TROUBLESHOOTING GUIDE

Description	Check Points
Compressor HP fault	Check the Outdoor Fan operation Check the coils are clean Check for excess refrigerant charge Check for non-condensible (Standing pressure with reference to Press. Temp. Chart) Check the HP switch for continuity (There is no continuity in FAULT condition)
Compressor LP fault	Check for less refrigerant charge Check for non-condensible (Standing pressure with reference to Press. Temp. Chart) Check the LP switch for continuity (There is no continuity in fault condition)
Outdoor Coil 1 sensor faulty or wiring open / short circuit	Check the wiring and the resistance through the sensor probe
Outdoor Coil 2 sensor faulty or wiring open / short circuit	Check the wiring and the resistance through the sensor probe
Return air temp sensor faulty or wiring open / short circuit	Check the wiring and the resistance through the sensor probe
Outdoor air temp sensor faulty or wiring open / short circuit	Check the wiring and the resistance through the sensor probe
Filter Alarm	Check the filter if dirty. Clean or replace if required. Reset Filter Timer

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TROUBLESHOOTING GUIDE

FAULT	POSSIBLE CAUSES	REMEDIES
The system does not start.	Built-in safety timers have been activated.	Allow up to 5 minutes for the system to start from when it is turned on.
	A circuit breaker may have tripped	Check circuit breakers
	The setpoint setting is incorrect.	Check that the Control Interface settings are correct. Check the setpoint is set low enough for cooling or high enough for heating.
	The Control Interface programmable settings are incorrect.	Check the Control Interface programmable settings. See operating instructions section.
Compressor does not start (but the Outdoor and Indoor Fans start).	Compressor may not turn on due to compressor Overheat Safety Feature. The internal overload is triggered if compressor temperature gets to 120°C.	Compressor will restart when temperature internal over temperature thermistor gets down to 100°C.
No airflow from the outlets.	During heating operation, the hot start function may have been activated.	The Indoor Fan is delayed for 45 seconds. This is to prevent cold drafts. Wait for 45 seconds and the air will start flowing.
		Check Auto Fan Operation.
Cooling / Heating is not sufficient.	The cooling/heating function may not work effectively when the return air filter is clogged with dust and dirt.	Clean the return air filter.
	The cooling/heating function may not work effectively if the air inlet and air outlet on the Outdoor Unit are blocked.	Make sure the air inlet and air outlet on the Outdoor Unit is not blocked. Check that the area around the Outdoor Unit is free from obstructions that may cause the airflow to recirculate.
	The airflow across the indoor coil may not be enough.	Reduce the total static pressure on the Indoor Fan to increase airflow. For example increase duct sizes, reduce tight duct work bends or increase return air grille size.
	The cool/heat load is too great for the air conditioner.	Perform a heat load analysis on the conditioned space. You may need to consider upgrading the air conditioner to a larger system.
	Open windows or doors will cause inefficient operation.	Close windows and doors in conditioned areas.
	The outside temperature is beyond the air conditioner design conditions.	On an extremely hot day, turn the air conditioner ON a few hours before ambient temperatures reaches extreme level.

TROUBLESHOOTING GUIDE

FAULT	POSSIBLE CAUSES	REMEDIES
Steam emitted from Outdoor Unit.	The outdoor unit is going through a defrost cycle during the heating cycle.	This is normal during the defrost situation in cold ambient conditions.
Water emitted from Outdoor Unit.	Condensation of water on the outdoor coil during heating operation.	This is normal during heating operation.
Occasional hissing noise can be heard from the Outdoor Unit.	This is the sound of the gas changing directions as de-ice cycle begins.	This is normal functions of an air conditioner. The unit is removing any ice on the Outdoor Unit.
The compressor is running but the system is not cooling	The reversing valve has jammed between heating and cooling.	Replace reversing valve.
	The system is in heating mode.	Check the temperature setting.
The outdoor coil keeps freezing over.	Outdoor coil sensor might be faulty. See temperature/resistance table under operation details section.	Replace faulty sensor.
One condenser fan is not working on Stage 2.	The fan is faulty. Test the fan motor for correct voltage, check the motor winding resistance, open circuit, check capacitor.	Replace faulty fan. If the fan motor needs to be replaced and there isn't one available immediately, then just disconnect the fan electrically and cover the faulty motors fan guard. This way the unit can still operate at reduced capacity using 1 fan until you get a replacement fan motor. This is only applicable to circuit#2 (large compressor).
The indoor outlet air has an odour.	Indoor unit has absorbed the conditioned space smells eg. cigarette, cooking, etc.	If this happenes, it is recommended to run the air conditioner on cooling for a period of time with the doors and windows open or have the indoor unit washed by a technician. Consult the installer of the unit.
	Check that P-Trap is installed in the condensate drain line.	Re-pipe condensate drain with a P-trap and run drain into household waste water drainage line.
Unit is OFF by DIN	System is OFF via Remote On / OFF	Disable Remote ON / OFF by following the instructions in Installation and Commissioning Guide.

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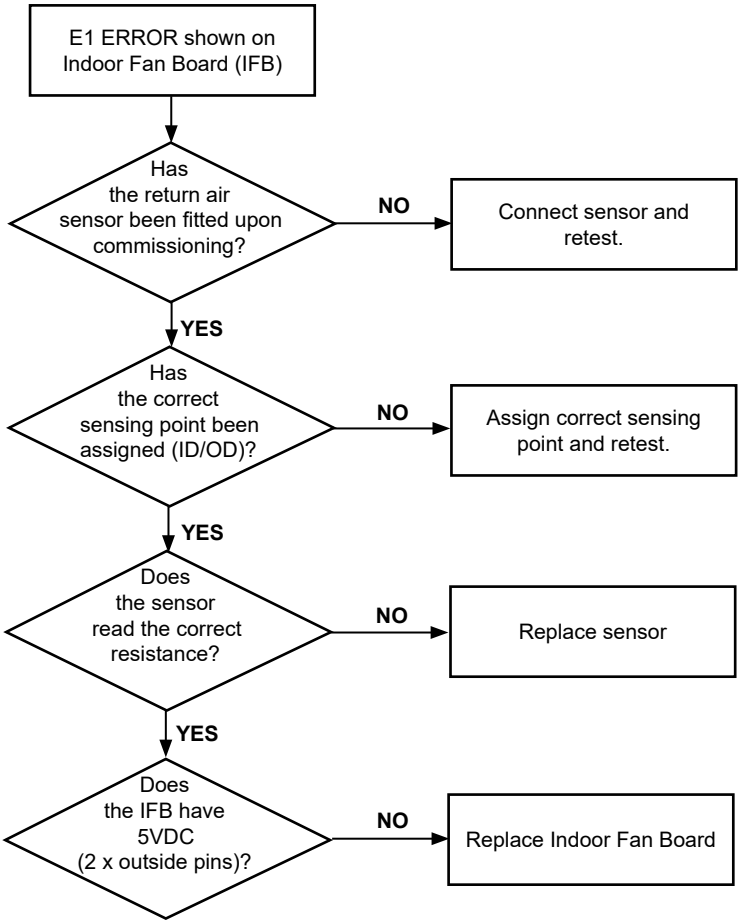
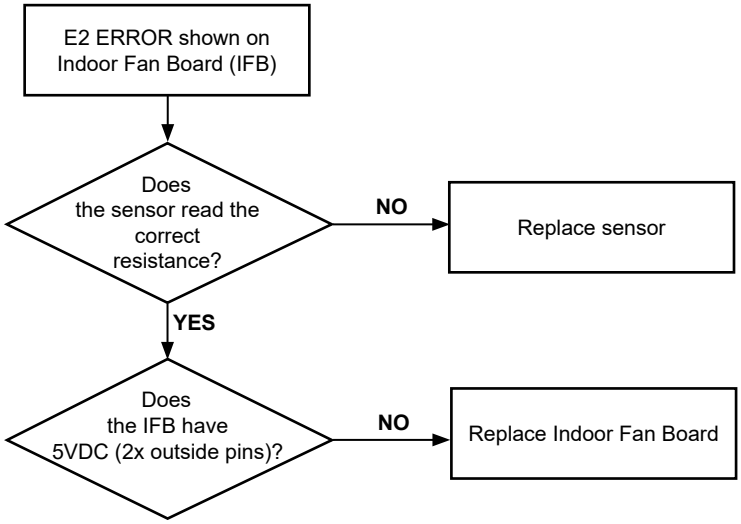
E1 ERROR - Return Air Sensor Open / Short Circuit



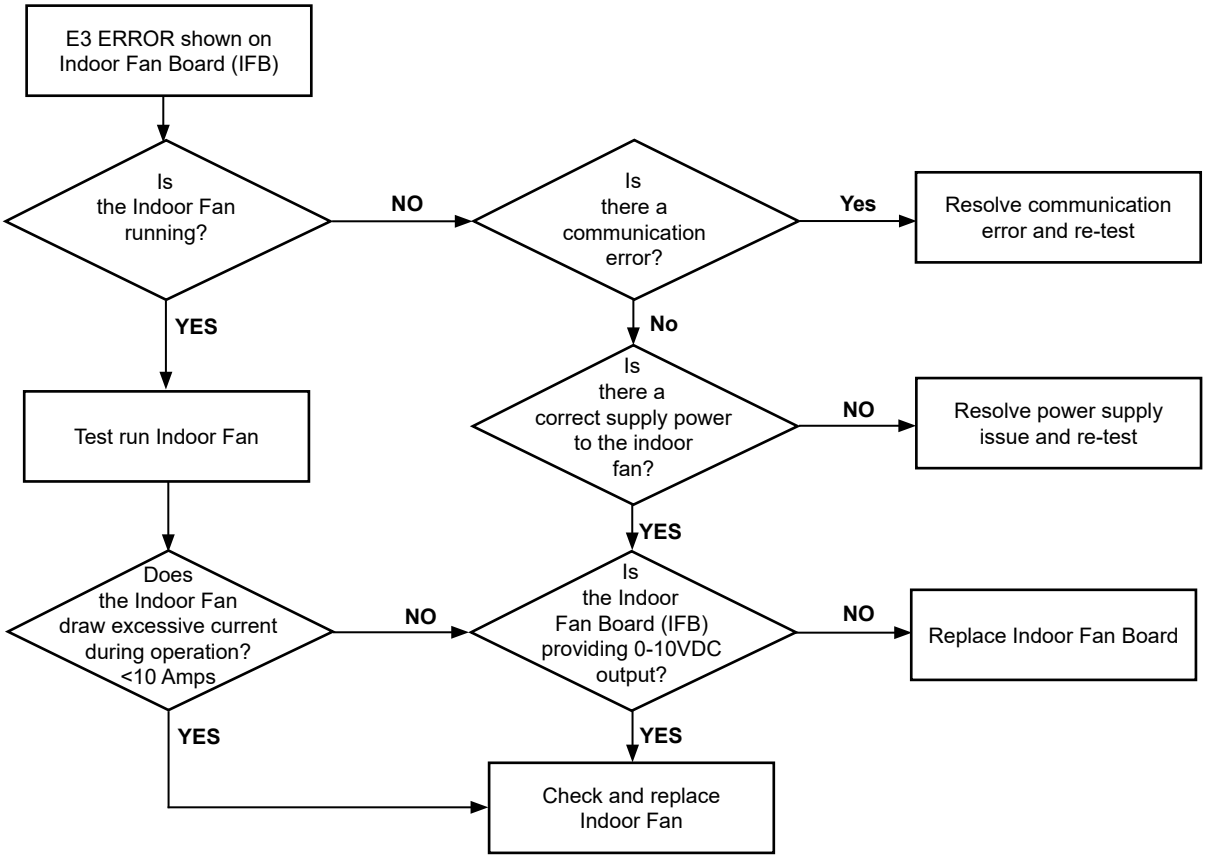
See page 12 for temperature and resistance chart.

E2 ERROR - Indoor Coil Sensor Open / Short Circuit



See page 12 for temperature and resistance chart.

E3 ERROR - Indoor Fan Over/under Current Error



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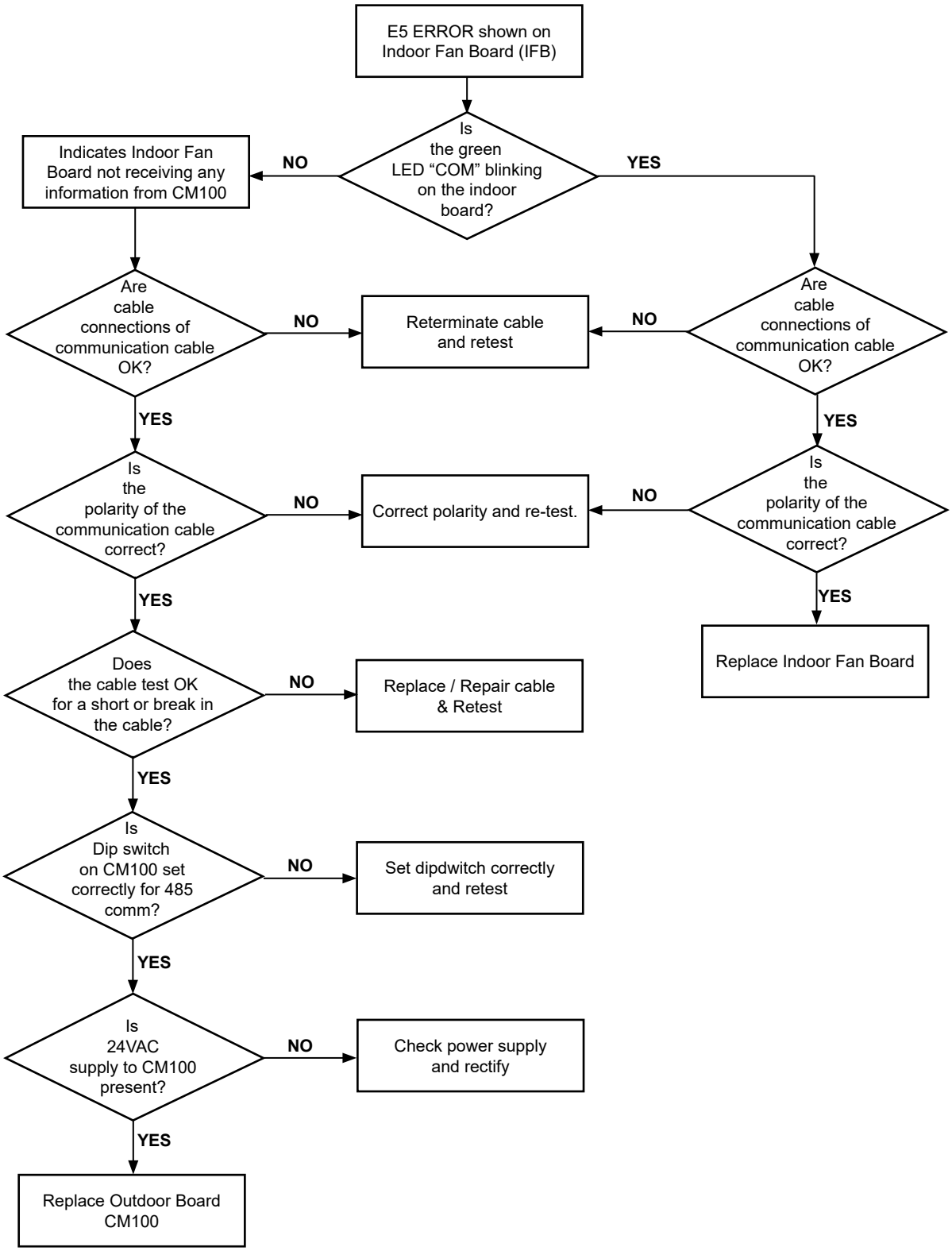
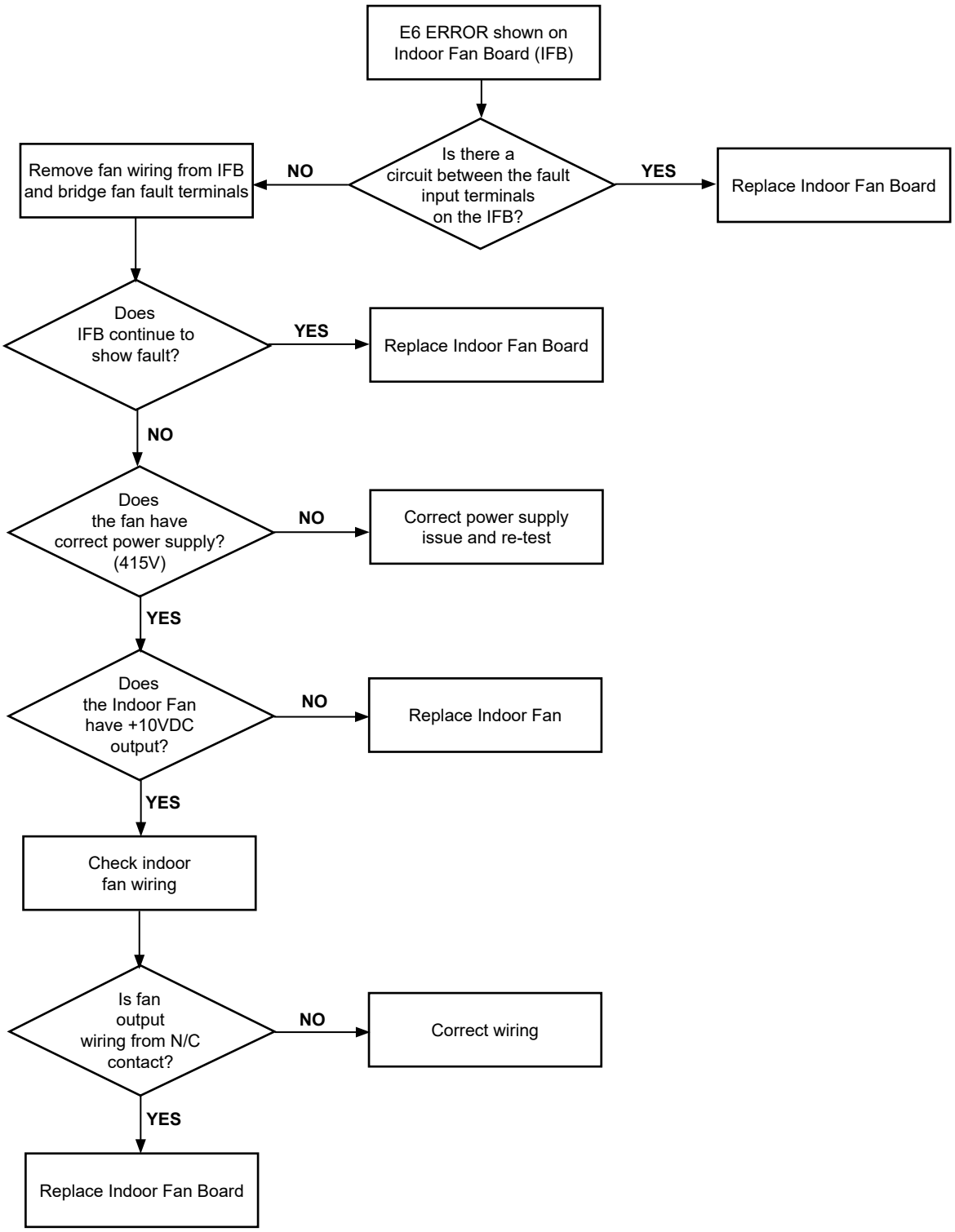
E5 ERROR - Communication Fault (Occurs when the Indoor Fan Board has not received communication with CM100 for >30 seconds)



E6 ERROR - Indoor Fan Fault



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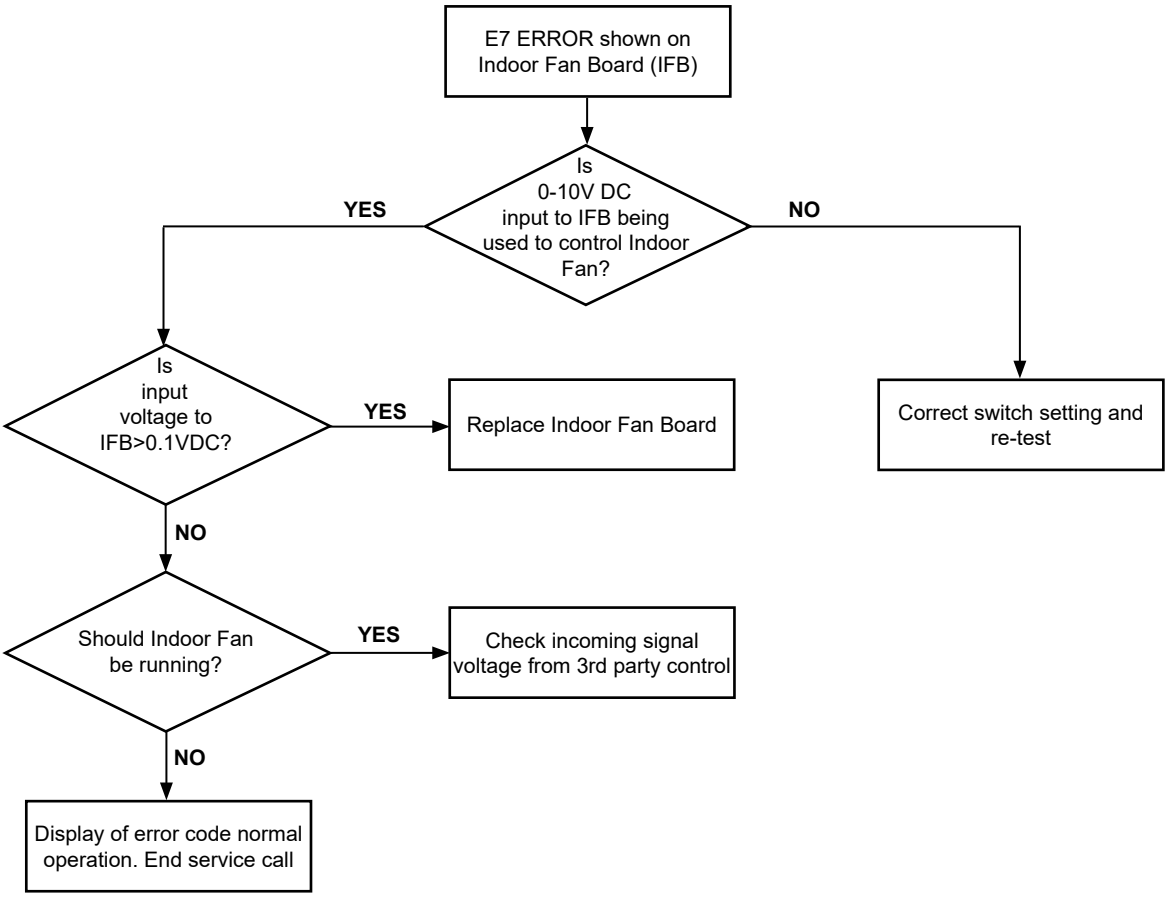
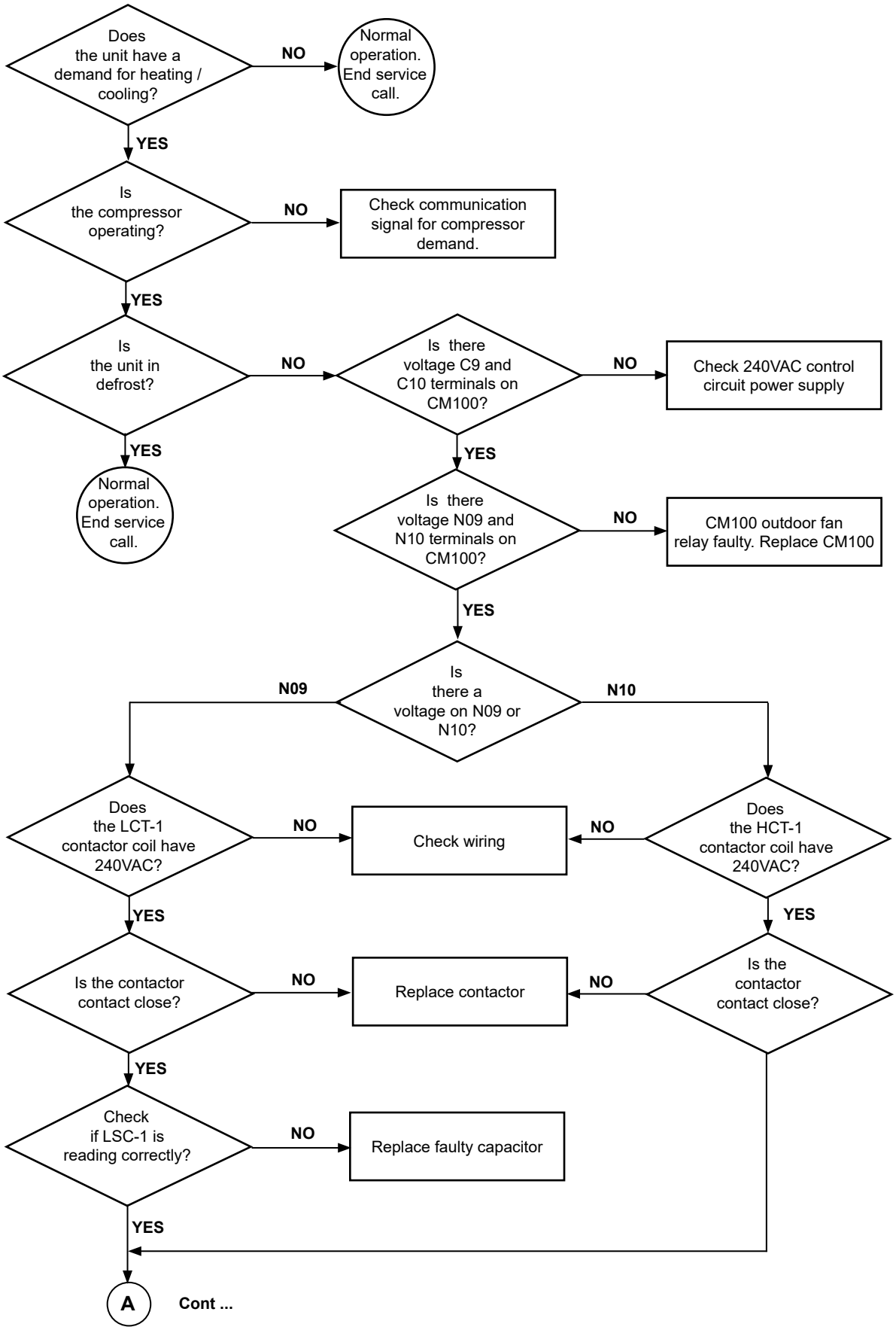
E7 ERROR - Indoor Fan Fault: 0-10V No Input



TROUBLESHOOTING GUIDE

Stage 1: Outdoor Fan (OF-1) Not Operating



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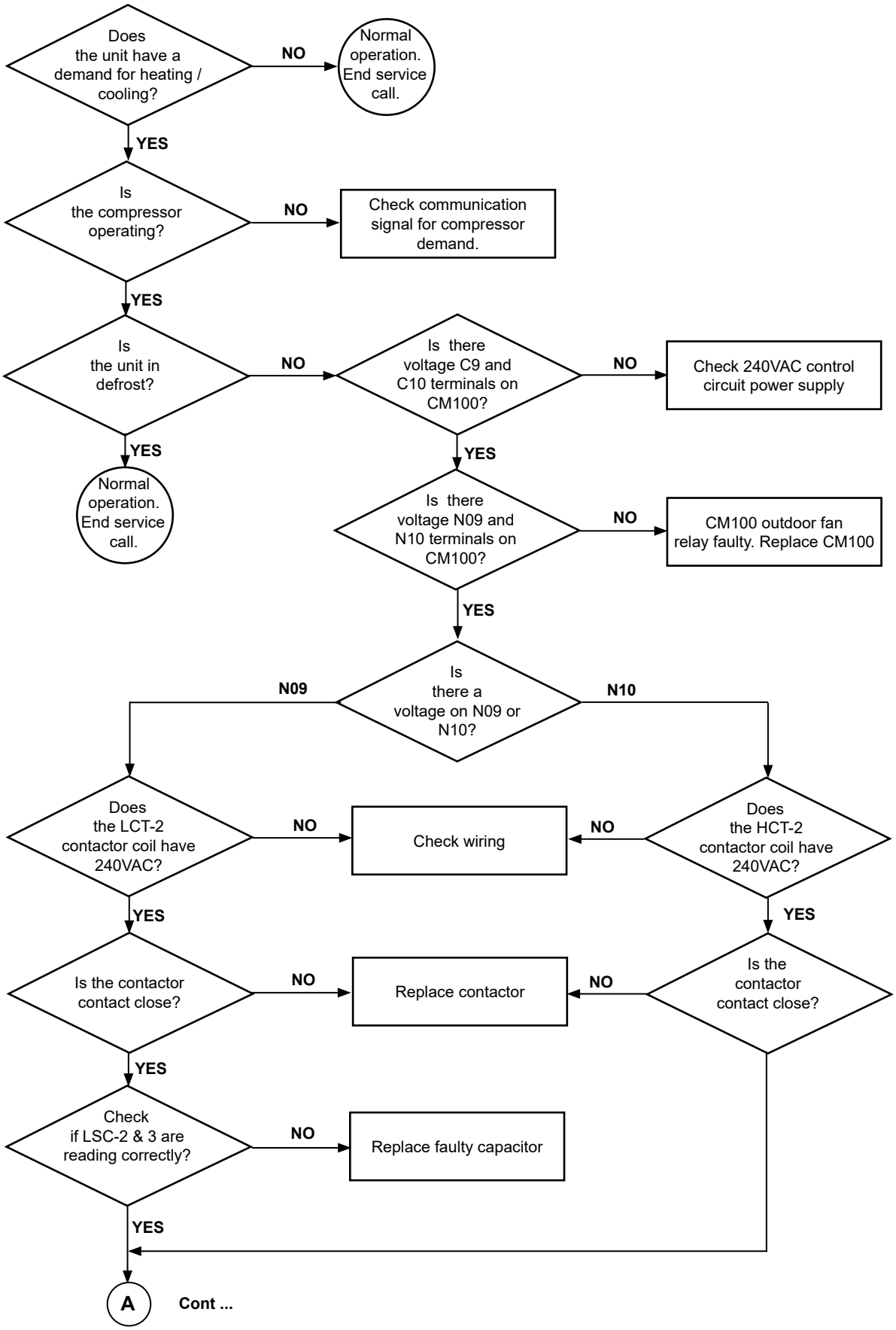
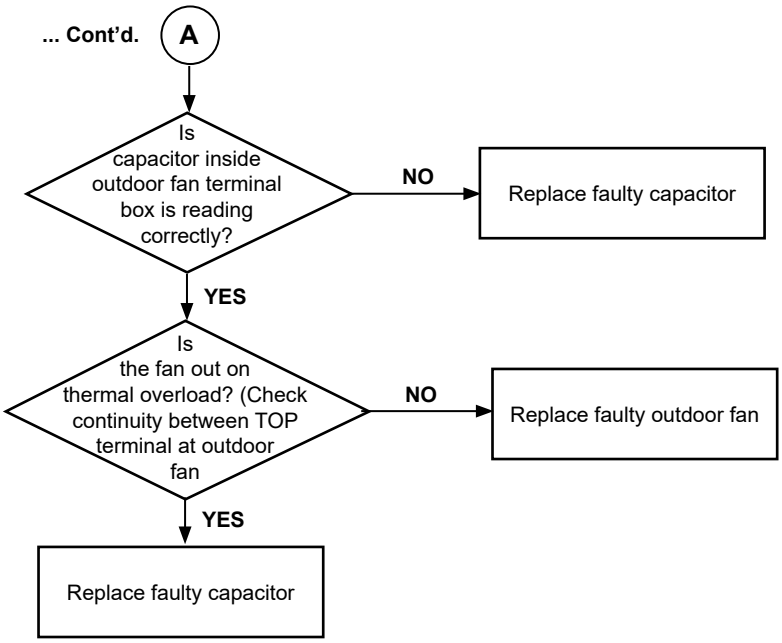
Stage 2: Outdoor Fans (OF-2 / OF-3) Not Operating



Condenser Fan(s) Not Operating



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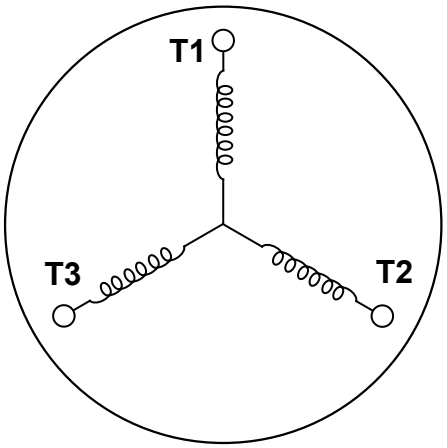
Temperature /Resistance Chart (Returan Air Sensor and Indoor Coil Sensor)

°C	Ohms	°C	Ohms	°C	Ohms	°C	Ohms	°C	Ohms	°C	Ohms
-40	189726.59	-10	42449.68	20	12089.02	49	4301.66	79	1716.12	108	661.13
-39	179667.05	-9	40564.75	21	11634.12	50	4162.40	80	1668.13	109	626.65
-38	170198.08	-8	38773.65	22	11198.65	52	3899.16	81	1621.72	110	592.16
-37	161283.66	-7	37071.50	23	10781.75	53	3774.84	82	1576.81	111	557.68
-36	152886.97	-6	35452.99	24	10382.41	54	3655.03	83	1533.34	112	523.20
-35	144974.38	-5	33914.03	25	9999.96	55	3539.62	84	1491.28	113	488.71
-34	137518.11	-4	32450.23	26	9633.52	56	3428.44	85	1450.56	114	454.23
-33	130488.50	-3	31057.47	27	9282.40	57	3321.23	86	1411.14	115	419.74
-32	123857.83	-2	29731.80	28	8945.74	58	3217.91	87	1372.97	116	385.26
-31	117600.55	0	27268.26	29	8623.07	59	3118.31	88	1336.00	117	350.77
-30	111696.45	1	26123.79	30	8313.74	60	3022.27	89	1300.20	118	316.29
-29	106121.68	2	25033.50	31	8016.98	61	2929.63	90	1265.52	119	281.81
-28	100857.19	3	23994.42	32	7732.34	62	2840.29	91	1231.92	120	247.32
-27	95883.02	4	23003.92	33	7459.19	63	2754.08	92	1199.37	121	212.84
-26	91182.30	5	22059.60	34	7197.07	64	2670.89	93	1167.81	122	178.35
-25	86738.06	6	21159.14	35	6945.51	65	2590.62	94	1137.24	123	143.87
-24	82536.05	7	20300.10	36	6703.94	66	2513.13	95	1107.60	124	109.39
-23	78561.07	8	19480.42	37	6472.05	67	2438.34	96	1078.87	125	74.90
-22	74799.72	9	18698.34	38	6249.28	68	2366.11	97	1051.01	126	40.42
-20	67868.00	10	17951.45	39	6035.32	69	2296.38	98	1023.99	127	5.93
-19	64675.28	11	17238.53	40	5829.71	70	2229.03	99	997.80	128	-28.55
-18	61650.11	12	16557.54	41	5632.13	71	2163.95	100	937.01	129	-63.04
-17	58783.33	13	15906.98	42	5442.21	72	2101.09	101	902.52	130	-97.52
-16	56065.71	14	15285.47	43	5259.65	73	2040.34	102	868.04	131	-132.00
-15	53488.80	15	14691.34	44	5084.14	74	1981.64	103	833.55	132	-166.49
-14	51044.55	16	14123.45	45	4915.29	75	1924.91	104	799.07	133	-200.97
-13	48725.20	17	13580.47	46	4752.91	76	1870.05	105	764.59	134	-235.46
-12	46524.16	18	13061.14	47	4596.66	77	1817.01	106	730.10		
-11	44434.31	19	12564.41	48	4446.37	78	1765.73	107	695.62		

TROUBLESHOOTING GUIDE



COMPRESSOR WINDINGS

			RATING OF COMPRESSOR WINDINGS (OHMS)		
MODEL	COMPRESSOR	COMPRESSOR MODEL	T1 - T2	T1 - T3	T2- T3
CAY470T PKY470T	Small	COPELAND - ZP61KCE-TFO	2.39	2.39	2.39
	Large	COPELAND - ZP120KCE-TFD	1.23	1.23	1.23
CAY500T PKY500T	Small	COPELAND - ZP61KCE-TFO	2.39	2.39	2.39
	Large	COPELAND - ZP120KCE-TFD	1.23	1.23	1.23
CAY540T PKY540T	Small	COPELAND - ZP72KCE-TFO	2.39	2.39	2.39
	Large	COPELAND - ZP137KCE-TFD	1.23	1.23	1.23
CAY620T PKY620T	Small	COPELAND - ZP83KCE-TFO	1.96	1.96	1.96
	Large	COPELAND - ZP154KCE-TFD	1.09	1.09	1.09
CAY700T PKY700T	Small	COPELAND - ZP90KCE-TFD	1.59	1.59	1.59
	Large	COPELAND - ZP182KCE-TFD	0.86	0.83	0.83

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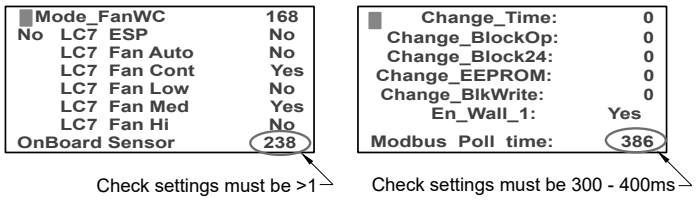
TROUBLESHOOTING GUIDE

CL01 CONTROL INTERFACE TROUBLESHOOTING GUIDE

CONDITION	CAUSES OR CHECKPOINTS
CL01 Control Interface does not power up. Display is blank	• Check data cable for fault, replace as required. • Make sure that wiring connection is correct as per wiring diagram. • Check wiring connections and polarity as follows: **CL01 Terminal** — **CM100 Terminal** Power ⟷ Vout 485A ⟷ R+/T+ 485B ⟷ R-/T- GND ⟷ GND + Screen **NOTES:** ◦ Data: RS-485 ◦ Cable specs: 4 Core (2 Pair) Twisted Pair 7/0.20 (AWG24) Shielded Data Cable ◦ Maximum Cable Length: up to 200m ◦ Do not connect screen to Control Interface, cut wire as short as possible in order to prevent shorting. Connect screen at CM100 only. ◦ Do not run data cable near power cables and other sources of interference. • Check that supply voltage is correct. Vout -to- GND = 20.6VDC • Check CM100 is powered-up and CP05 is operational.
CL01 Control Interface power up but still not working.	• Check that the CL01 is enabled in CM100 Controller. Refer to Installation and Commissioning Guide for procedure. • Check CM100 Software Version, make sure that your version is 1.0B62 or above. If the software version is lower than 1.0B62, your CM100 will require software version. • Check for debugging software, by turning off CP05, press and hold down ↑ and ↓ keys for 10 secs. The CP05 Control Interface will enter the debugging menu.  • Check polling time settings, which should be 200 - 450ms. • Try control initialization from CP05 menu to rectify any possible software issues with CM100 to CL01 via Service Menu: Main Menu → G. Service → f. Service settings → c. Thermoregulation → Initialization **NOTE:** ◦ To Access Initialization **Gfc14** screen, navigate to Service settings, (access password is 7378).
CL01 Control Interface buttons not operating	• Reset the power to the Control Interface by turning the main power supply OFF/ON, as the Control Interface may not be responding. • Check data cable for fault, replace as required. • Make sure the Keypad Lock feature is not acive. The lock 🔒 symbol will appear on the screen if Keypad Lock is active.
CL01 Display Backlight and **ON/OFF** button Backlight issues	• Check Display Backlight and **ON/OFF** button Backlight settings. • Check that Backlights are not turned-OFF. • Check the intensity of Backlight brightness, which can be adjusted. Refer to the Owner's Manual of CL01 or CL01-2 for Backlight adjustment procedure.