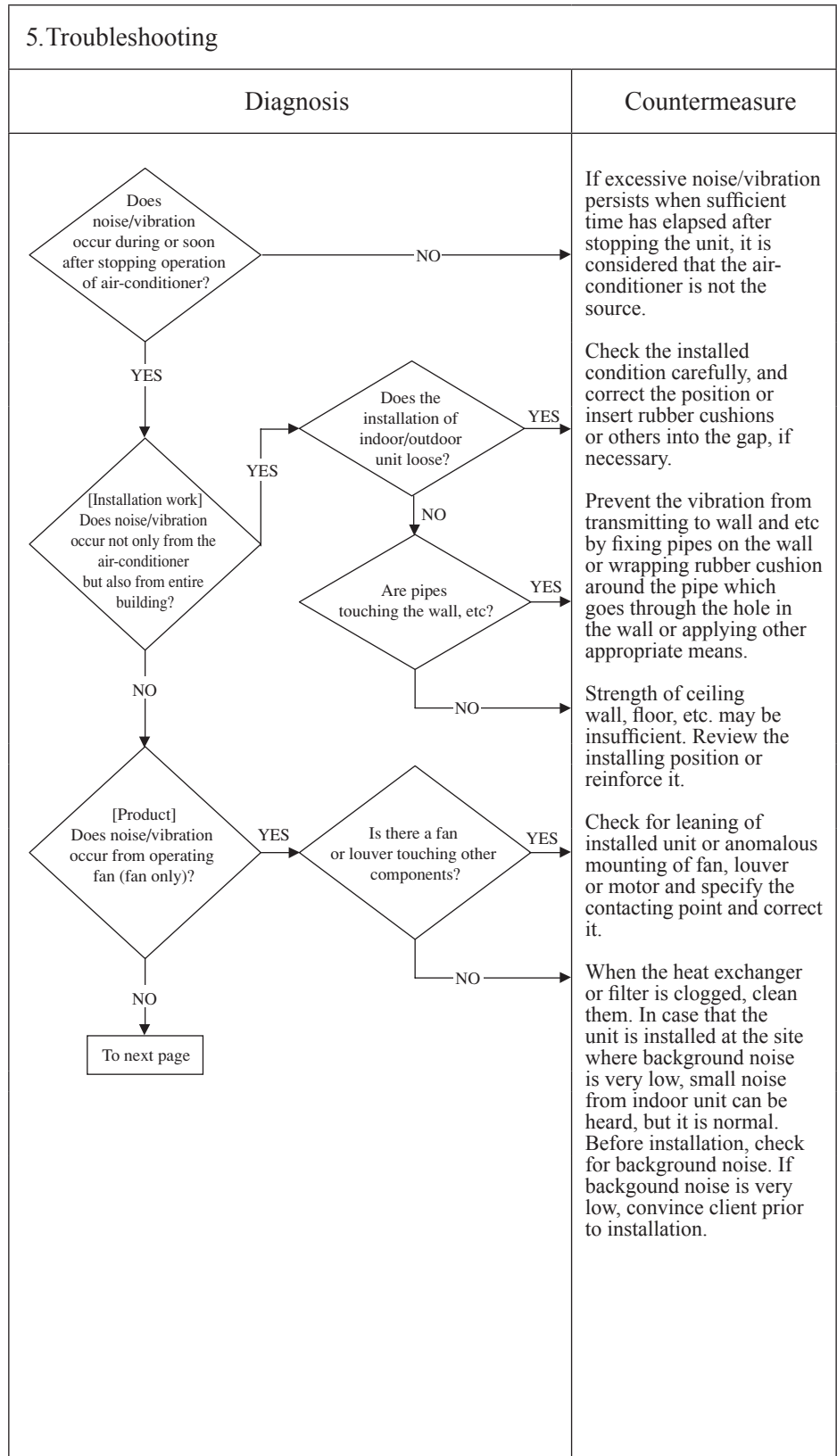
Error code Remote control: None	Indoor display	RUN light -	TIMER light -	Content Excessive noise/vibration (1/3)
	Outdoor unit control PCB	Green LED -	Red LED -	

1. Applicable model
All models

2. Error detection method

3. Condition of error displayed

- 4. Presumable cause**
- ① Improper installation work
 - Improper anti-vibration work at installation
 - Insufficient strength of mounting face
 - ② Defective product
 - Before/after shipping from factory
 - ③ Improper adjustment during commissioning
 - Excess/shortage of refrigerant, etc.



Note:

Error code Remote control: None	Indoor display	RUN light -	TIMER light -	Content Excessive noise/vibration (2/3)
	Outdoor unit control PCB	Green LED -	Red LED -	

1. Applicable model All models
2. Error detection method
3. Condition of error displayed
4. Presumable cause

5. Troubleshooting	
Diagnosis	Countermeasure
<pre> graph TD Start[From previous page] --> D1{[Unit side] Does noise/vibration occur when the cooling/heating operation is performed normally?} D1 -- NO --> Next[To next page] D1 -- YES --> D2{Are the pipes contacting the casing?} D2 -- YES --> C1[Rearrange the piping to avoid contact with the casing.] D2 -- NO --> D3{Is it heard continuous hissing or roaring sound?} D3 -- YES --> C2[It is noise/vibration that is generated when the refrigerant gas or liquid flow through inside of piping of air-conditioner. It is likely to occur particularly during cooling or defrost operation in the heating mode. It is normal.] D3 -- NO --> D4{Are hissing sounds heard at the startup or stopping?} D4 -- YES --> C3[The noise/vibration occurs when the refrigerant starts or stops flowing. It is normal.] D4 -- NO --> D5{Is blowing sound heard at the start/stop of defrost operation during heating?} D5 -- YES --> C4[When the defrost operation starts or stops during heating, the refrigerant flow is reversed due to switching 4-way valve. This causes a large change in pressure which produces a blowing sound. It may accompany also the hissing sounds as mentioned above. They are normal.] D5 -- NO --> D6{Is cracking noise heard during heating operation?} D6 -- YES --> C5[After the start or stop of heating operation or during defrost operation, abrupt changes in temperature cause resin parts to shrink or expand. This is normal.] D6 -- NO --> D7{Hissing noise is heard during cooling operation or after stopping.} D7 -- YES --> C6[It is the sound produced by the drain pump that discharges drain from the indoor unit. The pump continues to run for 5 minutes after stopping the cooling operation. This is normal.] D7 -- NO --> C7[Apply the damper sealant at places considered to be the sources such as the pressure reducing mechanism (expansion valve), capillary, etc.] </pre>	

Note:

Error code Remote control: None	Indoor display	RUN light -	TIMER light -	Content Excessive noise/vibration (3/3)
	Outdoor unit control PCB	Green LED -	Red LED -	

<p>1. Applicable model</p> <p>All models</p>	5. Troubleshooting	
<p>2. Error detection method</p>	Diagnosis	Countermeasure
<p>3. Condition of error displayed</p>	<pre> graph TD A[From previous page] --> B{Adjustment during commissioning Does noise/vibration occur when the cooling/heating operation is in anomalous condition?} B -- YES --> C[Countermeasure] </pre>	
<p>4. Presumable cause</p>	<p>If insufficient cooling/heating problem happens due to anomalous operating conditions at cooling/heating, followings are suspicious.</p> <ul style="list-style-type: none"> • Overcharge of refrigerant • Insufficient charge of refrigerant • Intrusion of air, nitrogen, etc. <p>In such occasion, it is necessary to recover refrigerant, vacuum-dry and recharge refrigerant.</p> <p>* Since there could be many causes of noise/vibration, the above do not cover all. In such case, check the conditions when, where, how the noise/vibration occurs according to following check point.</p> <ul style="list-style-type: none"> • Indoor/outdoor unit • Cooling/heating/fan mode • Startup/stop/during operation • Operating condition (Indoor/outdoor temperatures, pressure) • Time it occurred • Operation data retained by the remote control such as compressor rotation speed, heat exchanger temperature, EEV opening degree, etc. • Tone (If available, record the noise) • Any other anomalies 	

Note:

Error code Remote control: None	Indoor display	RUN light -	TIMER light -	Content <h2>Louver motor failure</h2>
	Outdoor unit control PCB	Green LED Keeps flashing	Red LED Stays OFF	

1. Applicable model
All models

2. Error detection method

3. Condition of error displayed

4. Presumable cause
<ul style="list-style-type: none"> • Defective LM • LM wire breakage • Faulty indoor unit control PCB

5. Troubleshooting	
Diagnosis	Countermeasure
<p>▲ Check at the indoor unit side.</p> <pre> graph TD Start[Operate after waiting for more than 1 minute.] --> Q1{Does the louver operate at the power on?} Q1 -- NO --> Q2{Is LM wiring broken?} Q2 -- YES --> C1[Repair wiring.] Q2 -- NO --> Q3{Is LM locked?} Q3 -- NO --> C2[Defective indoor unit control PCB → Replace.] Q3 -- YES --> C3[Replace LM.] Q1 -- YES --> Q4{Is the louver operable with the remote control?} Q4 -- YES --> C4[Normal] Q4 -- NO --> C5[Adjust LM lever and then check again.] </pre> <p style="text-align: center;">LM: louver motor</p>	

Note:

Error code Remote control: None	Indoor display	RUN light -	TIMER light -	Content Power source system error (Power source to indoor unit control PCB)
	Outdoor unit control PCB	Green LED Stays OFF	Red LED 2-time flash	

1. Applicable model
All models

2. Error detection method

3. Condition of error displayed

4. Presumable cause
<ul style="list-style-type: none"> • Misconnection or breakage of connecting wires • Blown fuse • Faulty indoor unit control PCB • Broken harness • Faulty outdoor unit main PCB (Noise filter)

5. Troubleshooting	
Diagnosis	Countermeasure
<pre> graph TD D1{Is AC220/240V detected between 1 and 2 on the terminal block of indoor unit?} D2{Are fuse OK (250V 3.15A)?} D3{Is AC380/415V for 3-phase unit detected between 1, 2 and 3 on the terminal block of outdoor unit or is AC220/240V for 1-phase unit detected between 1 and 2 on the terminal block of outdoor unit?} D1 -- YES --> D2 D1 -- NO --> D3 D2 -- YES --> C1[Defective indoor unit control PCB → Replace.] D2 -- NO --> C2[Replace fuse.] D3 -- YES --> C3[Misconnection or breakage of connecting wires] D3 -- NO --> C4[Defective outdoor unit main PCB (Noise filter)] </pre>	

Note:

Error code Remote control: None	Indoor display	RUN light -	TIMER light -	Content Power source system error (Power source to remote control)
	Outdoor unit control PCB	Green LED Keeps flashing	Red LED Stays OFF	

1. Applicable model
All models
2. Error detection method
3. Condition of error displayed
4. Presumable cause
<ul style="list-style-type: none"> • Remote control wire breakage/short-circuit • Defective remote control • Malfunction by noise • Broken harness • Faulty indoor unit control PCB • Faulty interface kit

5. Troubleshooting	
Diagnosis	Countermeasure
<pre> graph TD D1{Isn't there any loose connection of remote control wires?} -- YES --> C1[Correct.] D1 -- NO --> D2{Isn't remote control wire broken or short-circuited?} D2 -- YES --> C2[Replace wires.] D2 -- NO --> P1[Disconnect remote control wires.] P1 --> D3{Is DC15V or higher detected between X-Y of interface kit terminal block?} D3 -- YES --> C3[Replace remote control.] D3 -- NO --> P2[Disconnect connecting wires.] P2 --> D4{Is DC15V or higher detected between X-Y of indoor unit terminal block?} D4 -- YES --> C4[Replace interface kit.] D4 -- NO --> C5[Defective indoor unit control PCB -> Replace.] </pre>	

Note:

Error code Remote control: None	Indoor display	RUN light Stays OFF	TIMER light Keeps flashing	Content Limit switch anomaly
	Outdoor unit control PCB	Green LED Keeps flashing	Red LED Stays OFF	

1. Applicable model
All models

2. Error detection method
The limit switch operates when the indoor unit is stopped.

3. Condition of error displayed
Same as above

4. Presumable cause
<ul style="list-style-type: none"> • Defective limit switch • Faulty indoor unit control PCB

5. Troubleshooting	
Diagnosis	Countermeasure
<pre> graph TD Q1{Is the inlet panel set correctly?} -- NO --> C1[Correction, re-set] Q1 -- YES --> Q2{Are limit switch OK? (1)} Q2 -- NO --> C2[Defective limit switch -> Replace.] Q2 -- YES --> C3[Defective indoor unit control PCB -> Replace. (Defective limit switch input circuit)] </pre>	
<p>Note (1) Check the operation of limit switch by checking if the error can be rest or not by pushing the limit switch by finger when the inlet panel is removed.</p>	

Note:

Error code Remote control: INSPECT I/U	Indoor display	RUN light -	TIMER light -	Content INSPECT I/U (When 1 or 2 remote controls are connected)
	Outdoor unit control PCB	Green LED	Red LED	
		Keeps flashing	2-time flash	

1. Applicable model
All models
2. Error detection method
Communication between indoor unit and remote control is disabled for more than 30 minutes after the power on.
3. Condition of error displayed
Same as above
4. Presumable cause
<ul style="list-style-type: none"> • Improper setting • Surrounding environment • Defective remote control communication circuit • Faulty interface kit PCB

5. Troubleshooting	
Diagnosis	Countermeasure
<pre> graph TD Q1{Are 2 units of remote control connected?} Q2{Is it set at the slave remote control?} Q3{Do more than one interface kit have the same address?} Q4{Are remote control wires laid along high voltage wires?} Q5{Is approx. DC20V detected between ②-③ on the interface kit terminal block?} Q6{Is approx. DC20V detected between ②-③ on the remote control terminal block?} Q1 -- YES --> S1[Set one remote control for "Master" and the other for "Slave"] S1 --> Q2 Q1 -- NO --> Q2 Q2 -- YES --> C1[Set SW1 on remote control PCB at "Master".] Q2 -- NO --> Q3 S1 --> Q3 Q3 -- YES --> C2[Set address again. (SW3 on interface kit PCB)] Q3 -- NO --> Q4 Q4 -- YES --> C3[Separate remote control wires from high voltage wires.] Q4 -- NO --> Q5 Q5 -- YES --> C4[Defective interface kit PCB -> Replace.] Q5 -- NO --> Q6 Q6 -- YES --> C5[Defective remote control PCB -> Replace.] Q6 -- NO --> C6[Broken connecting wire -> Correct.] </pre>	

Note: If any error is detected 30 minutes after displaying “WAIT” on the remote control, the display changes to “INSPECT I/U”.

Error code Remote control: INSPECT I/U	Indoor display	RUN light -	TIMER light -	Content INSPECT I/U (Connection of 3 units or more remote control)
	Outdoor unit control PCB	Green LED	Red LED	
		Keeps flashing	2-time flash	

1. Applicable model
All models
2. Error detection method
Indoor unit cannot communicate for more than 30 minutes after the power on with remote control.
3. Condition of error displayed
Same as above
4. Presumable cause
<ul style="list-style-type: none"> • Improper setting • Surrounding environment • Defective remote control communication circuit • Faulty indoor unit control PCB • Faulty outdoor unit main PCB • Faulty interface kit PCB

5. Troubleshooting	
Diagnosis	Countermeasure

Note: If any error is detected 30 minutes after displaying “WAIT” on the remote control, the display changes to “INSPECT I/U”.

Error code Remote control: 🏠WAIT🏠	Indoor display	RUN light -	TIMER light -	Content Communication error at initial operation (1/3)
	Outdoor unit control PCB	Green LED Keeps flashing	Red LED 2-time flash	

1. Applicable model
All models

2. Error detection method

3. Condition of error displayed

4. Presumable cause
<ul style="list-style-type: none"> • Faulty indoor unit control PCB • Defective remote control • Broken remote control wire • Faulty outdoor unit main PCB • Broken connection wires

5. Troubleshooting	
Diagnosis	Countermeasure
<pre> graph TD Start[“WAIT” is still displayed on the remote control LED 2 minutes after power ON.] --> D1{Is the outdoor unit control green LED flashing?} D1 -- NO --> NextPage[To next page] D1 -- YES --> D2{Is the outdoor unit control red LED flashing twice?} D2 -- NO --> C1[Defective indoor unit control PCB -> Replace. Defective remote control -> Replace. Broken remote control wire Y -> Replace.] D2 -- YES --> D3{Are wires connected properly between indoor/outdoor units?} D3 -- NO --> C2[Correct connection wires between indoor and outdoor units.] D3 -- YES --> D4{Is approx. DC20V detected between ②-③ on the outdoor unit terminal block?} D4 -- NO --> C3[Defective outdoor unit main PCB -> Replace.] D4 -- YES --> D5{Is approx. DC20V detected between ②-③ on the indoor unit terminal block?} D5 -- YES --> C4[Defective indoor unit control PCB -> Replace.] D5 -- NO --> C5[Defective connection wire (Broken) Noise] </pre>	<p>Defective indoor unit control PCB → Replace. Defective remote control → Replace. Broken remote control wire Y → Replace.</p> <p>Correct connection wires between indoor and outdoor units.</p> <p>Defective outdoor unit main PCB → Replace.</p> <p>Defective connection wire (Broken) Noise</p> <p>Defective indoor unit control PCB → Replace.</p>

Note:

Error code Remote control: 🏠 WAIT 🏠	Indoor display	RUN light -	TIMER light -	Content Communication error at initial operation (2/3)
	Outdoor unit control PCB	Green LED Keeps flashing	Red LED 2-time flash	

1. Applicable model
All models

2. Error detection method

3. Condition of error displayed

4. Presumable cause
<ul style="list-style-type: none"> • Faulty noise filter • Faulty indoor unit control PCB • Faulty outdoor unit main PCB • Faulty fan motor

5. Troubleshooting				
<table border="1"> <thead> <tr> <th>Diagnosis</th> <th>Countermeasure</th> </tr> </thead> <tbody> <tr> <td> <p>Diagnosis for when the outdoor unit main PCB LED is turned off</p> <pre> graph TD Start[From previous page] --> Step1[Shut down the breaker and back on again the breaker 3 minutes later.] Step1 --> Dec1{Does it reset normally?} Dec1 -- YES --> C1[Normal (Malfunction by noise)] Dec1 -- NO --> Dec2{Isn't the outdoor unit control power source fuse (30A) blown?} Dec2 -- NO --> Note1[Note (1) 1-phase model only] Note1 --> Dec2 Dec2 -- NO --> Step2[To check method for inverter PCB before replacment of blown power source fuse.] Step2 --> Dec3{Is AC220/240V or AC380/415V detected at the noise filter secondary side?} Dec3 -- NO --> C2[Replace noise filter.] Dec3 -- YES --> Dec4{Is DC255-310V detected at CNA2?} Dec4 -- NO --> C3[Check connection of diode stack and electrolytic capacitor by referring main electrical circuit diagram] Dec4 -- YES --> Dec5{Isn't fuse (250V, 2A) on the outdoor unit main PCB blown?} Dec5 -- NO --> C4[Defective outdoor unit main PCB→Replace.] Dec5 -- YES --> Dec6{Is DC5V detected on the outdoor unit main PCB (Between ①-② of CNV)?} Dec6 -- NO --> C5[Defective outdoor unit main PCB→Replace.] Dec6 -- YES --> Dec7{Is DC5V detected if the connector of outdoor fan motor is disconnected?} Dec7 -- NO --> C6[Defective outdoor fan motor] Dec7 -- YES --> Dec8{Is DC5V detected if the inverter power source connector (CN2) is disconnected?} Dec8 -- NO --> C7[Defective outdoor unit main PCB→Replace.] Dec8 -- YES --> C8[Defective outdoor unit main PCB→Replace.] </pre> </td> <td> <p>Normal (Malfunction by noise)</p> <p>Replace noise filter.</p> <p>Check connection of diode stack and electrolytic capacitor by referring main electrical circuit diagram</p> <p>Defective outdoor unit main PCB→Replace.</p> <p>Defective outdoor unit main PCB→Replace.</p> <p>Defective outdoor fan motor</p> <p>Defective outdoor unit main PCB→Replace.</p> <p>Defective outdoor unit main PCB→Replace.</p> </td> </tr> </tbody> </table>	Diagnosis	Countermeasure	<p>Diagnosis for when the outdoor unit main PCB LED is turned off</p> <pre> graph TD Start[From previous page] --> Step1[Shut down the breaker and back on again the breaker 3 minutes later.] Step1 --> Dec1{Does it reset normally?} Dec1 -- YES --> C1[Normal (Malfunction by noise)] Dec1 -- NO --> Dec2{Isn't the outdoor unit control power source fuse (30A) blown?} Dec2 -- NO --> Note1[Note (1) 1-phase model only] Note1 --> Dec2 Dec2 -- NO --> Step2[To check method for inverter PCB before replacment of blown power source fuse.] Step2 --> Dec3{Is AC220/240V or AC380/415V detected at the noise filter secondary side?} Dec3 -- NO --> C2[Replace noise filter.] Dec3 -- YES --> Dec4{Is DC255-310V detected at CNA2?} Dec4 -- NO --> C3[Check connection of diode stack and electrolytic capacitor by referring main electrical circuit diagram] Dec4 -- YES --> Dec5{Isn't fuse (250V, 2A) on the outdoor unit main PCB blown?} Dec5 -- NO --> C4[Defective outdoor unit main PCB→Replace.] Dec5 -- YES --> Dec6{Is DC5V detected on the outdoor unit main PCB (Between ①-② of CNV)?} Dec6 -- NO --> C5[Defective outdoor unit main PCB→Replace.] Dec6 -- YES --> Dec7{Is DC5V detected if the connector of outdoor fan motor is disconnected?} Dec7 -- NO --> C6[Defective outdoor fan motor] Dec7 -- YES --> Dec8{Is DC5V detected if the inverter power source connector (CN2) is disconnected?} Dec8 -- NO --> C7[Defective outdoor unit main PCB→Replace.] Dec8 -- YES --> C8[Defective outdoor unit main PCB→Replace.] </pre>	<p>Normal (Malfunction by noise)</p> <p>Replace noise filter.</p> <p>Check connection of diode stack and electrolytic capacitor by referring main electrical circuit diagram</p> <p>Defective outdoor unit main PCB→Replace.</p> <p>Defective outdoor unit main PCB→Replace.</p> <p>Defective outdoor fan motor</p> <p>Defective outdoor unit main PCB→Replace.</p> <p>Defective outdoor unit main PCB→Replace.</p>
Diagnosis	Countermeasure			
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Note:

Error code Remote control: 🏠 WAIT 🏠	Indoor display	RUN light -	TIMER light -	Content Communication error at initial operation (3/3)
	Outdoor unit control PCB	Green LED Keeps flashing	Red LED 2-time flash	

1. Applicable model
All models

2. Error detection method

3. Condition of error displayed

4. Presumable cause

- Blown fuse
- Faulty noise filter
- Faulty outdoor unit main PCB
- Faulty reactor

5. Troubleshooting

Diagnosis	Countermeasure
<p>Method to check for outdoor unit main PCB before replacement of blown power source fuse.</p> <pre> graph TD Start([From previous page]) --> D1{Isn't there a short-circuit between phases of the noise filter?} D1 -- YES --> C1[Replace the noise filter.] D1 -- NO --> D2{Isn't there a short-circuit between phases of outdoor unit main PCB input terminals?} D2 -- YES --> C2[Replace the main PCB.] D2 -- NO --> D3{Isn't there any crack, burning on the power transistor module?} D3 -- YES --> C2 D3 -- NO --> D4{Is the reactor OK?} D4 -- NO --> C3[Replace the reactor.] D4 -- YES --> C4[Replace the power source fuse.] </pre>	

Note:

Error code Remote control: None	Indoor display	RUN light -	TIMER light -	Content No display
	Outdoor unit control PCB	Green LED	Red LED	
		Stays OFF	Stays OFF	

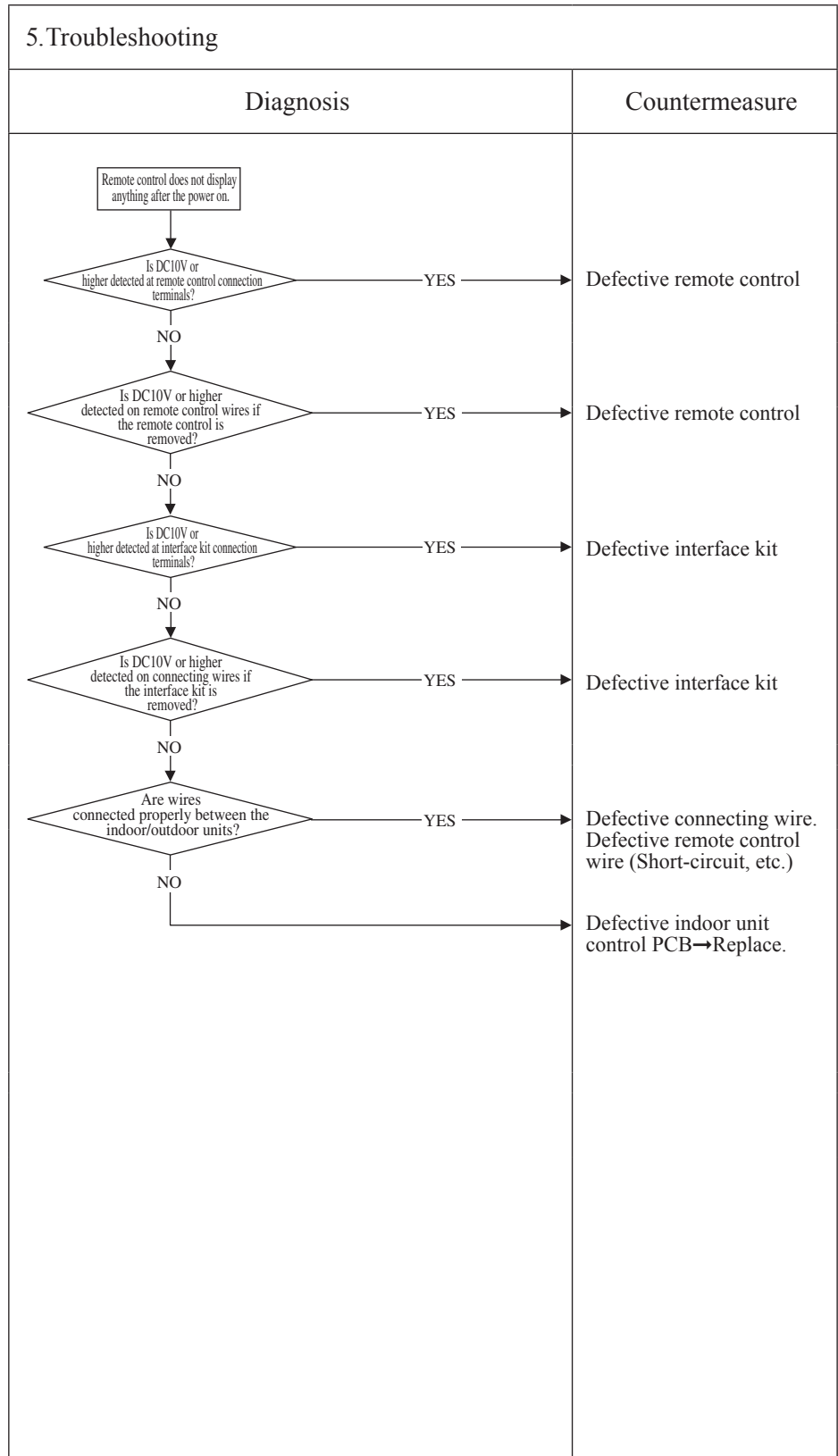
1. Applicable model
All models

2. Error detection method

3. Condition of error displayed

4. Presumable cause

- Faulty indoor unit control PCB
- Defective remote control
- Broken remote control wire
- Defective interface kit



Note:

Error code Remote control: E1	Indoor display	RUN light -	TIMER light -	Content <h2 style="text-align: center;">Remote control communication circuit error</h2>
	Outdoor unit control PCB	Green LED	Red LED	
		Keeps flashing	Stays OFF	

1. Applicable model	5. Troubleshooting		
All models	Diagnosis	Countermeasure	
2. Error detection method	<pre> graph TD D1{Is it possible to reset normally by the power reset?} -- YES --> C1[Malfunction by noise Check peripheral environment.] D1 -- NO --> D2{Is DC10V or higher detected at remote control connection terminals?} D2 -- YES --> C2[Defective remote control] D2 -- NO --> D3{Is DC10V or higher detected on remote control wires if the remote control is removed?} D3 -- YES --> C3[Defective remote control] D3 -- NO --> D4{Is DC10V or higher detected at interface kit connection terminals?} D4 -- YES --> C4[Defective interface kit] D4 -- NO --> D5{Is DC10V or higher detected on connecting wires if the interface kit is removed?} D5 -- YES --> C5[Defective interface kit] D5 -- NO --> D6{Are wires connected properly between the indoor/outdoor units?} D6 -- YES --> C6[Defective connecting wire Defective remote control wire (Short-circuit, etc.)] D6 -- NO --> C7[Defective indoor unit control PCB -> Replace.] </pre> <p>Note (2) Does the remote control still display “ WAIT ” even after 3 minutes?</p>		
When normal communication between the remote control and the indoor unit is interrupted for more than 2 minutes. (Detectable only with the remote control)			
3. Condition of error displayed	Same as above		
4. Presumable cause	<ul style="list-style-type: none"> • Defective communication circuit between remote control-indoor unit • Noise • Defective remote control • Faulty indoor unit control PCB • Defective interface kit 		

Note: If the indoor unit cannot communicate normally with the remote control for 180 seconds, the indoor unit PCB starts to reset automatically.

Error code Remote control: E5	Indoor display	RUN light ON	TIMER light 6-time flash	Content Communication error during operation
	Outdoor unit control PCB	Green LED Keeps flashing	Red LED See below	

1. Applicable model
All models
2. Error detection method
When normal communication between indoor and outdoor unit is interrupted for more than 2 minutes.
3. Condition of error displayed
Same as above is detected during operation.
4. Presumable cause
<ul style="list-style-type: none"> • Unit No. setting error • Broken remote control wire • Faulty remote control wire connection • Faulty outdoor unit main PCB

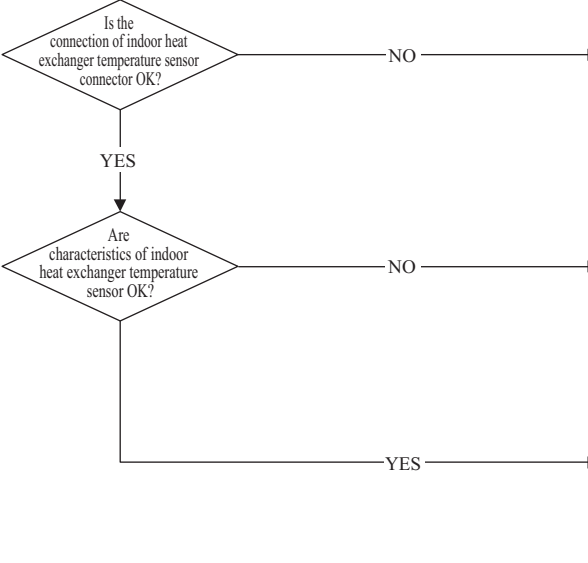
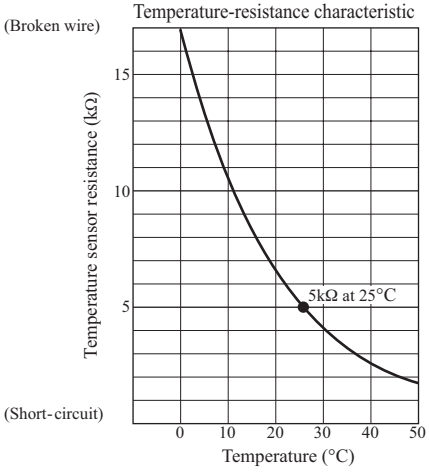
5. Troubleshooting	
Diagnosis	Countermeasure
<p>In case that the outdoor unit red LED flashes 2-times</p> <p>Note (1) Inspect faulty connections (disconnection, looseness) on the outdoor unit terminal block.</p> <p>Is the connection of signal wires at the outdoor unit side OK?</p> <p>NO → Repair signal wires.</p> <p>YES</p> <p>Note (2) Check for faulty connection or breakage of signal wires between indoor-outdoor units.</p> <p>Is the connection of signal wires between indoor-outdoor units OK?</p> <p>NO → Repair signal wires.</p> <p>YES</p> <p>Power source reset</p> <p>Has the remote control LCD returned to normal state?</p> <p>NO → To the diagnosis of “WAIT”</p> <p>YES → Unit is normal. (Malfunction by temporary noise, etc.)</p> <p>In case that the outdoor unit red LED stays OFF</p> <p>Power source reset</p> <p>NO</p> <p>Has the remote control LCD returned to normal state?</p> <p>NO → Defective outdoor unit main PCB (Defective network communication circuit) → Replace.</p> <p>YES → Unit is normal. (Malfunction by temporary noise, etc.)</p>	

Note: Pressing the pump-down switch cancels communications between indoor and outdoor unit so that “communication error-E5” is displayed on indoor unit and remote control, but it is normal.

Error code Remote control: E6	Indoor display	RUN light 1(3)-time flash ⁽¹⁾	TIMER light ON	Content Indoor heat exchanger temperature sensor anomaly
	Outdoor unit control PCB	Green LED	Red LED	
		Keeps flashing	Stays OFF	

Note(1) Value in () are the Th2.

1. Applicable model
All models
2. Error detection method
Anomalously low temperature or high temperature (resistance) is detected on the indoor heat exchanger sensor (Th2 ₁ , Th2 ₂).
3. Condition of error displayed
<ul style="list-style-type: none"> When the temperature sensor detects -28°C or lower for 15 seconds continuously, the compressor stops. After 3-minutes delay, the compressor starts again automatically, but if this error occurs again within 60 minutes after the initial detection.
4. Presumable cause
<ul style="list-style-type: none"> Defective indoor heat exchanger sensor connector Indoor heat exchanger temperature sensor anomaly Faulty indoor unit control PCB

5. Troubleshooting	
Diagnosis	Countermeasure
	<p>Correct. → Insert connector securely.</p> <p>Defective indoor heat exchanger temperature sensor → Replace.</p> <p>Defective indoor unit control PCB → Replace. (Defective indoor unit heat exchanger temperature sensor input circuit)</p>
<p>(Broken wire) Temperature-resistance characteristic</p>  <p>(Short-circuit)</p>	

Note:

Error code Remote control: None	Indoor display	RUN light 2-time flash	TIMER light ON	Content Room temperature sensor anomaly
	Outdoor unit control PCB	Green LED Keeps flashing	Red LED Stays OFF	

1. Applicable model
All models

2. Error detection method
Anomalously low temperature or high temperature (resistance) is detected by indoor room temperature sensor (Th1)

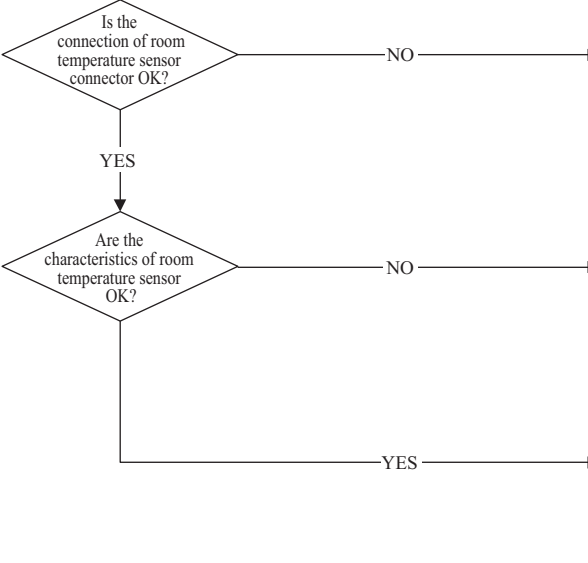
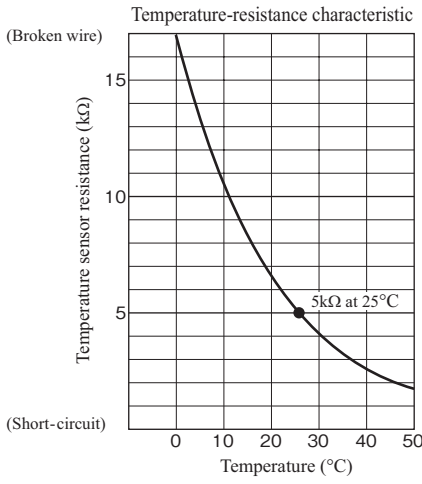
3. Condition of error displayed

- When the temperature sensor detects -45°C or lower for 15 seconds continuously, the compressor stops. After 3-minute delay, the compressor starts again automatically, but if this error occurs again within 60 minutes after the initial detection.

4. Presumable cause

- Defective room temperature sensor connector
- Defective room temperature sensor
- Faulty indoor unit control PCB

5. Troubleshooting

Diagnosis	Countermeasure
 <pre> graph TD Q1{Is the connection of room temperature sensor connector OK?} Q2{Are the characteristics of room temperature sensor OK?} C1[Correct. -> Connect connector.] C2[Defective room temperature sensor -> Replace.] C3[Defective indoor unit control PCB -> Replace. (Defective room temperature sensor input circuit)] Q1 -- NO --> C1 Q1 -- YES --> Q2 Q2 -- NO --> C2 Q2 -- YES --> C3 </pre>	
<p>Temperature-resistance characteristic</p>  <p>(Broken wire)</p> <p>(Short-circuit)</p>	

Note:

Error code Remote control: E10	Indoor display	RUN light -	TIMER light -	Content Excessive number of connected indoor units (more than 17 units) by controlling with one remote control
	Outdoor unit control PCB	Green LED	Red LED	
		Keeps flashing	Stays OFF	

1. Applicable model	5. Troubleshooting	
All models	Diagnosis	Countermeasure
2. Error detection method	<pre> graph LR A{Aren't more than 17 indoor units connected to one remote control?} -- NO --> B[Defective remote control -> Replace.] A -- YES --> C[Reduce to 16 or less units.] </pre>	
When it detects more than 17 of indoor units connected to one remote control		
3. Condition of error displayed		
Same as above		
4. Presumable cause		
<ul style="list-style-type: none"> • Excessive number of indoor units connected • Defective remote control 		

Note:

Error code Remote control: E11	Indoor display	RUN light -	TIMER light -	Content Address setting error of indoor units
	Outdoor unit control PCB	Green LED	Red LED	
		Keeps flashing	stays OFF	

1. Applicable model
All models
2. Error detection method
Indoor unit address has been set using the "Master IU address set" function of remote control.
3. Condition of error displayed
Same as above
4. Presumable cause
Same as above

5. Troubleshooting	
Diagnosis	Countermeasure
<pre> graph TD A[E11 occurs] --> B{Is "Master IU address set" function of remote control used?} B -- YES --> C[Countermeasure] </pre>	
<p>In case the wiring is below and "Master IU address set" is used, E11 is appeared.</p>	
<ul style="list-style-type: none"> • In cases of RC-EX3A Menu → Service setting → IU settings → Select IU • In cases of RC-E5 Return address No. to "IU ..." using [▲] or [▼] button. 	

Note:

Error code Remote control: E14	Indoor display	RUN light —	TIMER light —	Content Communication error between master and slave indoor units
	Outdoor unit control PCB	Green LED Keeps flashing	Red LED Stays OFF	

1.Applicable model
All models
2.Error detection method
When communication error between master and slave indoor units occurs
3.Condition of error displayed
Same as above
4.Presumable cause
<ul style="list-style-type: none"> • Unit address setting error • Broken remote control wire • Defective remote control wire connection • Broken interface kit wire • Defective interface kit wire connection • Defective indoor unit control PCB

5.Troubleshooting																		
Diagnosis	Countermeasure																	
<pre> graph TD D1{Is it OK the unit address setting for master and slave interface kit?} D2{Isn't the remote control wiring between interface kit defective?} D3{Isn't the interface kit wiring between indoor units defective?} D4{Is it restored by resetting the power source?} D1 -- NO --> C1[Correct unit address setting.] D1 -- YES --> D2 D2 -- YES --> C2[Correct wiring.] D2 -- NO --> D3 D3 -- YES --> C3[Correct wiring.] D3 -- NO --> D4 D4 -- NO --> C4[Defective indoor unit control PCB → Replace.] D4 -- YES --> C5["• Malfunction by noise • Check surrounding environment."] </pre>																		
<p>Note (1) Set DIP switches SW3-1 and SW3-2 as shown in the following table. (Factory default setting – “Master”)</p> <table border="1"> <tr> <td colspan="2" rowspan="2"></td> <td colspan="3">Interface kit</td> </tr> <tr> <td>Master</td> <td>Slave1</td> <td>Slave2</td> </tr> <tr> <td rowspan="2">DIP switch</td> <td>SW3-1</td> <td>OFF</td> <td>OFF</td> <td>ON</td> </tr> <tr> <td>SW3-2</td> <td>OFF</td> <td>ON</td> <td>OFF</td> </tr> </table>				Interface kit			Master	Slave1	Slave2	DIP switch	SW3-1	OFF	OFF	ON	SW3-2	OFF	ON	OFF
				Interface kit														
		Master	Slave1	Slave2														
DIP switch	SW3-1	OFF	OFF	ON														
	SW3-2	OFF	ON	OFF														

Note:

Error code Remote control: E16	Indoor display	RUN light 6-time flash	TIMER light ON	Content Indoor fan motor anomaly
	Outdoor unit control PCB	Green LED	Red LED	
		Keeps flashing	Stays OFF	

1. Applicable model
All models

2. Error detection method
Detected by rotation speed of indoor fan motor

3. Condition of error displayed
<ul style="list-style-type: none"> When actual rotation speed of indoor fan motor drops to lower than 300min^{-1} for 30 seconds continuously, the compressor and the indoor fan motor stop.

4. Presumable cause
<ul style="list-style-type: none"> Defective indoor unit control PCB Foreign material at rotational area of fan propeller Defective fan motor Dust on indoor unit control PCB External noise, surge

5. Troubleshooting	
Diagnosis	Countermeasure
<pre> graph TD D1{Does any foreign material intervene in rotational area of fan propeller?} -- YES --> C1[Remove foreign material.] D1 -- NO --> D2{Does the fan rotate smoothly when turned by hand?} D2 -- YES --> D3{Is DC280V detected between ①-③ of fan motor connector CNU?} D2 -- NO --> C2[Replace the fan motor.] D3 -- YES --> C3[Replace indoor unit control PCB] D3 -- NO --> C2 D3 --- Note["Note (1) ③ for GND"] D3 --- P1["(1)"] D3 --> P2[Power source reset] P2 --> D4{Is it normalized?} D4 -- YES --> C4[Malfunction by temporary noise] D4 -- NO --> C5[Replace fan motor. (If the error persists after replacing the fan motor, replace the indoor unit control PCB.)] </pre>	

Note:

Error code Remote control: E28	Indoor display	RUN light -	TIMER light -	Content Remote control temperature sensor anomaly
	Outdoor unit control PCB	Green LED Keeps flashing	Red LED Stays OFF	

1. Applicable model
All models

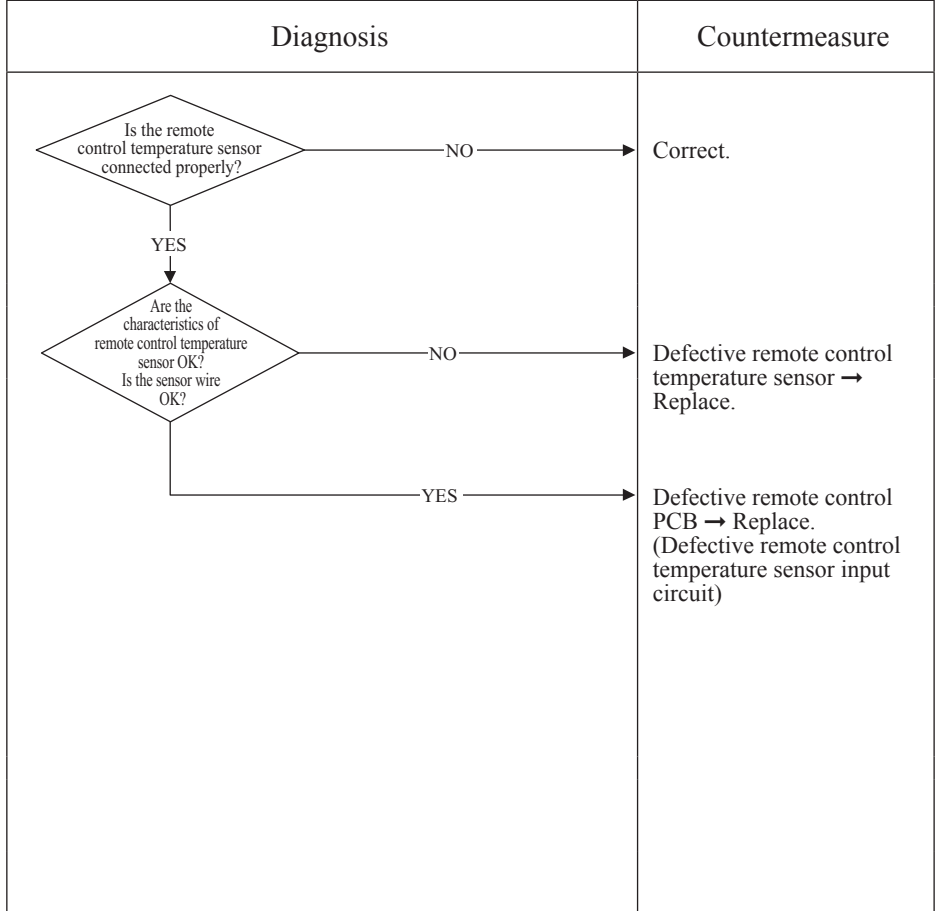
2. Error detection method
Detection of anomalously low temperature (resistance) of remote control temperature sensor (Thc)

3. Condition of error displayed
When the temperature sensor detects -50°C or lower for 5 seconds continuously, the compressor stops. After 3-minutes delay, the compressor starts again automatically, but if this error occurs again within 60 minutes after the initial detection.

4. Presumable cause

- Faulty connection of remote control temperature sensor
- Defective remote control temperature sensor
- Defective remote control PCB

5. Troubleshooting



Resistance-temperature characteristics of remote control temperature sensor (Thc)

Temperature (°C)	Resistance value (kΩ)	Temperature (°C)	Resistance value (kΩ)
0	65	30	16
1	62	32	15
2	59	34	14
4	53	36	13
6	48	38	12
8	44	40	11
10	40	42	9.9
12	36	44	9.2
14	33	46	8.5
16	30	48	7.8
18	27	50	7.3
20	25	52	6.7
22	23	54	6.3
24	21	56	5.8
26	19	58	5.4
28	18	60	5.0

Note: After 10 seconds has passed since remote control sensor was switched from valid to invalid, E28 will not be displayed even if the sensor harness is disconnected. At same time the sensor, which is effective, is switched from remote control temperature sensor to indoor return air temperature sensor. Even though the remote control temperature sensor is set to be Effective, the return air temperature displayed on remote control for checking still shows the value detected by indoor return air temperature sensor, not by remote control temperature sensor.

Error code Remote control: E35	Indoor display	RUN light	TIMER light	Content Cooling overload operation
		ON	Keeps flashing	
	Outdoor unit control PCB	Green LED	Red LED	
		Keeps flashing	1-time flash	

1. Applicable model
All models

2. Error detection method
For the error detection method, refer to the protective control by controlling compressor rotation speed and cooling high pressure protective control of micro-computer control function for corresponding models.

3. Condition of error displayed
When outdoor heat exchanger temperature anomaly is detected 5 times within 60 minutes or this anomalous state is detected 60 minutes continuously including compressor stop.

4. Presumable cause
<ul style="list-style-type: none"> • Defective outdoor heat exchanger temperature sensor • Defective outdoor unit main PCB • Indoor, outdoor unit installation spaces • Short-circuit of air on indoor, outdoor units • Fouling, clogging of heat exchanger • Excessive refrigerant amount

5. Troubleshooting	
Diagnosis	Countermeasure
<p style="text-align: right;">* For the characteristics of outdoor heat exchanger temperature thermistor, refer to E37.</p> <pre> graph TD Q1{Are the characteristics of outdoor heat exchanger temperature sensor normal?} -- NO --> C1[Replace outdoor heat exchanger temperature thermistor.] Q1 -- YES --> Q2{Is the unit operating in the state of cooling overload?} Q2 -- YES --> C2["Check unit side. • Isn't the air circulation of outdoor unit short-circuited? • Are installation spaces adequate? • Isn't there any fouling or clogging on heat exchanger?"] Q2 -- NO --> Q3{Is the high pressure control normal?} Q3 -- NO --> C3[Control operation check *] Q3 -- YES --> Q4{Is the temperature (measured actually) at detection of error correct?} Q4 -- NO --> C4[Defective outdoor unit main PCB → Replace.] Q4 -- YES --> C5["Excessive refrigerant amount : Recharge refrigerant by weighting proper amount on a scale."] </pre> <p style="text-align: center;">* For the contents of control, refer to the protective control by controlling compressor rotation speed and cooling high pressure protective control of microcomputer control function for corresponding models.</p>	

Note:

Error code Remote control: E36	Indoor display	RUN light	TIMER light	Content Discharge pipe temperature error
		ON	Keeps flashing	
	Outdoor unit control PCB	Green LED	Red LED	
		Keeps flashing	1-time flash	

1.Applicable model
All models

2. Error detection method
For the error detection method, refer to the protective control by controlling compressor rotation speed and cooling high pressure protective control of micro-computer control function for corresponding models.

3. Condition of error displayed
When discharge pipe temperature anomaly is detected 2 times within 60 minutes or this anomalous state is detected 60 minutes continuously including compressor stop.

4. Presumable cause
<ul style="list-style-type: none"> • Defective outdoor unit main PCB • Defective discharge pipe temperature sensor • Clogged filter • Indoor, outdoor unit installation spaces • Short-circuit of air on indoor, outdoor units • Fouling, clogging of heat exchanger

5.Troubleshooting	
Diagnosis	Countermeasure
<pre> graph TD D1{Are the characteristics of discharge pipe temperature sensor normal?} D2{Is the discharge pipe temperature error persisted during cooling operation?} D3{Is the discharge pipe temperature control normal?} D4{Is the temperature (measured actually) at detection of error correct?} D1 -- NO --> C1[Replace discharge pipe temperature sensor.] D1 -- YES --> D2 D2 -- YES --> C2[Insufficient refrigerant amount : Recharge refrigerant by weighing proper amount on a scale.] D2 -- NO --> D3 D3 -- NO --> C3[Control operation check *] D3 -- YES --> D4 D4 -- NO --> C4[Defective outdoor unit main PCB→Replace.] D4 -- YES --> C5[Check unit side: • Isn't filter clogged? • Are adequate indoor, outdoor unit installation spaces? • Isn't there any short-circuit of air? • Isn't there any fouling, clogging on indoor heat exchanger?] </pre>	
<p>* For the contents of control, refer to the protective control by controlling compressor rotation speed and cooling high pressure protective control of microcomputer control function for corresponding models.</p>	

Note:

Error code Remote control: E37	Indoor display	RUN light Keeps flashing	TIMER light 2-time flash	Content Outdoor heat exchanger temperature sensor anomaly
	Outdoor unit control PCB	Green LED Keeps flashing	Red LED 1-time flash	

1. Applicable model
All models

2. Error detection method
Detection of anomalously low temperature (resistance) on the outdoor heat exchanger temperature sensor

3. Condition of error displayed
<ul style="list-style-type: none"> When the temperature sensor detects -50°C or lower for 20 seconds continuously within 2 minutes to 2 minutes 20 seconds after the compressor ON, the compressor stops. After 3-minute delay, the compressor starts again automatically, but if this anomalous temperature is detected 3 times within 40 minutes. When -50°C or lower is detected for 5 seconds continuously within 20 second after compressor ON.

4. Presumable cause
<ul style="list-style-type: none"> Defective outdoor unit main PCB Broken sensor harness or temperature sensing section Disconnected wire connection (connector)

5. Troubleshooting																	
Diagnosis	Countermeasure																
<p>Is the outdoor heat exchanger temperature sensor connector connected properly?</p> <p>NO → Correct connector.</p> <p>YES</p> <p>For the characteristics of outdoor heat exchanger temperature sensor, see the following graph.</p> <p>Are the characteristics of outdoor heat exchanger temperature sensor OK?</p> <p>NO → Defective outdoor heat exchanger temperature sensor → Replace.</p> <p>YES → Defective outdoor unit main PCB → Replace. (Defective outdoor heat exchanger temperature sensor input circuit)</p>																	
<p style="text-align: center;">Temperature-resistance characteristics</p> <table border="1"> <caption>Temperature-resistance characteristics data points (approximate)</caption> <thead> <tr> <th>Temperature (°C)</th> <th>Temperature sensor resistance (kΩ)</th> </tr> </thead> <tbody> <tr><td>0</td><td>15</td></tr> <tr><td>10</td><td>10</td></tr> <tr><td>20</td><td>7</td></tr> <tr><td>25</td><td>5</td></tr> <tr><td>30</td><td>4</td></tr> <tr><td>40</td><td>3</td></tr> <tr><td>50</td><td>2</td></tr> </tbody> </table>		Temperature (°C)	Temperature sensor resistance (kΩ)	0	15	10	10	20	7	25	5	30	4	40	3	50	2
Temperature (°C)	Temperature sensor resistance (kΩ)																
0	15																
10	10																
20	7																
25	5																
30	4																
40	3																
50	2																

Note:

Error code Remote control: E38	Indoor display	RUN light	TIMER light	Content Outdoor air temperature sensor anomaly
		Keeps flashing	1-time flash	
	Outdoor unit control PCB	Green LED	Red LED	
		Keeps flashing	1-time flash	

1. Applicable model
All models

2. Error detection method
Detection of anomalously low temperature (resistance) on outdoor air temperature sensor

3. Condition of error displayed
<ul style="list-style-type: none"> When the temperature sensor detects -45°C or lower for 5 seconds continuously within 2 minutes to 2 minutes 20 seconds after the compressor ON, the compressor stops. After 3-minute delay, the compressor starts again automatically, but if this anomalous temperature is detected 3 times within 40 minutes. When -45°C or lower is detected for 5 seconds continuously within 20 second after compressor ON.

4. Presumable cause
<ul style="list-style-type: none"> Defective outdoor unit main PCB Broken sensor harness or temperature sensing section (Check molding.) Disconnected wire connection (connector)

5. Troubleshooting															
Diagnosis	Countermeasure														
<pre> graph TD Q1{Is the outdoor air temperature sensor connector connected properly?} -- NO --> C1[Correct connector.] Q1 -- YES --> Q2{Is the characteristics of the outdoor air temperature sensor OK?} Q2 -- NO --> C2[Defective outdoor air temperature sensor → Replace.] Q2 -- YES --> C3[Defective outdoor unit main PCB → Replace. (Defective outdoor air temperature sensor input circuit)] </pre>															
<p style="text-align: center;">Temperature-resistance characteristics</p> <p>(Broken wire) 35</p> <table border="1"> <caption>Temperature-resistance characteristics data</caption> <thead> <tr> <th>Temperature (°C)</th> <th>Temperature sensor resistance (kΩ)</th> </tr> </thead> <tbody> <tr><td>0</td><td>35</td></tr> <tr><td>10</td><td>25</td></tr> <tr><td>20</td><td>15</td></tr> <tr><td>30</td><td>10</td></tr> <tr><td>40</td><td>7</td></tr> <tr><td>50</td><td>5</td></tr> </tbody> </table> <p>(Short-circuit) 0</p>		Temperature (°C)	Temperature sensor resistance (kΩ)	0	35	10	25	20	15	30	10	40	7	50	5
Temperature (°C)	Temperature sensor resistance (kΩ)														
0	35														
10	25														
20	15														
30	10														
40	7														
50	5														

Note:

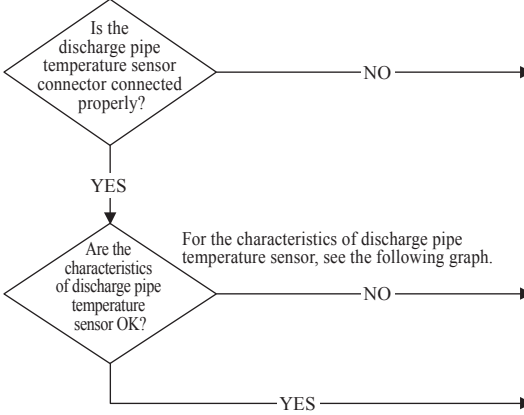
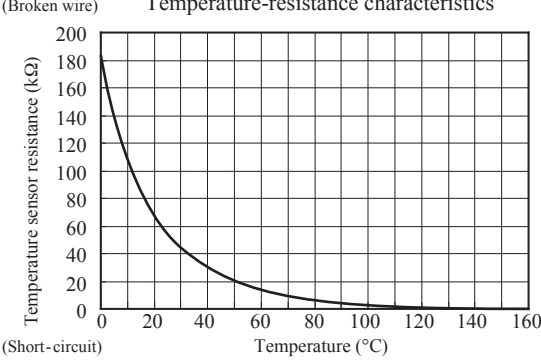
Error code Remote control: E39	Indoor display	RUN light	TIMER light	Content <h2 style="text-align: center;">Discharge pipe temperature sensor anomaly</h2>
		Keeps flashing	4-time flash	
	Outdoor unit control PCB	Green LED	Red LED	
		Keeps flashing	1-time flash	

1. Applicable model
All models

2. Error detection method
Detection of anomalously low temperature (resistance) on the discharge pipe temperature sensor

3. Condition of error displayed
When the temperature sensor detects -10°C or lower for 5 seconds continuously within 10 minutes to 10 minutes 20 seconds after the compressor ON, the compressor stops. After 3-minute delay, the compressor starts again automatically, but if this anomalous temperature is detected 3 times within 40 minutes.

4. Presumable cause
<ul style="list-style-type: none"> • Defective outdoor unit main PCB • Broken sensor harness or temperature sensing section (Check molding.) • Disconnected wire connection (connector)

5. Troubleshooting	
Diagnosis	Countermeasure
<div style="text-align: center;">  <pre> graph TD Q1{Is the discharge pipe temperature sensor connector connected properly?} -- NO --> C1[Correct connector.] Q1 -- YES --> Q2{Are the characteristics of discharge pipe temperature sensor OK?} Q2 -- NO --> C2[Defective discharge pipe temperature sensor -> Replace.] Q2 -- YES --> C3[Defective outdoor unit main PCB -> Replace. (Defective temperature sensor input circuit)] </pre> </div>	
<p style="text-align: center;">(Broken wire) Temperature-resistance characteristics</p>  <p style="text-align: center;">(Short-circuit)</p>	

Note:

Error code Remote control: E40	Indoor display	RUN light	TIMER light	Content High pressure error (63H1 activated)
		-	-	
	Outdoor unit control PCB	Green LED Keeps flashing	Red LED 1-time flash	

1. Applicable model
All models

2. Error detection method
When the high pressure switch 63H1 is activated.
<p>Compressor ON</p> <p>Compressor OFF</p> <p>3.15 4.15 High pressure (MPa)</p>

3. Condition of error displayed
If 63H1 turns OFF (opened), the compressor stops. After 3-minutes delay, the compressor restarts. If this anomaly occurs 5 times within 60 minutes or continues for 60 minutes continuously.

4. Presumable cause
<ul style="list-style-type: none"> • Short-circuit of air flow, disturbance of air flow and clogging filter at outdoor heat exchanger/Breakdown of fan motor • Defective outdoor unit main PCB • Defective 63H1 connector • Defective electronic expansion valve connector • Closed service valve • Mixing of non-condensing gas (nitrogen, etc.)

5. Troubleshooting	
Diagnosis	Countermeasure
<p>If the power source breaker is turned OFF and ON too quickly, E40 may be displayed. (This is normal.)</p>	
<p>Is the service valve fully opened?</p> <p>NO → Open service valve.</p> <p>YES</p> <p>Has 63H1 activated?</p> <p>NO → Is 63H1 connector connected properly?</p> <p>NO → Correct 63H1 connector.</p> <p>YES</p> <p>Is the electronic expansion valve connector connection OK?</p> <p>NO → Correct electronic expansion valve connector.</p> <p>YES → If any anomaly exists on the electronic expansion valve connector connection, the power source must be reset.</p> <p>YES → Defective outdoor unit main PCB → Replace. (Defective 63H1 input circuit)</p>	
<p>On operation of 63H1</p> <p>1. During cooling</p> <ul style="list-style-type: none"> • Is the outdoor fan motor running? • Isn't any short-circuit of air on the outdoor unit? • Are sufficient return air/supply air space secured? <p>2. During heating</p> <ul style="list-style-type: none"> • Isn't the indoor heat exchanger temperature sensor disconnected from the sensor casing? • Isn't the filter clogged? <p>* Under the condition of overcharging refrigerant, 63H1 may activate due to delay of starting the preventive control by compressor speed control, because detected heat exchanger temperature, which conducts compressor speed control, becomes lower than normal condition due to excess sub-cooling degree.</p>	

Note: In the protective control range for compressor startup (initial startup after power ON), even if 63H1 is activated only once (63H1 turns OFF), immediately the error is displayed.

Error code Remote control: E42	Indoor display	RUN light	TIMER light	Content Current cut (1/2)
		ON	1-time flash	
	Outdoor unit control PCB	Green LED	Red LED	
		Keeps flashing	1-time flash	

1. Applicable model
All models

2. Error detection method
In order to prevent from overcurrent of inverter, if the current exceeds the specifications, it makes the compressor stopping.

3. Condition of error displayed

- If the output current of inverter exceeds the specifications, it makes the compressor stopping.
- After 3-minute delay, the compressor restarts, but if this anomaly occurs 4 times within 30 minute after the initial detection.

4. Presumable cause

- The valves closed
- Faulty power source
- Insufficient refrigerant amount
- Faulty compressor
- Faulty power transistor module

5. Troubleshooting

Diagnosis	Countermeasure
<pre> graph TD A{Is the power source voltage OK?} -- NO --> B[Check power source.] A -- YES --> C{Are the service valves opened?} C -- NO --> D[Open the valves.] C -- YES --> E{Is the high pressure during operation OK?} E -- NO --> F[Check refrigerant amount and refrigerant circuit. *In case of transitional increase of high pressure and/or test run, several times restarting may recover it, because liquid refrigerant (migrated) in the compressor is discharged from the compressor.] E -- YES --> G{Is the checked result of insulation resistance and resistance between terminals(1) of compressor motor OK?} G -- NO --> H[Replace compressor.] G -- YES --> I[To next page.] </pre>	

Note:

Error code Remote control: E42	Indoor display	RUN light	TIMER light	Content Current cut (2/2)
		ON	1-time flash	
	Outdoor unit control PCB	Green LED	Red LED	
		Keeps flashing	1-time flash	

1. Applicable model
All models

2. Error detection method
In order to prevent from overcurrent of inverter, if the current exceeds the specifications, it makes the compressor stopping.

3. Condition of error displayed
<ul style="list-style-type: none"> • If the output current of inverter exceeds the specifications, it makes the compressor stopping. • After 3-minute delay, the compressor restarts, but if this anomaly occurs 4 times within 30 minute after the initial detection.

4. Presumable cause
<ul style="list-style-type: none"> • Defective outdoor unit main PCB • Faulty power source • Insufficient refrigerant amount • Faulty compressor • Faulty power transistor module

5. Troubleshooting	
Diagnosis	Countermeasure

Note:

Error code Remote control: E47	Indoor display	RUN light	TIMER light	Content Control PCB A/F module anomaly (Model FDC100-140VNA-W only)
		5-time flash	ON	
	Outdoor unit control PCB	Green LED	Red LED	
		Keeps flashing	1-time flash	

1. Applicable model
Model FDC100-140VNA-W

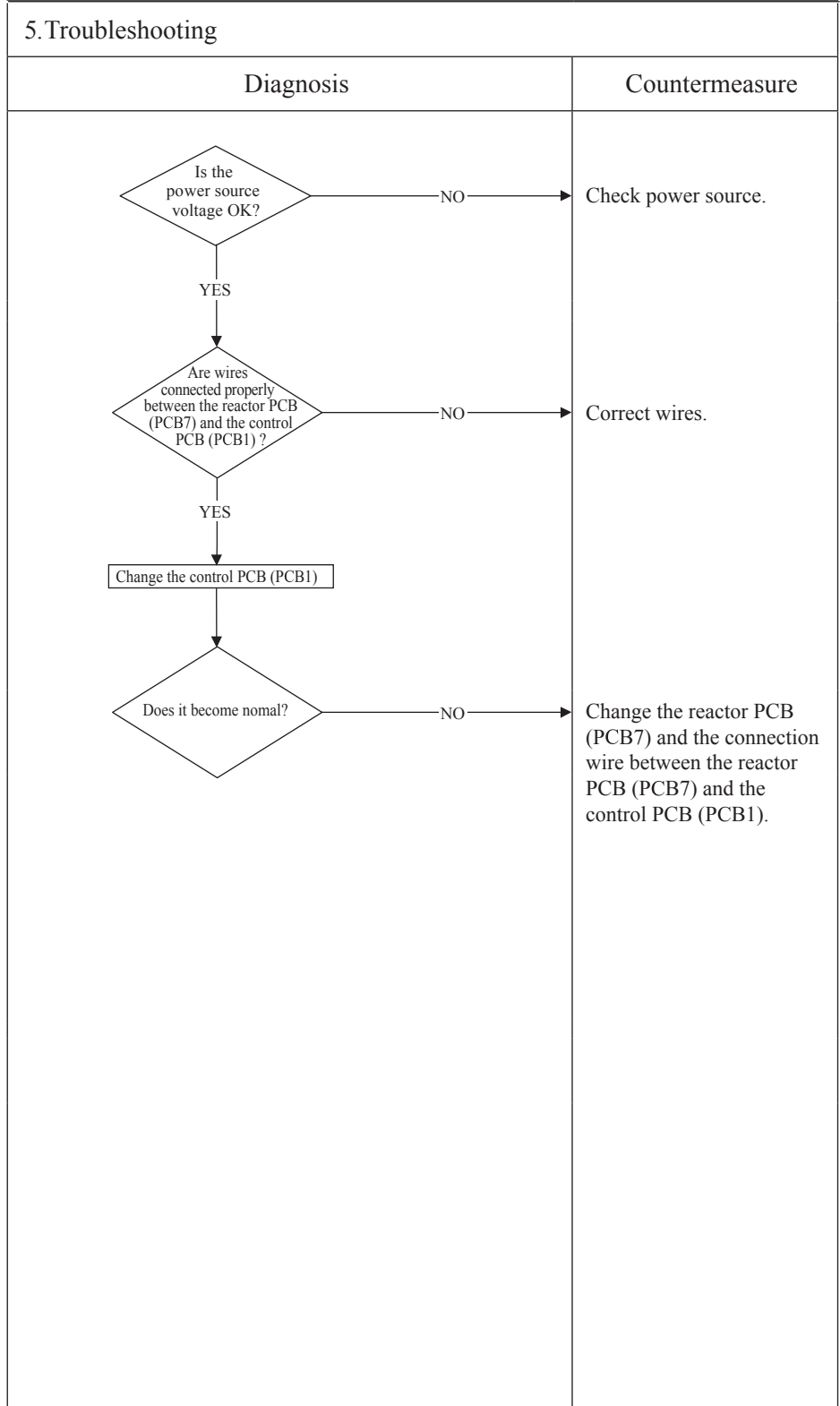
2. Error detection method
In order to avoid an unexpected trouble, if the protective circuit defect unexpected voltage, current and movement of the power element, it makes the compressor stopping.

3. Condition of error displayed

- If the A/F anomaly occurs, it makes the compressor stopping.
- After 3-minute delay, the compressor restarts if this anomaly occurs 4 times within 30minutes or continues for 15minutes continuously.

4. Presumable cause

- Defective main PCB
- Defective reactor PCB



Note:

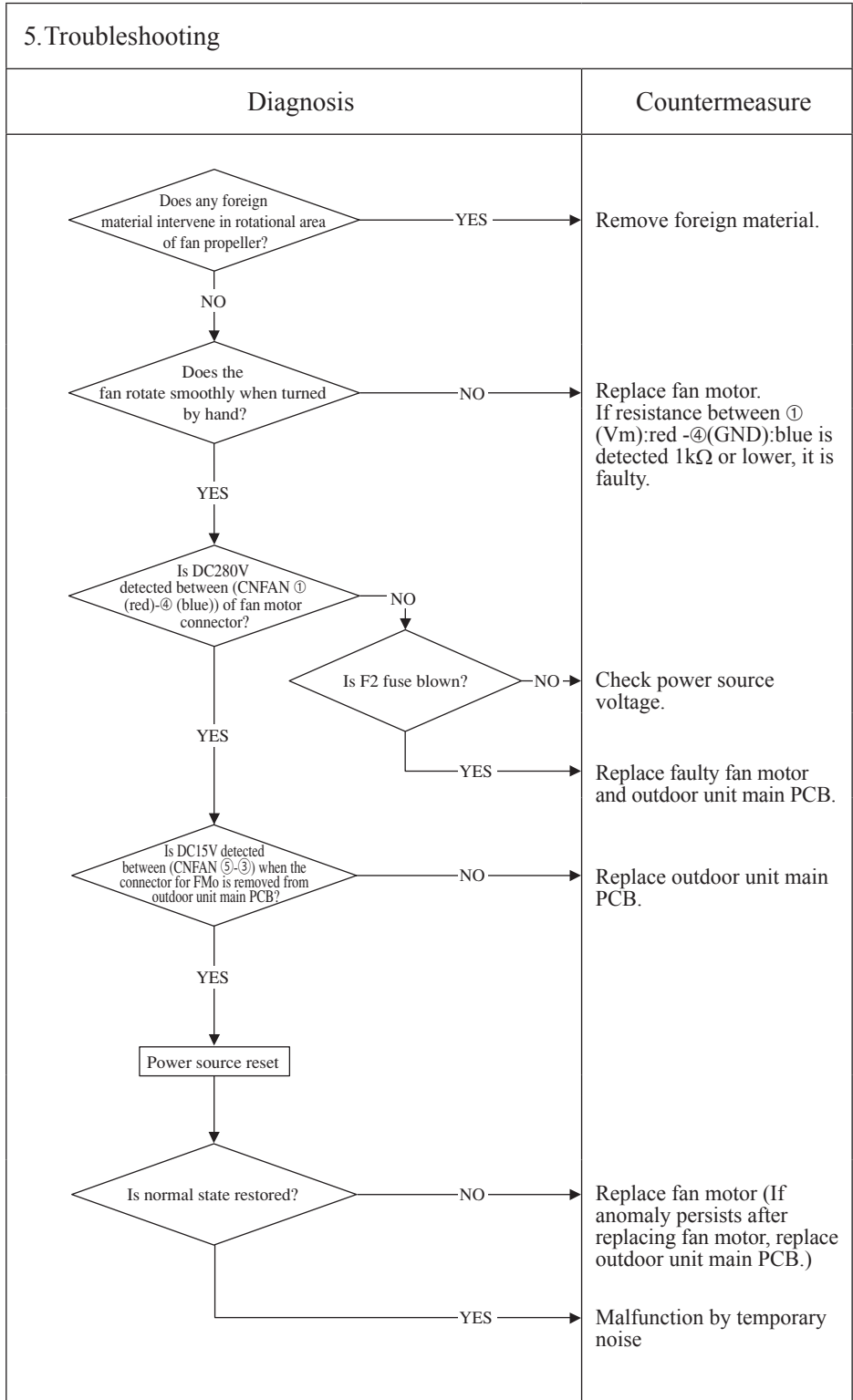
Error code Remote control: E48	Indoor display	RUN light	TIMER light	Content Outdoor fan motor anomaly
		ON	7-time flash	
	Outdoor unit control PCB	Green LED	Red LED	
		Keeps flashing	1-time flash	

1. Applicable model
All models

2. Error detection method
Detected by rotation speed of outdoor fan motor

3. Condition of error displayed
When actual rotation speed of outdoor fan motor (FMo1) drops to 100min⁻¹ or lower for 30 minutes continuously, the compressor and the outdoor fan motor stop. After 3-minute delay, it starts again automatically, but if this anomaly occurs 5 times within 60 minutes after the initial detection.

- 4. Presumable cause**
- Defective outdoor unit main PCB
 - Foreign material at rotational area of fan propeller
 - Defective fan motor
 - Dust on outdoor unit main PCB
 - Blow fuse
 - External noise, surge



Note: When E48 error occurs, in almost cases F2 fuse (4A) on the outdoor unit main PCB is blown. There are a lot of cases that fuse is blown and E48 occurs due to defective fan motor. And even though only the outdoor unit main PCB (or fuse) is replaced, another trouble (*1) could occur. Therefore when fuse is blown, check whether the fan motor is OK or not.
After confirming the fan motor normal, check by power ON. (Don't power ON without confirming the fan motor normal.)
*1 The error which does not seem to relate E48 may occur like as "WAIT", Stay OFF of LED on outdoor unit main PCB, inverter communication error (E45) and etc.

Error code Remote control: E49	Indoor display	RUN light	TIMER light	Content Low pressure error or low pressure sensor anomaly (1/2)
		-	-	
	Outdoor unit control PCB	Green LED	Red LED	
		Keeps flashing	1-time flash	

1. Applicable model
All models

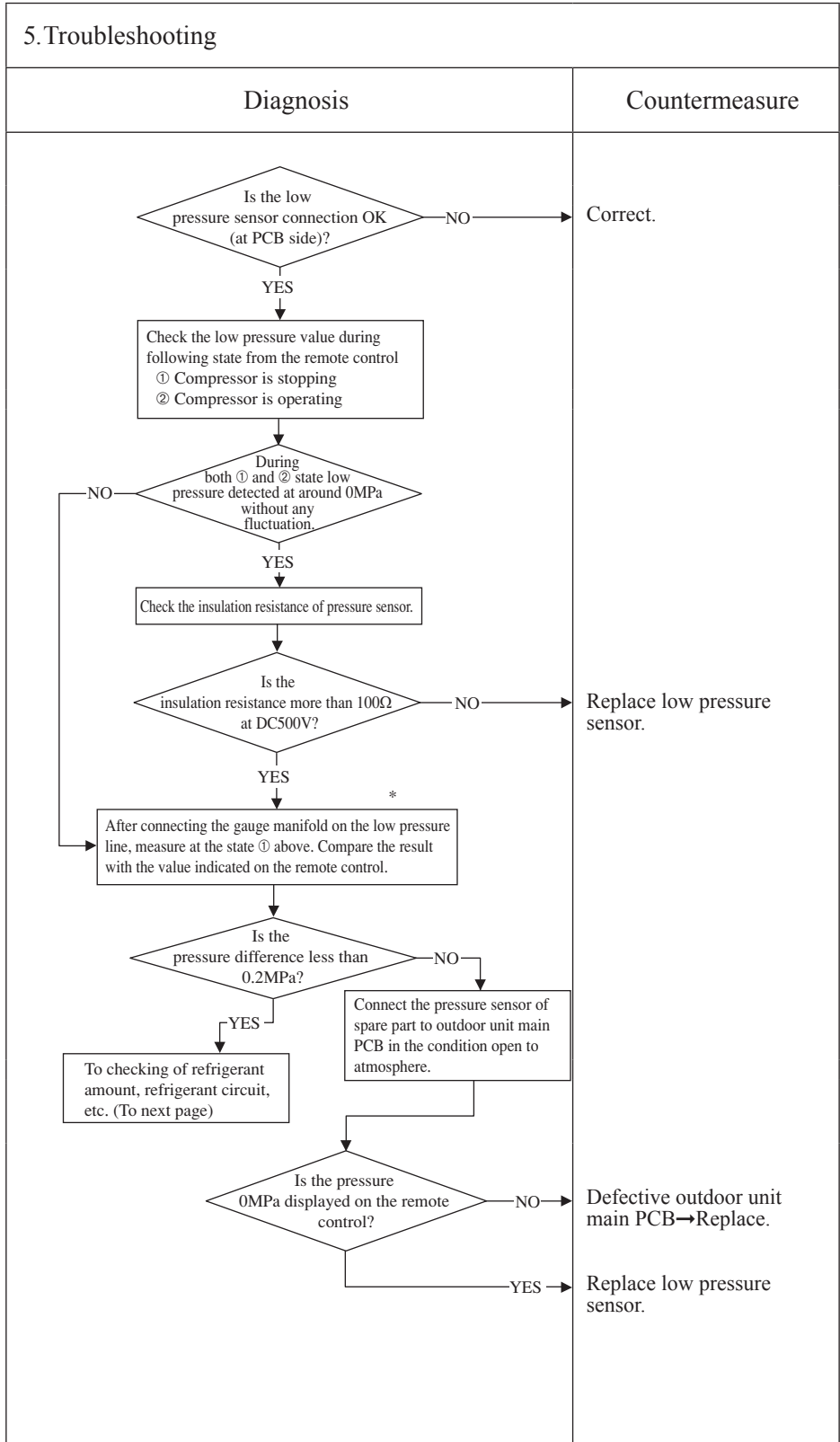
2. Error detection method
Detected by low pressure drop and suction superheat

3. Condition of error displayed

- ① When the low pressure sensor detects 0.079MPa or lower for 15 seconds continuously, compressor stops and it restarts automatically after 3-minutes delay. And if this anomaly occurs 5 times within 60 minutes,
- ② 10 minutes after the compressor starts, if the low pressure sensor detects 0.15MPa or lower for 60 minutes continuously and compressor suction superheat is detected 30degC or higher for 60 seconds continuously. And if this anomaly occurs 5 times within 60 minutes,
- ③ If low pressure sensor detects 0.079MPa or lower for 5 minutes continuously (including the compressor stop status),

4. Presumable cause

- Defective outdoor unit main PCB
- Defective low pressure sensor connector
- Defective low pressure sensor
- Defective suction pipe temperature sensor connector
- Defective suction pipe temperature sensor



Note: * Connect the gauge manifold to the service valve check joint during cooling, or connect it to the check joint at internal piping of outdoor unit during heating.

Error code Remote control: E49	Indoor display	RUN light	TIMER light	Content Low pressure error or low pressure sensor anomaly (2/2)
		-	-	
	Outdoor unit control PCB	Green LED	Red LED	
		Keeps flashing	1-time flash	

1. Applicable model	5. Troubleshooting		
All models	Diagnosis	Countermeasure	
2. Error detection method	<pre> graph TD Start[From previous page.] --> D1{Is the service valve fully opened?} D1 -- NO --> C1[Open fully.] D1 -- YES --> D2{Are the connections of low pressure sensor and suction pipe temperature sensor connector OK?} D2 -- NO --> C2[Correct.] D2 -- YES --> D3{Are the characteristics of low pressure sensor, suction pipe temperature sensor OK?} D3 -- NO --> C3["Defective low pressure sensor, suction pipe temperature sensor -> Replace."] D3 -- YES --> D4{Is the low pressure normal during operation?} D4 -- NO --> C4[Charge refrigerant.] D4 -- YES --> C5["Defective outdoor unit main PCB -> Replace. (Defective low pressure sensor, suction pipe temperature sensor circuits)"] </pre>		
3. Condition of error displayed			
4. Presumable cause			

Note:

Error code Remote control: E51	Indoor display	RUN light	TIMER light	Content Inverter and fan motor anomaly
		ON	4-time flash	
	Outdoor unit control PCB	Green LED	Red LED	
		Keeps flashing	1-time flash	

1. Applicable model All models	5. Troubleshooting <table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 50%;">Diagnosis</th> <th style="width: 50%;">Countermeasure</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> • Models FDC100-140VNA-W/VSA-W Replace immediately the main PCB. </td> <td></td> </tr> </tbody> </table>		Diagnosis	Countermeasure	<ul style="list-style-type: none"> • Models FDC100-140VNA-W/VSA-W Replace immediately the main PCB. 	
Diagnosis	Countermeasure					
<ul style="list-style-type: none"> • Models FDC100-140VNA-W/VSA-W Replace immediately the main PCB. 						
2. Error detection method When power transistor anomaly is detected for 15 minutes continuously						
3. Condition of error displayed Same as above						
4. Presumable cause <ul style="list-style-type: none"> • Defective outdoor fan motor • Defective outdoor unit main PCB 						

Note:

Error code Remote control: E53	Indoor display	RUN light	TIMER light	Content Suction pipe temperature sensor anomaly
		Keeps flashing	5-time flash	
	Outdoor unit control PCB	Green LED	Red LED	
Keeps flashing		1-time flash		

1. Applicable model
All models

2. Error detection method
When the suction pipe temperature sensor detects anomalously low temperature

3. Condition of error displayed
If the temperature sensor detects -50°C or lower for 5 seconds continuously within 10 minutes to 10 minutes 20 seconds after compressor ON, the compressor stops. When the compressor is restarted automatically after 3-minute delay, if this anomaly occurs 3 times within 40 minutes.

4. Presumable cause
<ul style="list-style-type: none"> Defective suction pipe temperature sensor connection Defective suction pipe temperature sensor Defective outdoor unit main PCB

5. Troubleshooting																	
Diagnosis	Countermeasure																
<pre> graph TD A{Is the connection of suction pipe temperature sensor connector OK?} -- NO --> B[Correct connection of suction pipe temperature sensor connector.] A -- YES --> C{Are the characteristics of suction pipe temperature sensor OK?} C -- NO --> D[Defective suction pipe temperature sensor -> Replace.] C -- YES --> E[Defective outdoor unit main PCB -> Replace. (Defective suction pipe temperature sensor input circuit)] </pre>																	
<p>Temperature-resistance characteristics</p> <table border="1"> <caption>Temperature-resistance characteristics data points (approximate)</caption> <thead> <tr> <th>Temperature (°C)</th> <th>Temperature sensor resistance (kΩ)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>15</td> </tr> <tr> <td>10</td> <td>10</td> </tr> <tr> <td>20</td> <td>6</td> </tr> <tr> <td>25</td> <td>5</td> </tr> <tr> <td>30</td> <td>4</td> </tr> <tr> <td>40</td> <td>3</td> </tr> <tr> <td>50</td> <td>2</td> </tr> </tbody> </table>		Temperature (°C)	Temperature sensor resistance (kΩ)	0	15	10	10	20	6	25	5	30	4	40	3	50	2
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0	15																
10	10																
20	6																
25	5																
30	4																
40	3																
50	2																

Note:

Error code Remote control: E54	Indoor display	RUN light	TIMER light	Content Low pressure sensor anomaly
		-	-	
	Outdoor unit control PCB	Green LED	Red LED	
		Keeps flashing	1-time flash	

1. Applicable model
All models

2. Error detection method
When anomalous voltage (pressure) is detected

3. Condition of error displayed
If the pressure sensor detects 0V or lower and 4.0V or higher for 5 seconds continuously within 2 minutes to 2 minutes 20 seconds after compressor ON, the compressor stops. When the compressor is restarted automatically after 3-minute delay, if this anomaly occurs 3 times within 40 minutes.

4. Presumable cause
<ul style="list-style-type: none"> • Defective low pressure sensor connection • Defective low pressure sensor • Defective outdoor unit main PCB • Improper amount of refrigerant • Anomalous refrigeration circuit

5. Troubleshooting	
Diagnosis	Countermeasure
<pre> graph TD Q1{Are the connection of low pressure sensor connectors (at sensor side and PCB side) OK?} Q2{Are the pressure (actual measurement) matched with the value indicated on the remote control?} P1[Replace the low pressure sensor.] Q3{Is normal condition restored?} Q1 -- NO --> C1[Correct low pressure sensor connector connection.] Q1 -- YES --> Q2 Q2 -- YES --> C2[Is refrigerant amount charged properly? Is there any anomaly on the refrigeration circuit?] Q2 -- NO --> P1 P1 --> Q3 Q3 -- NO --> C3[Defective outdoor unit main PCB → Replace. (Defective low pressure sensor input circuit)] Q3 -- YES --> C4[OK] </pre>	

Note:

Error code Remote control: E57	Indoor display	RUN light	TIMER light	Content Insufficient refrigerant amount or detection of service valve closure
		7-time flash	ON	
	Outdoor unit control PCB	Green LED	Red LED	
		Keeps flashing	1-time flash	

1. Applicable model
All models

2. Error detection method
<ul style="list-style-type: none"> • Judge insufficient refrigerant amount by detecting the temperature difference between indoor heat exchanger (Th2) and indoor room (Th1). • It detects at initial startup in cooling or dehumidifying mode after power ON.

3. Condition of error displayed
Anomalous stop at initial detection

4. Presumable cause
<ul style="list-style-type: none"> • Defective indoor heat exchanger temperature sensor • Defective indoor room temperature sensor • Defective indoor unit main PCB • Insufficient refrigerant amount

5. Troubleshooting

Diagnosis	Countermeasure
	<p>Open fully.</p> <p>Correct indoor heat exchanger, room temperature sensor connector connections.</p> <p>Defective indoor heat exchanger, room temperature sensor → Replace.</p> <p>Charge refrigerant.</p> <p>Defective indoor unit control PCB → Replace. (Defective indoor heat exchanger, room temperature sensor input circuits)</p>

Indoor heat exchanger, room temperature sensor
Temperature-resistance characteristics
(Broken wire)

Temperature (°C)	Temperature sensor resistance (kΩ)
0	15
10	10
20	6
25	5
30	4
40	3
50	2

Note: Insufficient refrigerant amount preventive control makes compressor stopped, if it judges insufficient refrigerant amount by detecting the temperature difference between indoor heat exchanger (Th2) and room temperature (Th1) for 1 minute after compressor ON in cooling or dehumidifying mode and for 9 minutes after compressor ON in heating mode. [in cooling mode: (Th1)-(Th2)>4degC, in heating mode: (Th2)-(Th1)<4degC]

Error code Remote control: E59	Indoor display	RUN light	TIMER light	Content Compressor startup failure (1/2)
		-	-	
	Outdoor unit control PCB	Green LED	Red LED	
		Keeps flashing	5-time flash	

1. Applicable model
All models

2. Error detection method
When it fails to change over to the operation for rotor position detection of compressor motor

3. Condition of error displayed
If the compressor fails to startup for 20 times (10 patterns x2 times) continuously.

4. Presumable cause
<ul style="list-style-type: none"> Faulty outdoor fan motor Faulty outdoor unit main PCB Anomalous power source voltage Insufficient or excessive refrigerant amount Faulty component for refrigerant circuit Compressor anomaly (Motor or bearing)

5. Troubleshooting				
<table border="1"> <thead> <tr> <th>Diagnosis</th> <th>Countermeasure</th> </tr> </thead> <tbody> <tr> <td> <p>In case that the compressor does not start at all and no sound or vibration exists</p> <pre> graph TD Start([In case that the compressor does not start at all and no sound or vibration exists]) --> Q1{Is power source voltage OK?} Q1 -- NO --> C1[Check the power source voltage and correct it.] Q1 -- YES --> Q2{Is DC15V detected after disconnecting outdoor fan motor?} Q2 -- YES --> C2[Replace outdoor fan motor.] Q2 -- NO --> R1[Replace outdoor unit main PCB] R1 --> Q3{Can compressor startup?} Q3 -- YES --> C3[OK] Q3 -- NO --> Q4{Is the pressure equalized at starting OK?} Q4 -- NO --> C4[Check refrigerant amount and refrigerant circuit.] Q4 -- YES --> Q5{Is the insulation resistance and resistance between terminals(1) of compressor OK?} Q5 -- NO --> C5[Replace compressor.] Q5 -- YES --> End[To next page] </pre> <p>(1) 0.448Ω or more at 20°C (Models FDC100-140VNA-W) 1.044Ω or more at 20°C (Models FDC100-140VSA-W)</p> </td> <td> <p>Check the power source voltage and correct it.</p> <p>Replace outdoor fan motor.</p> <p>OK</p> <p>Check refrigerant amount and refrigerant circuit.</p> <p>Replace compressor.</p> </td> </tr> </tbody> </table>	Diagnosis	Countermeasure	<p>In case that the compressor does not start at all and no sound or vibration exists</p> <pre> graph TD Start([In case that the compressor does not start at all and no sound or vibration exists]) --> Q1{Is power source voltage OK?} Q1 -- NO --> C1[Check the power source voltage and correct it.] Q1 -- YES --> Q2{Is DC15V detected after disconnecting outdoor fan motor?} Q2 -- YES --> C2[Replace outdoor fan motor.] Q2 -- NO --> R1[Replace outdoor unit main PCB] R1 --> Q3{Can compressor startup?} Q3 -- YES --> C3[OK] Q3 -- NO --> Q4{Is the pressure equalized at starting OK?} Q4 -- NO --> C4[Check refrigerant amount and refrigerant circuit.] Q4 -- YES --> Q5{Is the insulation resistance and resistance between terminals(1) of compressor OK?} Q5 -- NO --> C5[Replace compressor.] Q5 -- YES --> End[To next page] </pre> <p>(1) 0.448Ω or more at 20°C (Models FDC100-140VNA-W) 1.044Ω or more at 20°C (Models FDC100-140VSA-W)</p>	<p>Check the power source voltage and correct it.</p> <p>Replace outdoor fan motor.</p> <p>OK</p> <p>Check refrigerant amount and refrigerant circuit.</p> <p>Replace compressor.</p>
Diagnosis	Countermeasure			
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Note: Insulation resistance

- The unit is left for long period without power source or soon after installation, insulation resistance may decrease to several MΩ or lower due to the liquid refrigerant migrated in the refrigerant oil in compressor. If the electric leakage breaker is activated due to low insulation resistance, check followings.
 - ① Check whether the insulation resistance can recover or not, after 6 hours has passed since power ON.
(By energize the crankcase heater, liquid refrigerant migrated in the refrigerant oil in compressor can be evaporated)
 - ② Check whether the electric leakage breaker conforms to high-harmonic specifications
(As invertr PAC units has inverter, in order to prevent from improper operation, be sure to use the breaker of high-harmonic type)

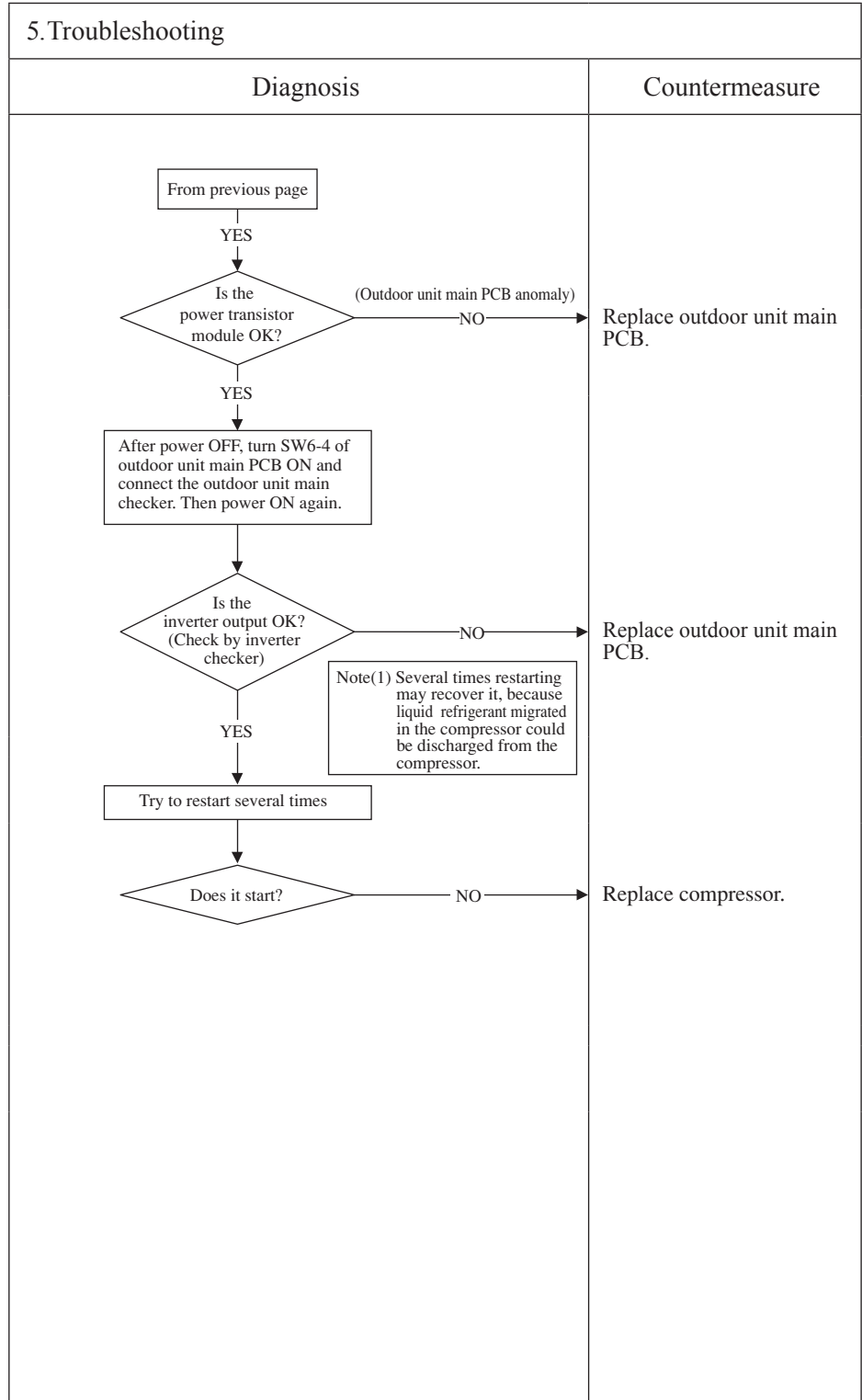
Error code Remote control: E59	Indoor display	RUN light	TIMER light	Content Compressor startup failure (2/2)
		-	-	
	Outdoor unit control PCB	Green LED	Red LED	
		Keeps flashing	5-time flash	

1. Applicable model
All models

2. Error detection method

3. Condition of error displayed

4. Presumable cause
<ul style="list-style-type: none"> • Faulty outdoor fan motor • Faulty outdoor unit main PCB • Anomalous power source voltage • Insufficient or excessive refrigerant amount • Faulty component for refrigerant circuit • Compressor anomaly (Motor or bearing)



Note: