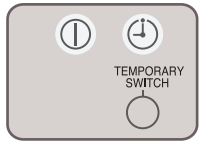


# SUMMARY OF TROUBLESHOOTING METHOD FOR INDOOR UNIT

## MODEL : RAS-70YHA4~80YHA4

**Test Run**

- 1) Power ON the unit and wait for 3 seconds.
- 2) Press and hold temp. switch for 5 seconds or longer.



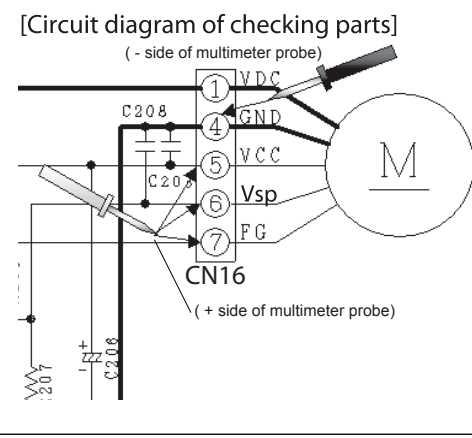
**Checking the Room temperature thermistor.**

- 1) Power off the unit.
- 2) Disconnect the thermistor wire from CN2 of Indicating P.W.B
- 3) Check the resistance value between the lead of thermistor. It shall be around  $10k\Omega \pm 1k\Omega$ .

**Fan Motor Check**

	Resistance	Operation
(+) Red (Pin1) & (-) Black(Pin4)	$> 2M\Omega/OL$	360VDC
(+) White (Pin5) & (-) Black(Pin4)	$35k\Omega \sim 40k\Omega$	15VDC
(+) Yellow (Pin6) & (-) Black(Pin4)	$230k\Omega \sim 250k\Omega$	3~6VDC
(+) Blue (Pin7) & (-) Black(Pin4)	$> 2M\Omega/OL$	7.5VDC

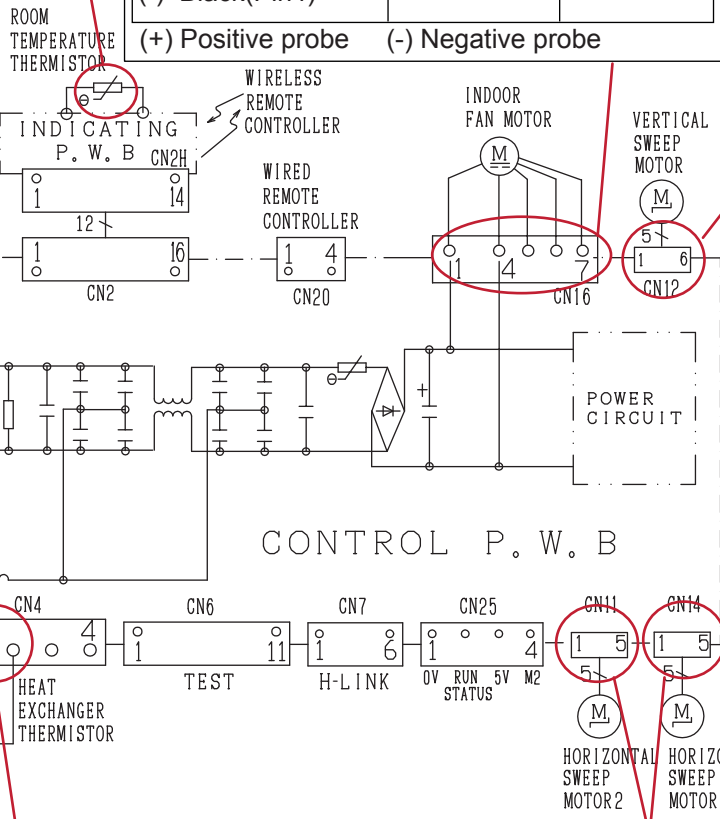
(+) Positive probe (-) Negative probe



**Checking the connection of 1, 2, 3 terminal to the indoor.**

- 1) Power ON the unit.
- 2) After around 1 minute, check the AC voltage between terminal as below table.

Connection condition	Voltage value between terminal			Outdoor LD301 indication
	1 to 2	2 to 3	1 to 3	
All connection OK	240V	around 0.3V	240V	Off or 1 time blink
Terminal 1 no connection	240V	0.1-0.4V	240V	9 times blink
Terminal 2 no connection	240V	100 - 120V	120-140V	9 times blink
Terminal 3 no connection	240V	0.1-0.4V	240V	9 times blink



**Checking the vertical stepping motor.**

- 1) Power off the unit.
- 2) Disconnect the thermistor wire from CN12 of MAIN P.W.B.
- 3) Check the resistance value between pin 1 and 5. It shall be around  $195 \pm 5\Omega$ .

**Checking the Terminal fuse continuity.**

- 1) Power off the unit.
- 2) Disconnect the thermistor wire from CN3 of MAIN P.W.B
- 3) Check the resistance value between the wire. It shall be almost  $0\Omega$ .

**Checking all the fuse continuity.**  
There are 1 fuses inside the MAIN P.W.B.

- 1) Power off the unit.
- 2) Check the continuity of FU1 fuse: It shall be (3.15A) .

**Checking the Heat Exchanger thermistor.**

- 1) Power off the unit.
- 2) Disconnect the thermistor wire from CN4 of MAIN P.W.B.
- 3) Check the resistance value between the wire of thermistor. It shall be around  $10k\Omega \pm 1k\Omega$ .

**Checking the horizontal stepping motor.**

- 1) Power off the unit.
- 2) Disconnect the thermistor wire from CN11 or 14 of MAIN P.W.B.
- 3) Check the resistance value between pin 1 and 5. It shall be around  $195 \pm 5\Omega$ .

# SUMMARY OF TROUBLESHOOTING METHOD FOR OUTDOOR UNIT

MODEL : RAC-70YHA4 AND RAC-80YHA4

## Checking the IPM IC of IPM P.W.B.

- 1) Power off the unit.
  - 2) Disconnect compressor wire connector between compressor to IPM P.W.B.
  - 3) Check the diode value between below point :-
    - a) Terminal U, V, W (+ side of multimeter probe) to Terminal P (WHT wire) (- side of multimeter probe). It shall be around 0.40 to 0.43.
    - b) Terminal N (BLK wire) (+ side of multimeter probe) to Terminal U, V, W (- side of multimeter probe) It shall be around 0.40 to 0.43.
- \*\*During normal running, DC voltage between below point are:-
- a) Terminal P & Terminal N shall be around 320V
  - b) Terminal U, V, W (+ side of multimeter probe) to Terminal N (- side of multimeter probe) shall be around 160V.

## Checking the fan motor winding.

- 1) Power off the unit.
  - 2) Disconnect fan motor wire from CN24 of MAIN P.W.B.
  - 3) Check the resistance value between RED, WHT, BLK wire of fan motor. It shall be around 20Ω to 50Ω.
- \*\*During normal running, DC voltage between RED, WHT, BLK wire of fan motor (+ side of multimeter probe) to Terminal N (R741 leg) (- side of multimeter probe) shall be around 160V.

## Test Run

- 1) Remove Terminal 3 connection.
- 2) Power ON the unit and wait for 30 seconds.
- 3) Press and hold test switch for 5 seconds.

## Checking the expansion valve winding.

- 1) Power off the unit.
- 2) Disconnect the expansion valve from CN15 of MAIN P.W.B.
- 3) Check the resistance value between wire of expansion valve as below:-
  - a) WHT to BRN
  - b) ORN to BRN
  - c) YEL to RED
  - d) BLU to RED
 It shall be around 46Ω ± 3.7Ω.

## Checking the compressor motor winding.

- 1) Power off the unit.
- 2) Disconnect compressor wire connector between compressor to IPM P.W.B.
- 3) Check the resistance value between WHT, YEL, RED wire of compressor wire. It shall be same on all terminals between 1Ω to 3Ω.

## Checking the reactor winding.

- 1) Power off the unit.
  - 2) Disconnect YEL and BRN wire at TAB3 and TAB4 from MAIN P.W.B.
  - 3) Check the resistance value between YEL & BRN wire of reactor. It shall be around 0.01Ω to 0.1Ω.
- \*\* During normal running, DC voltage between TAB 3 and TAB4 shall be 17V to 20V.

## Checking all the fuse continuity. There are 5 fuses inside the MAIN P.W.B.

- 1) Power off the unit.
- 2) Check the continuity of below fuse:
  - a) F1 (25A) b) F5 (3.15A)
  - c) F6 (3.15A) d) F3 (3A)
  - e) F4 (2A)

## Checking the power source.

- 1) Power ON the unit.
- 2) Check the AC voltage from power source between terminal L and N. It shall be around 240 ± 10 V

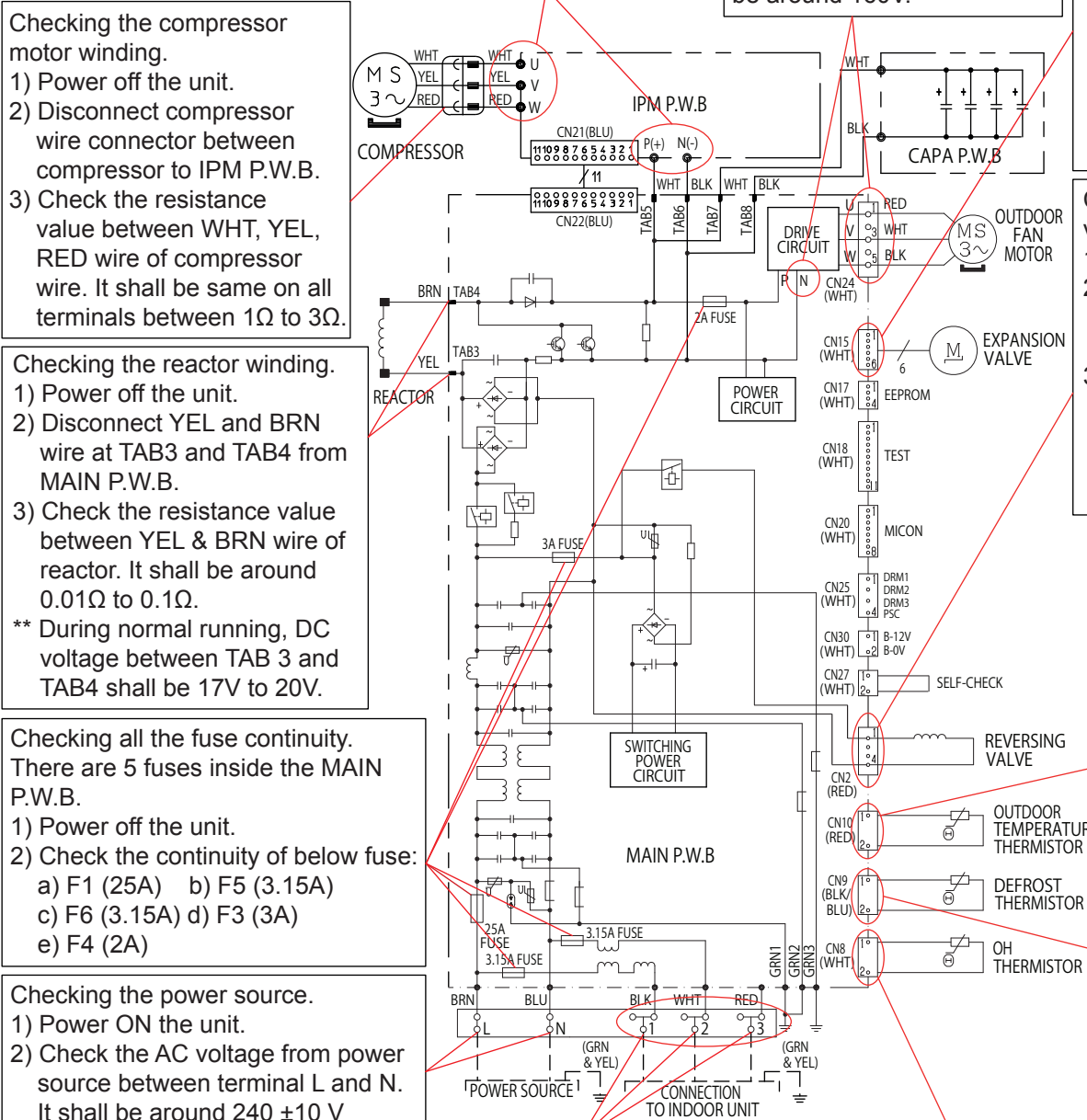
## Checking the connection of 1, 2, 3 terminal to the indoor.

- 1) Power ON the unit.
- 2) After around 1 minute, check the AC voltage between terminal as below table.

Connection condition	Voltage value between terminal			Outdoor LD301 indication
	1 to 2	2 to 3	1 to 3	
All connection OK	240V	around 0.3V	240V	Off or 1 time blink
Terminal 1 no connection	240V	0.1-0.4V	240V	9 times blink
Terminal 2 no connection	240V	100 - 120V	120-140V	9 times blink
Terminal 3 no connection	240V	0.1-0.4V	240V	9 times blink

## Checking the OH thermistor.

- 1) Power off the unit.
- 2) Disconnect the thermistor wire from CN8 of MAIN P.W.B.
- 3) Check the resistance value between the wire of thermistor. It shall be around 25kΩ ± 5kΩ.



## Checking the reversing valve winding.

- 1) Power off the unit.
- 2) Disconnect the reversing valve wire from CN2 of MAIN P.W.B.
- 3) Check the resistance value between the wire of reversing valve. It shall be around 1.9kΩ.

## Checking the outdoor temperature thermistor.

- 1) Power off the unit.
- 2) Disconnect the thermistor wire from CN10 of MAIN P.W.B.
- 3) Check the resistance value between the wire of thermistor. It shall be around 1.7kΩ ± 0.3kΩ.

## Checking the defrost thermistor.

- 1) Power off the unit.
- 2) Disconnect the thermistor wire from CN9 of MAIN P.W.B.
- 3) Check the resistance value between the wire of thermistor. It shall be around 1.7kΩ ± 0.3kΩ.