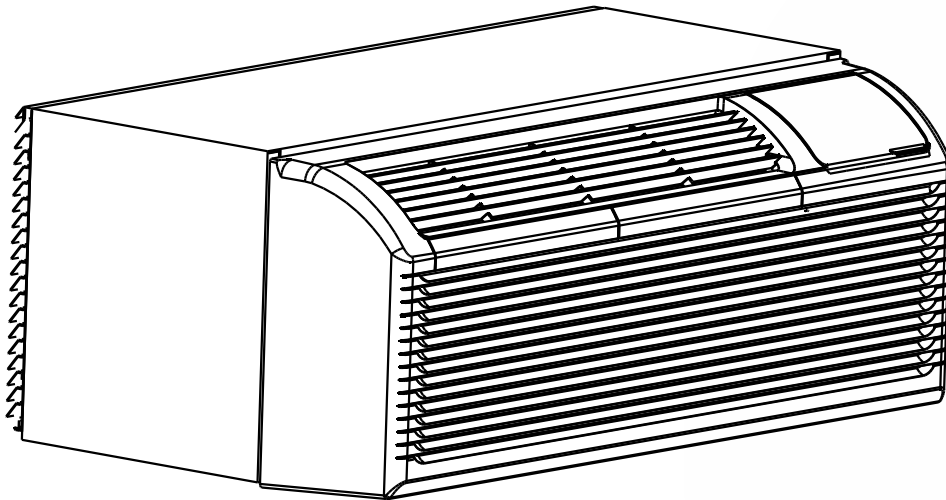


KTHM

SERIES

PACKAGED TERMINAL AIR CONDITIONER / HEAT PUMP

TROUBLESHOOTING



KLIMAIRE[®] ≈
Mark of Superior Quality

IMPORTANT NOTE:
Read this manual carefully before installing
or operating your new air conditioning
unit. Make sure to save this manual for
future reference.

For more information please visit www.klimaier.com

10. Troubleshooting

10.1 Error Display

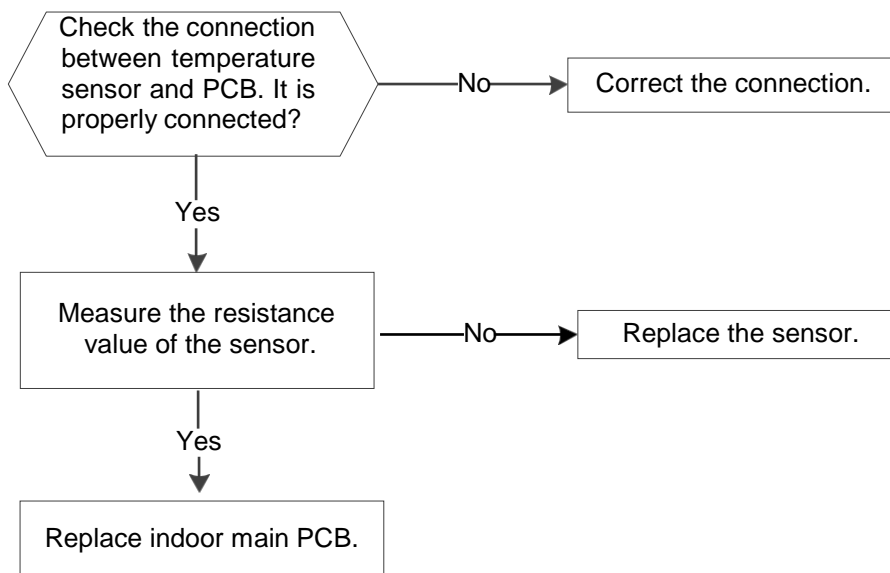
Codes	Explanations
AS	Open or short circuit of T1 temperature sensor
ES	Open or short circuit of T2 temperature sensor
CS	Open or short circuit of T3 temperature sensor
OS	Open or short circuit of T4 temperature sensor
HS	Open or short circuit of T5 or T6 temperature sensor
Lo	Temperature is lower than display range (32°F)
HI	Temperature is higher than display range (99°F)
E4	Communication malfunction between main control board and display board
LE	Drive-by-wire control failure

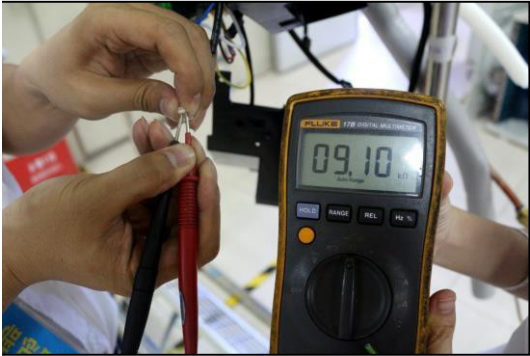
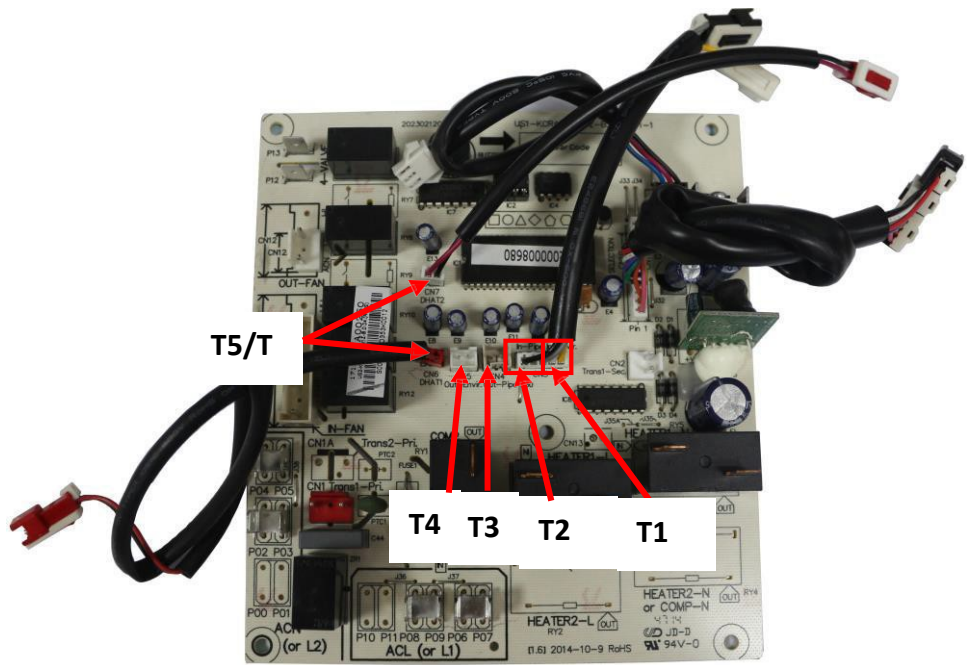
10.2 Troubleshooting

10.2.1 Open circuit or short circuit of temperature sensor diagnosis and solution (AS/E5/CS/oS/HS).

Error Code:	AS/ES/CS/OS/HS
Malfunctioning conditions:	If the sampling voltage is lower than 0.06V or higher than 4.94V, the LED will display the failure.
Possible causes:	<ul style="list-style-type: none"> • Wiring mistake • Faulty sensor • Faulty PCB

Troubleshooting:

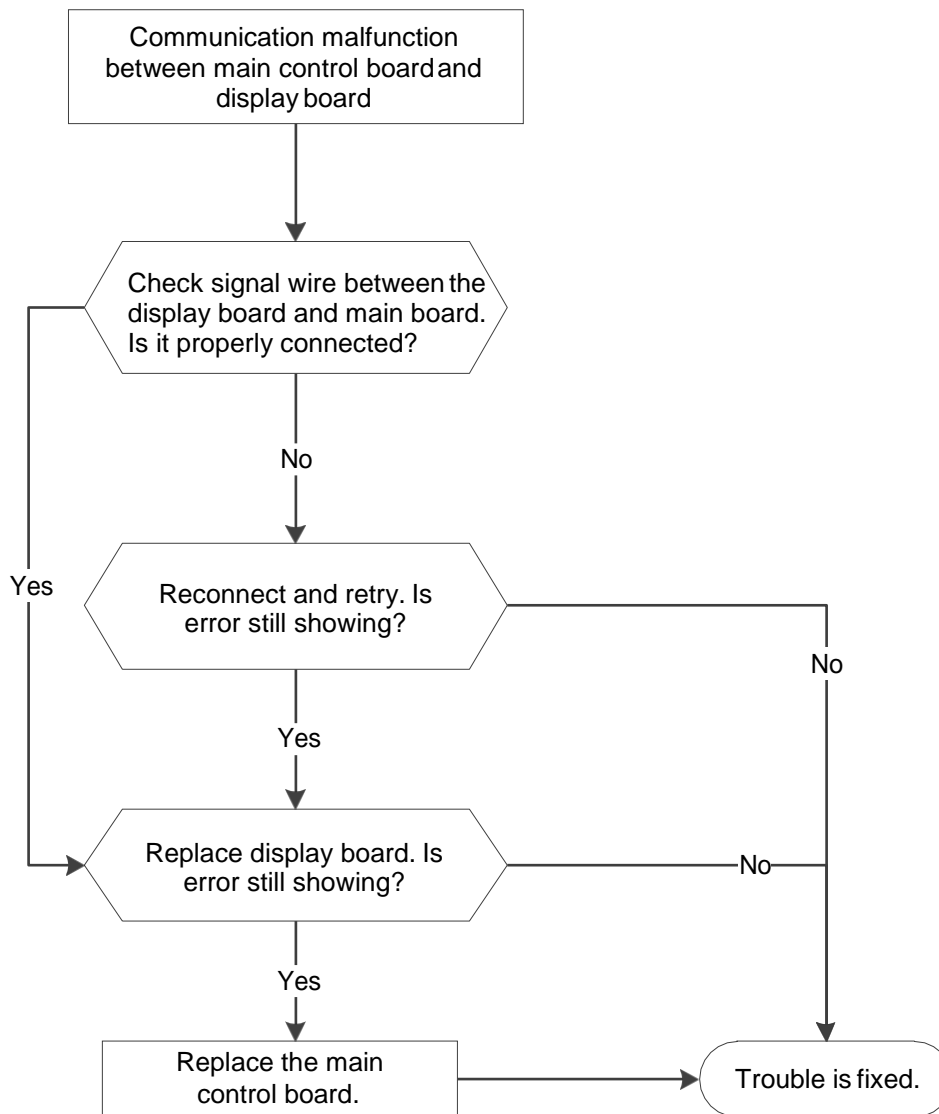




10.2.2 Communication malfunction between main control board and display board (E4).

Error Code:	E4
Malfunctioning conditions:	Main control board does not receive feedback from display board during 120 seconds.
Possible causes:	<ul style="list-style-type: none">● Wiring error● Faulty display board● Faulty main control board

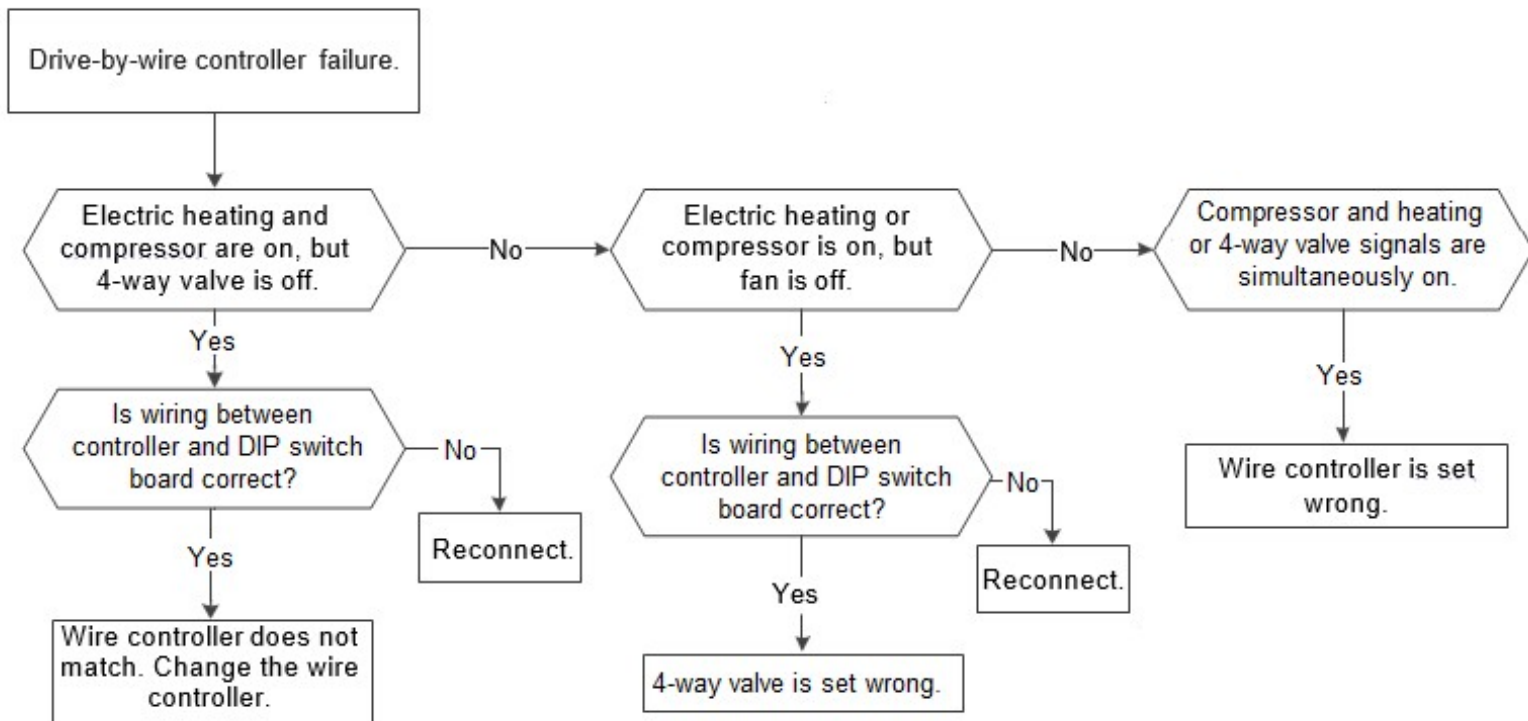
Troubleshooting:



10.2.3 Drive-by-wire controller failure (LE).

Error Code:	LE
Malfunctioning conditions:	<ol style="list-style-type: none"> 1. Electric heating signal or compressor signal is on, but fan signal is off. 2. Electric heating and compressor signals are on, but 4-way valve signal is off. 3. Cooling only models have heating signal, or the 4-way valve and compressor signals are on at the same time.
Possible causes:	<ul style="list-style-type: none"> • Wiring error • Faulty wire controller • Wire controller doesn't match

Troubleshooting:



DIP Switch Terminal	Designation	24V Controller
FC(L)	Front desk control terminal L	
FC(N)	Front desk control terminal N	
LOW-FAN	Low fan speed	GL
HI-FAN	High fan speed	GH
4-WAY	4-way valve(for heat pump model)	B
HEAT2	Electrical heater 2	W
HEAT1	Electrical heater 1	(W)
COMP	Compressor	Y
24V(N)	24VAC terminal N COM	C
24V(L)	24VAC terminal L	R

Possible Causes	Solutions
UNIT DOES NOT START Unit is unplugged. Blown fuse. Tripped circuit breaker. Unit is turned off. Unit is in a protection mode.	Check that plug is securely connected to outlet. Note: Plug has a test/reset button on it. Make sure that the plug has not tripped. Replace fuse. See Note 1 below. Reset circuit breaker. See Note 1 below. Turn unit on (bottom right button on keypad).
UNIT NOT COOLING/HEATING ROOM Air discharge section is blocked. Temperature setting is not high or low enough. Note: Setpoint limits might not allow unit to heat or cool the room to the temperature desired. Check section on DIP switch settings. Air filters are dirty. Room is excessively hot or cold when unit starts. Vent door left open. Unit may be in a protection mode. Compressor is in a time delay.	Make sure curtains, blinds, and/or furniture are not restricting or blocking unit's airflow. Reset to a lower or higher temperature setting. Remove and clean filters. Allow sufficient amount of time for unit to heat or cool the room. Start heating or cooling before outdoor temperature, cooking heat, or people make room uncomfortable. Close vent door. Check DIP switch settings for desired comfort. Wait approximately 3 minutes for compressor to start.
DISPLAY HAS STRANGE NUMBERS/CHARACTERS ON IT	The unit may be in a protection mode. The unit may have been set for °C instead of °F.
UNIT MAKING NOISES	Clicking, gurgling, and whooshing noises are normal during operation.
WATER DRIPPING OUTSIDE	If a drain kit has not been installed, condensation runoff during hot and humid weather is normal. See Note 2 below. If a drain kit has been installed and is connected to a drain system, check gaskets and fittings around drain for leaks and plug them.
WATER DRIPPING INSIDE Wall sleeve is not installed properly.	Wall sleeve must be installed correctly for proper drainage of condensation. Check that installation is levelled and make any necessary adjustments.
ICE OR FROST FORMS ON INDOOR COIL Low outdoor temperature. Dirty filters.	When outdoor temperature is approximately 55°F or below, frost may form on the indoor coil when unit is in Cooling mode. Switch unit to FAN operation until ice or frost melts. Remove and clean filters.
COMPRESSOR PROTECTION Power may have cycled, so compressor is in a restart protection.	Random Compressor Restart: Whenever the unit is plugged in or power has been restarted, a random compressor restart will occur. After a power outage, the compressor will restart after approximately 3 minutes. Compressor Protection: To prevent short cycling of compressor, there is a random startup delay of 3 minutes and a minimum compressor run time of 3 minutes.

NOTES

1. If circuit breaker is tripped or fuse is blown more than once, contact a qualified electrician.
2. If unit is installed where condensation drainage could drip in an undesirable location, an accessory drain kit should be installed and connected to drain system.

Characteristics of Temperature Sensor

Temp. °C/°F	Resistance KΩ	Temp. °C/°F	Resistance KΩ	Temp. °C/°F	Resistance KΩ
-10/14	62.2756	17/62	14.6181	44/111	4.3874
-9 /15.8	58.7079	18/64	13.918	45/113	4.2126
-8 /17.6	56.3694	19/66	13.2631	46/115	4.0459
-7 /19.4	52.2438	20/68	12.6431	47/117	3.8867
-6 /21.2	49.3161	21/70	12.0561	48/118	3.7348
-5 /23	46.5725	22/72	11.5	49/120	3.5896
-4 /24.8	44	23/73	10.9731	50/122	3.451
-3 / 26.6	41.5878	24/75	10.4736	51/124	3.3185
-2 / 28.4	39.8239	25/77	10	52/126	3.1918
-1 /30.2	37.1988	26/79	9.5507	53/127	3.0707
0 /32	35.2024	27/81	9.1245	54/129	2.959
1 /33.8	33.3269	28/82	8.7198	55/131	2.8442
2 /35.6	31.5635	29/84	8.3357	56/133	2.7382
3 /37.4	29.9058	30/86	7.9708	57/135	2.6368
4 /39.2	28.3459	31/88	7.6241	58/136	2.5397
5 /41	26.8778	32/90	7.2946	59/138	2.4468
6 /42.8	25.4954	33/91	6.9814	60/140	2.3577
7 /44.6	24.1932	34/93	6.6835	61/142	2.2725
8 /46.4	22.5662	35/95	6.4002	62/144	2.1907
9 /48.2	21.8094	36/97	6.1306	63/145	2.1124
10 /50	20.7184	37/99	5.8736	64/147	2.0373
11 /51.8	19.6891	38/100	5.6296	65/149	1.9653
12 /53.6	18.7177	39/102	5.3969	66/151	1.8963
13 /55.4	17.8005	40/104	5.1752	67/153	1.830
14 /57.2	16.9341	41/106	4.9639	68/154	1.7665
15 /59	16.1156	42/108	4.7625	69/156	1.7055
16 /60.8	15.3418	43/109	4.5705	70/158	1.6469

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