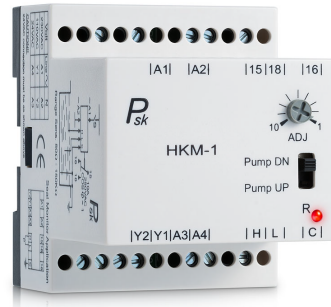


HKM-1

Multi voltage, filling or emptying liquids level monitor

- Monitors one or two levels of conductive liquids.
- Sensitive adjustment from 50kΩ to 100kΩ
- Controls in conductive or non-conductive containers
- One level regulated option.
- Filling or emptying function selected via slid switch
- LED indicates state of relay
- Multi voltage



Operating

Controls of maximum and/or minimum levels of conductive liquids such as; (tap water, sea water, waste water, chemical solutions, coffee etc). The principle is based on measurement of the apparent resistance of the liquid between two submerged probes. When the measured value is lower than the present threshold on the unit front face, output relay changes state. To avoid electrolytic phenomena, an AC current flows across the probes. The probe wire (max length 100 meters) does not have to be screened, but avoid mounting it in parallel with the power supply wires. A screened wire can be used, with the screening connected to the common.

One level filling control (Pump UP)

(H) And (C) terminals connected, a single probe (L) used. Power - on, probe (L) Emerged (above the level of the liquid). Relay energizes pump is ON filling starts, red LED lit. Relay de-energizes and pump is OFF when liquid level reaches probe (L) level.

Two level filling control (Pump UP)

Power - on, probe (L) Emerged (above the level of the liquid). Relay energizes pump is ON filling starts, red LED lit. Relay de-energizes and pump is OFF when liquid level reaches probe (H) level.

One level emptying control (Pump DN)

(H) And (C) terminals connected, a single probe (L) used. Power - on, probe (L) submerged (under the level of the liquid). Relay energizes pump is ON emptying starts, red LED lit. When probe (L) emerges relay de-energizes and pump is OFF, pump stops. When liquid level starts to rise again and reaches probe (L) pump is on end emptying starts.

Two level emptying control (Pump DN)

Power - on, probes (L) & (H) are submerged (below liquid level). Relay energizes pump is ON emptying starts, red LED lit. When liquid level reaches under probe (L), relay de-energizes and pump is OFF, pump stops. When liquid level starts to rise again reaches probe (H) pump is ON end emptying starts.

General specifications

- Power supply: multi voltage
- Supply tolerance: +10% / -15%
- Frequency: 50 / 60Hz
- Power consumption: 2.4 VA
- Duty cycle: 100%
- Sensitivity range 4.7kΩ to 100kΩ
- Display: LED red indicates relay energize.
- Probes: cable length max 100m
- Protection class open air: IP20
- Protection class enclosed: IP40
- Self-extinguishing plastic housing UL V0 acc IEC 529
- Mounting position: on DIN-rail TS 35 according to EN 50022
- Terminal : acc IEC 60947-7-1, IEC 60998-1
- Terminal Capacity: 1x4mm² without multicore cable end
1x0.5 to 2.5mm² with/without multicore cable end

Output circuit

- Relay: 1 C/O
- Rated voltage: 250 Vac
- Switching capacity ac: 2000 VA (8A / 250V) COS φ = 1
- Switching capacity dc: 3 A 30 Vdc
- Max switching capacity ac: 10 A
- Mechanical life: 1 x 10⁶ operations
- Electrical life at 1000 VA COS φ=1: 200.000 operations

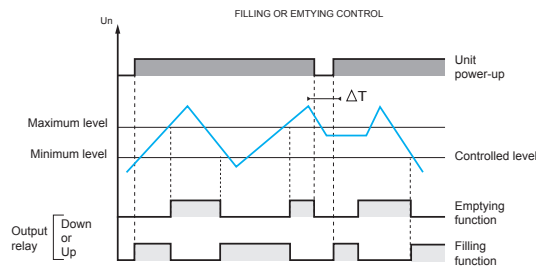
Environmental conditions

- Permissible ambient temperature: -20°C....+50°C
- Storage temperature: -25°C....+70°C
- Transport temperature: -25°C....+70°C
- Relative humidity (acc. IEC 721-3-3 CLASS 3K3): 15% to 85%
- Vibration resistance (acc. IEC 68-2-6): 10 TO 55 H

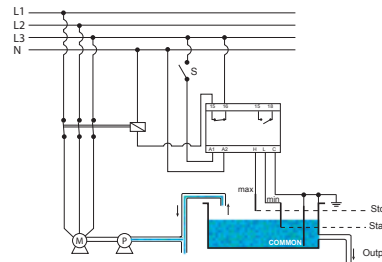
Dimensions & weight

- Width: 62 mm
- Height: 65 mm
- Depth (excl. DIN-profile): 72 mm
- Weight: 214 gram

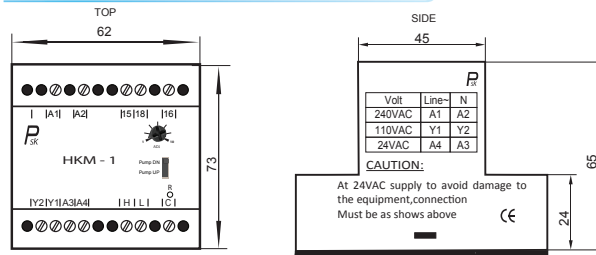
Function



Connections



Dimensions



Ordering information

HKM-1

Volt	Line~	N
240VAC	A1	A2
110VAC	Y1	Y2
24VAC	A4	A3