

Technical Service Bulletin:

E6 Error Code Troubleshooting (Control Board Or Fan Motor?)

Models: Bosch IDS BOVA15 R-410A Heat Pumps



BOSCH



WARNING

Dangerous operation, injury or property damage!

Improper servicing could result in dangerous operation, injury or property damage. This document is intended to be used by a professional who is licensed and qualified to work on heat pump products, components, and refrigerant. If you are not qualified to work on such equipment, please obtain the services of a qualified professional.



The information contained in this bulletin applies only to the R410A version of the BOVA15 outdoor IDS models.



Please read this entire document prior to proceeding with any work.

Background

When encountering an E6 error code on this model, it's important to determine which component is causing the issue. This bulletin is intended to provide clear, technical guidance in making this determination.

In the majority of cases, the failed component will be the control board. You could, in reasonable confidence, choose to immediately replace it.

However, there is a small possibility that a failure of the fan motor is the problem. Follow the procedure below to help guide you to a correct diagnosis of the failed component and resolve the problem successfully.

Procedure

1. Turn off the power to the product, then remove the corner panel to access the control board.
2. Visually inspect the control board for signs of damage, such as broken components or burn marks (see Fig.1).

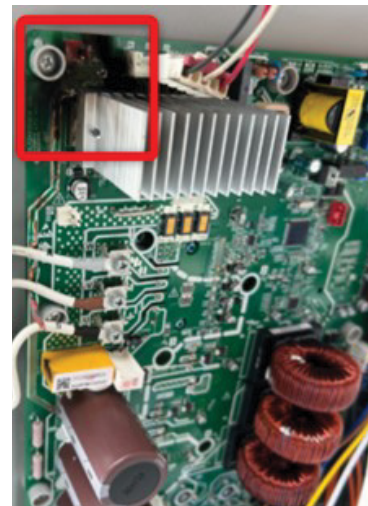


Figure 1

3. If you find any broken components or any burns, then that is the likely cause of the E6 error and the control board will need to be replaced before the unit can be put back into operation. Control board part numbers can be found on the last page of this document.
4. If the visual inspection of the control board found no obvious damage, the next step is to test the fan motor resistances to rule them out as a potential cause of the E6 issue;
 - a. Locate the DC-FAN header near the top-left corner of the control board (see Fig.2).

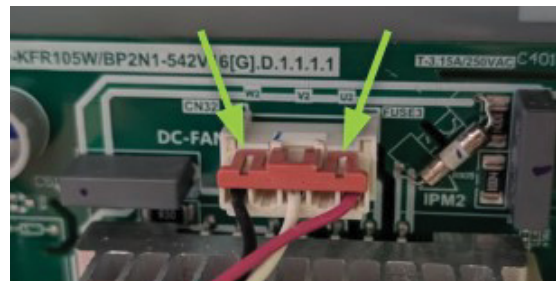


Figure 2

- b. Before you can unplug the male fan plug from the DC-FAN header you must first remove the orange plastic lock piece. Use a small flat blade screwdriver to gently lift the two tabs indicated in Fig.2 above and then pull the whole piece free from the connector (see Fig.3).

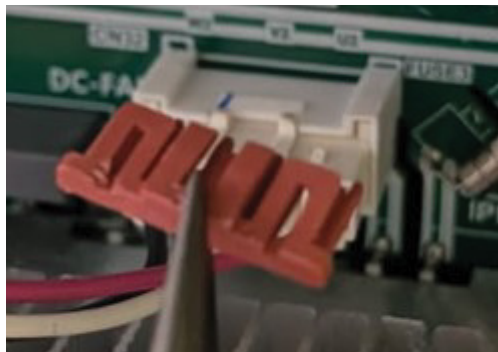


Figure 3

- c. You can now unplug the male fan plug (see Fig.4)



Figure 4

- d. The fan motor can be tested by measuring the resistance across a combination of the three pins on the male plug (see Fig.5). For this exercise we have labeled the pins as R (red), W (white), and B (black).



Figure 5

- e. Using a multimeter, check the resistance across the pin combinations "R – W", "B – W", and "R – B".
- f. The resistance reading for each of the three pin combinations should be within a range of 20Ω to 40Ω.
- g. If any of the three resistance readings fall outside of the range, the fan motor must be replaced before putting the unit back into operation. ECM fan motor part numbers can be found on the last page of this document.
5. If all three resistance readings did fall within the correct range, then the final test is to check the grounding of the fan motor;
- a. Use your multimeter to test for continuity between each of the fan motor plug pins ("R", "W", and "B") and the ground screw located just above the top-left of the control board (see Fig.6).



Figure 6

- b. There should be an OPEN LINE ("OL") reading between each fan plug pin and the Ground screw. If this is the case, replace the control board. If you instead received a resistance value, replace the fan motor*.

** Do not replace the motor unless you have proven that it has failed. The majority of E6 codes on this model are caused by a failed control board, but we are providing you with directions on how to test the motor so you can rule it out conclusively.*

Replacement Part Numbers

BOVA15 Model	Control Board Part#	ECM Fan Motor Part#
BOVA15-24 (2 Ton)	8733956891	8733956892
BOVA15-36 (3 Ton)		
BOVA15-60 (5 Ton)	8733956914	

Table 1