HKS EVC7-IR 2.4

HKS EVC7-IR 2.4 Electronic Valve Controller Instruction Manual

Model: EVC7-IR 2.4 (Part Number: 45003-AK013)

1. Introduction

This manual provides essential instructions for the proper installation, operation, and maintenance of your HKS EVC7-IR 2.4 Electronic Valve Controller. Please read this manual thoroughly before using the product to ensure safe and optimal performance. Retain this manual for future reference.

2. Product Overview

The HKS EVC7-IR 2.4 is an advanced electronic boost controller designed to precisely manage turbocharger boost pressure. It features a clear display unit and intuitive controls for various operational modes and settings.



Figure 2.1: Main Display Unit

The HKS EVC7-IR 2.4 display unit features a clear digital screen. In Easy mode, it prominently displays the current boost pressure,

shown here as 114 kPa, along with the peak hold (PH) value. A multi-function rotary dial with an illuminated blue ring is located on the right side for navigation and selection.



Figure 2.2: PRO Mode Display Details
This image illustrates the PRO mode display of the HKS EVC7-IR 2.4, highlighting key information:

1. Active boost mode indicator.
2. Current boost value (e.g., 104 kPa).
3. Throttle opening percentage (e.g., 100%).
4. Engine RPM or vehicle speed (e.g., 7250 rpm).
5. Warning value or peak hold value (e.g., 104 kPa).
6. Rotary dial for selection and confirmation.

7. Button for menu navigation.



Figure 2.3: Various Display Modes
This composite image demonstrates several operational screens of the HKS EVC7-IR 2.4. Top left shows 'Easy mode Type A' with zero boost. Top right displays the 'MENU' screen, listing options like PRO MODE, Car Config, Scramble Boost, Warning Boost, Correction Map, and Status. Bottom left shows the 'Scramble Boost' function, indicating a 104 kPa boost for 15 seconds. Bottom right illustrates the 'Warning Boost' screen, displaying a warning at 136 kPa and a peak hold of 138 kPa.

3. Setup and Installation

The HKS EVC7-IR 2.4 is a sophisticated electronic device. Proper installation is crucial for its functionality and the safety of your vehicle. It is highly recommended that installation be performed by a qualified professional technician.

3.1 Pre-Installation Checks

- Ensure all components are present as per the packing list.
- Verify compatibility with your vehicle's make, model, and engine type.
- Disconnect the vehicle's battery before beginning any electrical work.

3.2 General Installation Steps (Professional Installation Recommended)

1. Mount the EVC unit and display in a secure location within the vehicle cabin, ensuring clear visibility and accessibility for the driver.
2. Install the boost pressure sensor and connect it to the appropriate vacuum/pressure lines.
3. Connect the EVC solenoid valve to the turbocharger's wastegate actuator and boost source.
4. Route all wiring harnesses, ensuring they are secured away from moving parts, heat sources, and sharp edges.
5. Connect the power and ground wires to the vehicle's electrical system, following the wiring diagram provided

in the full installation manual.

6. Connect the display unit to the main EVC unit.
7. Reconnect the vehicle's battery and perform initial power-on checks.

Refer to the detailed installation manual provided with your product for specific wiring diagrams and mounting instructions.

4. Operating Instructions

The HKS EVC7-IR 2.4 offers various modes and settings to control boost pressure. Navigation is primarily done through the rotary dial and associated buttons.

4.1 Power On/Off

The unit typically powers on with the vehicle's ignition. To power off, turn off the vehicle's ignition.

4.2 Basic Navigation

- **Rotary Dial:** Rotate to scroll through menu options or adjust values. Press the dial to select an option or confirm a setting.
- **Menu Button:** Typically located near the dial, this button allows you to access the main menu from any operational screen.

4.3 Operational Modes

The EVC7-IR 2.4 features different display and control modes:

- **Easy Mode:** Provides a simplified display of current boost pressure and peak hold. Ideal for general driving.
- **PRO Mode:** Offers a comprehensive display including current boost, throttle position, engine RPM/vehicle speed, and warning/peak hold values. This mode provides more detailed information for advanced users.
- **Scramble Boost:** Allows for a temporary increase in boost pressure for a set duration. This function is typically activated via a separate switch (if installed) or through the unit's menu.
- **Warning Boost:** Configurable setting to alert the driver when boost pressure exceeds a predefined safe limit. The display will typically change color or flash to indicate a warning.

4.4 Menu Options

Access the main menu to configure various settings:

- **PRO MODE:** Switch to or configure PRO mode settings.
- **Car Config:** Vehicle-specific settings and sensor calibration.
- **Scramble Boost:** Configure scramble boost duration and pressure.
- **Warning Boost:** Set warning thresholds for boost pressure.
- **Correction Map:** Advanced boost control mapping.
- **Status:** View system status and diagnostic information.

Detailed instructions for configuring each setting are available in the comprehensive user manual.

5. Maintenance

The HKS EVC7-IR 2.4 is designed for durability and requires minimal maintenance. Adhering to these guidelines will

help ensure its longevity:

- **Cleaning:** Use a soft, dry cloth to clean the display unit. Avoid abrasive cleaners or solvents that could damage the screen or casing.
- **Wiring Inspection:** Periodically check all wiring connections for looseness or damage. Ensure wires are securely fastened and not exposed to excessive heat or friction.
- **Sensor Check:** Ensure the boost pressure sensor and solenoid valve are free from debris and properly connected.
- **Software Updates:** Check the official HKS website for any available firmware updates for your EVC7-IR 2.4 unit. Follow update instructions carefully.

6. Troubleshooting

If you encounter issues with your HKS EVC7-IR 2.4, refer to the following common troubleshooting steps. For complex problems, consult a professional technician or HKS support.

6.1 Common Issues and Solutions

- **Unit Does Not Power On:**
  - Check power and ground connections.
  - Verify vehicle's ignition is on.
  - Inspect fuses in the vehicle's electrical system.
- **Incorrect Boost Reading:**
  - Ensure the boost pressure sensor is correctly installed and connected to the vacuum/pressure line.
  - Check for leaks in the vacuum/pressure lines.
  - Verify sensor calibration in the 'Car Config' menu.
- **Boost Not Controlling Properly:**
  - Check connections to the EVC solenoid valve and wastegate actuator.
  - Ensure boost settings in the EVC unit are correctly configured for your vehicle.
  - Inspect the solenoid valve for proper operation (e.g., clicking sound when activated).
- **Warning Light/Message Appears:**
  - Review the 'Warning Boost' settings to understand the trigger threshold.
  - If boost is genuinely exceeding safe limits, reduce engine load and investigate the cause.

For further assistance, refer to the comprehensive troubleshooting guide in the full product manual or contact HKS technical support.

7. Specifications

Feature	Detail
Brand	HKS
Model Number	45003-AK013
Material	Metal, Plastic

Feature	Detail
Item Dimensions (L x W x H)	10.9 x 7.4 x 2.5 inches
Package Dimensions (L x W x H)	11.02 x 7.09 x 2.36 inches
Package Weight	0.94 Kilograms
Number of Items	1
Manufacturer	HKS
Date First Available	May 20, 2020

8. Warranty and Support

For information regarding the product warranty, please refer to the warranty card included with your purchase or contact your authorized HKS dealer. Warranty terms and conditions may vary by region and retailer.
For technical support, installation assistance, or further inquiries, please contact HKS customer service or visit the official HKS website for support resources and contact information.

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