INDOOR DUCTED

- Error Indicator

The function is to self-diagnosis' air-conditioner and express the troubles identifiably if there is any trouble.

If more than two troubles occur simultaneously, primarily the highest trouble error is expressed.

After error occurrence, if error is released, error LED is also released.

To operate again on the occurrence of an error be sure to turn unit off at the power and then turn on.

INDOOR ERROR				
ERROR CODE	DESCRIPTION	LED 1 RED	LED 2 GREEN	INDOOR STATUS
00	No ERROR			ON
01	Indoor Room thermistor		1 TIME	OFF
02	Indoor In –piping sensor		2 TIME	OFF
03	Remote control error		3 TIME	OFF
04	Drain pump error		4 TIME	OFF
05	Communication between Indoor and outdoor		5 TIME	OFF
06	Indoor out-piping error		6 TIME	OFF
07	Different mode operation		7 TIME	OFF
09	IPM fault (sub board)		9 TIME	OFF
10	BCLD motor fan lock		10 TIME	OFF
12	Mid pipe sensor		12TIME	OFF

OUTDOOR DUCTED

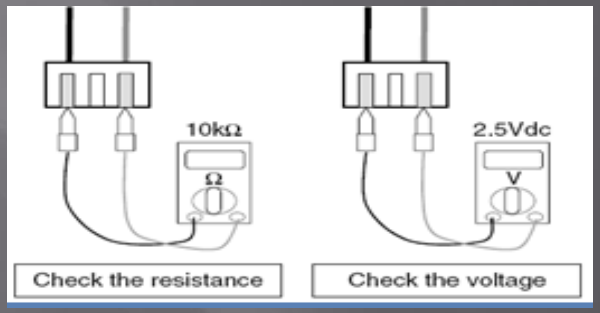
OUTDOOR ERROR				
ERROR CODE	DESCRIPTION	LED 1 RED	LED 2 GREEN	INDOOR STATUS
CH 21	DC PEAK (IPM fault)	2 TIMES	1 TIME	OFF
CH 22	CT 2 (MAX CT)	2 TIMES	2 TIMES	OFF
CH 23	DC LINK LOW VOLT	2 TIMES	3 TIMES	OFF
CH24	L_P HEAT/ SINK	2 TIMES	4 TIMES	OFF
CH25	LOW VOLTAGE/OVER VOLTAGE	2 TIMES	5 TIMES	OFF
CH26	DS COMP POSITION ERROR	2 TIMES	6 TIMES	OFF
CH27	PSC FAULT ERROR	2 TIMES	7 TIMES	OFF
CH28	DC LINK HIGH VOLT	2 TIMES	8 TIMES	OFF
CH32	D- PIPE HIGH (INV)	3 TIMES	2 TIMES	OFF
CH33	D- PIPE HIGH (NORMAL)	3 TIMES	3 TIMES	OFF
CH40	CT SENSOR (OPEN/SHORT)	4 TIMES	0	OFF
CH41	INV D – PIPE TH ERROR	4 TIMES	1 TIME	OFF

OUTDOOR DUCTED CONT

OUTDOOR ERROR				
ERROR CODE	DESCRIPTION	LED 1 RED	LED 2 GREEN	INDOOR STATUS
CH 44	OUTDOOR AIR TH ERROR	4 TIMES	4 TIMES	OFF
CH 45	COND PIPE TH ERROR	4 TIMES	5 TIMES	OFF
CH 46	SUCTION PIPE ERROR	4 TIMES	6 TIMES	OFF
CH 47	CONST D PIPE TH ERROR	4 TIMES	7 TIMES	OFF
CH 51	OVER CAPACITY	5 TIMES	1 TIMES	OFF
CH 52	INVERTER FAULT	5 TIMES	2 TIMES	OFF
CH 53	SIGNAL ERROR INDOOR / OUT	5 TIMES	3 TIMES	OFF
CH 60	EEPROM CHECK SUM ERROR	6 TIMES	0	OFF
CH 61	COND PIPE HIGH	6 TIMES	1 TIME	OFF
CH 62	HEAT SINK HIGH	6 TIMES	2 TIMES	OFF
CH 63	HEATSOML TH ERROR	6 TIMES	3 TIMES	OFF
CH 67	BLDC MOTOR FAN LOCK	6 TIMES	7 TIMES	OFF

Troubleshooting CH01, CH02 CH06 CH 12 error code

DISPLAY CODE	Sensor types	Fault	Main Causes
01	Air temp sensor	indoor unit	1. Sensor faulty
02	Pipe inlet temp sensor	Temp sensor is	2. Termination at PCB faulty
06	Pipe outlet temp sensor	Open/short	3. PCB faulty
12	Mid pipe temp sensor		



CH01, CH02 and CH06 & CH 12cont…

- **Defect Inspection method**

1 Check the connecting point of the sensor with he PCB (Sensor's connector).

Is the sensors connecting position correct? Otherwise reconnect the sensor at the correct position.

2. Remove the sensor and measure its resistance with a tester.

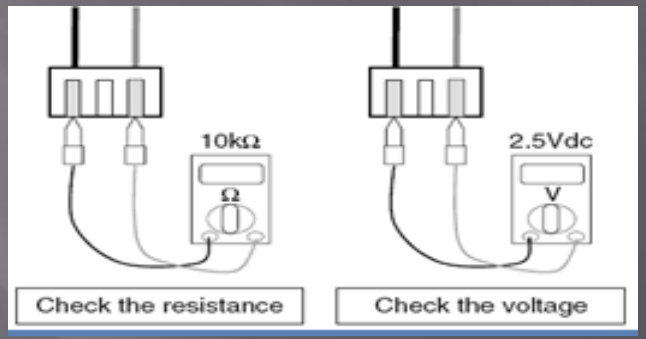
Room pipe temp sensor : 10°c= 20.7kΩ : 25°C =10k Ω :50° = 3.4kΩ

Pipe temp sensor : 10°C =10kΩ : 25°C = 5kΩ : 50°C = 1.8kΩ

3. Replace the sensor if it is not having correct resistance value.

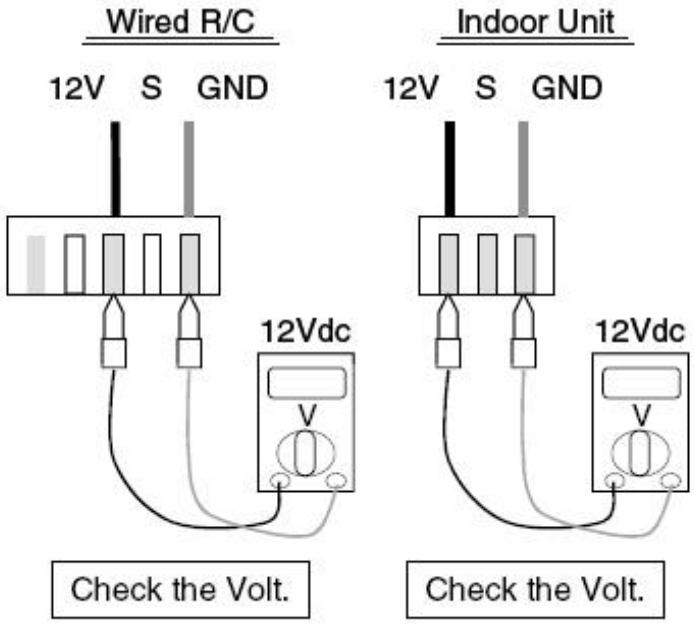
4. If there I no problem with the sensor or sensor connection then replace the indoor Unit PCB.

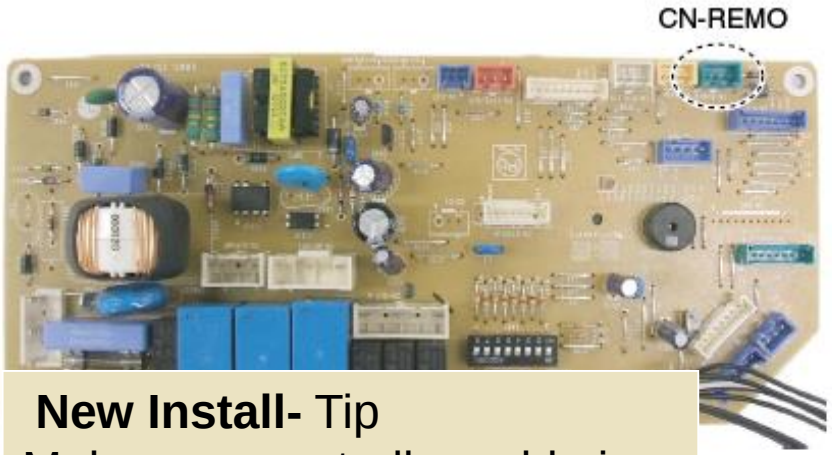
Check resistance & voltage of sensors



Troubleshooting CH03

Display code	Title	Cause of error	Check point & Normal condition
03	Communication Wired R/C	• Open / Short • Wrong connection	• Connection of wire • Main PCB Volt. DC12V • Noise interference





New Install- Tip
Make sure controller cable is OK and controller matches unit.

INSPECTION METHOD OF CH03

- **Defect Inspection method**

1. Check the connection point of the Wired remote controller (Connecting Connector)
2. In case the replaced Remote controller has no defect, then the original remote was defective.
3. In a case that the error code still displays after replacement controller replace the indoor PCB.
4. In a case that the error still occurs after replacing controller and PCB check interconnecting cable.

Check harness between wall controller and PCB

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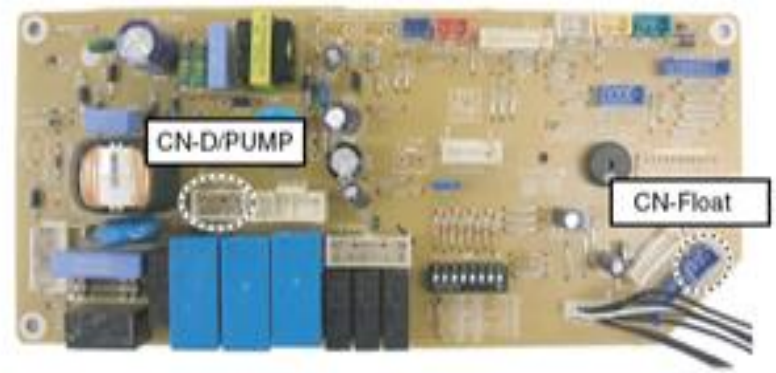
Troubleshooting CH04,

Display Code	Error contents	Cause of error	Main Causes
04	Drain Pump/Float Switch	Float switch open /short	1. Drain pump fault switch faulty 2. Improper drain pipe 3. Indoor PCB fault



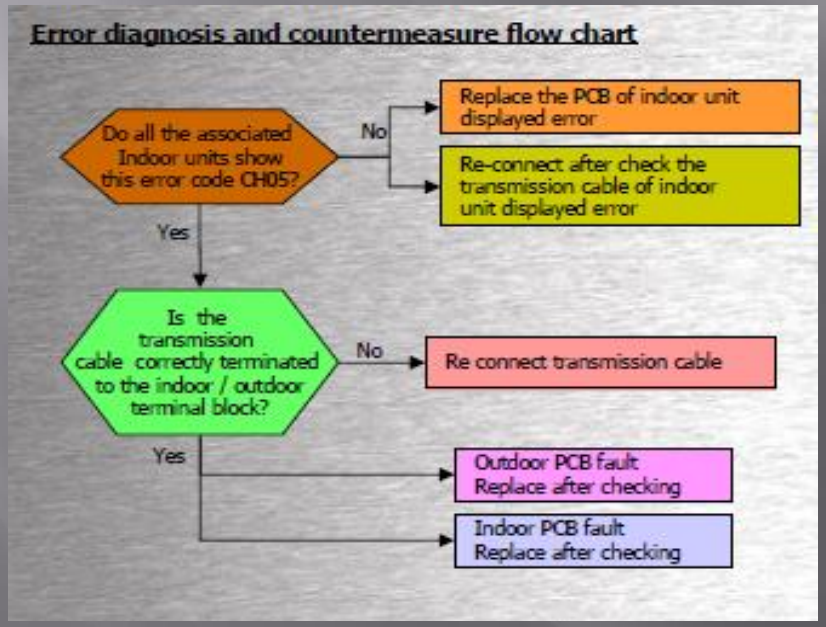
If no drain pump fitted
Make sure bridging wire is in CN float

Check Point

1. Check the wire connection. (Open, Soldered poorly) → Repair the connection or change the PCB.
2. Check the resistance of float switch (Abnormal : Open, Normal : short) → Check the float switch.
3. Check the level of water
4. Check the volt. Of Drain pump power supply. (AC 230V) → Repair or Change the main PCB.

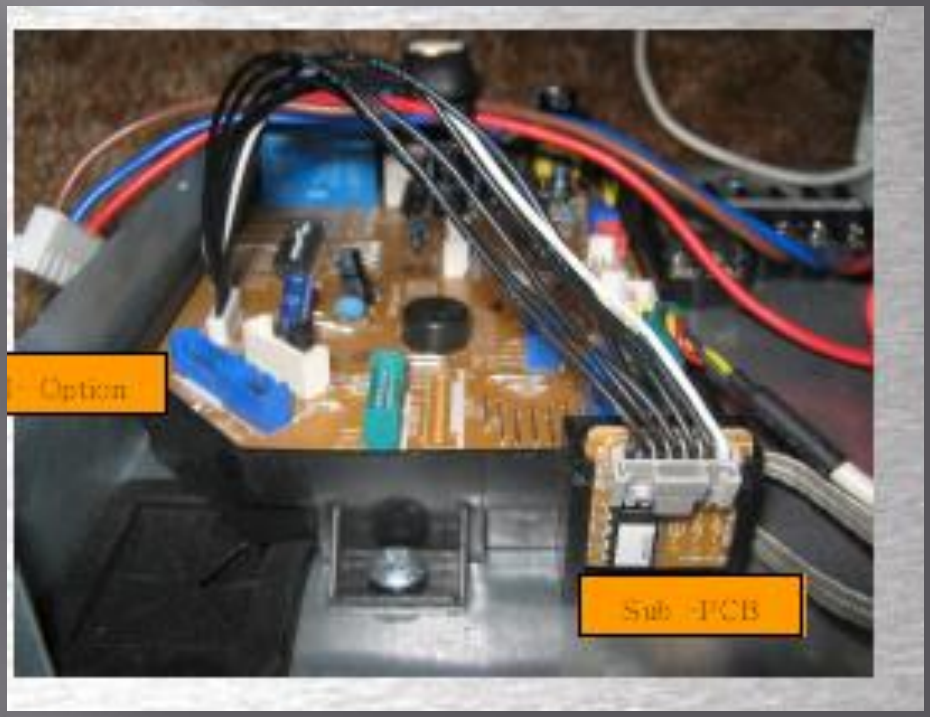
Troubleshooting CH05 ERROR CODE

Display Error	Error Contents	Meaning	Main Causes
05	Communication (Indoor & Outdoor)	No signal or transmission between indoor and outdoor units	1. Transmission cable is not connected 2. Short circuit of transmission cable 3. Fuse on main board blown



Troubleshooting CH06 error code

Display Error	Error Contents	Meaning	Main Causes
CH06	Unit wont turn back on	Fault with IPM board	1. Change IPM Board 2. Change main PCB

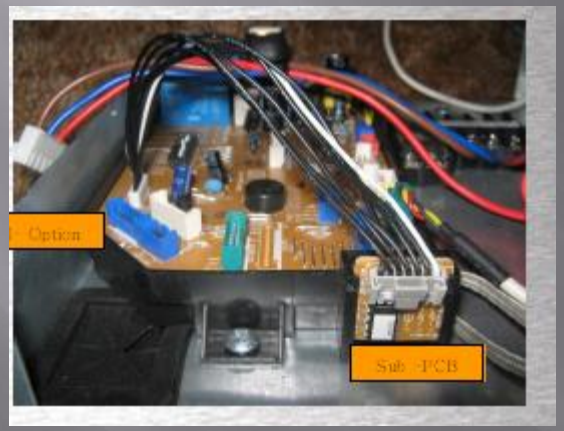


Troubleshooting CH07 error code

Error Code	Error Comments	Meaning	Main causes	Error position display
07	All Units are not running in the same mode (all units must be either heating or cooling)	The Indoor unit has been started in a different mode from outdoor	Units are in different modes	Remote controller Panel

Troubleshooting CH09 Error code

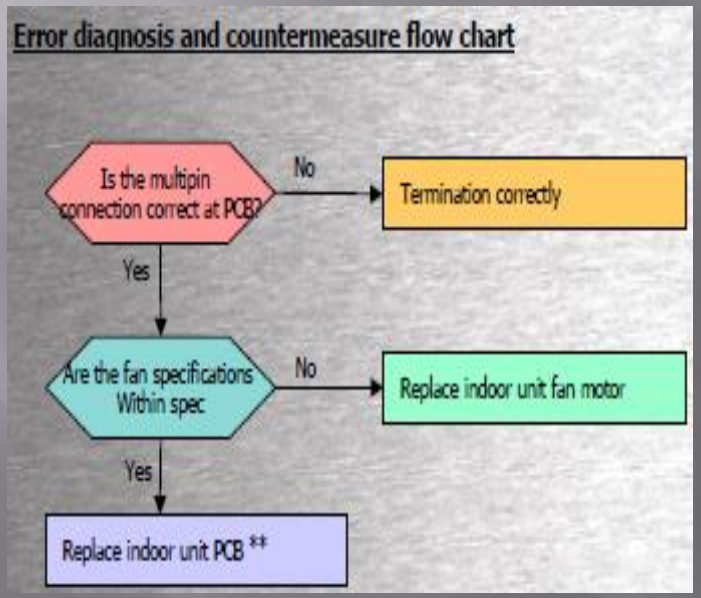
Error Code	Error Contents	Meaning	Main Causes
09	Indoor unit Eprom Error	Communication error between indoor EPROM PCB an d main indoor PCB	1. Error developed in transmission between the microprocessor and the EPROM. 2. Error due to the Eprom damage.



The EPROM is micro processor of unit

Troubleshooting CH010 error code

Error Code	Error Comments	Meaning	Main causes	Error display position
10	Indoor unit BLDC fan motor failure	Indoor BLDC fan motor feedback signal is absent (for 50secs)	1. Motor connector connection failure 2. Indoor PCB fault 3. Motor fault	Concerned remote controller Panel display outdoor unit.



Each Terminal with the tester

Tester		Normal resistance (+_10%)	
+	-	TH chassis	TD Chassis
1	4	∞	∞
5	4	Under 900 kΩ	Under 900 kΩ
6	4	∞	∞
7	4	Under 900 kΩ	Under 900 kΩ

Troubleshooting CH012 Error code

Error Code	Error	Meaning	Main Causes
CH12	Mid Pipe Sensor indoor unit	Mid pipe sensor is open/ Short	1. Incorrect termination at PCB 2. Sensor faulty 3. Faulty PCB

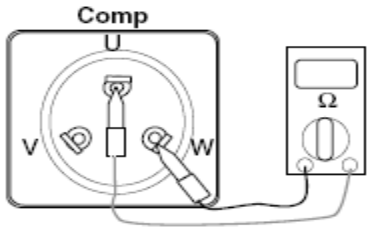
Generally if the resistance value of a sensor is more than 100kΩ (open) or less than 100 Ω (short) they will result in a sensor error

Outdoor fault codes

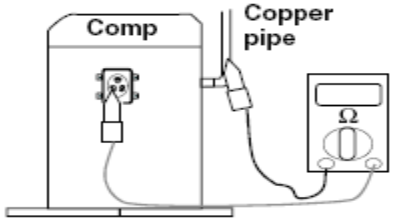
Troubleshooting CH21 error code

Error Code	Error fault	Meaning	Main Causes
CH21	DC Peak Fault IPM Fault	Instant over current Overrated current	1. Check operating gas pressure 2. Check compressor 3. Pipe length 4. Outdoor fan no go.

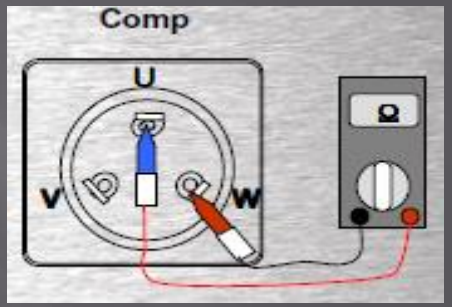
■ Comp checking method



Resistance (Ω) at 20℃		
Terminal	B30	B36/B42 B48/B55
U - V	0.720	0.435
U - W	0.726	0.452
V- W	0.708	0.441



Resistance (Ω) at 20°C	
Terminal	B30/B36/B42 B48/B55
U – GND	2MΩ
V – GND	2MΩ
W- GND	2MΩ



Troubleshooting CH21 error code

- **Defect Inspection method**

1. Check whether the insulation of the compressor, motor coil resistance is normal?

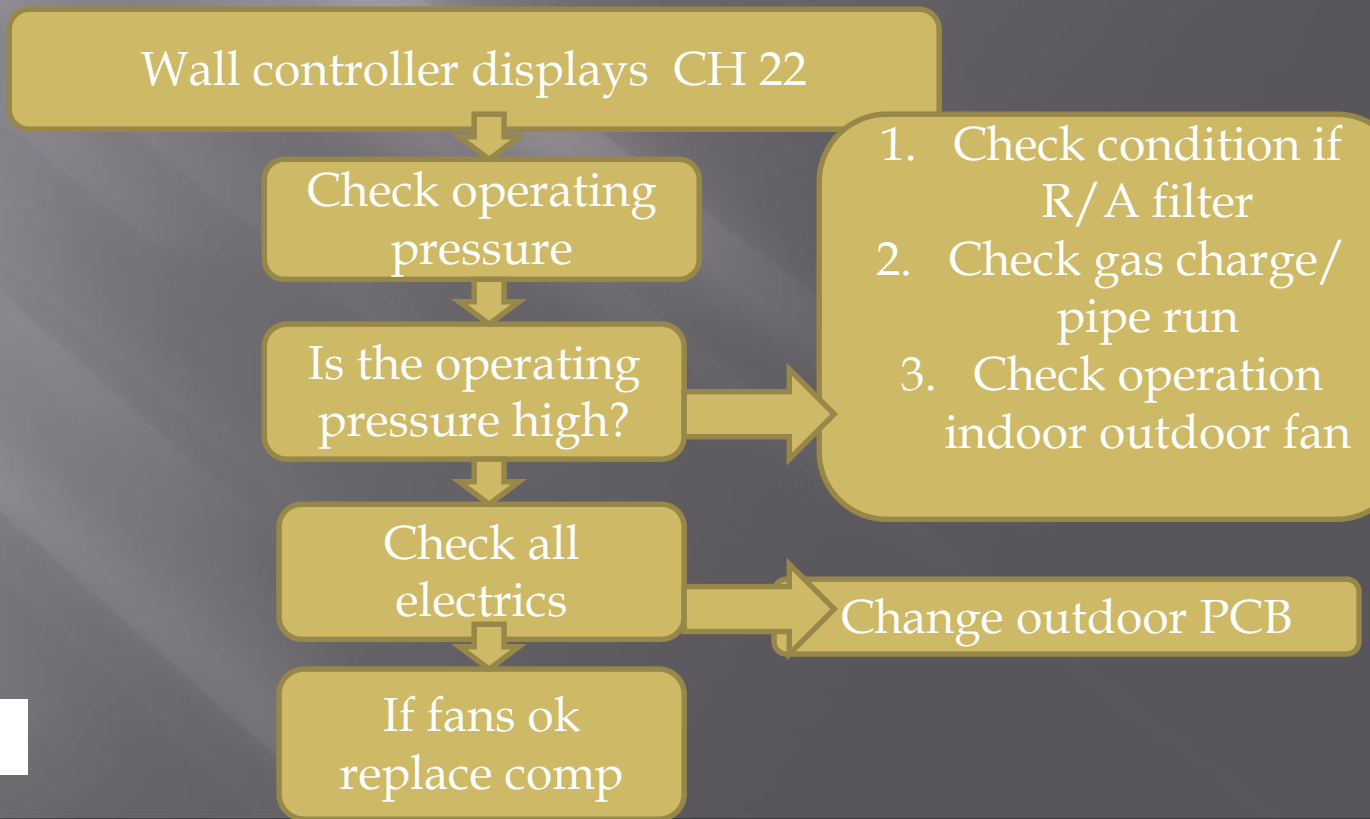
   Otherwise replace the compressor. – motor coil resistance normalcy : resistance between each terminal of the inverter compressor = 1.33Ω-+ 7%

   Resistance between each terminal of a constant compressor = 1.83Ω-+7% (the three measured must be simular)

   Insulation normalcy: resistance between the compressor terminal and the product body = Above 2MΩ.
2. Check wether the IPM/3 phase rectification Diode is normal otherwise replace the Diode.
3. Check wether the input voltage is 360V~410V (AC)
4. Check he balance between each phase at the main breaker.
5. Check wether the terminal connection is normal.
6. Check wether the outdoor unit fan is running
7. Measure the currant of each phase (UVW) of the inverter compressor during trial run in case of deviation between phase above 1.5A replace the PCB.

Troubleshooting CH22 error code

Error Code	Error fault	Meaning	Main Causes
CH22	Maximum over current	Input current over 19A or 29A	1. Malfunction compressor 2. Blocking of pipe 3. Low voltage input 4. Refrigerant pipe length blocked



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Troubleshooting CH23 error code

Error Code	Error fault	Meaning	Main Causes
CH23	Inverter Compressor low DC Voltage fault	Problem in DC charging voltage	1. Power source 2. Reactor 3. B/Diode

Check Test

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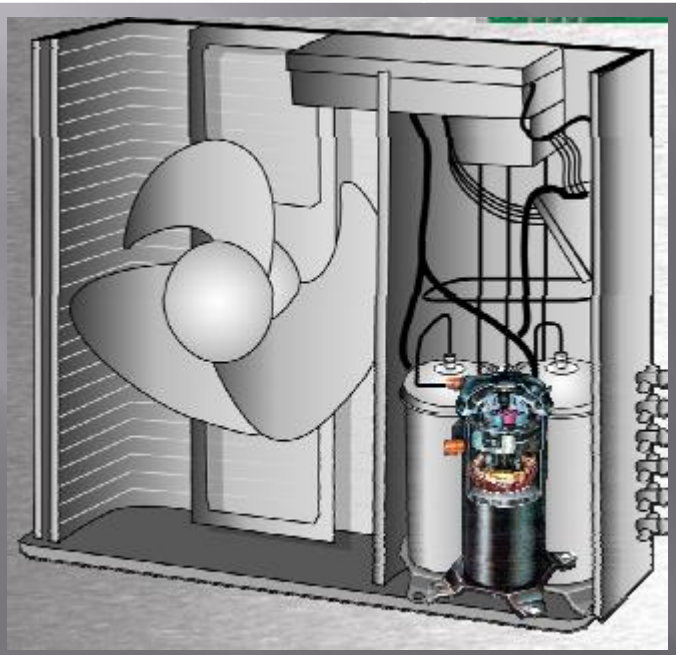
Troubleshooting CH24 error code

Error Code	Error fault	Meaning	Main Causes
CH24	System operating pressures are not within specified values (model dependent)	System failure due to excessive rise in discharge pressure	1. High pressure switch faulty. 2. Faulty indoor /outdoor fan motor 3. System over charged 4. Restricted LEV fault 5. Poor air circulation over coil 6. SVC value closed 7. Outdoor PCB defect

Troubleshooting CH25 error code

Error Code	Error fault	Meaning	Main Causes
CH25	Low / High Voltage	1. Input Voltage in the installation region = 3 phase 380V+- 10% 2. Single Phase = 220 +-10%	1. Abnormality of the input voltage 2. Outdoor main line fuse damage 3. Outdoor unit PCB defect



Troubleshooting CH26,CH 27 error code

Error Code	Error fault	Meaning	Main Causes
CH26	DC Compressor position	Compressor start up fail error	1. Check the connection of comp wire UVW 2. Malfunction f compressor

Error Code	Error fault	Meaning	Main Causes
CH27	AC Input Instant over current	Inverter PCB input current is over 100A	1. Overload operation 2. Compressor damage 3. Input voltage abnormal 4. Inverter PCB damage

Troubleshooting CH28, CH 29 error code

Error Code	Error fault	Meaning	Main Causes
CH28	Inverter DC link high voltage error	Problem in DC charging voltage	1. Power source 2. Reactor 3. B/Diode

Error Code	Error fault	Meaning	Main Causes
CH29	Inverter Compressor over current	Inverter compressor is over 30A	1. Overload operation (pipe clogging covering EEV defect – overcharge . 2. Compressor damage 3. Input voltage low 4. Outdoor PCB damage

Troubleshooting CH32,33 error code

Error Code	Error fault	Meaning	Main Causes
CH32/ 33	Excessive rise to constant speed Comp discharge temp	Constant speed comp off due to rise in temp	1. Constant speed compressor discharge temp 2. Refrigerant shortage/ leakage 3. Defective LEV 4. Check discharge pipe sensor

102.5	0.5860	1.847
103.0	0.5775	1.831
103.5	0.5692	1.814
104.0	0.5611	1.797
104.5	0.5531	1.781
105.0	0.5452	1.764
105.5	0.5374	1.748
106.0	0.5298	1.732
106.5	0.5223	1.716
107.0	0.5150	1.700
107.5	0.5077	1.684

※ Thermistor unit resistance
1kΩ ~ 400kΩ (approximately)

Troubleshooting CH40 error code

Error Code	Error fault	Meaning	Main Causes
CH40	Low Current at CT	Whilst inverter comp operation R phase current drops below 2A	1. Fuse Failure 2. Defective noise filter 3. R phase connection 4. CT sensor failure inverter PCB

Troubleshooting CH41 error code

Error Code	Error fault	Meaning	Main Causes
CH41	Comp discharge pipe sensor error	Sensor measurement value is abnormal	1. Defective connection of comp discharge 2. Defective discharge pipe sensor of the compressor. 3. Defective outdoor PCB

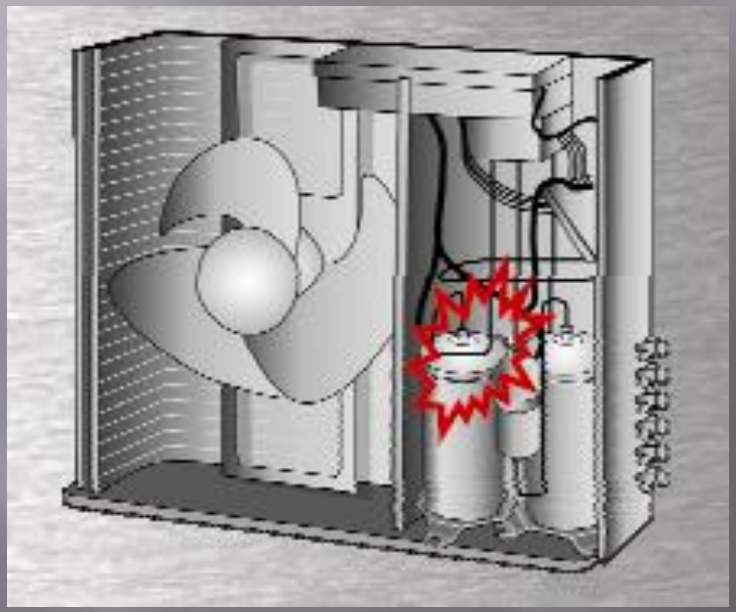
Comp discharge pipe temp sensor
10C= 362k Ω 25C = 200KΩ 50C =82KΩ and
100C = 18.5K Ω

Troubleshooting CH44,CH45,CH46 error code

Error Code	Error fault	Meaning	Main Causes
CH 44	Mid Temp Sensor error	Abnormal value of pipe sensor (Open/ Short)	1. Bad connection of mid pipe sensor. 2. Faulty outdoor mid pipe sensor 3. Faulty Outdoor PCB
CH 45	Error relating to outdoor air and pipe temp sensor	Abnormal value of air/pipe sensor (Open/ Short)	1. Bad connection of mid pipe sensor. 2. Faulty outdoor mid pipe sensor 3. Faulty Outdoor PCB
CH 46	Error relating to outdoor suction line sensor	Abnormal value of air/pipe sensor (Open/ Short)	1. Bad connection of mid pipe sensor. 2. Faulty outdoor mid pipe sensor 3. Faulty Outdoor PCB

Troubleshooting CH47 error code

Error Code	Error fault	Meaning	Main Causes
CH47	Compressor discharge pipe sensor	Abnormal value of pipe sensor (Open/ Short)	Refer to CH41



Troubleshooting CH51,CH52 error code

Error Code	Error fault	Meaning	Main Causes
CH51	Over Capacity	The sum of the indoor unit capacity has exceed the outdoor capacity	1. More than unit related capacity 2. Wrong connection of cabling 3. Outdoor PCB

Error Code	Error fault	Meaning	Main Causes
CH52	Communication error (inverter PCB - main PCB)	The main PCB cannot receive the signal from the inverter PCB	1. 35A fuse on PCB board 2. Inverter board

Part number EAF38718601

Troubleshooting CH60,CH61 error code

Error Code	Error fault	Meaning	Main Causes
CH60	EPROM check error	Check sum EPROM	1. Check PCB 2. Check EPROM make sure inserted OK 3. Check compressor

Error Code	Error fault	Meaning	Main Causes
CH61	High temp sensor	Abnormally high mid temp sensor value based on operating mode	1. Abnormally high pressure issues

Heating

Clean Filters
Correct refrigerant
Clean condenser

Cooling

Clean condenser coil
Gas Charge
Poor position

Troubleshooting CH62 error code

Error Code	Error fault	Meaning	Main Causes
CH62	Heat Sink over temp	Heat Sink temperature value has exceeded safe operating value	1. Defect of heat sink cooling fan 2. Defect of inverter compressor PCB 3. Loose connection of connector of cooling fan 4. Defect of temperature sensor of heat sink

Check Point

1. Check resistance between No.19 pin and NO.20 pin of PCB PFC module
2. Check resistance between No.24 pin and NO.25 pin of PCB PFC module - only 48/56k
3. Resistance value should be in 7kΩ ±10%.(at 25°C).

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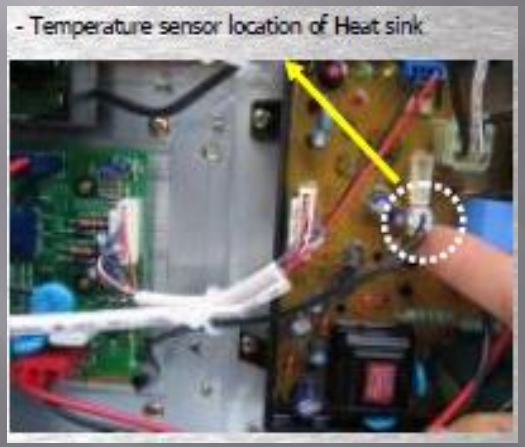
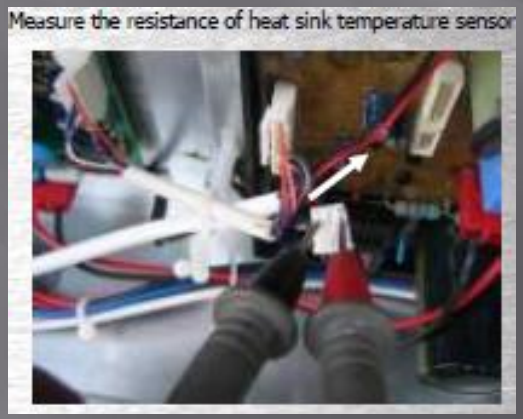
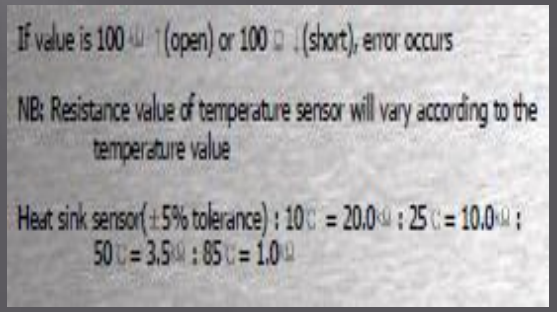
Troubleshooting CH65 error code

Error Code	Error fault	Meaning	Main Causes
CH65	Heat Sink Temp Sensor error	Abnormal value of sensor (open/ short)	1. Loose connection to temperature sensor connector 2. Temperature sensor defect (Open/ short) 3. Faulty PCB







Troubleshooting CH67 error code

Error Code	Error fault	Meaning	Main Causes
CH67	Fan Lock failure/ Error	Communication error between outdoor BDLC fan motor and main indoor PCB	1. Motor connection fault 2. Outdoor pcb Fault 3. Motor Fault

Tester		Normal resistance (±10%)	
+	-	TH chassis	TD chassis
①	②	∞	∞
③	④	hundreds kΩ	hundreds kΩ
⑤	⑥	∞	∞
⑦	⑧	hundreds kΩ	hundreds kΩ

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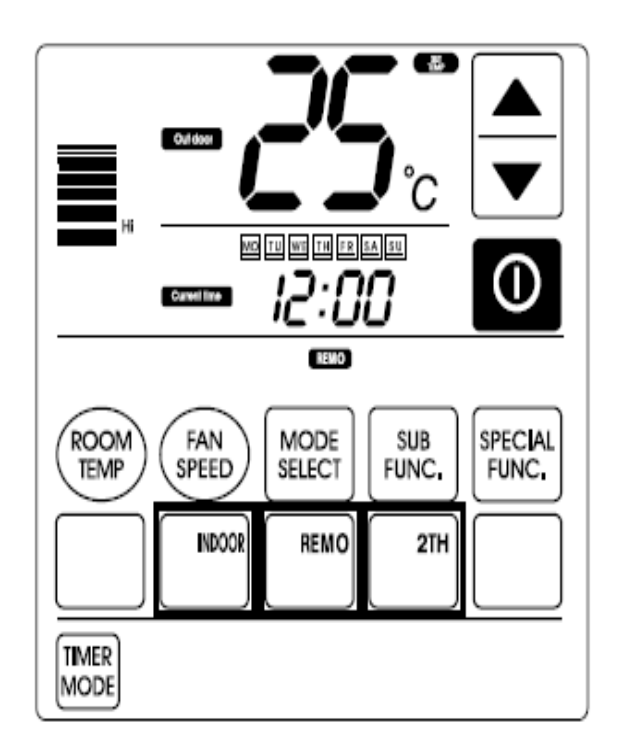
LG Ducted Controllers



Controller Part numbers
If no part number available a faulty controller needs to be RA'd

Controller Model No & Part numbr list				
Name	**Type**	**Model No**	**Availability via spares**	**Part number**
		PQWRHSF0	Yes	6711A20073Y
Wireless remote controller		PQWRHDF0	Yes	AKB35149706
		PCRCUSZ0	Yes	6711A20127A
		PDRCUSZ0	Yes	6711A20127B
	STANDARD	PDRCUSZ0	Yes	AKB32790402
		PQRCUA0	Yes	6711A20116D
	SIMPLE	PQRCFCS0	Yes	6711A20116F
		PQRCUDS0	Yes	6711A20106B
Wired remote controller	DELUXE	PDRCUDB0	Yes	6711A20106H
Central Controller		PQCSC101S0	Yes	6711A20116H
Simple central controller		PQCSB101S0	Yes	6711A20005J
		PQCSW502A2	NO	
Deluxe central controller		PQCSW502A2	NO	
AC smart		PQCSW320A0E	Yes	EBW36108008
AC manager		PQCSS520A0E	NO	
PART NUMBER FOR EXTENSION CABLE			**PZCWRC1**	**10 METERS**

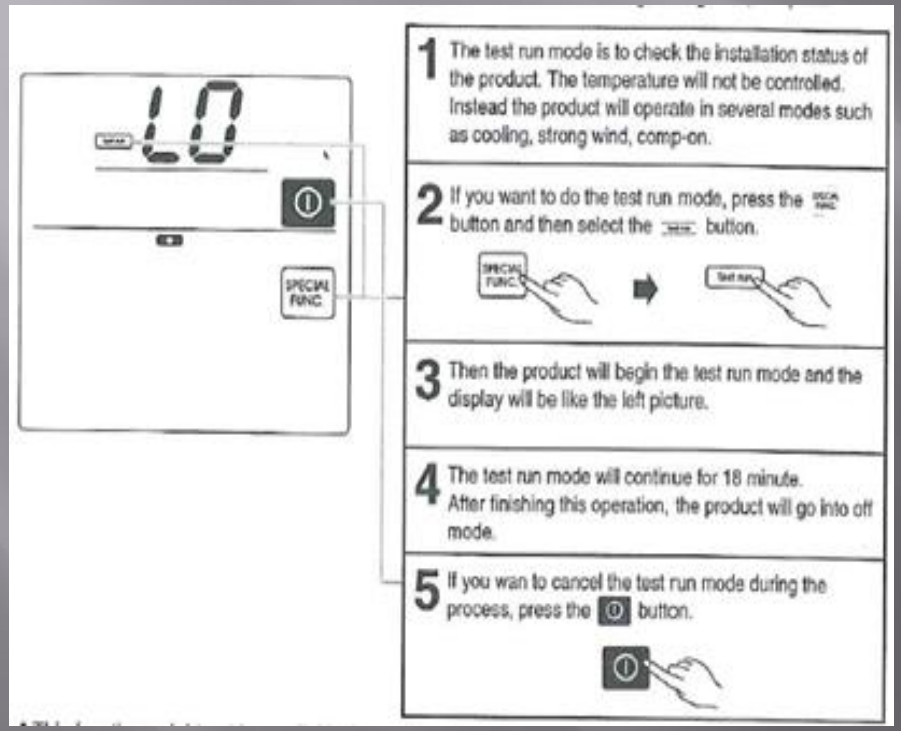
Controllers Cont..

Combination table		Indoor head	
		0 Series	1 Series
Deluxe wall controller	Old PQRCUDS0	Applicable	Not Applicable
	New PDRCUDB0	Not Applicable	Applicable
Standard wall controller	Old PDRCUSZ0	Applicable	Not Applicable
	New PQRCUSA0	Not Applicable	Applicable

Indoor head 2 series	
Deluxe wall controller	Old PDRCUDB0
	New PDRCUDB0
Standard wall controller	Old PQRCUSA0
	New PQRCVSLQW

Test Run Deluxe controller

Test Run Mode-
No temp readings



- Use the test run mode to check installation of unit. The temperature **will not** be controlled whilst in trial operation. The Temp will not be controlled , but the unit will run in different modes with comp- on.
- For Zone settings please refer to instruction booklet.
- To change the sensing remote from return air to room or remote.

-

1) Select the 'SUB FUNC key on the LCD display'
2) Select sensing location on LCD display: Indoor/Remo/2TH

Test Run Standard controller

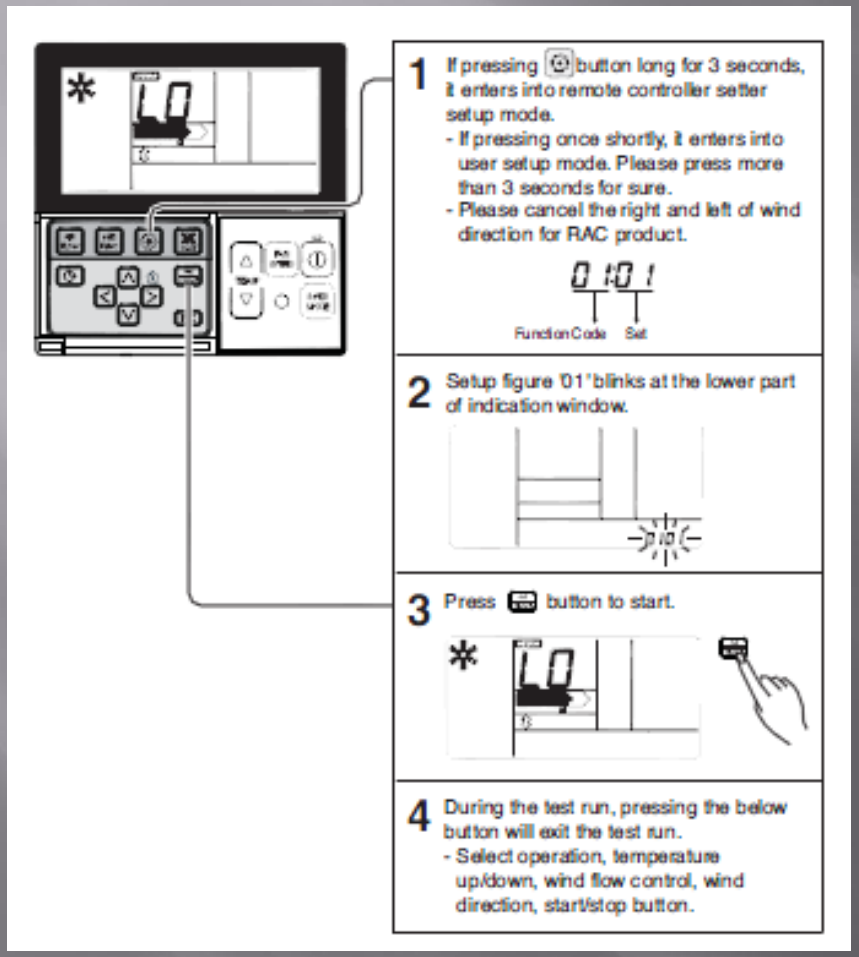
- Hold 5 seconds the temp down button and the house temp button this will force the unit to run.

To change temp sensing there is a switch on back of controller

Three available sensing options:

1. REMO: Allows sensing at wall controller sensor
2. INDOOR: Allowing sensing at return air sensor (or remote temp sensor if this was installed)
3. 2TH: Sense at both sensors; Remo & Indoor, but not as an average

Test Run New Wide Screen Controller



1. Press the Cog button to enter set up for 3 seconds, it enters into remote controller setting.