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› KUS 85mm Diesel Tachometer (4000RPM) Instruction Manual

KUS EL0251

KUS 85mm Diesel Tachometer (4000RPM) Instruction Manual

Model: EL0251

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your KUS 85mm Diesel Tachometer. This instrument is designed to display the engine's rotation speed and includes an hour meter function. It features a moving-magnet principle for accurate readings, good endurance, and anti-vibration capabilities. The tachometer is suitable for various applications requiring precise RPM monitoring.

2. PRODUCT OVERVIEW

The KUS 85mm Diesel Tachometer is a robust and reliable gauge designed for diesel engines. It features a clear display with a range of 0-4000 RPM and an integrated hour meter. The gauge offers a choice between red and yellow backlighting for optimal visibility in different conditions. Its durable construction ensures protection against water and dust, making it suitable for demanding environments.



Figure 2.1: Front view of the KUS 85mm Diesel Tachometer, showing the 0-4000 RPM scale, red backlight, and digital hour meter display.



Figure 2.2: Angled view of the KUS 85mm Diesel Tachometer, illustrating the gauge face with an orange backlight and the hour meter.

3. SPECIFICATIONS

- **Fixing Dimension:** 85mm (3-3/8 inches)
- **Indicating Range:** 0-4000 RPM
- **Working Voltage:** 12V/24V (9-32VDC)
- **Backlight:** Red and Yellow (selectable)
- **Operation Mode:** LCD display, stepper motor
- **Protection Grade:** IP67 (completely waterproof and dustproof)
- **Bezel Material:** 316 Stainless steel with curved glass
- **Operating Temperature:** -40°C to +85°C
- **Speed Ratio:** 0.5-250.0 adjustable
- **Signal Source:** Can receive signal from engine, ignition coil, crankshaft sensor, or tacho sensor (sold separately).
- **Product Dimensions:** 8.5 x 8.5 x 5.5 cm

- **Item Weight:** 0.35 Kilograms

4. PACKAGE CONTENTS

The package includes the following items:

- 1x KUS 85mm Diesel Tachometer
- 1x Multi-plug socket (wiring harness)
- 1x Installation Instruction manual



Figure 4.1: Contents of the KUS 85mm Diesel Tachometer package, including the gauge, wiring, and manual.

5. INSTALLATION

Follow these steps for proper installation of your tachometer:

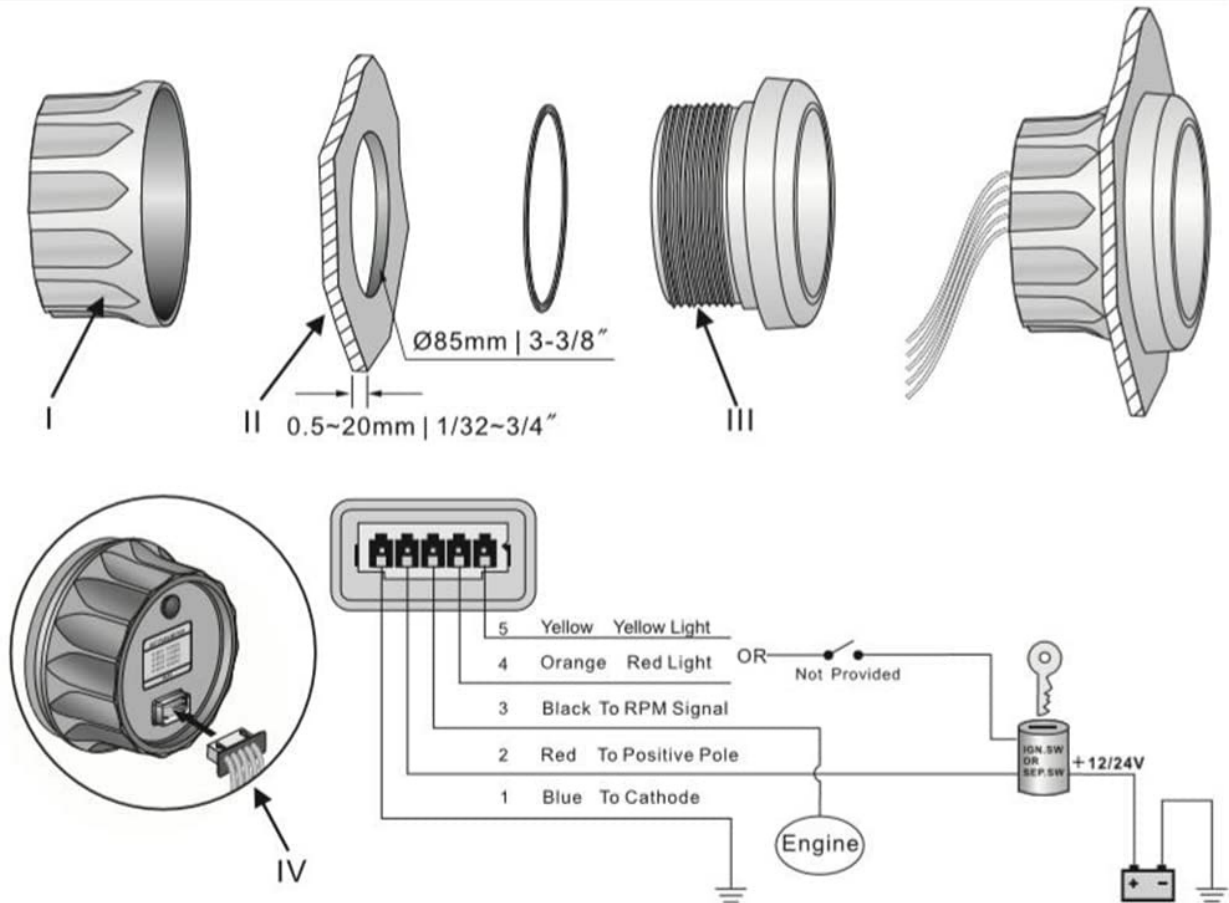
1. Cut a 85mm (3-3/8") diameter panel hole, ensuring a minimum clearance of 55mm (2-3/16") behind the panel to fit the

gauge.

2. Place the fastening ring (I) over the gauge into the panel hole, adjust its position, and then fasten the rear cover.
3. Connect the wiring according to the provided diagram. The gauge can be connected to 12VDC and 24VDC power directly.
4. Secure either red or yellow backlight as per your preference.
5. Insert the wire connector into the gauge (IV), then adjust the speed ratio to a suitable value after power on, according to the rotation speed of your engine.

The tachometer can receive its signal from the engine, ignition coil, crankshaft sensor, or a separately purchased tacho sensor.

INSTALLATION INSTRUCTIONS



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 :

4-025.0 H

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.

Figure 5.1: Installation diagram illustrating the panel mounting, wiring connections, and speed ratio setting for the tachometer.

Installation and Speed Ratio Setting Video Guide:

Your browser does not support the video tag.

Video 5.1: This video demonstrates the connection and speed ratio setting for a 4000RPM tachometer. It shows how to connect the wires

and adjust the speed ratio using the white wire, which is crucial for accurate RPM readings.

6. OPERATING INSTRUCTIONS

6.1 Backlight Selection

The tachometer offers a choice between red and yellow backlighting. This selection is typically made during installation by connecting the appropriate wire. Refer to the wiring diagram in the installation section for details.

6.2 Speed Ratio Adjustment

The speed ratio (0.5-250.0) needs to be adjusted to match your engine's specific pulse signal for accurate RPM readings. This adjustment is performed by pressing the back button on the unit. The idle speed is typically between 600-800 RPM. For detailed adjustment procedures, refer to the owner's manual included in the package or the video guide in Section 5.

6.3 Hour Meter Function

The integrated hour meter continuously tracks the operating hours of the engine. This feature is useful for maintenance scheduling and monitoring engine usage.

7. MAINTENANCE

The KUS 85mm Diesel Tachometer is designed for durability and requires minimal maintenance. Its IP67 protection rating ensures it is completely waterproof and dustproof, capable of operating up to 1 meter underwater. Regularly inspect the wiring connections for any signs of wear or corrosion to ensure reliable performance. Clean the gauge face with a soft, damp cloth as needed.

8. TROUBLESHOOTING

If you experience issues with your tachometer, consider the following:

- **No Power/Display:** Check all power connections (Red wire for +12V/24V, Black wire for Ground). Ensure the working voltage is within the 9-32VDC range.
- **Incorrect RPM Reading:** Verify the speed ratio setting. Incorrect settings are a common cause of inaccurate readings. Refer to the installation section for adjustment instructions. Ensure the RPM signal wire (Blue) is correctly connected to a reliable signal source.
- **No Backlight:** Check the backlight wire connection (Yellow for backlight). Ensure it is receiving power.
- **Intermittent Readings:** Inspect all wiring for loose connections or damage. Heavy tachometer signal disturbance can affect readings; adding a 20K potentiometer in series to the signal connection might help.

9. WARRANTY AND SUPPORT

The KUS 85mm Diesel Tachometer comes with a **1-year warranty** from the date of purchase. This warranty covers manufacturing defects and material faults under normal use. For warranty claims, technical support, or any inquiries, please contact KUS customer service or your authorized dealer. Please retain your proof of purchase for warranty validation.