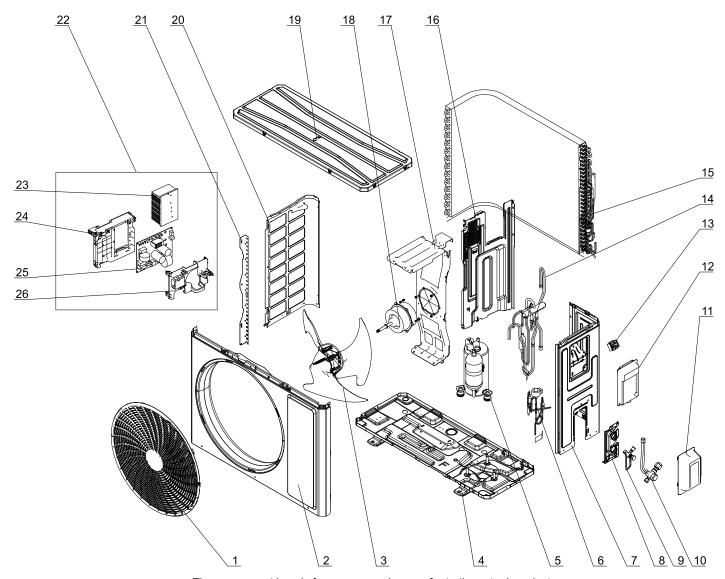
#### GWC28ATEXF-K6DNA1A/O



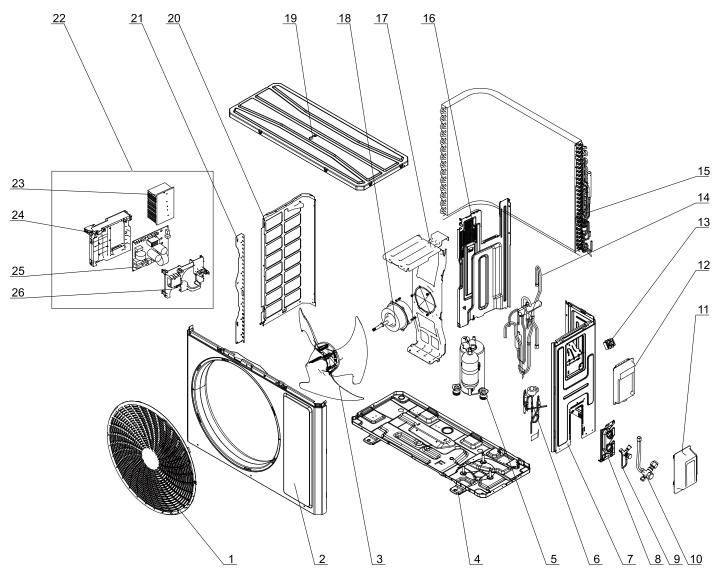
The component is only for rererence; please refer to the actual product

NO.	Description
1	Front Grill
2	Front Panel
3	Axial Flow Fan
4	Chassis Sub-assy
5	Compressor and Fittings
6	Electronic Expansion Valve
7	Right Side Plate
8	Valve Support
9	Cut-off valve
10	Cut-off valve
11	Valve Cover
12	Handle
13	Terminal Board

NO.	Description
14	4-Way Valve Assy
15	Condenser Assy
16	Clapboard Assy
17	Motor Support
18	Brushless DC Motor
19	Top Cover Assy
20	Left Side Plate
21	Condenser Left Border Plate
22	Electric Box Assy
23	Radiator
24	Electric Box
25	Main Board
26	Electric Box Cover

Some models may not contain some parts, please refer to the actual product.

#### GWH28ATEXF-K6DNA1A/O



The component is only for rererence; please refer to the actual product

NO.	Description
1	Front Grill
2	Front Panel
3	Axial Flow Fan
4	Chassis Sub-assy
5	Compressor and Fittings
6	Electronic Expansion Valve
7	Right Side Plate
8	Valve Support
9	Cut-off valve
10	Cut-off valve
11	Valve Cover
12	Handle
13	Terminal Board

NO.	Description
14	4-Way Valve Assy
15	Condenser Assy
16	Clapboard Assy
17	Motor Support
18	Brushless DC Motor
19	Top Cover Assy
20	Left Side Plate
21	Condenser Left Border Plate
22	Electric Box Assy
23	Radiator
24	Electric Box
25	Main Board
26	Electric Box Cover

Some models may not contain some parts, please refer to the actual product.

# 11. Removal Procedure

#### 11.1 Removal Procedure of Indoor Unit



Caution: discharge the refrigerant completely before removal.

Step Procedure Before disassemble Turn off the air conditioner and disconnect the power before disassemble the air conditioner. 1. Remove filter Filter Hold the handle on the filter, pull it upwards to let the clasp at the top part of the filter loose, pull it forwards and then the filter can be pulled out. Handle 2. Remove guide louver Push out the plug pin on guide louver, bend the guide louver with hand and then separate the guide louver from the crank shaft of step motor to remove it. Guide Louver

Step

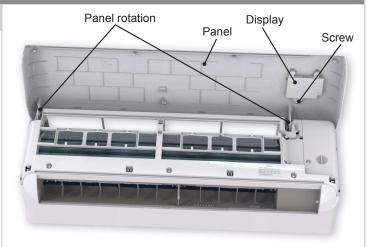
#### Procedure

#### 3. Remove panel

Open the front panel; separate the panel rotation shaft from the groove fixing the front panel and then removes the front panel.

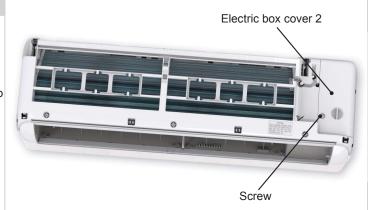
#### Note:

The display of some models is fixed on the panel; unscrew the screws fixing the display on the panel before removing the panel.



#### 4. Remove electric box cover 2

Remove the screws on the electric box cover 2 to remove the electric box cover 2.

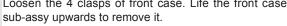


#### 5. Remove front case sub-assy

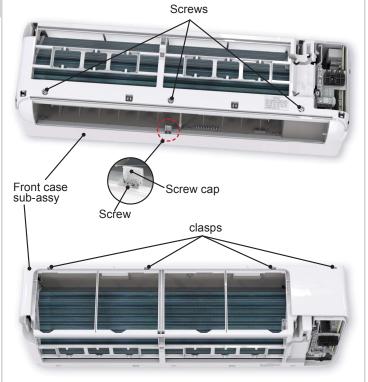
Remove the screws fixing front case.

а

- (1) Open the screw caps before removing the screws around the air outlet.
- (2) The quantity of screws fixing the front case subassy is different for different models.



Loosen the 4 clasps of front case. Life the front case



b

Step Procedure 6. Remove electric box assy Screw а Remove the screw fixing electric box assy. Grounding Indoor tube screw temperature sensor Electric box assy Wiring terminal of motor Main board ① Cut off the wire binder and pull out the indoor tube temperature sensor. 2 Screw off one grounding screw. Wiring terminal 3 Remove the wiring terminals of motor, cold plasma of cold plasma generator and stepping motor. generator 4 Remove the electric box assy. b ⑤ Screw off the screws that are locking each. Wiring terminal of stepping motor Wire binder Screws ATC Rotate the electric box assy. Twist off the screws that are locking the wire clip and loosen the power cord. Remove the wiring terminal of power cord. Lift up the main board and take it off. NOTE: This step is only available for the indoor power supply unit. Wire clip Screw Power cord ATE Instruction:Some wiring terminal of this products is with С lock catch and other devices. The pulling method is as below: Holder 1. Remove the soft sheath for some terminals at first, Circlip. hold the circlip and then pull out the terminals, 2.Pull out the holder for some terminals at first(holder is not available for some wiring terminal).hold the connector and then pull the terminal. Connector Soft sheath

Step **Procedure** 7. Remove evaporator assy а Remove 2 screws fixing evaporator assy. Screws Connection pipe clamp b At the back of the unit, Loosen the clasp of the connection pipe clamp and then remove the connection pipe clamp. Clasp First remove the left side of evaporator from the groove С of bottom shell and then remove the right side from the clasp on the bottom shell. Adjust the position of connection pipe on evaporator slightly and then lift the evaporator upwards to remove d Connection pipe

Step Procedure 8. Remove motor and cross flow fan а Remove 3 screws fixing motor clamp and then remove the motor clamp. Screws cross flow fan motor Screw Loose the screws (2-3 circles) used for fixing the cross flow fan, pull right to pull out the motor. b 9. Remove swing motor Screw off the screws that are locking the swing motor and take the motor off.

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Screws

## 11.2 Removal Procedure of Outdoor Unit

Caution: discharge the refrigerant completely before removal.

NOTE: Take heat pump for example.

(The front grill appearance is for reference only)	
Step	Procedure
1. Before disassembly	
2. Remove big handle and valve cover	
Remove the screws fixing big handle, valve cover and then remove them.	Big handle  Valve cover
3. Remove top cover	Top çover
Remove the screws fixing top panel and then remove the top panel.	

#### 4. Remove front panel assy

Remove connection screws connecting the front panel assy with the chassis and the motor support, and then remove the front panel assy.



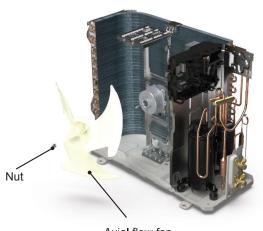
#### 5. Remove right side plate assy

Rescrew the ground screws, remove the ground wires, loosen the screws fixing terminal board, remove the terminal board, rescrew the screws fixing the right plate, and remove the right side plate assy.



#### 6. Remove axial flow fan

Remove the nut on the fan and then remove the axial flow fan.

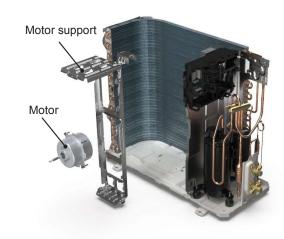


Axial flow fan

#### 7. Remove motor support and motor

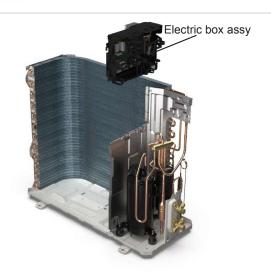
Remove the screws fixing the motor support and lift the motor support to remove it.

Remove the screws fixing the motor and then remove the motor.



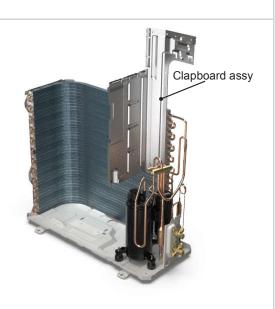
#### 8. Remove electric box assy

Remove the terminals, lift up and rotate the electrical box assy to the right so that the snaps on the clapboard are removed and the electrical box assy are removed.



#### 9. Remove clapboard assy

Remove the screws fixing the clapboard assy and then remove the clapboard assy.

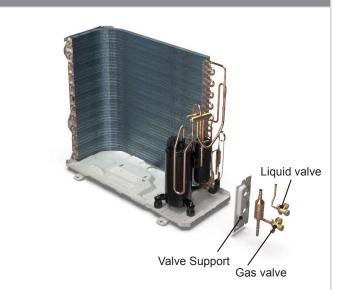


#### 10. Remove gas valve and liquid valve

Remove the valve support bolck, remove the screws fixing the gas valve and the liquid valve, unsolder the welding joint connecting the gas valve and the liquid valve, remove them.

#### Note:

Discharge the refrigerant completely befor unsoldering; when unsoldering, wrap the gas valve with a wet cloth completely to avoid damage to the valve caused by high temperature.



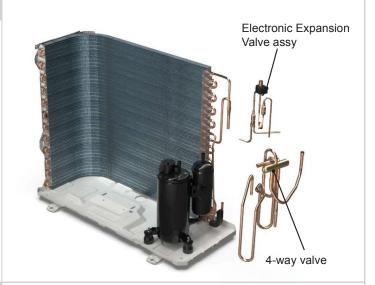
# 11. Remove 4-way valve and Electronic Expansion Valve assy

Unsolder the welding joints connecting Electronic Expansion Valve assy and then remove it.

Unsolder the welding joints connecting the 4-way valve assy with capillary sub-assy, compressor and condenser; remove the 4-way valve. Cooling only unit removes Discharge Tube and Inhalation Tube.

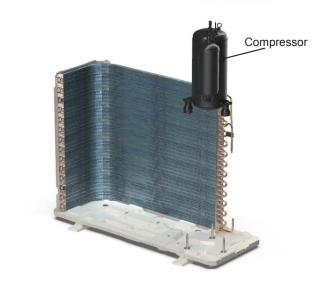
#### Note:

Before unsoldering the welding joint, wrap the 4-way valve with a wet cloth completely to avoid damage to the valve caused by high temperature.



#### 12. Remove compressor

Remove the 3 foot nuts on the compressor and then remove the compressor.



NOTE: Take heat pump for example.

# Step Procedure 1. Remove grille grille Remove the screws fixing the grille and then remove the panel grille. screws 2. Remove front panel front panel screws Remove screws fixing the front panel and then remove the front panel. 3. Remove right side plate right side plate screws Remove screws fixing connecting the front panel with the chassis and the motor support, and then remove the right side plate. screws

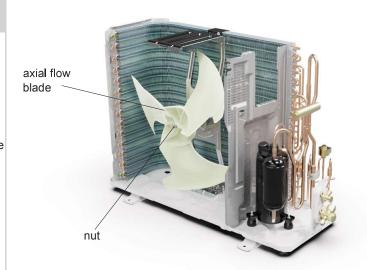
#### 4. Remove electric box assy

Remove the screws fixing the electricbox; loosen the wire bundle; pull out the wiring terminals and then pull electric boxupwards to remove it.



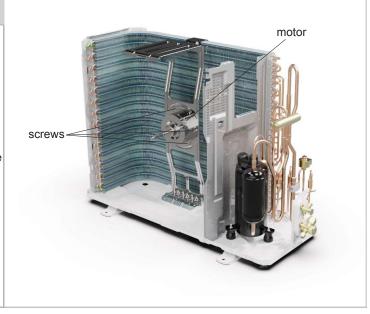
#### 5. Remove axial flow blade

Remove nut fixing the blade and then remove the blade.



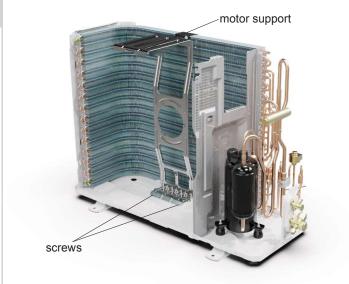
#### 6. Remove motor

Remove screws fixing the motor and then remove the motor.



#### 7. Remove motor support

Remove screws fixing the motor support and then remove the motor support.



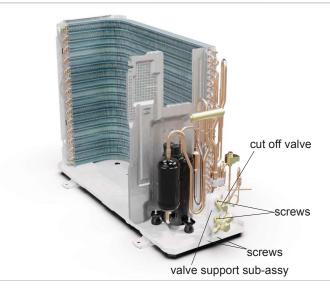
#### 8. Remove cut off valve and valve support sub-assy

Remove screws fixing the cut off valve and then remove the cut off valve;

Remove screws fixing the valve support subassy and then remove the valve support subassy.

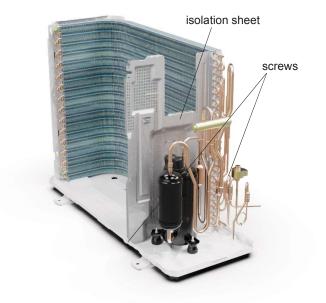
Note:

When pulling out the wiring terminal, pay attention to loose the clasp and don't pull it so hard.



#### 9. Remove isolation sheet

Remove the screws fixing the isolation sheet and then remove the isolation sheet.



#### 10. Remove left side plate

Remove the screws fixing the left side plate and the chassis, and then remove the left side plate.

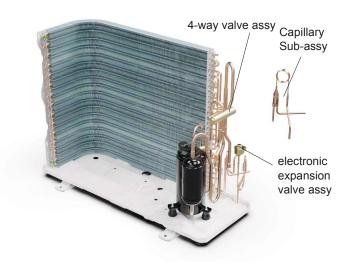


# 11. Remove 4-way valve assy or capillary sub-assy/ electronic expansion valve assy

Unsolder the spot weld of capillary sub-assy(electric expansion valve sub-assy) and condenser, and then remove the capillary sub-assy(electric expansion valve sub-assy).

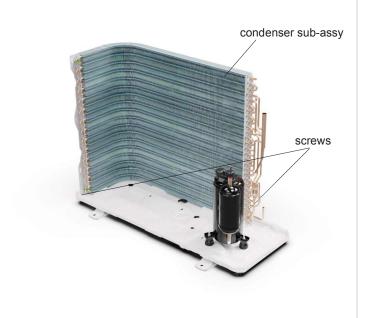
Note:

When unsoldering the spot weld, wrap the capillary sub-assy(electric expansion valve sub-assy) with wet cloth completely to avoid damaging the valve due to high temperature.



#### 12. Remove condenser sub-assy

Remove the screws fixing the condenser and chassis, and then lift the condenser upwards to remove it.



# **Appendix**

#### **Appendix 1: Reference Sheet of Celsius and Fahrenheit**

Conversion formula for Fahrenheit degree and Celsius degree: Tf=Tcx1.8+32

#### Set temperature

Fahrenheit display temperature (°F)	Fahrenheit (°F)	Celsius (°C)
61	60.8	16
62/63	62.6	17
64/65	64.4	18
66/67	66.2	19
68	68	20

Fahrenheit display temperature (°F)	Fahrenheit (°F)	Celsius (°C)
69/70	69.8	21
71/72	71.6	22
73/74	73.4	23
75/76	75.2	24
77	77	25

Fahrenheit display temperature (°F)	Fahrenheit (°F)	Celsius (°C)
78/79	78.8	26
80/81	80.6	27
82/83	82.4	28
84/85	84.2	29
86	86	30

#### **Ambient temperature**

<u> </u>		
Fahrenheit display	Fahrenheit	Celsius
temperature (°F)	( °F )	(°C)
32/33	32	0
34/35	33.8	1
36	35.6	2
37/38	37.4	3
39/40	39.2	4
41/42	41	5
43/44	42.8	6
45	44.6	7
46/47	46.4	8
48/49	48.2	9
50/51	50	10
52/53	51.8	11
54	53.6	12

Fahrenheit display temperature (°F)	Fahrenheit (°F)	Celsius (°C)
55/56	55.4	13
57/58	57.2	14
59/60	59	15
61/62	60.8	16
63	62.6	17
64/65	64.4	18
66/67	66.2	19
68/69	68	20
70/71	69.8	21
72	71.6	22
73/74	73.4	23
75/76	75.2	24
77/78	77	25

Fahrenheit display	Fahrenheit	Celsius
temperature (°F)	(°F)	(°C)
79/80	78.8	26
81	80.6	27
82/83	82.4	28
84/85	84.2	29
86/87	86	30
88/89	87.8	31
90	89.6	32
91/92	91.4	33
93/94	93.2	34
95/96	95	35
97/98	96.8	36
99	98.6	37

## **Appendix 2: Configuration of Connection Pipe**

- 1.Standard length of connection pipe(More details please refer to the specifications.)
- 2.Min length of connection pipeFor the unit with standard connection pipe of 5m, there is no limitation for themin length of connection pipe. For the unit with standard connection pipe of 7.5m and 8m, the min length of connection pipe is 3m.
- 3.Max. length of connection pipe and max. high difference.(More details please refer to the specifications.)
- 4. The additional refrigerant oil and refrigerant charging required after prolonging connection pipe
- After the length of connection pipe is prolonged for 10m at the basis of standard length, you should add 5ml of refrigerant oil for each additional 5m of connection pipe.
- The calculation method of additional refrigerant charging amount (on the basis of liquid pipe):
- Basing on the length of standard pipe, add refrigerant according to the requirement as shown in the table. The additional refrigerant charging amount per meter is different according to the diameter of liquid pipe. See the following sheet.
- Additional refrigerant charging amount = prolonged length of liquid pipe X additional refrigerant charging amount per meter

	Additional refrigerant charging amount for R32			
Pipir	Piping size		Outdoor unit throttle	
Liquid pipe	Gas pipe	Cooling only, cooling and heating (g / m)	Cooling only(g/m)	Cooling and heating(g/m)
1/4"	3/8" or 1/2"	16	12	16
1/4" or 3/8"	5/8" or 3/4"	40	12	40
1/2"	3/4" or 7/8"	80	24	96
5/8"	1" or 1 1/4"	136	48	96
3/4"	1	200	200	200
7/8"	1	280	280	280

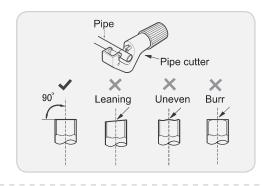
## **Appendix 3: Pipe Expanding Method**

#### **⚠ Note:**

Improper pipe expanding is the main cause of refrigerant leakage. Please expand the pipe according to the following steps:

A:Cut the pip

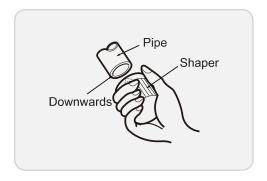
- Confirm the pipe length according to the distance of indoor unit and outdoor unit.
- Cut the required pipe with pipe cutter.



#### B:Remove the burrs

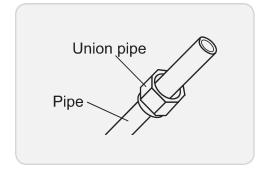
• Remove the burrs with shaper and prevent the burrs from getting into the pipe.

C:Put on suitable insulating pipe.



#### D:Put on the union nut

• Remove the union nut on the indoor connection pipe and outdoor valve; install the union nut on the pipe.



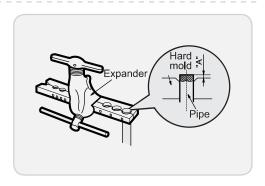
#### E:Expand the port

• Expand the port with expander.

#### **⚠ Note:**

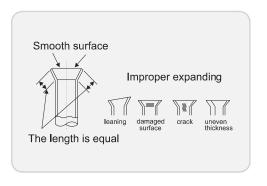
• "A" is different according to the diameter, please refer to the sheet below:

Outer diameter(mm)	A(mı	m)
	Max	Min
Ф6 - 6.35 (1/4")	1.3	0.7
Ф9 - Ф9.52 (3/8")	1.6	1.0
Ф12 - 12.70 (1/2")	1.8	1.0
Ф16 - 15.88 (5/8")	2.4	2.2



#### F:Inspection

• Check the quality of expanding port. If there is any blemish, expand the port again according to the steps above.



## **Appendix 4: List of Resistance for Temperature Sensor**

#### Resistance Table of Ambient Temperature Sensor for Indoor and Outdoor Units(15K)

Temp(°C)	Resistance(kΩ)
-19	138.10
-18	128.60
-16	115.00
-14	102.90
-12	92.22
-10	82.75
-8	74.35
-6	66.88
-4	60.23
-2	54.31

Temp(°C)	Resistance(kΩ)
0	49.02
2	44.31
4	40.09
6	36.32
8	32.94
10	29.90
12	27.18
14	24.73
16	22.53
18	20.54

Temp(°C)	Resistance(kΩ)
20	18.75
22	17.14
24	15.68
26	14.36
28	13.16
30	12.07
32	11.09
34	10.20
36	9.38
38	8.64

Temp(°C)	Resistance(kΩ)
40	7.97
42	7.35
44	6.79
46	6.28
48	5.81
50	5.38
52	4.99
54	4.63
56	4.29
58	3.99

#### Resistance Table of Tube Temperature Sensors for Indoor and Outdoor (20K)

Temp(°C)	Resistance(kΩ)
-19	181.40
-15	145.00
-10	110.30
-5	84.61
0	65.37
5	50.87
10	39.87
15	31.47

Temp(°C)	Resistance(kΩ)
20	25.01
25	20.00
30	16.10
35	13.04
40	10.62
45	8.71
50	7.17
55	5.94

Temp(°C)	Resistance(kΩ)
60	4.95
65	4.14
70	3.48
75	2.94
80	2.50
85	2.13
90	1.82
95	1.56

Temp(°C)	Resistance(kΩ)
100	1.35
105	1.16
110	1.01
115	0.88
120	0.77
125	0.67
130	0.59
135	0.52

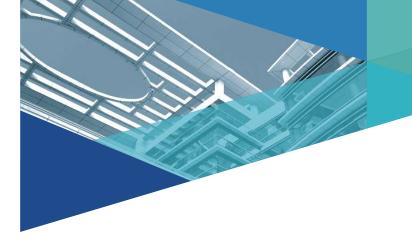
#### **Resistance Table of Discharge Temperature Sensor for Outdoor(50K)**

Temp(°C)	Resistance(kΩ)
-30	911.400
-25	660.8
-20	486.5
-15	362.9
-10	274
-5	209
0	161
5	125.1

Temp(°C)	Resistance(kΩ)
10	98
15	77.35
20	61.48
25	49.19
30	39.61
35	32.09
40	26.15
45	21.43

Temp(°C)	Resistance(kΩ)
50	17.65
55	14.62
60	12.17
65	10.18
70	8.555
75	7.224
80	6.129
85	5.222

Resistance(kΩ)
4.469
3.841
3.315
2.872
2.498
2.182
1.912
1.682



JF00305443



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For product improvement, specifications and appearance in this manual are subject to change without prior notice.