

How to Code Out Headlight Error When Replacing Halogens with LEDs

(Disabling Cold and Hot Monitoring for LED Headlight Upgrades)

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September 2024

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Disclaimer

This guide is for informational purposes only. The author takes no responsibility for any damage, loss, or issues arising from following the procedure described here. Proceed at your own risk and ensure you have the proper technical knowledge and equipment.

Introduction

When upgrading your BMW's halogen low and high beam headlights to LEDs, the vehicle may display error warnings due to a discrepancy in current and voltage. This happens because the car's FEM Body Module is programmed to monitor halogen bulbs for failure through cold and hot monitoring. LEDs typically draw less power, which causes the system to misinterpret the bulbs as malfunctioning.

This guide will show you how to use E-Sys to code out the cold and hot monitoring for both the low and high beams, effectively eliminating the error messages.

Tools and Equipment Required

- OBD ENET Cable: To connect your vehicle to your laptop.
- E-Sys Software: For coding the necessary modules.
- ISTA+ Software (Optional): For clearing any remaining error codes after coding.
- Battery charger: To maintain battery stability during coding.
- Laptop: With E-Sys and ISTA+ installed.

Step-by-Step Procedure

Step 1: Connect Your Laptop and Launch E-Sys

1. Connect your laptop to your BMW using the OBD ENET Cable.
2. Open E-Sys and connect to the vehicle.

Step 2: Access the FEM Body Module

In this step, we will access the FEM Body module where the monitoring settings for the headlights are located.

1. Load the FA (Vehicle Order) from the car.
2. Navigate to the FEM Body module:
 - Go to Expert Mode in E-Sys.
 - Read the coding data for the FEM Body module.

Step 3: Disable Cold and Hot Monitoring for Headlights

The cold monitoring (KALTUEBERWACHUNG) and hot monitoring (WARMUEBERWACHUNG) settings for both low beam (FL) and high beam (AL) need to be deactivated.

1. In the FEM Body Module (3061), find the following parameters for the high beams (AL):
 - AL_L_KALTUEBERWACHUNG → Set to Nicht_Active (Deactivates cold monitoring for the left high beam).
 - AL_L_WARMUEBERWACHUNG → Set to Nicht_Active (Deactivates hot monitoring for the left high beam).
 - AL_R_KALTUEBERWACHUNG → Set to Nicht_Active (Deactivates cold monitoring for the right high beam).
 - AL_R_WARMUEBERWACHUNG → Set to Nicht_Active (Deactivates hot monitoring for the right high beam).
2. Similarly, disable the cold and hot monitoring for the low beams (FL):
 - FL_L_KALTUEBERWACHUNG → Set to Nicht_Active (Deactivates cold monitoring for the left low beam).
 - FL_L_WARMUEBERWACHUNG → Set to Nicht_Active (Deactivates hot monitoring for the left low beam).
 - FL_R_KALTUEBERWACHUNG → Set to Nicht_Active (Deactivates cold monitoring for the right low beam).
 - FL_R_WARMUEBERWACHUNG → Set to Nicht_Active (Deactivates hot monitoring for the right low beam).

Step 4: Code the FEM Body Module

Once you have made these changes, you need to code the FEM Body module to apply them.

1. In Expert Mode, select Code to save the new settings.
2. Wait for the coding process to complete.

Step 5: Clear Any Remaining Errors (Optional)

If any error messages related to the headlights persist, you can clear them using ISTA+ or the built-in fault clearing feature in E-Sys.

1. Open ISTA+ and perform a full vehicle scan.
2. Clear any fault codes related to the headlights or the FEM Body module.

Final Checks

After coding the FEM Body Module, perform the following checks:

1. Test the headlights: Ensure both the low beam and high beam LED headlights are functioning correctly.
2. Check for error messages: Make sure there are no warnings or error messages related to the headlights on the instrument cluster.

Conclusion

By following this guide, you have successfully disabled the cold and hot monitoring for your BMW's high beam and low beam headlights, eliminating the error messages that occur when upgrading from halogen to LED bulbs. This ensures smooth operation without triggering unnecessary warnings.

Make sure to back up your FA before making any changes and consult a BMW specialist if any issues arise during or after the coding process.