KELCO

K Series Heavy Duty Level Regulator

Features

- Low differential switching
- All position tilt action
- S.P.D.T three wire single point switch
- Polypropylene, SAN & CPE construction
- Wide range of cable lengths available
- Stable repeatable switching action
- No mercury or lead components
- Compact size, 75mm diameter
- IP68 Rating
- **Optional cable weight available**

Applications

- Basic liquid level control
- Multi-point level control
- Sewerage level control
- Chemical level control
- High & low level alarms
- Self powered signaling
- Pump protection

The K Series heavy duty level regulator 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. The teardrop shape of the float makes it ideal for effluent and sewerage usage, as the float cell has no shoulders or edges for solids to build on. 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 K Series level regulator houses a heavy ball that is balanced on the actuating arm of a high precision switch. When 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 de-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 again actuate. This simple reliable action only requires the float to tilt by 45 degrees in any direction for the switch to operate.

Ordering

K10M

K Series float switch

Cable Length in Meters

The cable length options for the K Series switches are: 4m, 6m, 10m, 20m, 30m and 50m.

Construction

The K Series heavy duty level regulator is constructed from polypropylene and high compliance three core CPE 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 at 0 to 240V AC at up to 15 Amps resistive load.

Safety Note

The K Series level regulators are rated for mains voltage operation. However, in the interest of safety we recommend that they are only ever operated at low voltage, preferably at 24 to 48V AC. Where mains voltage operation is unavoidable an earth leakage circuit breaker should always be installed in the control circuit. The application and wiring of this float switch should always be carried out by qualified electrical personnel and must always conform to local wiring rules.

K 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 30.5ºC
Cable maximum tensile strength	30 N/mm2
Minimum benr radii	40 mm
Maximum ambient operating temperature	80ºC
Minimum permissible ambient temperature	-40ºC
Minimum permissible ambient temperature for fully flexible operation	-25ºC
Cable maximum permissible short circuit temperature	250ºC
Standard of construction	CNELEC HD 22.4 S4 & VDE0282-4/2005
Cable lengths available	4, 6, 10, 20, 30, 50 Metres

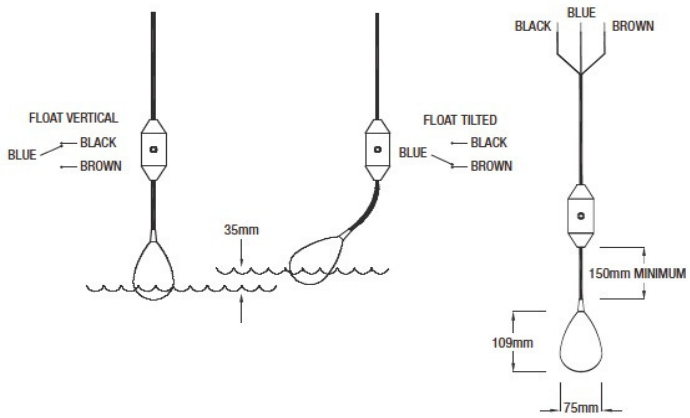
Switch Data

Switch type	Single pole double throw
Contact type	0.5 mm
Contact material	Silver Alloy
Contact resistance	15 Mega Ohms maximum
Rated voltage AC	0 - 240V AC
Rated voltage DC	0 - 250V DC
Currant rating resistive AC	15 Amps at 250V AC, 15A at 125V DC
Motor load current rating AC	1.5 Amps at 250V AC, 2.5A at 125V AC (1/4HP)
Current rating resistive DC	15 Amps at 14V DC, 6 Amps at 30V DC
Maximum lamp load AC	1.25 Amps at 250V AC
Maximum lamp load DC	1.5 Amps at 30V DC
Minimum operating load	100 mA at 12V, or 60mA at 24V
Maximum operating frequency, electrical	24 operations per minute
Dielectric strength between contacts	1000V AC at 50 to 60Hz for 1 minute
Insulation resistive	100 Mega Ohms minimum (At 500V DC)
Dielectric strength between contacts	2000 VAC, 50/60 Hz for 1 minimum
Life expectancy mechanical	20,000,000 operations minimum
Life expectancy electrical	500,000 operations minimum
Approved standards	UL508 E41515 CSA C22.2 No.55 (File No LR21642)

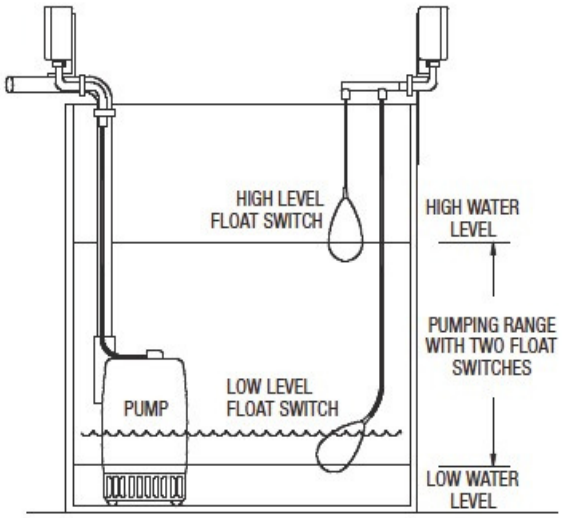
Operating Environment

Maximum submergence	30 Meters, 300 kPa Static Pressure
Maximum liquid temperature	60ºC
Minimum liquid temperature	-20ºC
Liquid specific gravity	>0.82
Liquid Ph	1 to 14
Smallest diameter well that the switch can operate in	Within a 160 mm inside diameter vertically mounted pipe
Liquid level change for the switch to operate	35 mm
Closest switching point to tank floor	50 mm
Smallest opening through which the switch will fit	75 mm
Minimum distance between float and closest tethering point/cable weight	150 mm
Suitability for use in sodium hypochlorite	Fully compatible
Suitability for use in sea water	Fully compatible
Suitability for use in potable water	Fully compatible

Dimensions



Typical Installation



Kelco Engineering Pty Ltd ABN 20 002 834 844

Head Office & Factory
9/9 Powells Road,
Brookvale 2100 NSW Australia

Postal Address
PO Box 7485 Warringah Mall
Brookvale 2100 NSW Australia

Phone: +61 2 99056425
Fax: +61 2 9905 6420

Email: Sales@kelco.com.au
Web: www.Kelco.com.au