KU SERIES

HEAVY DUTY LEVEL REGULATOR

Compact three-wire float switch
for single point level control in oils



FEATURES

- For diesel and oil applications
- Robust double moulded construction
- Orange polyurethane 3-core cable
- Polypropylene housing
- Low switching differential
- All directional tilt action
- Stable repeatable switching
- Compact size, 75 mm diameter
- Optional cable weight available

APPLICATIONS

- Diesel fuel and oil tanks
- High and low level alarms

This product is not suitable for water or sewage applications.

75 mm	30 m	60 °C	1–20 m
Liquid level change to operate the switch	Maximum submergence	Maximum liquid temperature	Cable lengths available

OUTLINE

The KU Series level regulator is a compact three-wire float switch specifically designed for single point level control in oils. Its ability to withstand oils makes it suitable for level control in diesel fuel tanks and in applications involving bulk diesel or oil. The KU Series level regulator will provide a stable switching action with a high degree of repeatability.

SAFETY NOTE

While rated to control mains voltage, we recommend that in the interests of safety the KU Series level regulator only ever be used with control voltages in the range of 12 to 48 volts AC or DC.

OPERATING PRINCIPLE

The KU Series level regulator houses a heavy ball that is balanced on the actuating arm of a high precision switch. When a rising liquid level causes the float to lift and tilt, the centre of gravity of the ball moves away from the actuating axis of the switch and allows it to actuate. A falling liquid level allows the float to straighten up, and the centre of gravity of the ball shifts back onto the switch, causing it to de-actuate. This simple, reliable action only requires the float to tilt by 45 degrees in any direction for the switch to operate.

CONSTRUCTION

The KU Series heavy duty level regulator is constructed from polypropylene and specially manufactured three core orange polyurethane (H05BQ-F) cable. The float chamber is a double moulded, hermetically sealed cell with a double moulded barrier of solid polypropylene sealing the cable entry. The switch housed within the float cell is a precision single pole double throw device rated from 5 to 500 VAC at up to 15 A resistive load (10 A at 500 VAC). Product load current is limited to 6 A by the 0.75 mm^2 cable.

ORDERING

Build your part number from the codes below – for example **KU10M**.

KU	10M
SERIES	**CABLE LENGTH**
KU Series float switch	Cable length in metres

The cable length options for the KU Series switches are **1 m, 4 m, 6 m, 10 m** and **20 m**.

DIMENSIONS

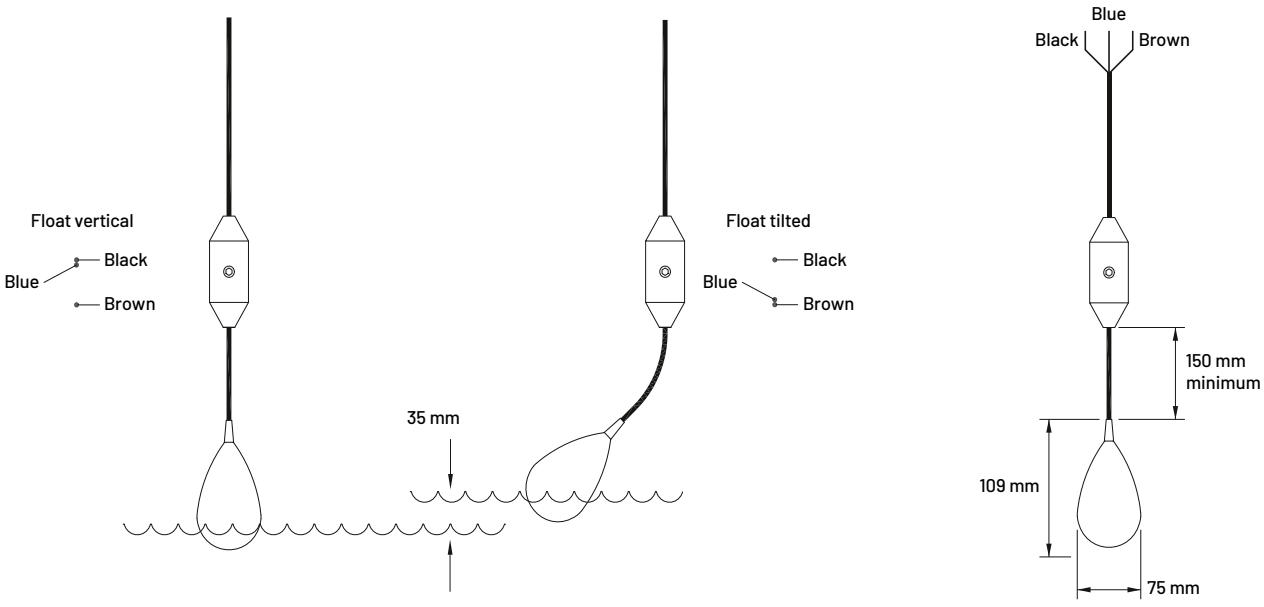


FIG. 1 Float vertical and tilted, with wire colours (left); overall dimensions (right)

SWITCH DATA

Switch type	**Single pole double throw (S.P.D.T.)**
Contact gap	**0.5 mm**
Contact material	**Silver alloy**
Contact resistance	**15 milliohms maximum (initial)**
Rated voltage AC	**125, 250 and 500 VAC**
Rated voltage DC	**8, 14, 30, 125 and 250 VDC**
Current rating resistive AC	**15 A at 250 VAC, 15 A at 125 VAC (10 A at 500 VAC)**
Motor load current rating AC	**NO 2.5 A / NC 5 A at 125 VAC (⅛ HP) NO 1.5 A / NC 3 A at 250 VAC (¼ HP)**
Current rating resistive DC	**15 A at 8 and 14 VDC, 6 A at 30 VDC 0.5 A at 125 VDC, 0.25 A at 250 VDC**
Maximum lamp load AC	**NO 1.25 A / NC 2.5 A at 250 VAC**
Maximum lamp load DC	**NO 1.5 A / NC 3 A at 30 VDC**
Minimum operating load	**160 mA at 5 VDC**
Maximum operating frequency, electrical	**20 operations per minute**
Dielectric strength between contacts	**1000 VAC, 50/60 Hz for 1 minute**
Dielectric strength to ground	**2000 VAC, 50/60 Hz for 1 minute**
Insulation resistance	**100 megohms minimum (at 500 VDC)**
Life expectancy mechanical	**10,000,000 operations minimum**
Life expectancy electrical	**500,000 operations minimum**
Approved standards	**UL1054 E41515, CSA C22.2 No. 55 (File No. LR21642)**

CABLE DATA

Cable type	**H05BQ-F 3G0.75 mm² (KEMA-KEUR)**
Conductor	**3 cores, 22/0.2 mm copper**
Insulation	**EPR (2.4 ± 0.1 mm)**
Core colours	**Blue, brown, black**
Outer sheath	**Thermoplastic polyurethane (TMPU), orange RAL 2003**
Cable diameter	**7.25 ± 0.2 mm**
Voltage rating Uo/U	**300/500 V**
Test voltage	**2000 V / 2500 V**
Temperature range	**–50 °C to +90 °C fixed installation –40 °C to +80 °C in motion**
Maximum conductor temperature	**90 °C (200 °C short circuit)**
Special characteristics	**Abrasion, cut and tear resistant Flexible at low temperatures**
Cable lengths available	**1, 4, 6, 10, 20 metres**
Conductor resistance	**26.0 Ω/km max. per core at 20 °C**
Cable current rating	**6 A max. (cable limited)**
Maximum suspended length	**Approx. 50 m (cable only)**

OPERATING ENVIRONMENT

Maximum submergence	**30 m, 300 kPa static pressure**
Maximum liquid temperature	**60 °C**
Minimum liquid temperature	**–20 °C**
Liquid specific gravity	**Greater than 0.8**
Liquid pH	**1 to 14**

Smallest diameter tank the switch can operate in	**300 mm inside diameter**
Liquid level change for switch to operate	**75 mm**
Closest switching point to tank floor	**100 mm**
Minimum distance between float and closest tethering point or cable weight	**200 mm**

TYPICAL INSTALLATION

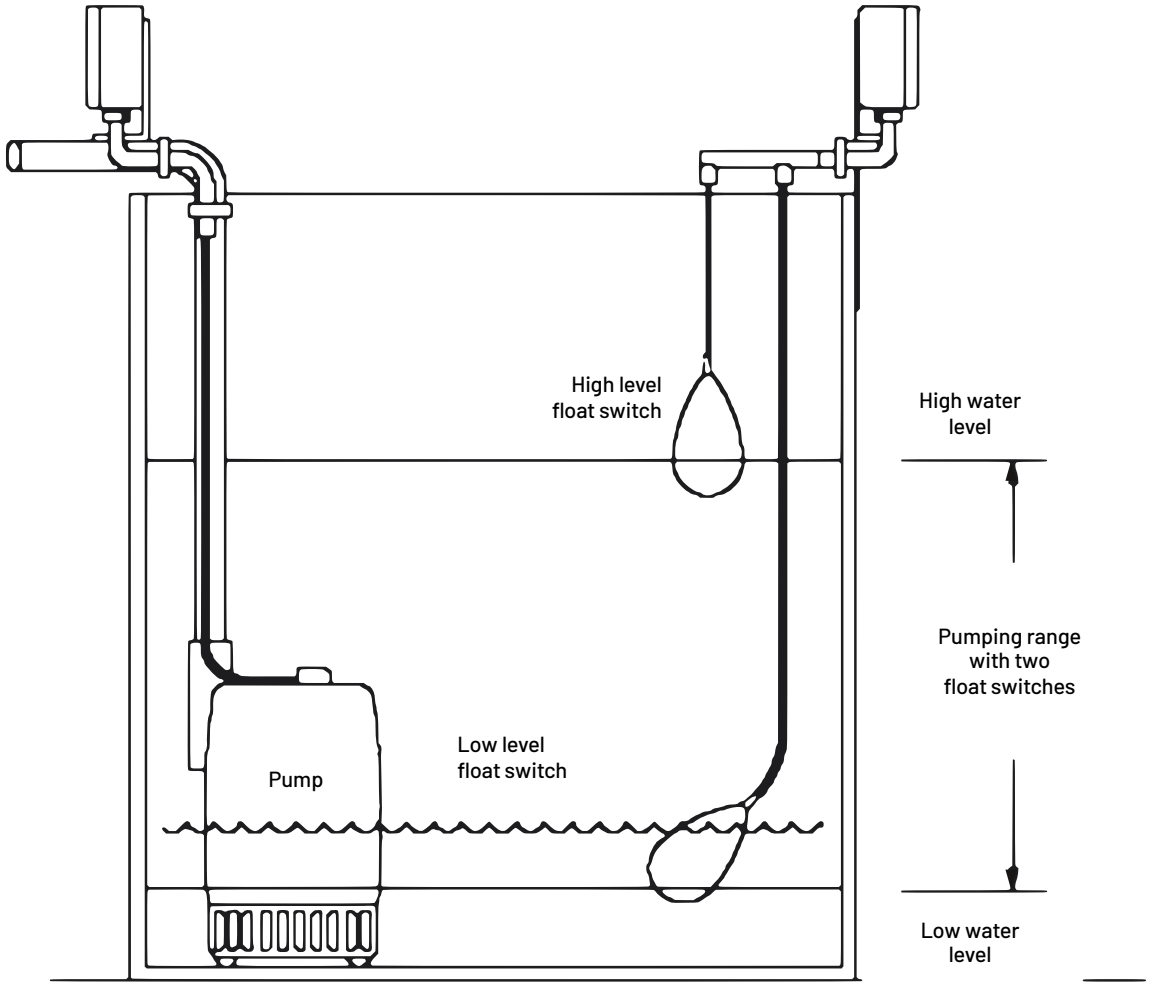


FIG. 2 Two KU Series float switches controlling a pump

HAZARDOUS AREAS

The KU Series is not certified for use in hazardous areas and must not be installed in any area classified as hazardous under AS/NZS 60079.10 (Zone 0, 1, 2, 20, 21 or 22).

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