

KUS KE21104

KUS Mechanical Oil Pressure Sensor KE21104 User Manual

Model: KE21104 | Brand: KUS

1. INTRODUCTION

This manual provides comprehensive instructions for the installation, operation, and maintenance of the KUS Mechanical Oil Pressure Sensor, model KE21104. This sensor is designed for reliable oil pressure measurement in various applications, including generators, vehicles, ships, and industrial process control systems.

The KE21104 sensor offers excellent anti-vibration performance, a long service life, and stable quality across a wide operating temperature range. Its robust design ensures dependable performance in demanding environments.

2. PRODUCT OVERVIEW

The KUS Mechanical Oil Pressure Sensor KE21104 is a precision instrument designed to monitor oil pressure. It features a standard NPT1/8 thread for easy installation and provides an output signal proportional to the measured pressure, along with an alarm function for critical pressure levels.



Figure 2.1: General view of the KUS Mechanical Oil Pressure Sensor KE21104. This image shows the overall design of

the sensor, including its metallic body and electrical connection terminals.

3. SETUP AND INSTALLATION

3.1. Safety Precautions

- Ensure the power supply to the system is disconnected before installation to prevent electrical shock.
- Wear appropriate personal protective equipment (PPE), such as gloves and eye protection.
- Verify that the sensor's specifications match the system requirements before installation.
- Avoid overtightening the sensor during installation to prevent damage to the thread or sensor body.

3.2. Installation Steps

1. **Prepare the Mounting Location:** Identify a suitable port on the engine or system for the oil pressure sensor. Ensure the port has an NPT1/8 thread.
2. **Apply Thread Sealant:** Apply a suitable thread sealant (e.g., PTFE tape or liquid sealant) to the NPT1/8 thread of the sensor to ensure a leak-free seal.
3. **Install the Sensor:** Carefully thread the sensor into the prepared port. Hand-tighten first, then use a wrench to tighten it securely, but do not overtighten.
4. **Connect Electrical Wiring:**
 - Connect the positive power supply (6-24V) to the appropriate terminal.
 - Connect the output signal wire (10-184Ω) to your gauge or monitoring system.
 - Connect the alarm wire (0.8Bar) to your alarm indicator or system.
 - Ensure all connections are secure and properly insulated.
5. **Verify Installation:** After installation, visually inspect all connections for tightness and proper wiring.



Figure 3.1: Side view of the sensor showing the NPT1/8 thread for installation. This image highlights the threaded connection point for secure mounting.



Figure 3.2: Close-up view of the electrical connection terminals on the sensor. This image details where the power, output, and alarm wires should be connected.

4. OPERATING INSTRUCTIONS

4.1. Basic Operation

Once properly installed and wired, the KUS KE21104 sensor will continuously monitor the oil pressure within its measuring range of 0 to 5 Bar. The sensor operates automatically when the system is powered on.

4.2. Reading Output and Alarm Function

- **Pressure Reading:** The sensor provides a standard resistance output signal ranging from 10 to 184 Ω , which corresponds to the 0-5 Bar pressure range. This signal is typically fed to a compatible oil pressure gauge or monitoring system for display.
- **Alarm Function:** The sensor is equipped with an alarm contact that activates when the oil pressure drops to 0.8 Bar or below. This alarm signal can be connected to an indicator light or audible alarm to alert the operator of low oil pressure conditions.

5. MAINTENANCE

5.1. General Care and Inspection

- Periodically inspect the sensor and its connections for any signs of damage, corrosion, or leaks.
- Ensure electrical connections remain clean and secure.
- Clean the exterior of the sensor with a soft, dry cloth if necessary. Avoid using harsh chemicals or abrasive materials.

5.2. Storage

If the sensor needs to be stored, ensure it is kept in a clean, dry environment, away from extreme temperatures and direct sunlight. Protect the threaded portion and electrical terminals from physical damage.

6. TROUBLESHOOTING

This section addresses common issues that may arise during the use of the KUS Mechanical Oil Pressure Sensor KE21104.

Problem	Possible Cause	Solution
No pressure reading or incorrect reading	<ul style="list-style-type: none">• Incorrect wiring• Faulty gauge/monitoring system• Sensor not properly installed or damaged• Low oil level or actual system pressure issue	<ul style="list-style-type: none">• Check all electrical connections for proper polarity and tightness.• Test the gauge or monitoring system with a known good signal.• Inspect the sensor for physical damage and ensure it is securely threaded.• Verify oil level and system pressure independently.
Alarm constantly active or not activating	<ul style="list-style-type: none">• Incorrect alarm wiring• Actual low oil pressure (if constantly active)• Faulty alarm indicator• Sensor malfunction	<ul style="list-style-type: none">• Verify alarm circuit wiring.• Check actual oil pressure to confirm if it's below 0.8 Bar.• Test the alarm indicator.• If all else fails, the sensor may need replacement.
Oil leak around sensor	<ul style="list-style-type: none">• Insufficient thread sealant• Sensor not tightened enough• Damaged thread	<ul style="list-style-type: none">• Remove sensor, reapply thread sealant, and reinstall.• Ensure proper tightening without overtightening.• Inspect threads on both sensor and port for damage.

7. SPECIFICATIONS

7.1. Technical Data

Model Number	KE21104
Operating Voltage	6~24V
Measuring Range	0~5 Bar
Alarm Pressure	0.8 Bar
Output Signal	Standard resistance value: 10~184 Ω
Thread Fitting	NPT1/8
Conducting Power	<5W
Operating Temperature	-25 ~ 120°C (120°C MAX 1H)
Protection Rank	IP66
Material	Zinc
UPC	603849021535

8. WARRANTY AND SUPPORT

8.1. Warranty Information

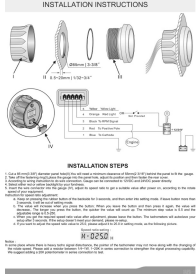
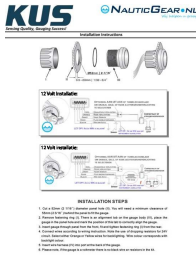
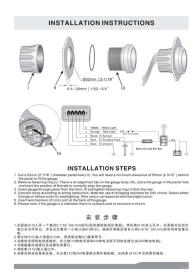
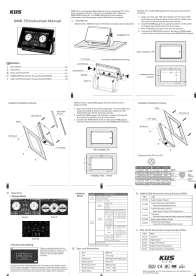
KUS products are manufactured to high-quality standards and are typically covered by a manufacturer's warranty against defects in materials and workmanship. Please refer to the specific warranty terms provided at the time of purchase or contact KUS customer support for detailed warranty information.

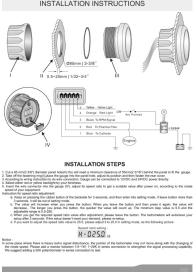

8.2. Customer Support

For technical assistance, troubleshooting beyond this manual, or warranty claims, please contact KUS customer support. Have your product model number (KE21104) and purchase details ready when contacting support.

You can find contact information on the official KUS website or through your product retailer.

Related Documents - KE21104

	KUS 85mm Digital Tachometer Installation Guide Comprehensive installation instructions for the KUS 85mm digital tachometer gauge, covering wiring, mounting, and speed ratio adjustment for 12V/24V systems.
	KUS Gauges Installation Instructions Detailed installation guide for KUS gauges, including wiring diagrams and step-by-step instructions for 12V and 24V systems, with options for backlighting.
	KUS 52mm Gauge Installation Instructions Detailed installation guide for KUS 52mm car and boat gauges, covering wiring and mounting procedures for optimal performance and safety.
	KUS KMB-70 Integrated Data Monitor Instruction Manual Comprehensive instruction manual for the KUS KMB-70 Integrated Data Monitor, detailing installation methods, operation modes, touch screen settings, technical specifications, and NMEA2000/SAE-J1939 parameter group numbers. Features TFT display and compatibility with marine data networks.

 <p>INSTALLATION INSTRUCTIONS</p> <p>INSTALLATION STEPS</p> <ol style="list-style-type: none"> 1. Mount the gauge in a suitable location, ensuring it is protected from vibration and shock. 2. Connect the power supply to the gauge. The gauge can operate on 12V or 24V systems. 3. Connect the tachometer input to the engine's tachometer terminal. 4. Adjust the speed ratio using the potentiometer on the back of the gauge. 5. Check the gauge operation and adjust the speed ratio as necessary. <p>Notes:</p> <ul style="list-style-type: none"> The gauge is designed for use on 12V or 24V systems. The gauge is not suitable for use on systems with a voltage drop of more than 1V. The gauge is not suitable for use on systems with a voltage drop of more than 1V. 	<p>KUS 85mm Digital Tachometer Installation Guide</p> <p>Comprehensive installation instructions for the KUS 85mm digital tachometer gauge, covering wiring, mounting, and speed ratio adjustment for 12V/24V systems.</p>
 <p>2023 Product Catalogue</p> <p>gauges transmitters switches</p> <p>gts</p> <p>Ph: (08) 9250 4400</p> <p>sales@gtagauge.com.au • www.gtagauge.com.au</p> <p>6 Dayana Close, Midvale, 6056, WA</p>	<p>GTS 2023 Product Catalogue - Gauges, Transmitters, and Switches</p> <p>Explore the comprehensive 2023 Product Catalogue from GTS Gauges, Transmitters, Switches. Discover a wide range of industrial instrumentation including flowmeters, pressure gauges, level sensors, temperature gauges, and more. GTS offers NATA accredited calibration services and reliable instrumentation solutions.</p>

Documents - KUS – KE21104

Sea V series

Features:

• IP67 protection rating for the entire gauge; can work up to 1m underwater;

• Double layer reinforced anti-fogging glass;

• 316 Stainless steel bezel with convex glass;

• Easy installation with multi-plug socket connection design;

• Selection of red or yellow backlight;

• Default working voltage: 12V

-Compatible also with 24V for stepping motor and LCD type gauges;

-Require an extra resistor to work with 24V for cross coil type gauge.

FUEL LEVEL	Model	Scale	Resolution	Material	Backlight	Power	Antenna
KE21001	CPVR BB 18 32 WW	0-100%				12V/24V	5.5m
KE21002	CPVR BB 18 32 WW	0-100%				12V/24V	5.5m
KE21003	CPVR BB 18 32 WW	0-100%			1/2 LED in black	Empty Full	12V/24V
KE21004	CPVR BB 18 32 WW	0-100%			plastic in black		
KE21005	CPVR BB 18 32 WW	0-100%			plastic in white		

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Sea V series CPVR BB 18 32 WW VOLTMETER 18~32V Model Art No Indicating * 5 meters long GPS antenna is included in the package so it s no need to 20190422115747390 cnimg bjyyb oss cn qingdao aliyns sites 38000 38340 |||

www.elingparts.com Sea V series Features: IP67 protection rating for the entire gauge; can work u ... 10-184 10-184 10-184 10-184 10-184 Alarm Bar 0.80.2 0.80.2 0.80.2 1.40.3 No 1.40.2 Connection A **KE21104** NPT1/8 0-5 10-184 0.80.2 KE21010 NPT1/8 0-5 10-184 NO KE21112 NPT1/4 0-5 10-184...

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