

035M80113-00



LOW AMBIENT KIT USER'S MANUAL

LOW AMBIENT KIT (LAK)

The main function of this module is that outdoor fan speed can adjust according to condenser coil temperature.

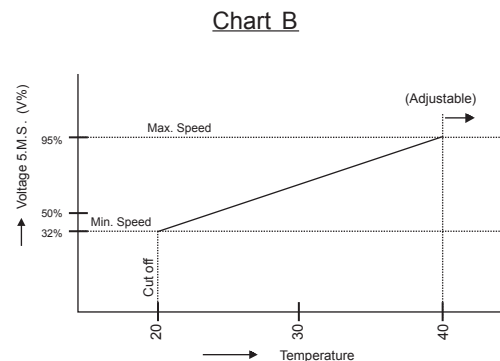
ELECTRICAL FUNCTION

❑ Cooling Mode

When 4-way valve input signal is 0V, it is cooling mode. In this mode, outdoor fan will operate at full speed for 10 seconds and then stop for 10 seconds. (Chart A) after continual operation, fan speed will decrease.



If condenser coil temperature (refrigerant temperature) increases, outdoor unit fan speed will increase accordingly. (Chart B)



The jump wires in electrical board can be used for 16 different temperature range setting (Table A). It will act when speed changes or after 1~2 second of the mode.

Table A: Temperature setting in cooling mode

Setting	Jump wire Choice				Ambient Temp (°C)
	J3	J2	J1	J0	
1	0	0	0	0	10-30
2	0	0	0	1	11-31
3	0	0	1	0	12-32
4	0	0	1	1	13-33
5	0	1	0	0	14-34
6	0	1	0	1	15-35
7	0	1	1	0	16-36
8	0	1	1	1	17-37
9	1	0	0	0	18-38
10	1	0	0	1	19-39
11	1	0	1	0	20-40 (default)
12	1	0	1	1	21-41
13	1	1	0	0	22-42
14	1	1	0	1	23-43
15	1	1	1	0	24-44
16	1	1	1	1	25-45

LAK module adjusts the voltage % to condenser fan motor in accordance to refrigerant temperature to adapt to different ambient temperature. (Table B).

Table B: Voltage control

Temp. of condenser coil (Equals to refrigerant temp.) °C	≤20	20	22	24	26	28	30	32	34	36	38	≥40
Voltage % input to outdoor fan motor	0	32	38	45	51	58	64	71	77	84	89	95

❑ Heating Mode

When 4-way valve input signal of is 220V, it is heating mode. In this mode, outdoor fan will operate at rating speed. (in 220V AC, it will act after 1~2 second of the mode change)



INSTALLATION

First, setting the jump wires to an appropriate position according to the necessary operation condition of outdoor unit (Chart C), connect the exterior circuitry according to the wiring diagram (Chart D), then install the temperature sensor on the outdoor coil. 0 means jump wire connected, 1 means jump wire disconnected

Electrical board dimension = 115.5 mm × 70 mm
 Orientation hole area = 103.5 mm × 57 mm
 Orientation hole diameter = 3.5 mm

Chart C: Jump Wire Setting

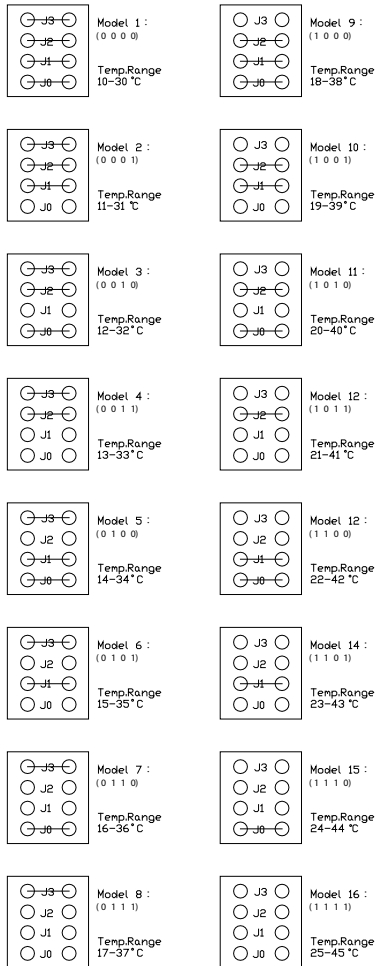
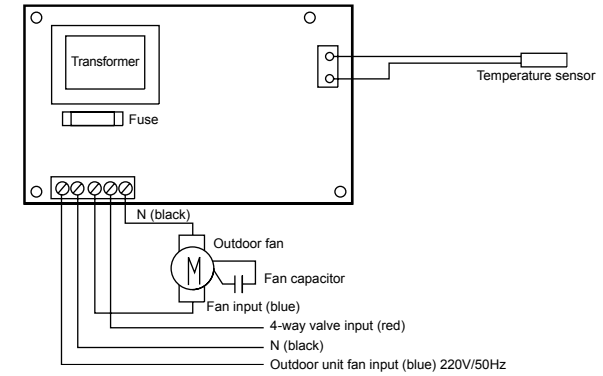


Chart D: Wiring diagram



LAK is integrated into the outdoor PCB ship for unitary DC inverters (cassette/duct/floor-ceiling) and VRF systems. LAK is controlled by programmes inner the chip in these units. So you can not change the LAK mode manually.