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› KUS 6000RPM Tachometer with Hour Meter, 85mm, 12V/24V, White Backlight User Manual

KUS KY07000 KY07101

KUS 6000RPM Tachometer with Hour Meter User Manual

Model: **KY07000 KY07101** | Brand: **KUS**

1. INTRODUCTION AND OVERVIEW

This KUS tachometer with an integrated hour meter is designed to accurately display engine revolutions per minute (RPM) and total operating hours. It is suitable for various engine types, including diesel and gasoline, operating on 12V or 24V electrical systems. The gauge features a durable design with an IP67 waterproof and dustproof rating, an anti-fog function, and a 316 stainless steel bezel for marine and automotive applications.

Key features include a 0-6000 RPM display range, selectable red or yellow backlight, and a stepper motor for precise needle movement. The installation is designed for convenience with a multi-plug socket connection.

2. SAFETY INFORMATION

- Always disconnect the vehicle's battery before performing any electrical work to prevent short circuits and electrical shock.
- Ensure all wiring connections are secure and properly insulated to prevent damage to the device or vehicle's electrical system.
- Do not attempt to modify the device. Unauthorized modifications can lead to malfunction and void the warranty.
- Install the gauge in a location where it will not obstruct the driver's view or interfere with vehicle controls.
- This product is designed for 12V/24V DC systems only. Connecting it to other voltage sources may cause damage.

3. PACKAGE CONTENTS

Verify that all items are present in the package:

- 1 x KUS 6000RPM Tachometer with Hour Meter
- 1 x Multi-plug Socket with Wiring Harness
- 1 x Installation Manual (Printed)



Image: The KUS tachometer, its wiring harness, and the included installation manual are shown together.

4. SPECIFICATIONS

Display Range	0-6000 RPM
Operating Voltage	9-32V DC (suitable for 12V/24V systems)
Installation Dimension	85mm (3-3/8 inches) diameter
Installation Depth	55mm (2-3/16 inches)
Backlight Colors	Red or Yellow (selectable)
Operating Mode	LCD display, Stepper motor
Protection Rating	IP67 (Waterproof and Dustproof)
Material	316 Stainless Steel bezel, curved glass
Operating Temperature	-40°C to +85°C
Speed Ratio	0.5-250.0 (adjustable)

Signal Source	Engine, ignition coil, crankshaft sensor, or tachometer sensor (sold separately)
Weight	280 Grams
Dimensions (L x W x H)	8.5 x 8.5 x 5.5 cm



Image: Side profile of the KUS tachometer, highlighting its mounting mechanism.

5. SETUP AND INSTALLATION

Follow these steps for proper installation of your KUS tachometer:

- 1. Prepare Mounting Hole:** Cut an 85mm (3-3/8 inches) diameter hole in your dashboard or mounting panel. Ensure a minimum clearance of 55mm (2-3/16 inches) behind the panel for the gauge body.
- 2. Mount the Gauge:** Remove the fastening ring from the back of the gauge. Insert the gauge into the prepared hole. Place the fastening ring back on and tighten it to secure the gauge.
- 3. Wiring Connections:** Connect the multi-plug socket to the gauge. Refer to the wiring diagram below for correct connections. Ensure all wires are connected securely to the appropriate terminals (Power, Ground, RPM Signal, Backlight).
- 4. Select Backlight:** The gauge offers a choice between red and yellow backlighting. Connect the appropriate wire from the multi-plug socket to your 12V/24V power source to select the desired backlight color.
- 5. Adjust Speed Ratio:** The speed ratio (pulse per revolution) needs to be set to match your engine's signal output. This

is crucial for accurate RPM readings.

Wiring Diagram and Installation Steps

INSTALLATION INSTRUCTIONS

The diagram illustrates the physical components and electrical wiring for the tachometer. Part I is the fastening ring, Part II is the gauge panel with dimensions $\text{Ø}85\text{mm} \mid 3\text{-}3/8''$ and $0.5\text{-}20\text{mm} \mid 1/32\text{-}3/4''$, Part III is the rear cover, and Part IV is the wire connector. The wiring diagram shows the following connections:

- 5 Yellow: Yellow Light
- 4 Orange: Red Light OR Not Provided
- 3 Black: To RPM Signal
- 2 Red: To Positive Pole
- 1 Blue: To Cathode

The diagram also shows the gauge connected to a battery (+12/24V) via a switch labeled 'IGN.SW OR SEP.SW' and connected to the 'Engine'.

INSTALLATION STEPS

1. Cut a 85 mm(3 3/8") diameter panel hole(II). You will need a minimum clearance of 55mm(2 3/16") behind the panel to fit the gauge.
2. Take off the fastening ring(I), place the gauge into the panel hole, adjust its position and then fasten the rear cover.
3. According to wiring instruction to do wire connection. Gauge can be connected to 12VDC and 24VDC power directly.
4. Select either red or yellow backlight by your fondness.
5. Insert the wire connector into the gauge (IV), adjust its speed ratio to get a suitable value after power on, according to the rotate speed of your equipment.

Instruction for speed ratio adjustment:

- a. Keep on pressing the rubber button of the backside for 3 seconds, and then enter into setting mode. if leave button more than 3 seconds, it will be out of setting mode.
- b. The value will increase when you press the button; When you leave the button and then press it again, the value will decrease,. The longer you press the button, the quicker the value will count up. The minimum step value is 0.5 and the adjustable range is 0.5-250.
- c. When you get the required speed ratio value after adjustment, please leave the button. The tachometers will autoclave your setup after 3 seconds. If the setup doesn't meet your demand, please re-setup.
- d. If you want to adjust the speed ratio value to 25.0, please adjust it to 25.0 in setting mode, as the following picture.

Speed ratio setting :

Notice :

In some place where there is heavy tacho signal disturbance, the pointer of the tachometer may not move along with the changing of the rotate speed. Please add a resistor between 1/4~1W, 1~20K in series connection to strengthen the signal processing capability. We suggest adding a 20K potentiometer in series connection to test.

0.5-250
0724-03

Image: A diagram illustrating the physical installation steps and the electrical wiring connections for the tachometer.

Speed Ratio Adjustment

To adjust the speed ratio (0.5-250.0), follow these steps:

- a. Keep the button on the back of the gauge pressed for 3 seconds to enter the setting mode. If you release the button for

more than 3 seconds, it will exit the setting mode.

- b. While in setting mode, press the button to increase the value. Release and press again to decrease the value. A longer press will increase/decrease the value faster. The minimum step value is 0.5.
- c. Once the desired speed ratio is set, release the button. The tachometer will auto-save your setup after 3 seconds. If the setup is incorrect, re-adjust.
- d. For example, to set the speed ratio to 25.0, adjust it as shown in the diagram on the installation image.

6. OPERATING INSTRUCTIONS

Once installed and wired correctly, the tachometer will display the engine's RPM and accumulate operating hours on the integrated LCD. The hour meter is non-resettable and continuously tracks engine run time.

Backlight Selection

The tachometer supports two backlight colors: red and yellow. The color is determined by the wiring connection during installation. Ensure the correct wire is connected to your power source for the desired backlight color.



Red Backlight



Yellow Backlight

7. MAINTENANCE

The KUS tachometer is designed for durability and requires minimal maintenance due to its IP67 waterproof and dustproof rating.

- **Cleaning:** Clean the gauge face with a soft, damp cloth. Avoid abrasive cleaners or solvents that could damage the lens or bezel.
- **Connection Checks:** Periodically inspect all wiring connections to ensure they remain secure and free from corrosion.
- **Environmental Protection:** While the gauge is waterproof, prolonged submersion or exposure to high-pressure water jets is not recommended.

8. TROUBLESHOOTING

- **No Power/Display:**
 - Check the power supply (12V/24V) and ground connections.
 - Ensure the multi-plug socket is fully inserted into the gauge.
 - Verify that the fuse in the power line (if installed) is intact.
- **Inaccurate RPM Reading or Erratic Pointer Movement:**

- **Speed Ratio:** Confirm that the speed ratio setting matches your engine's signal output. Incorrect settings are a common cause of inaccurate readings.
 - **Signal Interference:** If there is significant electrical noise or disturbance in the tachometer signal, the pointer may not move smoothly or accurately. In such cases, it is recommended to add a resistor (1/4-1W, 1-20K) in series with the signal wire to strengthen the signal processing capability. A 20K potentiometer can be used for testing to find the optimal resistance.
 - **Signal Source:** Ensure the RPM signal wire is connected to a reliable source (engine, ignition coil, crankshaft sensor, or dedicated tachometer sensor).
 - **Loose Connections:** Check all signal wire connections for looseness or corrosion.
- **Hour Meter Not Advancing:**
 - The hour meter relies on the gauge receiving power. Ensure the gauge is powered on when the engine is running.
 - If the RPM reading is working but the hour meter is not, contact customer support.

9. WARRANTY AND SUPPORT

Specific warranty details for the KUS 6000RPM Tachometer with Hour Meter are typically provided with the product packaging or can be obtained directly from the manufacturer or authorized dealer. Please retain your proof of purchase for warranty claims.

For technical support, troubleshooting assistance beyond this manual, or warranty inquiries, please contact your KUS product supplier or visit the official KUS website for contact information.