

# Technicians Handbook for Sanyo Ductless Mini-Splits

# Sanyo Contact Information

Technical Support Phone #: (800) 851-1235

Hours of Operation:

Mon-Fri 8:30 am - 5:00 pm E.S.T

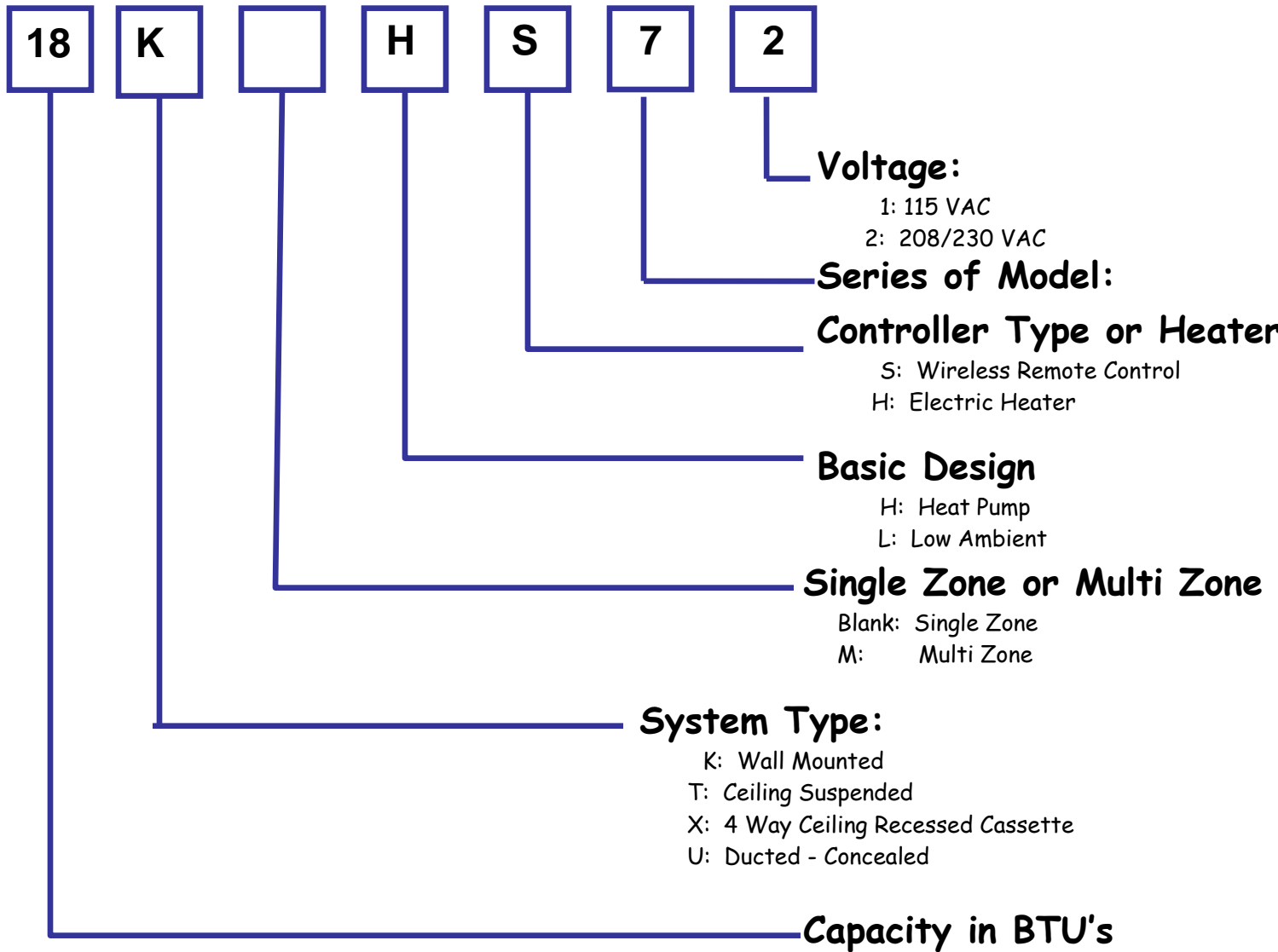
Sanyo Website: [www.sanyohvac.com](http://www.sanyohvac.com)

Sanyo Commercial Solutions (HVAC Division)

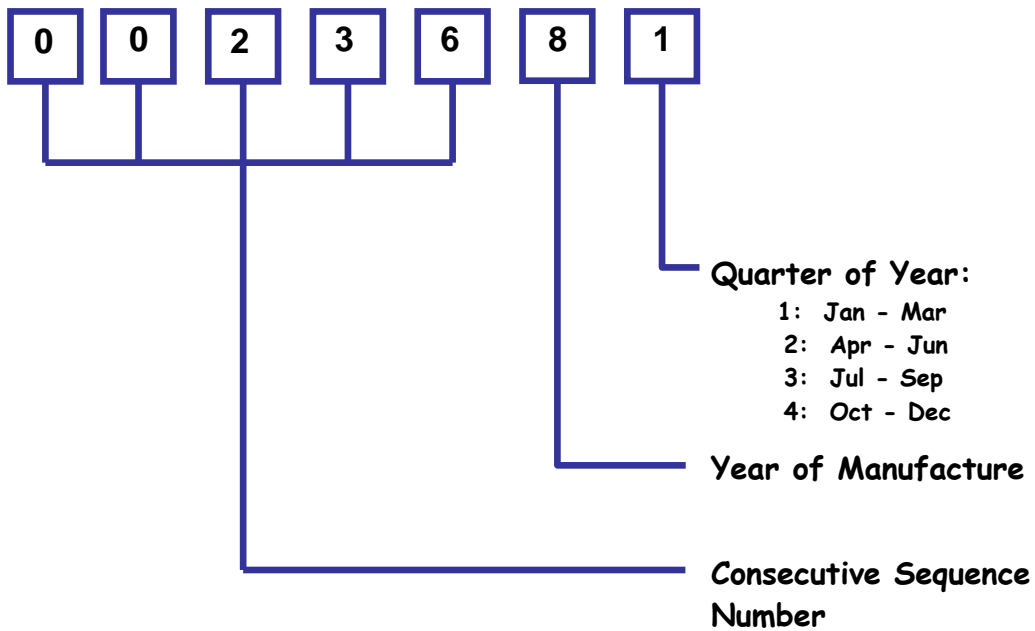
1165 Allgood Rd. Ste. 22

Marietta, Ga. 30062

# System Model Identification



## Serial Number Identification



**Sanyo warrants the compressor for a period of (6) years and all parts for (1) year.**

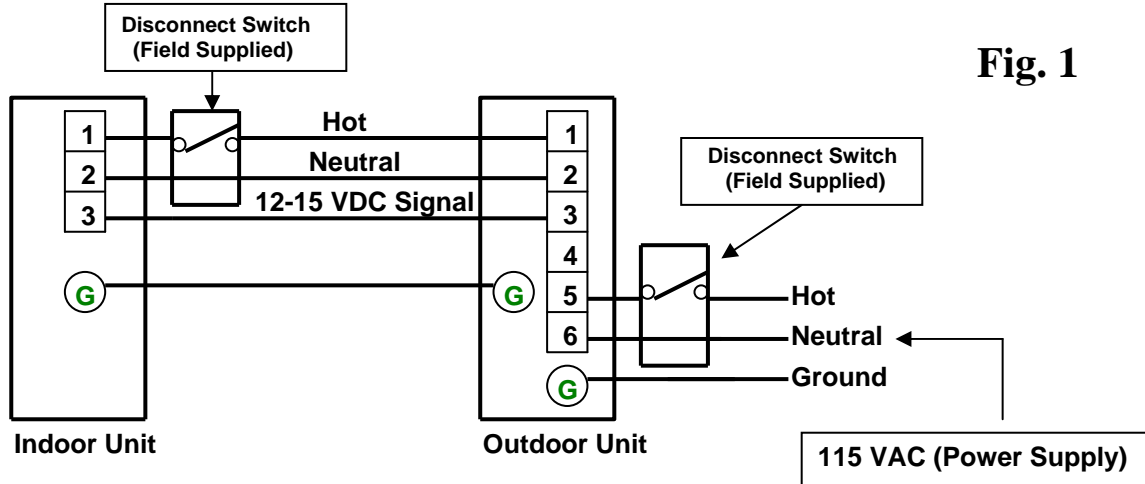
## Electrical Requirements for Sanyo RAC models

All of the following models are operated off of a single source single phase power supply of either 115 VAC or 208/230 VAC and require a 20 amp circuit breaker. **Please note our 9,000 & 12,000 single split models in a cooling only or heat pump model will operate off of 115 VAC. The voltage of any Sanyo system will always be listed by the last number in the model.** Example: 12KS71 would require a 115 volt power supply system and a 26KS72R would require a 208/230 volt power supply.

### Sanyo System Model Numbers (RAC Products)

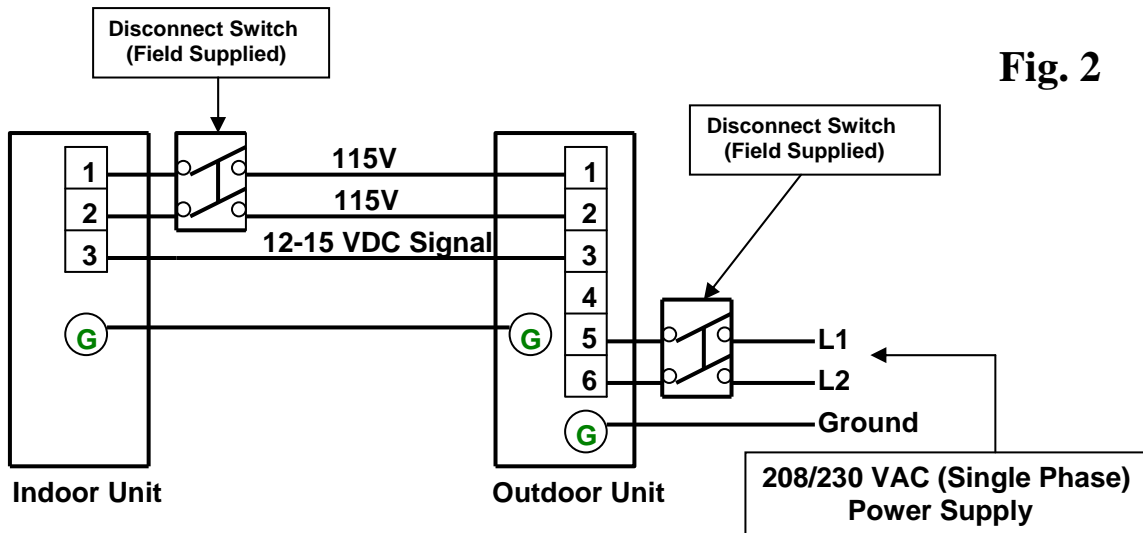
09KS71, 09KLS71, 09KHS71, 12KS71, 12KLS71, 12KHS71, 18KS72, 18KLS72, 18KHS72, 24KS72, 24KLS72, 24KHS72, CM1972, CLM1972, CMH1972, CM2472, CLM2472, CMH2472, CM3172, CLM3172, CMH3172.

The following are illustrations of Sanyo installation wiring diagrams. The below all require a 14-3 AWG wire from the indoor to the outdoor unit.



**Fig. 1**

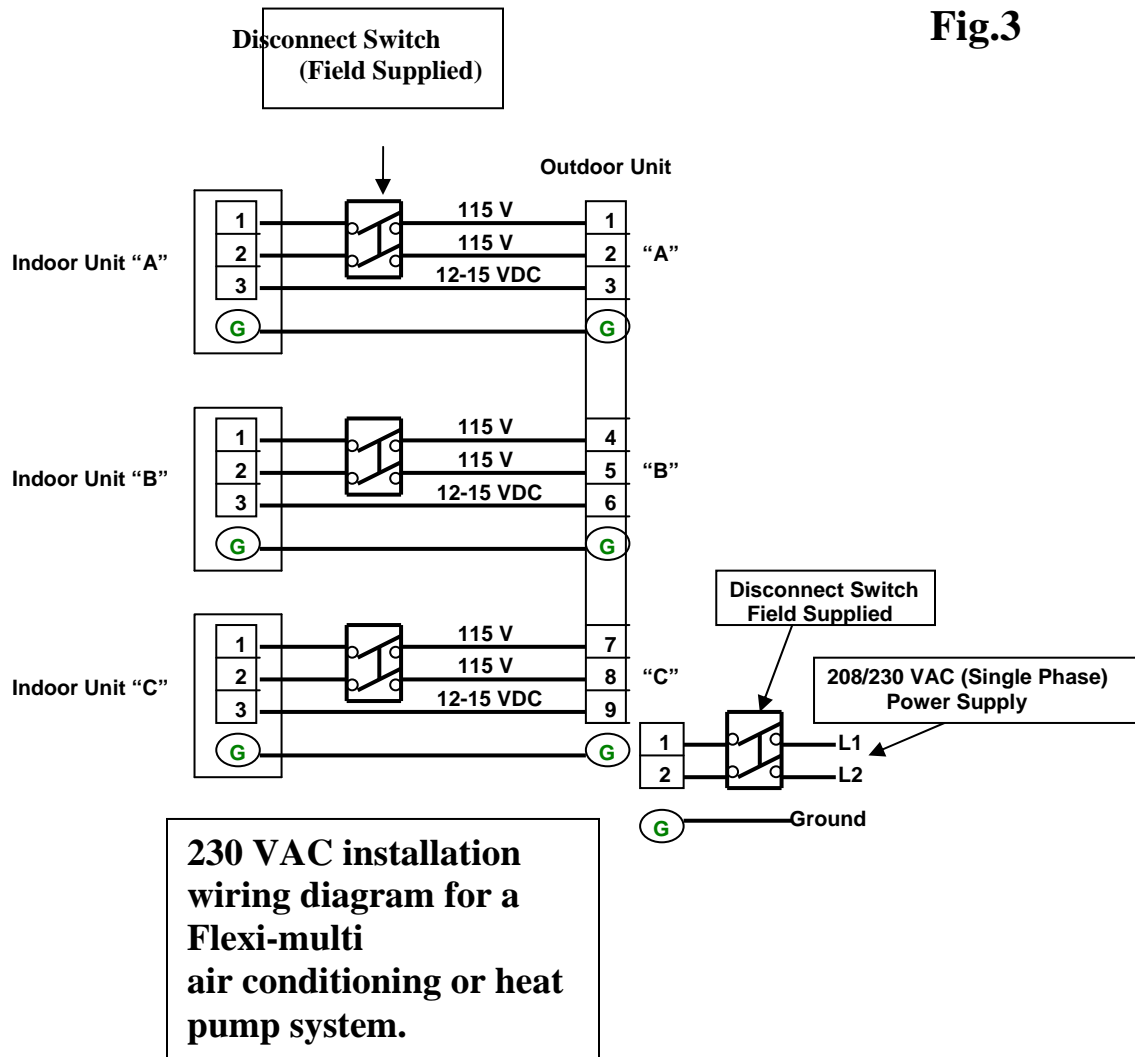
**115 VAC installation wiring diagram for a single split air conditioning or heat pump system.**



**Fig. 2**

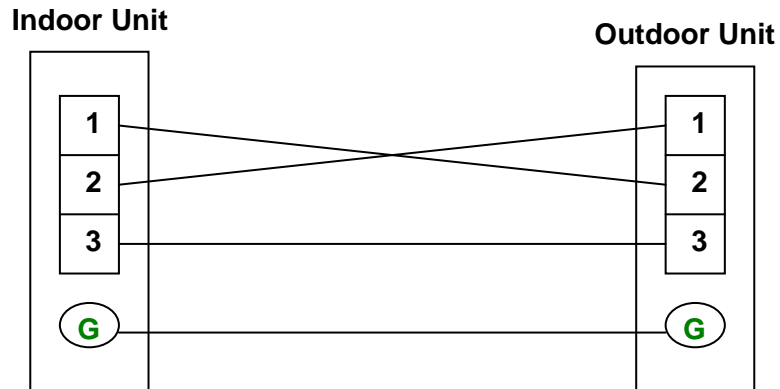
**230 VAC installation wiring diagram for a single split system air conditioning or heat pump system.**

The below diagram is an illustration showing the installation wiring for a Sanyo flexi-multi system. These systems require a 14-3 AWG wire from the indoor to the outdoor unit.

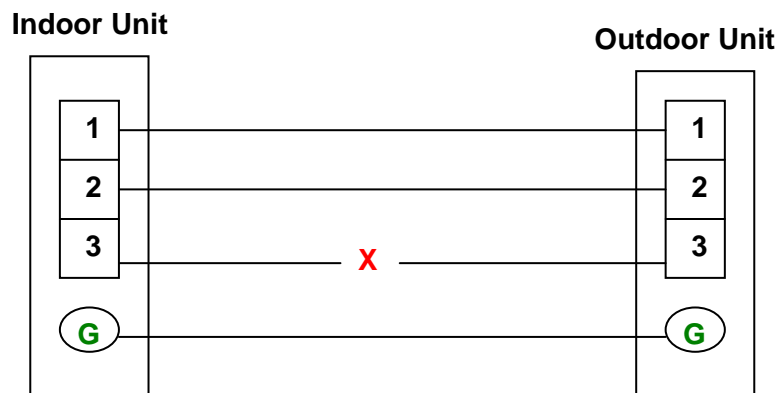


## Typical installation wiring errors (208/230 volt system)

(The below examples will show an error code of E01)



Example: The wires landed on terminals 1 & 2 are crossed from the indoor to the outdoor unit.

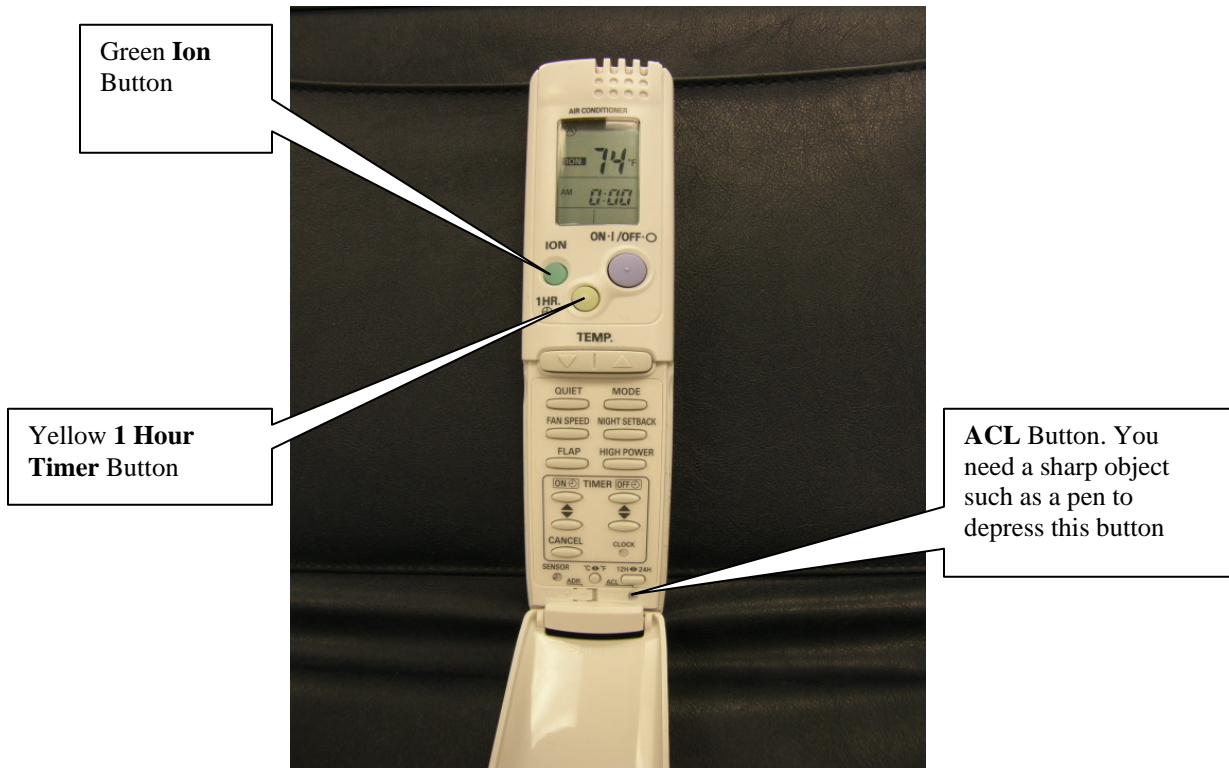


Example: The wire landed on terminal # 3 is open or shorted.

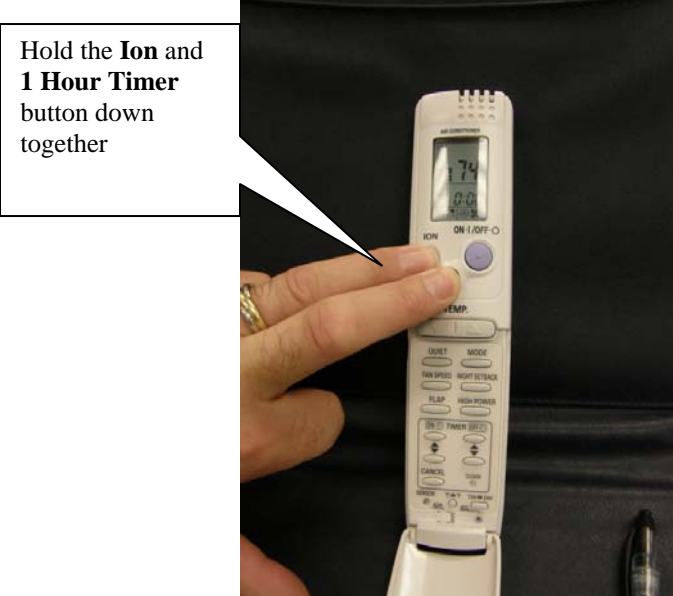
**Troubleshooting Guide for 9,000 – 24,000 BTU models & Flexi-multi**

- **Always verify the incoming power at terminals 1 & 2 of the indoor unit. This voltage will be 115 VAC or 208/230 VAC depending on the model installed.**
- **All Sanyo indoor printed circuit boards will incorporate a fuse for overload protection. Verify continuity through this fuse.**
- **Anytime there is a “blinking” green operation lamp on the front of the indoor unit the system has seen some type of faulted condition.**
- **The indoor board can store up to (3) error codes. The remote is used in conjunction with the indoor unit’s Operation, Timer & Quiet lamps to determine the fault code. These lamps are located in the lower right hand corner of the indoor unit.**
- **On a new installation and the outdoor unit will not operate. Always verify the interconnecting wires which run from the indoor to the outdoor unit.**
- **The following Sanyo models have a built in outdoor ambient lock out the C0971, C1271, C1872, C2472, CM1972, CM2472, CM3172, CMH1972, CMH2472 and CMH3172. These units will lock out when the outdoor ambient temperature drops below 50 degrees Fahrenheit.**
- **The outdoor circuit boards incorporate a fuse on the circuit board for overload protection. Verify the continuity through this fuse.**
- **The Sanyo outdoor circuit boards utilize a power lamp to indicate when the board is being powered with the proper voltage. If this light is not illuminated check the following: Fuse on the circuit board, verify incoming power supply and check the reactor for continuity usually around 0.3 Ohms.**
- **The control signal from the indoor to the outdoor unit when read between terminals 2 & 3 should be reading around 12-15 VDC. This is a pulsating signal which pulses around every 7-8 seconds.**

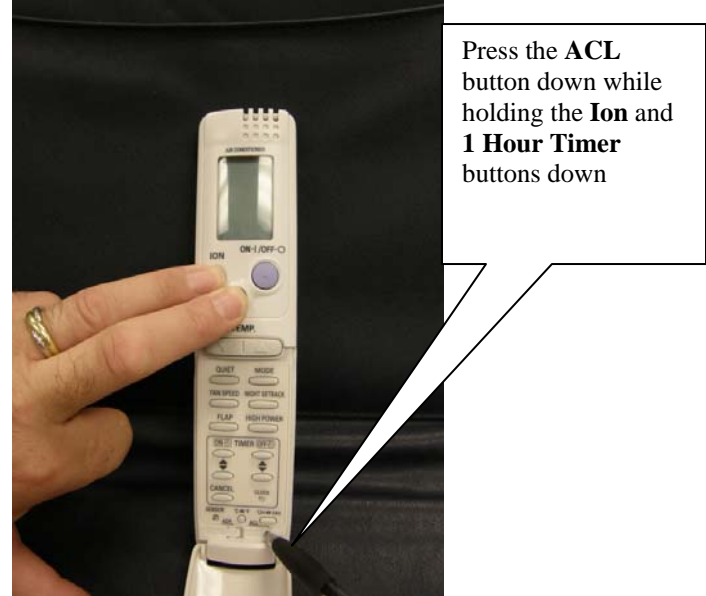
# How to Set Wireless Remote for 9000-24000 BTU (Flexi-Multi) RAC Series Systems to Retrieve Diagnostic Codes



## Step 1.



## Step 2.



### Step 3.

Release the **ACL** button but continue holding the **ION** and **1 Hour Timer** buttons.



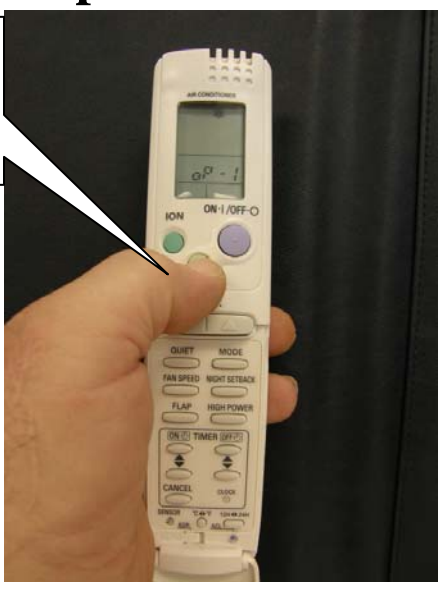
### Step 4.

Release the **ION** and **1 Hour Timer** buttons. The display now flashes **OP-1**.



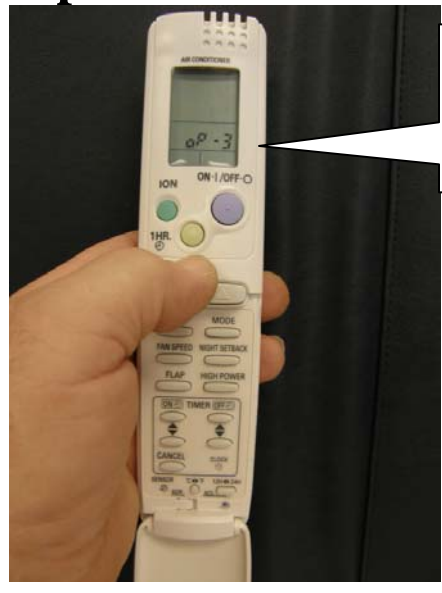
### Step 5.

Press the **1 Hour Timer** button once and release.



### Step 6.

**OP-3** is now flashing on the display.



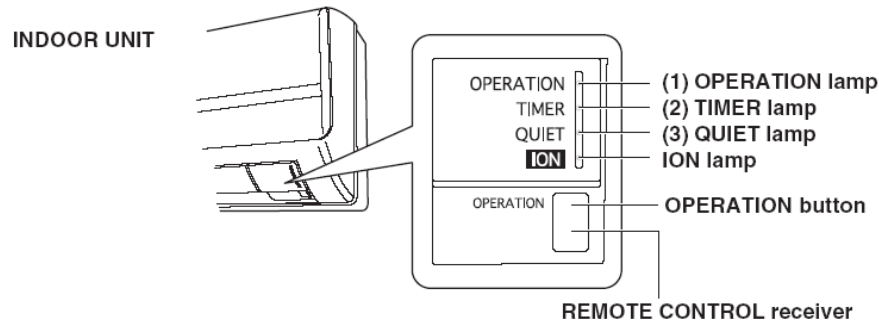
## Step 7.

Aim the remote at the receiver of the indoor unit and press the purple **ON/OFF** button once and release.



The memory holds 3 error codes. It will show each code every 5 seconds with a beep in between codes. Watch the **Operation, Timer** and **Quiet** lights. Are they ON, OFF, or Flashing. When all three codes have been displayed the unit beeps several times. To run the sequence again, just press the **ON/OFF** button. Press the **ACL** button on the remote when you have the codes to return the remote to normal operation.

(1) Self-diagnostics Lamps

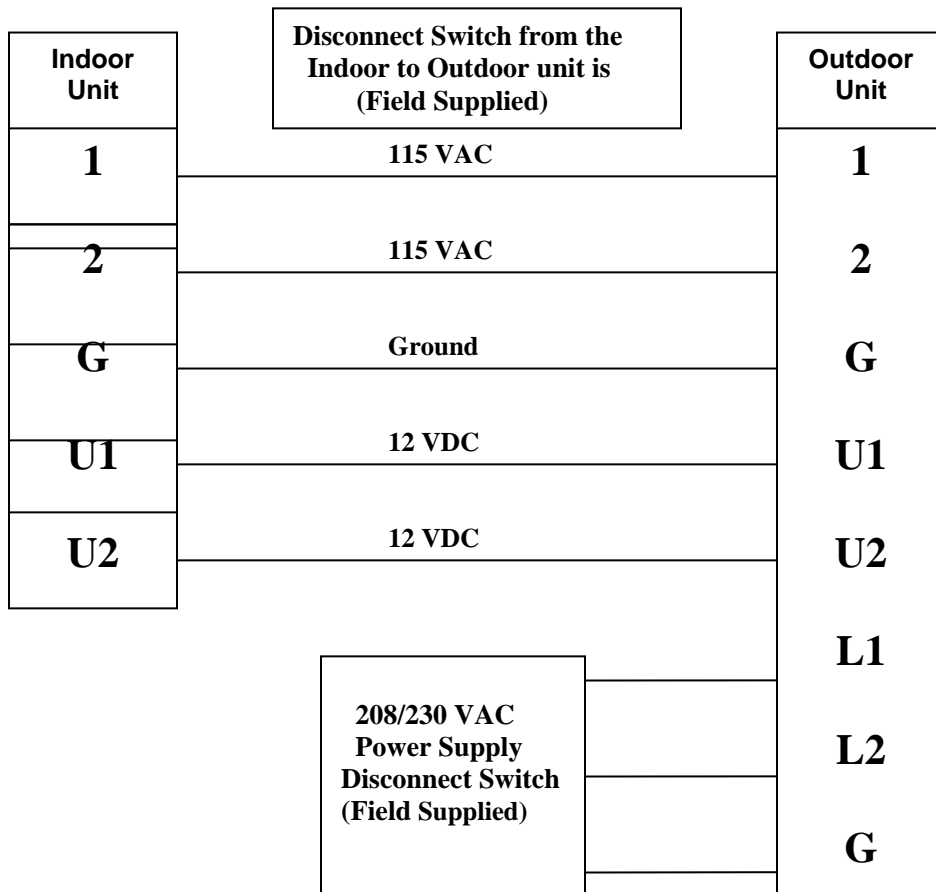


• Since the indications cover various units, the corresponding parts listed below may not be present in some models.

Indication on indoor unit				✕ ... OFF    🌑 ... Blinking    ☀ ... ON (Illuminated)	
Quiet (3)	Timer (2)	Operation (1)	Code	Diagnostics items	Diagnostics contents
✕	✕	🌑	S01	Room temperature sensor failure	(1) Sensor open circuit or short circuit (2) Contact failure at connector or open circuit at terminal crimping location (short-circuit detection only for the humidity sensor) (3) Indoor/outdoor PCboard failure
✕	🌑	✕	S02	Indoor heat exchanger sensor failure	
✕	🌑	🌑	S03	Humidity sensor failure	
🌑	✕	✕	S04	Compressor temperature sensor failure	(1) Sensor open circuit or short circuit (2) Contact failure at connector or open circuit at terminal crimping location (3) Outdoor PCboard failure
🌑	✕	🌑	S05	Outdoor heat exchanger sensor failure	
🌑	🌑	✕	S06	Outdoor air temperature sensor failure	
🌑	🌑	🌑	S07	Outdoor electrical current detection failure	Outdoor PCboard failure
✕	✕	☀	E01	Indoor/outdoor communications failure (serial communications)	(1) Mis-wiring (2) AC power failure (3) Blown fuse (4) Power Relay failure (5) Indoor or outdoor PCboard failure (6) Outdoor Fan Motor failure (7) Reactor failure (8) High-Pressure Switch failure (9) Overload Relay failure (10) Magnetic Coil failure * See detailed flowchart in this section.
✕	☀	✕	E02	• HIC circuit failure • Power Tr (transistor) circuit failure	(1) HIC or power Tr failure (2) Outdoor fan does not turn. (3) Instantaneous power outage (4) Service valve not opened. (5) Outdoor fan blocked. (6) Continuous overload operation (7) Compressor failure (8) Outdoor PCboard failure
✕	☀	☀	E03	Outdoor unit external ROM (OTP data) failure	(1) External ROM data failure (2) Outdoor PCboard failure
☀	✕	✕	E04	Peak current cut-off	(1) Instantaneous power outage (2) HIC or power transistor failure (3) Outdoor PCboard failure
☀	✕	☀	E05	• PAM circuit failure • Active circuit failure	(1) Outdoor PCboard failure (2) Outdoor power supply voltage failure
☀	☀	✕	E06	Compressor discharge overheat prevention activated.	(1) Electric expansion valve failure (2) Capillaries choked (3) Shortage of refrigerant (4) Continuous overload operation (5) Outdoor fan does not rotate (6) Outdoor PCboard failure
☀	☀	☀	E07	Indoor fan operating failure	(1) Fan motor failure (2) Contact failure at connector (3) Indoor PCboard failure
🌑	🌑	☀	E08	• 4-way valve switching failure • Indoor zero-cross failure	(1) 4-way valve failure (heat pump model only) (2) Outdoor PCboard failure
🌑	☀	🌑	E09	No-refrigerant protection	(1) Service valve not opened. (2) Shortage of refrigerant
🌑	☀	☀	E10	DC compressor drive circuit failure	(1) Open phase (2) Outdoor PCboard failure
☀	🌑	🌑	E11	Outdoor fan operating failure	(1) Fan motor failure (2) Contact failure at connector (3) Outdoor PCboard failure
☀	🌑	☀	E12	• Outdoor system communications failure • OLR operation • Outdoor power supply open phase • Outdoor coil freezing	(1) Mis-wiring (2) Blown fuse (3) Power Relay failure (4) Outdoor PCboard failure (5) Compressor failure * See detailed flowchart in this section.
☀	☀	🌑	E13	Freeze-prevention operation activated.	(1) Indoor fan system failure (2) Shortage of refrigerant (3) Low-temperature operation

The following models are wired as illustrated below in the installation wiring diagram. **Note:** The control wiring to and from the condenser and remote control wiring should be ran as an 18-2 stranded shielded wire. Breaker size will vary depending on the model being installed.

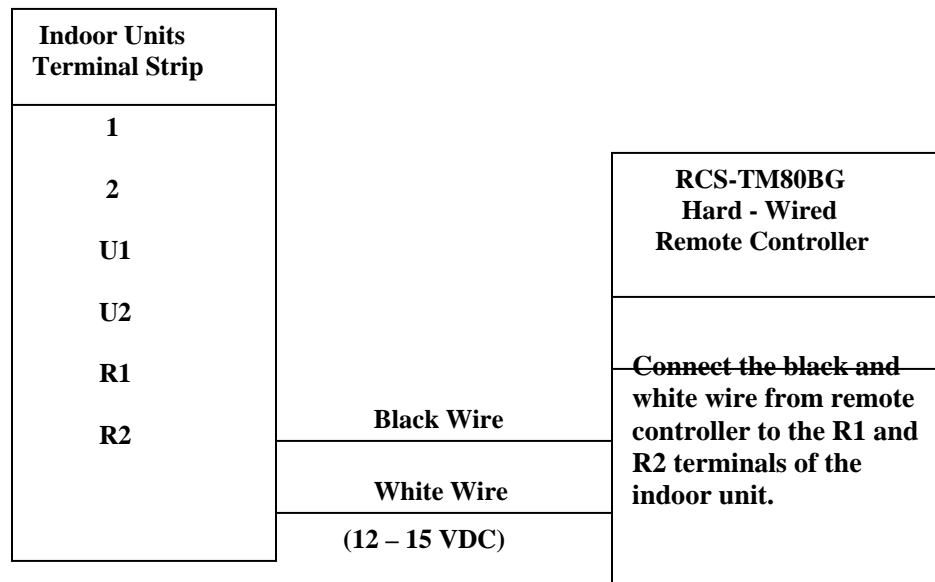
26KS72R, 26KHS72R, 26KHHS72R, 30KS72R, 30KHS72R, 36KS72R, 36KHS72R, 26TW72R, 26THW72R, 26THHW72R, 36TW72R, 36THW72R, 36THHW72R, 42TW72R, 42THW72R, 26XW72R, 26XHW72R, 36XW72R, 36XHW72R, 42XW72R, 42XHW72R, 26UW72R, 26UHW72R, 36UW72R & 36UHW72R



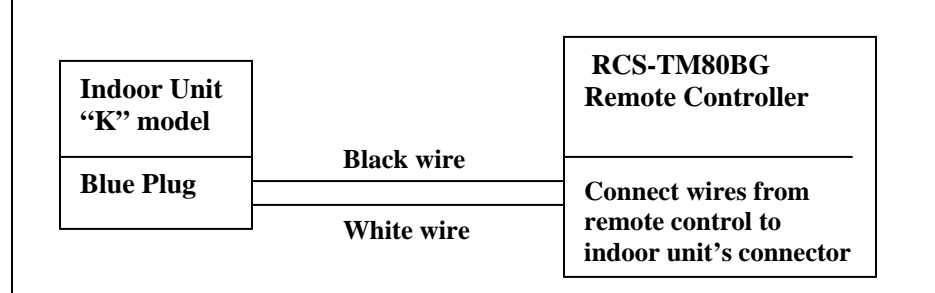
# Wiring Connection for the RCS-TM80BG (Hard Wired Remote Controller)

This connection requires an 18-2 stranded shielded wire and is used on all Sanyo models from 26,000 Btu's - 42,000 Btu's.

The below illustration shows the wiring connections when utilizing a Sanyo "T", "X", and "U" style indoor unit.



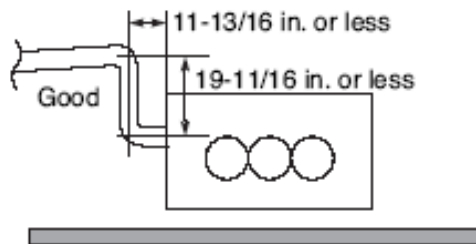
The below illustration shows the wiring connections when utilizing a "K" style indoor unit. This plug connection is the "RC" terminal on the indoor unit's circuit board.



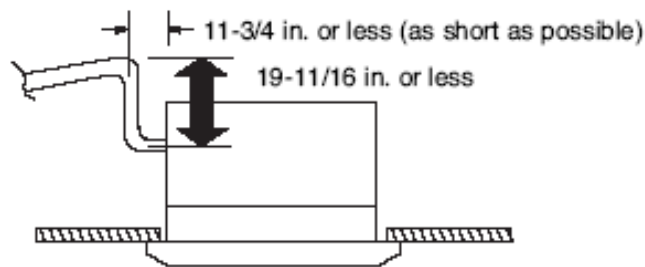
## Sanyo Built-In Condensation Pumps

The below illustrations show the designed pump lift of the Sanyo factory installed condensate pumps. The following Sanyo factory condensate pumps are installed into the “X” and “U” style indoor units. These models do incorporate a built in safety float switch.

**Pump lift should not exceed 20” as shown below.**



**“U” style indoor unit**



**“X” style indoor unit**  
Troubleshooting  
for Sanyo models

**(26,000-42,000 BTUs)**

- Always verify that there is 208/230 VAC present at terminals 1 & 2 of the indoor unit's terminal strip.
- When proper voltage is being supplied the led power light should be illuminated on the indoor board.
- If this power led is not lit verify the fuses on the board through a continuity check. If fuses are good then verify the (3) secondary voltages off of the transformer at the VCC connector on the indoor board.
- If all the voltages are present and the fuses are good with no operation of the indoor unit then proceed to the outdoor unit. Remove the panel to the right of the condenser fan motor. Inside you will see a main control board, on this board there are (2) trouble lights marked led 1 & 2.
- When led's 1 & 2 are blinking together (simultaneously) the outdoor unit power will need to be disconnected until the power led on the board goes out.
- Next locate the "**black button**" in the lower left hand corner of the outdoor board marked "**Auto Add.**" Once power is reapplied to the unit this button will need to be pushed in until led's 1 & 2 start blinking alternately.
- This process can take up to 3-5 minutes to fully complete. Once successfully completed both of these led lights should go completely **Off**. Then the system can be started through the remote controller.
- If this process will not complete check the inter connecting wire, which should be an 18-2 stranded shielded wire landed on terminals U1 & U2 of the indoor and outdoor units terminal strip.
- Important: When changing either the indoor or outdoor main control boards it will become necessary to swap the E-prom chip from the old board to the new replacement board. Failure to swap this chip will result in an inoperable unit. This chip is also directional and must be installed as shown on the board.
- Indoor e-prom socket is identified as IC08 and the outdoor e-prom socket is IC007.

ON: ○ Blinking: ☼ OFF: ●

Possible cause of malfunction			Wired remote control display	Wireless remote controller receiver display		
				Operation	Timer	Standby
Serial communication errors Mis-setting	Remote controller is detecting error signal from indoor unit	Error in receiving serial communication signal (Signal from main indoor unit in case of group control) Outdoor system address, indoor system address, or indoor unit individual/main/sub setting is not set (Automatic address setting is not completed) Auto address is not completed	E01			
		Error in transmitting serial communication signal	E02	☼	●	●
	Indoor unit is detecting error signal from remote controller (and system controller)		E03			
	Improper setting of indoor unit or remote controller	Indoor unit address setting is duplicated	E08			
		Remote controller setting is duplicated	E09			
	Indoor unit is detecting error signaled from signal option	Error in transmitting serial communications signal	E10			
		Error in receiving serial communications signal	E11			
	Automatic address setting failed	Starting auto address setting is prohibited This alarm message shows that the auto address connector CN100 is shorted while other RC line is executing auto address operation.	E12			
		Indoor unit capacity too low	E15			
		Indoor unit capacity too high	E16			
		No indoor units connected	E20			
	Setting error	Main unit duplication in simultaneous-operation multi control (detected by outdoor unit)	E14	●	●	☼
	Indoor unit is detecting error signaled from outdoor unit	Error in receiving serial communications signal	E04			
		Error in transmitting serial communications signal	E05			
	Outdoor unit is detecting error signaled from indoor unit	Error in receiving serial communications signal (including unit quantity verification failure)	E06			
Error in transmitting serial communications signal		E07				
An indoor unit detected trouble in the signal from another indoor unit	Error in transmitting serial communications signal	E17	☼	●	●	
	Error in receiving serial communications signal	E18				
Communications trouble between units	Communications failure with MDC	E31	●	●	☼	
Mis-setting	Setting error	Indoor unit group settings error	L01			
		Indoor/outdoor unit type mismatch	L02	☼	●	☼
		Main unit duplication in group control (detected by indoor unit)	L03	☼ Simultaneously ☼		
		Outdoor unit address duplication (system address)	L04	☼	○	☼
		Group wiring connected for independent indoor unit	L07	☼ Simultaneously ☼		
		Address not set or group not set	L08	☼	●	☼
		Indoor unit capacity not set	L09	☼ Simultaneously ☼		
		Outdoor unit capacity not set or setting error	L10			
		Miswiring in group control wiring	L11	☼ Simultaneously ☼		
		Indoor unit type setting error (capacity)	L13			

Possible cause of malfunction			Wired remote control display	Wireless remote controller receiver display		
				Operation	Timer	Standby
Ceiling panel connection failure			P09			
Activation of protective device	Indoor protection	Fan protective thermostat	P01	●	☀	☀
		Float switch	P10		☀	☀
	Outdoor protection	Discharge temperature trouble	P03			
		High pressure switch or compressor motor thermal protector is activated.	P04			
		Open phase detected, AC power trouble	P05			
		No gas	P15			
		4-way valve locked	P19			
		High cooling load	P20			
		Outdoor fan trouble	P22			
		Inverter compressor trouble (HIC PCB)	P26			
		Inverter compressor trouble (MDC)	P29			
		Simultaneous-operation multi control trouble	P31			
	Compressor current failure (overload)	H01	●	☀	●	
	Thermistor fault	Thermistor open circuit • Short circuit (indoor)	Indoor heat exchanger temperature sensor (E1)	F01		
Indoor heat exchanger temperature sensor (E2)			F02	☀	☀	●
Indoor temperature sensor			F10		☀	
Thermistor open circuit • Short circuit (outdoor)		Discharge temperature (TD)	F04			
		Outdoor heat exchanger temperature (C1)	F06			
		Outdoor heat exchanger temperature (C2)	F07	☀	☀	○
		Outdoor air temperature (TO)	F08			
		Intake temperature (TS)	F12			
		Indoor EEPROM error	F29	☀	☀	●
		Outdoor EEPROM error	F31	☀	☀	○

(2) LED Indicator Messages on Outdoor Control PCB

	LED 1	LED 2	Remarks
<b>Power ON sequence</b> 1. No communication from indoor units in system 2. Communication received from 1 or more indoor units in system 3. Regular communication OK (Capacity and unit quantity match)	○ ● ●	○ ● ●	If it is not possible to advance to 3, repeats 1 → 2. At 3, changes to normal control.
<b>Normal operation</b> EEPROM error (F31)  Pre-trip (insufficient gas) Pre-trip (P20) Pre-trip (other)	○  ☀ (0.25/0.75) ☀ (0.75/0.25) ☀	☀  ● ● ●	Displayed during automatic address setting 1 and initial communication. After these are completed, alarm F31 is displayed.  <b>P03</b>
<b>Alarm</b>	<b>Alternate blinking during alarms</b> LED 1 blinks M times, then LED 2 blinks N times. The cycle then repeats. M = 2: P alarm 3: H alarm 4: E alarm 5: F alarm 6: L alarm N = Alarm No. * Refer to "1. Examples of alarm display" below.		
<b>Insufficient gas indicator</b>	☀	●	
<b>Refrigerant recovery mode</b>	☀	●	
<b>Automatic address setting</b> Automatic address setting in progress Automatic address setting alarm (E15) Automatic address setting alarm (E20) Automatic address setting alarm (Other than E15 and E20)	☀ ☀ (0.25/0.75) ☀ (0.75/0.25) ☀	☀ ☀ (0.25/0.75) ☀ (0.75/0.25) ☀	Blinking alternately Blinking simultaneously Blinking simultaneously Blinking simultaneously

- : ON
- ☀ : **Blinking (0.25/0.75)** indicates that the lamp illuminates for 0.25 seconds, and then is OFF for 0.75 seconds. Unless otherwise indicated, the blinking is (0.5/0.5).
- : OFF

(3) Examples of alarm display (other than E15, E16, and E20)

Alarm / Display	LED 1 ← Alternately → LED 2
P03	☀ (Blinks 2 times)    ☀ (Blinks 3 times)
P04	☀ ( " )    ☀ (Blinks 4 times)
P05	☀ ( " )    ☀ (Blinks 5 times)
P31	☀ ( " )    ☀ (Blinks 31 times)
H01	☀ (Blinks 3 times)    ☀ (Blinks 1 times)
•	•
E04	☀ (Blinks 4 times)    ☀ (Blinks 4 times)
•	•
F07	☀ (Blinks 5 times)    ☀ (Blinks 7 times)
•	•
L13	☀ (Blinks 6 times)    ☀ (Blinks 13 times)
•	•

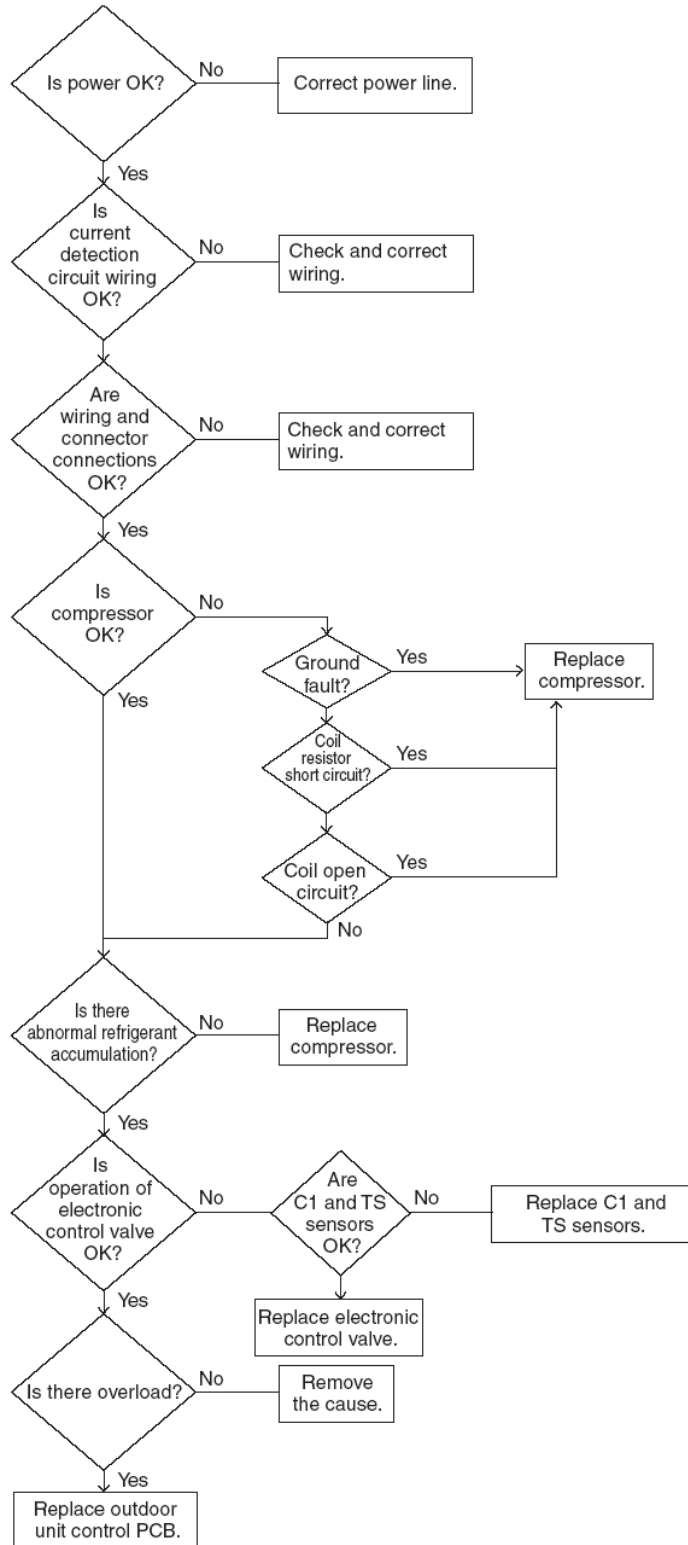
Note:  
This table shows example alarms. Other alarms may also be displayed.

Remote controller alarm display	Alarm contents	Judgment condition	Clear condition	Judgment and correction
P03	Abnormal discharge temperature • Discharge temp. detected at or above the specified value.	Stops when temp. exceeds 232 °F.	Recovery at restart	1. Check refrigerant cycle (gas leak). 2. Electronic control valve trouble 3. Check tubing sensor (TD).
P04	High pressure switch is activated. Compressor motor thermal protector is activated.	Stops when pressure exceeds 600 psi. Stops when temp. exceeds 230 °F.	Recovery at restart	1. Check the high pressure switch connector is securely connected. 2. Check the outdoor unit heat exchanger is not clogged (cooling operation). 3. Check the indoor unit air filter has not become clogged (heating operation)
P05	Missing phase detected. (CT disconnected or AC power trouble)	Current value sent from MDC on outdoor unit control PCB is low. No AC power input for 3 minutes or longer: pre-trip - 5	Recovery at restart	1. Check R/S/T power. 2. Check inverter control PCB. 3. Check outdoor unit control PCB.
P15	Insufficient gas level detected.	The following conditions continue for 1 minute. • Discharge temp. is 203 °F or higher. • Electronic control valve is at step 480. • Current value from MDC is 2.0 A or less.	Recovery at restart	Check refrigerant cycle (gas leak).
P19	4-way valve locked • Judgment occurs after compressor has been ON for 5 minutes.	Indoor heat exchanger temp. drops although compressors are ON in heating mode: [min(E1, E2)] ≤ 50 °F. Indoor heat exchanger temp. rises although compressors are ON in cooling mode: E2 ≥ 104 °F.	Recovery at restart	1. Check 4-way valve. 2. Check 4-way valve wiring. 3. Check outdoor unit control PCB.
P20	High-pressure protection trouble	If MAX (C1,C2) is 142°F or higher, the compressor stops one. The compressor restarts three time, and if the temperature does not decrease to less than 142°F, the alert "P20" is displayed.	Recovery at restart	1. Refrigerant cycle overload operation 2. Outdoor coil temperature sensor C1 or C2
P22	Outdoor unit fan motor trouble • Inverter protection circuit was activated, or lock was detected, at outdoor unit fan motor.	Inverter stops after alarm is detected	Recovery at restart	1. Position detection trouble 2. Overcurrent protection circuit at outdoor unit fan motor was activated. • Check outdoor unit control PCB. • Refer to outdoor unit fan judgment methods.
P26	Inverter protection circuit was activated, or G-Tr short-circuit (short time: 0.8 s or less) in inverter control	Inverter stops after alarm is detected. Alarm is output when inverter stops (pre-trip) consecutively 4 times.	Recovery at restart	1. Stops immediately when restarted. • Layer short in the compressor 2. Check inverter control PCB. • Wiring trouble

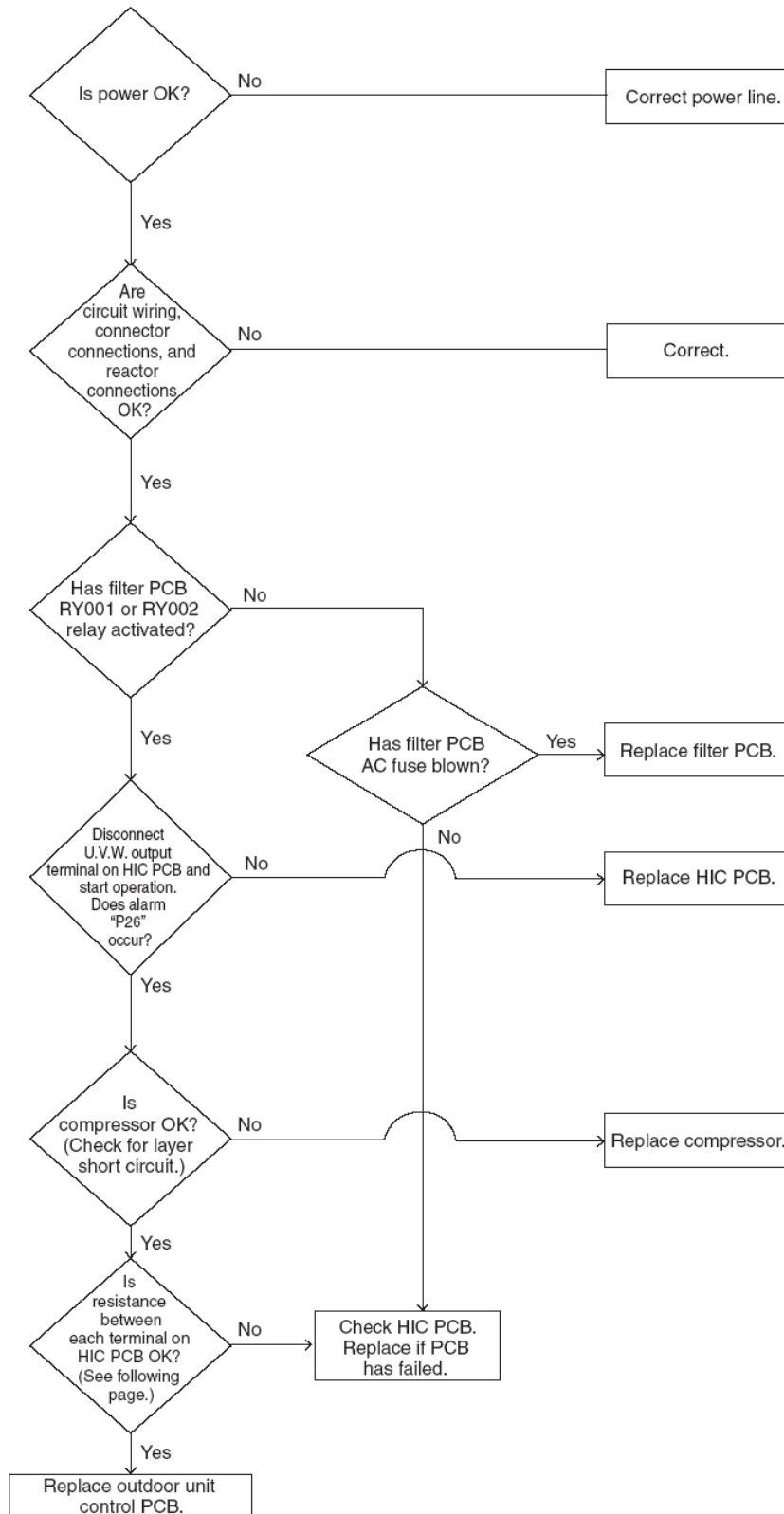
Remote controller alarm display	Alarm contents	Judgment condition	Clear condition	Judgment and correction
P29	Current detection circuit trouble • AC current value is high even when compressor is stopped.	Inverter stops after alarm is detected. Alarm is output when inverter stops (pre-trip) consecutively 4 times.	Recovery at restart	1. Stops immediately when restarted. • Layer short in the compressor 2. Check inverter control PCB. • Wiring trouble
	Compressor motor output trouble, Inverter compressor trouble, MDC trouble	Inverter stops after alarm is detected.	Recovery at restart	1. Refrigerant cycle trouble, overload operation 2. Loose screws and contact failure between HIC control PCB and radiating plate 3. Cooling failure of radiating plate 4. Check outdoor unit PCB wiring.
	Compressor does not run. (Overcurrent protection circuit activates after a certain period of time following compressor start.)	Inverter stops after alarm is detected.	Recovery at restart	1. Compressor trouble (locked, etc.) • Replace the compressor. 2. Compressor wiring trouble (missing phase)
	Compressor breakdown • Starts to operate but operating frequency drops and compressor stops.	Inverter stops after alarm is detected.	Recovery at restart	1. Check power voltage: AC 203 V ± 20 V or 230 V ± 23 V. 2. Refrigerant cycle overload operation 3. Check AC current detection circuit.
	Inverter control PCB position detection circuit trouble	Inverter stops after alarm is detected.	Recovery at restart	Position detection circuit is activated even when the compressor 3P connector is disconnected and the compressor operated. • Replace the inverter control PCB.
F04	Disconnection, open circuit, or short circuit in discharge temp. sensor (TD)	26, 30, 36 MODEL: Sensor detection trouble (194°F or higher when 15 minutes have elapsed after compressor stopped). (Open circuit) 42 MODEL: Sensor deflection trouble (194°F or higher when 60 minutes have elapsed after compressor stopped). (Open circuit)	Automatic recovery	1. Check discharge temp. sensor (TD). 2. Check outdoor unit control PCB.
F06	Disconnection, open circuit, or short circuit in outdoor heat exchanger temp. sensor (C1)	Open circuit or short circuit	Automatic recovery	1. Check outdoor heat exchanger temp. sensor (C1). 2. Check outdoor unit control PCB.
F07	Disconnection, open circuit, or short circuit in outdoor heat exchanger temp. sensor (C2)	Open circuit or short circuit	Automatic recovery	1. Check outdoor heat exchanger temp. sensor (C2). 2. Check outdoor unit control PCB.
F08	Disconnection, open circuit, or short circuit in outdoor air temp. sensor (TO)	Open circuit or short circuit	Automatic recovery	1. Check outdoor air temp. sensor (TO). 2. Check outdoor unit control PCB.
F12	Disconnection, open circuit, or short circuit in intake temp. sensor (TS)	Open circuit or short circuit	Automatic recovery	1. Check intake temp. sensor (TS). 2. Check outdoor unit control PCB.

Remote controller alarm display	Alarm contents	Judgment condition	Clear condition	Judgment and correction
F31	EEPROM trouble	Reading/writing failure	Recovery at power reset	1. Check EEPROM (IC007). 2. Check outdoor unit control PCB.
L02	Mismatch of indoor and outdoor unit types (Espacio, Multi )	Indoor unit judges that type does not match outdoor unit type.	Recovery at power reset	1. Check indoor unit EEPROM. 2. Check indoor unit control PCB.
L04	Settings failure	Duplicated outdoor unit address (system address)	Automatic recovery	1. Check outdoor unit system address. 2. Check inter-unit control wiring.
L07	Settings failure	Group control wiring is connected to an independent-control indoor	Recovery at power reset	1. Check inter-unit control wiring. 2. Check indoor unit EEPROM.
L10	Settings failure	Outdoor unit capacity not set.	Recovery at power reset	Check outdoor unit EEPROM.
L13	Indoor-outdoor unit types	Outdoor unit judges that type does not match indoor unit type.	Recovery at power reset	1. Check indoor unit EEPROM. 2. Check outdoor unit control PCB.
E06	Outdoor unit detected abnormal signal from indoor unit.	Serial signal receiving failure (including failure to verify No. of units)	Automatic recovery	1. Check inter-unit control wiring. 2. Check outdoor unit
E07	Outdoor unit sending failure to indoor unit	Serial signal sending failure	Automatic recovery	1. Check inter-unit control wiring. 2. Check outdoor unit control PCB.
E14	Settings failure	Duplicated master unit in simultaneous-operation multi control (Detected by outdoor unit)	Recovery at power reset	1. Check inter-unit control wiring. 2. Check indoor unit combination.
E15	Automatic address setting failure	Indoor unit capacity too low.	Recovery at power reset	1. Check inter-unit control wiring. 2. Check outdoor unit control PCB.
E16	Automatic address setting failure	Indoor unit capacity too high.	Recovery at power reset	1. Check inter-unit control wiring. 2. Check outdoor unit control PCB.
E20	Automatic address setting failure	Outdoor unit cannot receive any serial signals from indoor units.	Recovery at power reset	1. Check inter-unit control wiring. 2. Check outdoor unit control PCB.
E31	Communications trouble within unit	No communication possible with MDC for 3 minutes or longer.	Automatic recovery	Check outdoor unit control PCB.
H01	Overcurrent	Inverter stops after alarm is detected.	Recovery at restart	1. Refrigerant cycle trouble, overload operation 2. Loose screws between HIC control PCB and radiating plate 3. Cooling failure of radiating plate 4. Check outdoor unit PCB wiring.

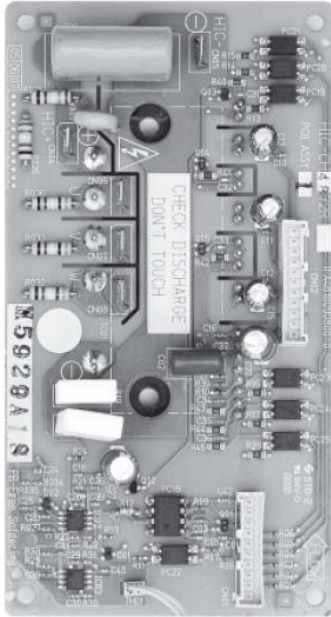
- (1) [Alarm "P29"] (MDC trouble)
- Input power detection circuit trouble
  - Compressor does not run.
  - Breakdown
  - Motor current detection circuit trouble



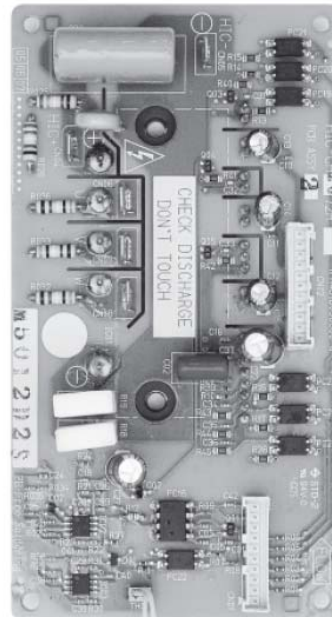
(2) [Alarm "P26"] — IGBT short-circuit protection on inverter control (IPDU) PCB  
HIC PCB trouble



**HIC-CH4872R  
(42 Type)**



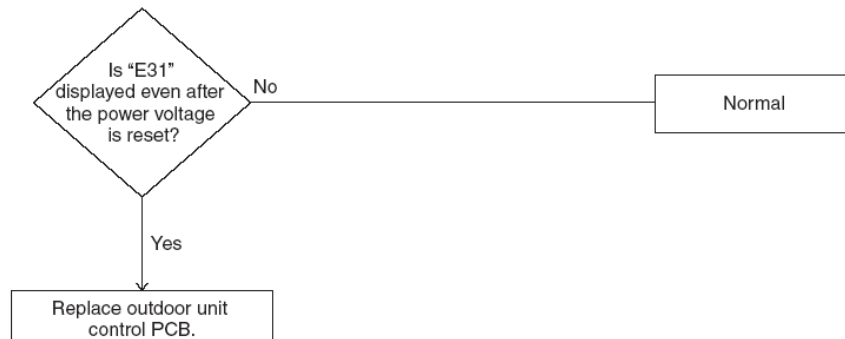
**HIC-CH2672R  
(26, 30, 36 Type)**



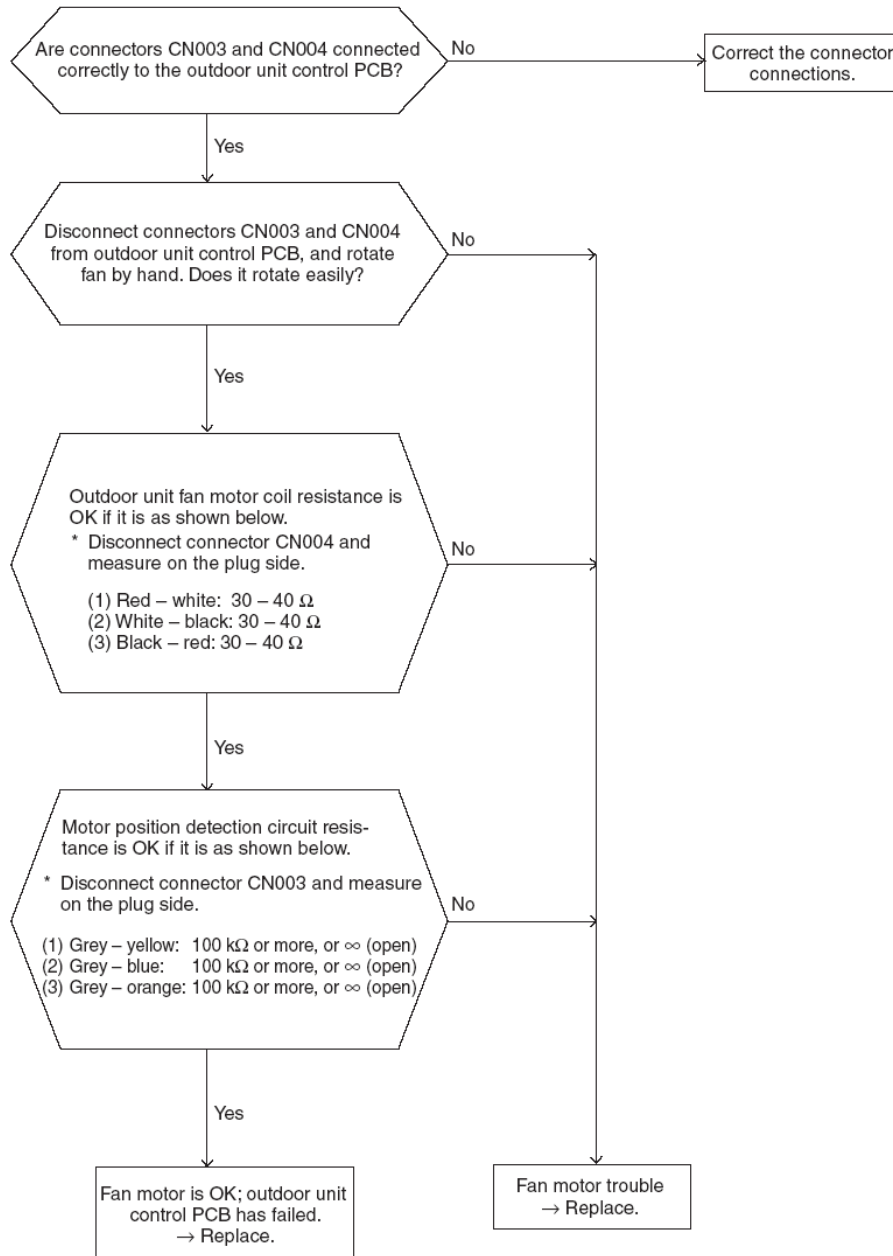
Resistance

Between terminals	Resistance
HIC + — HIC -	200 kΩ or more
HIC + — U	300 kΩ or more
HIC + — V	300 kΩ or more
HIC + — W	300 kΩ or more
HIC - — U	200 kΩ or more
HIC - — V	200 kΩ or more
HIC - — W	200 kΩ or more

(3) [Alarm "E31"] (communications trouble within unit) — IGBT short-circuit protection



(4) [Alarm "P22"] ————— Outdoor unit fan motor drive circuit trouble



**Note:**

In the case of a GND circuit failure inside the motor, the results of the above check may be OK.  
If operation is not OK after the outdoor unit control PCB has been replaced, then replace the outdoor unit fan motor.

(5) [Alarms "F04," "F06," "F07," "F08," "F12"] ——— Sensor trouble

