

KELCO

KP Series Probe Level Switch

Features

- No external moving parts
- Reliable solid construction
- S.P.D.T three wire switch
- PVC and Polypropylene construction
- Stable repeatable switching action
- No mercury or lead components
- Compact size, 25 mm diameter
- Optional cable weights available

Applications

- Deep well bore pump protection
- Suitable for saline water use
- Withstands most common chemicals
- Bilge level control
- High & low level alarms
- Ex Applications
- General purpose liquid level sensing

The KP series probe level switch is a compact three-wire float switch for highly accurate and repeatable single point level sensing and control applications. It is ideal for use in water, sea water and most acids and alkali solutions. It will provide a stable switching action with a very high degree of reliability and repeatability. These float switches can be reliably and safely used in potable water systems as they do not contain hazardous materials such as mercury or lead.

Operating Principle

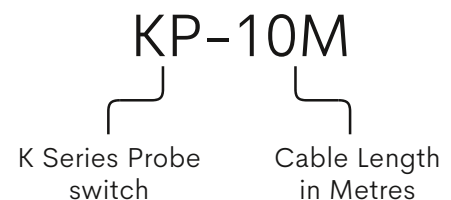
The KP probe level switch consists of a vented UPVC housing that contains a Polypropylene float. Rising liquid level causes the float to lift and actuate a magnetically coupled reed switch within the switch head. A falling liquid level allows the float to drop de-actuating the reed switch.

Construction

The KP probe level switch is constructed from UPVC and Polypropylene and is supplied with three core CPE cable. The float chamber is heavy walled and vented and provides a robust stable cell for the internal float. The switch sensor head is CNC machined from solid UPVC and is fully potted. The switch housed within the float cell is a high compliance single pole double throw dry contact reed switch that can switch up to 175V AC or DC Maximum at current up to 0.25 Amps resistive load. The KP probe switch can switch loads of 5 Watts / VA Maximum. The switch can be disassembled for cleaning if required.



Ordering



Safety Note

The KP probe level switch is not suitable for use at mains voltage. It is a low voltage signalling device designed for low voltage applications only. It is ideal as an input device for BMS and PLC applications. It is also ideal as an alternative to conductivity probes in submersible bore hole pump installations.

KP SERIES DATA

Cable Data

Cable type	Heavy duty EPR / CPE
Outer sheathing	CPE
Inner sheathing	R-EP-90
Cores	3 Cores, each 0.75 mm Sq Copper
Cable diameter	7.5 mm nominal
Core colours	Blue (Common) Black (Normally Closed) Brown (Normally Open)
Cable voltage rating Uo/U	600V / 1kV
AC Test voltage	2.5 kV
Cable current carrying capacity	18 Amps Continuous at a temperature of 30.5°C
Cable maximum tensile strength	30 N/mm ²
Minimum bend radii	40 mm
Maximum ambient operating temperature	80°C
Minimum permissible ambient temperature	-40°C
Minimum permissible ambient temperature for fully flexible operation	-25°C
Cable maximum permissible short circuit temperature	250° C
Standard of construction	CNELEC HD 22.4 S4 & VDE0282-4/2005

Switch Type

Contact Form Switching Action	Single Pole Double Throw C form (S.P.D.T.) Break Before Make
Underwriters Laboratories Recognised	UL File E47258

Electrical Ratings

Contact Power Rating (1)	Watts / VA - Maximum	5
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Voltage	Switching Breakdown	VDC Maximum VDC Minimum	175 200
Current	Switching Carry	Amps DC Maximum Amps DC Maximum	0.25 1.50
Resistance	Contact, Initial Insulation	Ohms Maximum Ohms Minimum	0.10 10 [∧] 9
Capacitance	Contact	pF Typical	1
Temperature	Operating Range	Deg. C	-40 to +125

IMPORTANT

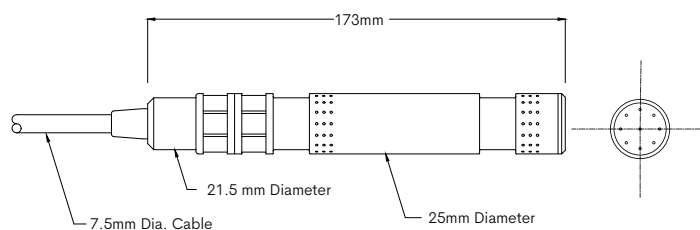
Contact Power Rating is the product of switching voltage and current and it must never exceed 5 Watts / VA.

Hazardous Applications

This KP probe level switch is classed as a simple device and does not require separate certification to be used in hazardous applications. In any such installation the switch must be isolated by an intrinsically safe barrier, a Zener barrier.

Operating Environment

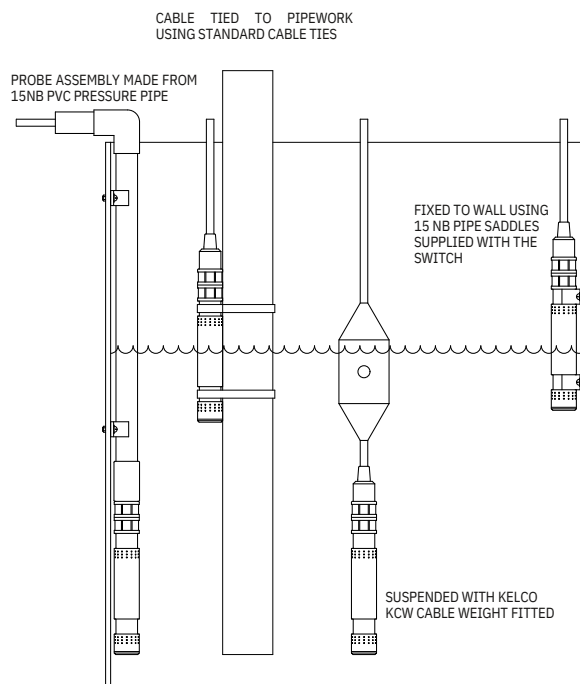
Maximum submergence	250 Metres, 2500 kPa Static Pressure
Minimum burst pressure	3500 kPa or 350 Meters Static Pressure
Maximum liquid temperature	50°C
Minimum liquid temperature	-1°C
Liquid specific gravity	>0.9
Liquid Ph	1 to 14
Smallest diameter hole or well that the switch can operate in.	Within a 25.4 mm inside diameter vertically oriented hole or pipe
Liquid level change for the switch to operate. On to Off or Off to On	5 mm
Closest switching point to tank floor.	80 mm
Smallest opening through which the switch will fit.	25.4 mm Diameter.
Suitability for use in sea water.	Fully compatible
Suitability for use in potable water.	Fully compatible
Switching repeatability	+/- 1 mm liquid level change
Must be installed vertically	Within 5 degrees of vertical



Typical Installation

IMPORTANT

The KP probe switch must be installed vertically with its cable at the top. It will not operate in any other orientation.



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