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MINI-SPLITS TROUBLESHOOTING GUIDE



Thermistor Resistance

ROOM TEMPERATURE THERMISTOR (INDOOR UNIT)													
Room T (°F)	37	41	46	50	59	68	77	84	89	91	97	104	111
Resistance (kΩ)	28.7	25.9	22.3	20.1	15.8	12.5	10.0	8.4	7.7	7.0	6.2	5.3	4.5

PIPE TEMPERATURE THERMISTOR (INDOOR UNIT)															
Room T (°F)	32	36	43	50	57	64	72	79	86	93	100	111	122	132	140
Resistance (kΩ)	176.0	157.8	127.3	103.3	84.4	69.3	57.2	47.5	39.6	33.2	27.9	21.7	17	13.5	11.6

OUTDOOR HEAT EXCHANGER TEMPERATURE THERMISTOR (OUTDOOR UNIT)													
Room T (°F)	18	25	32	41	46	50	59	68	77	84	91	99	104
Resistance (kΩ)	24.4	19.7	16.0	12.5	10.8	9.8	7.8	6.2	5.0	4.2	3.6	3.2	2.7

DISCHARGE PIPE TEMPERATURE THERMISTOR (OUTDOOR UNIT)													
Room T (°F)	50	59	68	77	86	95	104	122	140	158	176	194	212
Resistance (kΩ)	646	503	395	313	250	201	163	109	74.4	52.1	37.2	27.1	20.0

OUTDOOR TEMPERATURE THERMISTOR (OUTDOOR UNIT)													
Room T (°F)	37	41	46	50	59	68	77	84	88	91	97	104	111
Resistance (kΩ)	28.7	25.9	22.3	20.1	15.8	12.5	10.0	8.4	7.7	7.0	6.2	5.3	4.5

Compressor Terminal Resistance

	9C1(R1)	12C1(R1)	18C1(R1)	24C1(R1)	30C1	18CD(RD)	24CD	22U	30CS	36CS
Common To Run	0.841 Ω	0.550 Ω	1.43 Ω	0.96 Ω	0.626 Ω	3.14 Ω	2.406 Ω	0.971 Ω	0.626 Ω	0.601 Ω
Common To Start	2.831 Ω	3.259 Ω	3.01 Ω	2.84 Ω	1.93 Ω	3.86 Ω	3.189 Ω	3.25 Ω	1.93 Ω	1.80 Ω

TROUBLESHOOTING DISPLAY TABLE (Models 18, 22, 24, 30, 36)

THERMISTOR ABNORMAL INDICATION

During operation or non-operation, when the room temperature thermistor or heat exchanger thermistor is opened or short-circuited, operation is immediately stopped and failure indication is displayed.

OPERATION FACTOR	INDICATOR LAMP	FLASH/TIME (SEC)
Room thermistor fault (Thermistor open or short circuited)	Operation Lamp (red) □	
	Timer Lamp □	
Heat exchanger (Pipe) thermistor fault (Thermistor open or short circuited)	Operation Lamp (red) □	
	Timer Lamp (green) □	

WORKING INSPECTION (cooling operation) All Models

Symptom	Possible Causes	Remedy
(1) Indoor unit evaporator is covered with frost. a: Frost near inlet b: Frost all over	Gas leakage Clogged filter Low ambient temperature (less than 68°F)	Fix the leak and re-charge Clean filter Check the ambient temperature
(2) Compressor operates, but does not cool.	Dirty condenser	Clean condenser
(3) Compressor return pipe (low pressure) is not cold.	Gas leakage	Fix the leak and re-charge
(4) Compressor outlet pipe (high pressure) is not hot.	Gas leakage	Fix the leak and re-charge
(5) Compressor operates, but does not cool. a. Indoor unit evaporator is cold b. Outdoor unit condenser is hot, but it does not cool	Overload protection Dirty condenser	Eliminate overload Clean
(6) Indoor unit air outlet temperature is low, but it does not cool.	Clogged filter The cooled air is short-circuited Overload protection	Clean Isolate problem & correct Eliminate overload

SYMPTOMS AND CHECK ITEMS

Symptom	Possible Causes	Check	Check Points
No operation	Power Supply Circuit Section	See Flowchart 1	Micro input signal from IR DC output voltage from P/S Switching transformer IR signal receiver Remote control unit
Erroneous operation	Reset section		Reset power to reset circuit
Auto louver control faulty	Auto louver control section		Check auto louver mechanism
Display faulty	Indicator PCB Led display control section		Display LED Micro output signal
Remote control input faulty	Remote control unit Signal receiving section		Remote control unit batteries Micro IN/OUTPUT signal
Temperature control faulty	Room temperature thermistor Indoor pipe temperature thermistor AD converter section		Room temperature thermistor Indoor pipe temperature thermistor Micro input signal
Indoor fan motor control faulty	Indoor fan motor control output section	See Flowchart 4	Fan motor control circuit Remote control unit
Indoor unit to outdoor unit control faulty	Output to the indoor unit		Output circuit to the indoor unit