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https://www.kusauto.com
KUS Group, founded in 1984, launched the world’s first "Reed Switch" level sensor. We have more than 30 years of experience concentrating on the technology of level sensing. KUS is recognized as the world leading designer and manufacturer of AdBlue sensors & tanks, fuel/water level sensors, engine sensors, gauges. KUS products are widely used on trucks, buses, construction machineries, agricultural machineries, marine, and generator sets, etc.

KUS Group is a global operating company, headquartered in Dongguan, China--Dongguan Zhengyang Electronic Mechanical Co., Ltd.. We have established branch companies in Taiwan, USA, Netherlands and India. KUS products are sold to Europe, America, Asia and Australia, etc.

Company Profile

End Users
Environment Solutions

SCR (Selective Catalytic Reduction) exhaust treatment system is adopted worldwide to reduce air pollution and emissions from vehicles. Through the reaction of the AdBlue solution with the NOx, the SCR system generates harmless N₂ and H₂O.

To meet the emission laws and regulations, KUS has developed various advanced integrated level detecting and AdBlue pickup solutions for SCR systems. KUS products are used by world well-known commercial vehicles, agricultural engineering manufacturers to monitor the level and quality of AdBlue, and storage of AdBlue storing with high accuracy. KUS offers professional technical support, reliable products and service to the customers all over the world.
As the world leading manufacturer of AdBlue sensor, KUS products conforms with international emission regulations of EURO IV, V, VI, EPA 2017, Tier4 Final and etc., KUS products are used in worldwide SCR system for on-road machinery and off-road machinery, supporting the SCR system work effectively.

KUS AdBlue sensor advanced integrated solutions: high and low level detection, urea thawing, AdBlue sensor can also be customized according to different requirements from OEMs and Tank manufacturers. Different solutions support your system to work well in different climates and environments.

Advantage:
- Output signal with high precision
- Stable and continuous output signal
- Resistant to environmental variations
- Integrated key features
- Extended operation lifetime
- Customizable length subject to users’ application
- Options of different electronic connectors
- Custom design formation optimized for different tank design

U-Shape AdBlue Sensors
U shape AdBlue sensors are applicable to most of the AdBlue tanks in different sizes.
A variety of mounting methods including bayonet with air vent or non-vented respectively.

L Shape AdBlue Sensors
L shape AdBlue sensors are developed for customers with large AdBlue tanks. The L shaped tubes extend the heating area of the AdBlue sensor, which melts the frozen liquid and ensure the SCR system to work properly.
A variety of mounting methods including bayonet, SAE screw pattern with air vent or non-vented respectively.

Spiral Shape AdBlue Sensors
AdBlue solution will be freezed at temperature below 1°C. This will affect the normal operation of the SCR system. Hence, we recommend the spiral shape AdBlue sensor for cold region operation. The spiral design can provide good heating efficiency to thaw frozen AdBlue solution, and allow the SCR system to work normally within specific time after engine cold start.
A variety of mounting methods including bayonet, SAE screw pattern with air vent or non-vented respectively.

AdBlue Sensors with Valve
- Sensor head with a valve, which can reduce the SCR pipeline connection, reducing the risk of leakage and also save costs;
- The valve can reduce the installation space of the cooling water valve;
- The water valve maintenance is easier and convenient. The valve is serviceable;
- World-recognized valve supplier, superior quality;

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**AdBlue Sensors without Heating Function**

SCR system does not require heating function in warm area, the AdBlue sensors are designed without the coolant water circle tubes. These sensors only have the features of high and low level indication and integrated suction/return for AdBlue.

A variety of mounting methods including bayonet with air vent or non-vented respectively.

**AdBlue Sensors with Rubber Head**

Used on narrow tanks, with small sensor mounting ports. The tubes come straight out from the head, and is easy to seal.

The sensor is fixed with tightening clamp, easy to install and service, no special tools are needed.

**Single-tube AdBlue Sensors**

For customers who only need the basic function of AdBlue sensor, KPDA and KPDC are highly recommended for AdBlue level detection, and other liquids.

**AdBlue Quality Sensors**

The AdBlue quality sensor can accurately monitor the concentration and quality of the AdBlue solution, and alert the user if the AdBlue solution deviates from the acceptable concentration range and if there are any contaminated fluids in the tank.

To ensure the vehicle emissions can comply with Euro VI and more stringent emission laws and regulations.

- **Mounting**: SAE Flange, SAE Bolts, Clamping hoop, Bayonet twisted
- **Measuring principle**: Ultrasonic, Thermal conductivity, Optical
- **Comply with emission regulations**: EURO 6c, Tier 4F, EPA 2017, Stage 4/5
- **Parameters**: IP: IP66/9K
  - Operating temperatures: -40~+85°C
  - Output signal: CAN-BUS(SAE J1939), Sent or customized

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AdBlue Tanks

High strength engineering plastic material, HDPE, is used to produce AdBlue tanks.

Tanks are engineered with the characteristics of high impact strength and alkali-resisting performances.

According to various vehicle mounting requirements, we offer different shape and cubage tanks for options. All tanks comply with ISO22241 requirements.

- We supply 10L~120L AdBlue tanks. Tank size and shape can be customized.

AdBlue Tanks

KUS AdBlue tank functions includes, AdBlue storage, pressure balance, manual and automatic refilling control, refilling nozzle control.

Sensors are matched with different tanks to serve in various application and severe environments.

- Tanks designs for integrating AdBlue supply modules are available upon request.
- Also we can integrate AdBlue pump to meet customers requires.
- These tanks are widely used on light duty vehicles.

Tanks with extended filler neck

80L AdBlue Tank (21 Gallons)
55L AdBlue Tank (14.5 Gallons)
45L AdBlue Tank (12 Gallons)
38L AdBlue Tank (10 Gallons)
35L AdBlue Tank (9.3 Gallons)
35L AdBlue Tank (9.3 Gallons)
38L AdBlue Tank (10 Gallons)
25L AdBlue Tank (6.6 Gallons)
20L AdBlue Tank (5.3 Gallons)
16L AdBlue Tank (4.2 Gallons)
12L AdBlue Tank (3.1 Gallons)
10L AdBlue Tank (2.6 Gallons)
KUS has wide variety of solutions available for fuel and water level detection. Reliable and customized solutions can be developed in requested time with our strong R&D capabilities. KUS sensors and gauges are recognized by world-wide OEMs for its superior quality and performances.

**AdBlue Tank Caps**
KUS AdBlue tank caps are manufactured according to ISO standard size. It is designed to match different variations of AdBlue tanks. The material of the cap is high grade engineering plastic. The cap has excellent sealing performance and features of easy installation. The cap can be equipped with a key and lock based on customer preference.

**AdBlue Nozzles**
KUS is equipped with professional R&D team and manufacturing capabilities. KUS can assist customers to develop AdBlue nozzles for different applications.

**AdBlue Filler Neck Accessories**
KUS filler barrel with standard installing dimensions, can match with extensive tube in tank. Barrel body made of quality stainless steel, magnetic adapter made of quality plastic, with good sealing performance and good weather resistance, easy to installation.

**Fuel Tank Caps**
KUS fuel tank caps have the function of balancing the air pressure between the interior and exterior of the tank. The cap can be made out of engineering plastic or metal. The cap can also be equipped with a key and lock based on customer preference.
KUS is recognized as the world’s leading supplier of multipurpose level sensors. Every year millions of KUS sensors are installed in trucks, boats and off-road equipments all over the world.

Measurements are done by series of reed switches positioned inside the level tube. The float is the only moving part of the sensor, thereby minimize potential mechanical failures. The result is a precise and reliable fuel level measurement.

Fuel Level Sensors

**Sensors of Aluminum Type**

SAP series are mainly used on bus or truck. Besides measuring the level, SAP sensors have suction/return pipes for engine and vehicle heating system, as well as the function of balancing the pressure of the tank and the atmosphere.

- **Main material**: High quality aluminum alloy
- **Installation**: Bayonet twisted for easy assembly.
- **Signal output**: Resistance, voltage, current or CAN-BUS signal.

**High Resolution Integrated Level Sensors**

The sensors combine Multi-functions, including measuring liquid level, suction/return pipes for engine and vehicle heating system, balancing the pressure of the tank and the atmosphere, temperature alarm, etc.

- **Main material**: High quality aluminum alloy
- **Resolution**: 0.1mm
- **Accuracy**: 2mm
- **Measuring principle**: AMR, Capacitance

**Other Types Truck Multi-function Fuel Sensors**

Sensors Of Stainless Steel Type

TN series are mainly used for light trucks, construction machines, yachts, etc. Besides measuring the level, an additional suction/return pipe or air ventilation for engine can be customized. Easily changeable structures with short developing cycle.

- **Main material**: Stainless steel
- **Installation**: SAE standard 5 holes flange or 6 holes flange, bayonet twisted is also available.
- **Signal output**: Resistance, voltage, current or CAN-BUS signal.

**Heating Fuel Sensors**

The sensors applies PTC heating or water heating, with high heating efficiency, can control the temperature automatically, safe, combustion efficiency can be increased with 5%, reduce the exhaust pollution at the same time, can use lower fuel type at the same environment, save cost efficiently;

PTC heating parameters:
Working voltage range: 18 V - 32 V;
The maximum power: 200 + 20 W;

Other Types Truck Multi-function Fuel Sensors
### Single-tube Sensor Types

<table>
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<tr>
<th>S5</th>
<th>S3</th>
<th>PSSD</th>
<th>PSS</th>
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SS & S3 series are widely used in various fuel, water or chemical tanks. With a simple yet reliable structure, starting from 4 inches, every half inch is a standard length.

- **Main material**: SS 316
- **Installation**: SAE standard 5 holes flange, BSP or NPT thread.

PSS&PSSD sensors are widely used in fuel tanks, water tanks and other liquid tanks. This sensor has the advantages of light-weight and competitive cost.

### Pressure Sensor Series

KUS pressure sensors are controlled and manufactured under strict processes to ensure its excellent quality and performances. The fitting thread and output resistance can be customized.

### Mechanical Gauge Series

The mechanical gauge integrates the features of level measuring and level display with pure mechanical design, without the need of electronic signal input. High and low level alarms can be added to the gauge according to customer requirement. This gauge widely applies to fuel tank of generators and engines. It can also be used in water tanks.

### Temperature Sensor Series

KUS water and oil temperature sensors are compatible with many other major gauge brands. This help the customers to easily exchange sub-parts. A temperature alarm for preventing overheating can be added based on preference.

### Tacho Sensor Series

The Tacho sensors are used for measuring gear rotation speed. The shell appearance, material and thread fitting can be customized as requires. Measuring principle: Holzer, Magnetoelectric.
Gauge Series

KUS has more than 20 years of experience in manufacturing gauges. Our gauges are mainly exported to Europe and the United States. KUS has received numerous acclaims in the instrumentation market for its quality and design. All of our gauges have passed strict environmental, vibration tests and received relevant CE certificates.

Integrated Gauges For Truck

KUS developed an integrated LCD display truck gauge panel with CAN-BUS communication function for the mid-range and high-end markets. The main display platform includes speedometer, tachometer, fuel gauge, temperature gauge, air pressure gauge and warning signals. The panel is not only built beautifully, but also designed with multi-functions.

Engineering Mechanical Gauges

The gauges are widely used on loaders, rolles, graders and excavators, etc. engineering machinery and forklift, rail cars, oil field machinery, port machinery, etc. CAN-BUS gauges, RS 485 BUS gauges or analog signal gauges can be customized.

KUS gauges have waterproof, anti-fog, dust-proof function. And can be integrated controllers, such as lock the vehicle, close gauge plate, display various parameter and failure information.

Sea V Series

- Applicable to truck, bus, engineering machinery, generator set, etc fields.
- Have passed various strict tests, such as environment, vibration and related CE certifications.
- Apply imported material, overall design is nice and fine quality feelings.
- With anti-fog and reverse polarity connection protection.
- Bezel material: Stainless steel bezel, plastic bezel
- Connecting way: Socket type connecting
- Light: Red and yellow for your option.
- Working voltage: 12/24V
- Display accuracy: <3°
- Protection grade: IP67

Sea K Series

- Applicable to engineering machinery, generator, engine, etc fields.
- Have passed various strict tests, such as environment, vibration and related CE certifications.
- Durability and anti-vibration performance is good, without anti-fog, but with reasonable price.
- Bezel material: Stainless steel bezel, flat lens.
- Connecting way: 6.3*0.8mm terminal strip, can be assembled flexibly.
- Light: Red or customized
- Display accuracy: <3°
- Protection grade: Surface IP67

Sea Q Series

- Applicable to truck, bus, engineering machinery, generator set, etc fields.
- Have passed various strict tests, such as environment, vibration and related CE certifications.
- Bezel material: Stainless steel bezel.
- With reverse polarity connection protection and double layers anti-fog lens.
- Connecting way: 6.3*0.8mm terminal strip, can be connected quickly.
- Light: Red and yellow for your option.
- Display accuracy: <3°
- Protection grade: Surface IP67
Each batch of raw material is tested in our laboratory to ensure the material meets the high quality standards of KUS products. Our quality policy is “strengthening the brand, expanding the market share, guaranteeing the product quality and improving working efficiency.” Guaranteed by the high quality products, KUS’ brands of AdBlue sensor, Fuel sensors, AdBlue tanks and Gauges are well-known in both domestic and global markets.

1. Each batch of raw material is tested in our laboratory to ensure the material meets the high quality standards of KUS products.
2. The technical support during the entire manufacturing process guarantees the reliability and stability of KUS products.
3. Comprehensive technical support in new product development phase to ensure KUS products are available in a variety of excellent performance in severe environment.

KUS technology center was set up in 2007 and accredited by CNAS in 2016. The technology center is over 1600m², equipped with environmental lab, vibration lab, electronics lab, aging lab, physics lab, chemical lab and measurement center. Professional lab technicians are specialized in machinery, automation, electronics and materials, etc. Validations and verification tests for product

Testing capabilities: structure validation, electric performance test, mechanical performance test, low/high temp simulation test, salt-spray test, sine/random vibration test, metal material elemental analysis, metallurgical analysis, intergranular corrosion analysis, etc. Providing reliable insurance for the product quality and performance.

Environmental test laboratory

Aging laboratory

Measurement center

Lifetime test laboratory

Vibration test laboratory

Chemical Laboratory

X-ray laboratory

Physics Laboratory
KUS is vertically integrated, with various production processes and equipments: German TüV certificated tube manufacturing line, more than 40 sets of injection machines, advanced blow molding, high quality brazing line, automatic SMT, and high-performance automatic soldering, etc. KUS has more than 95% of the key parts made in-house, achieves the manufacturing capabilities of a coordinated process from raw material processing to final assembly.

The state of the art process and flexible manufacturing capabilities ensure the reliable product quality and on time delivery to meet customers' expectations.

**Quality Assurance**
- Imported aluminum, plastic and stainless steel material.

**Price Assurance**
- Product accessories such as tubes, machining parts, etc are manufactured in-house.

**Delivery assurance**
- Systematized management, machining and serial assembly lines.

KUS built several high class electronic manufacturing workshops. Advanced processes, strict quality system ensure the quality and performance of our sensors and gauges. All of our products are tested for functionality under extreme environment conditions.

KUS provides customers with many process parts, including various rubber parts, metal parts and plastic parts. Advanced production equipments and processes, and high quality raw material, ensuring KUS components products with excellent quality and offer more values to customers.

Furthermore, we have a more than 100 people tooling design and manufacturing team. The majority of our production toolings were designed and manufactured in-house, including the plastic tooling, stamping tooling, die-casting tooling, rubber tooling and so on. In addition, we can produce rapid-prototypes for new projects to accelerate the development of a new product.