

Conductive Level Controller WLC

- Level monitoring of conductive liquids
- Multifunction
- Secure isolation of the measuring circuit
- One change over contacts
- Width 35mm
- Din mountable



Options & Ordering Codes

| | |
|-------------------|--------------|
| WLC | 230AC |
| Operating Voltage | |
| 230VAC | 230AC |

Specifications

1. Functions

Level monitoring of conductive liquid
Delay timer, adjustable Delay On and Delay Off pots
Minimum or Maximum level monitoring

2. Time ranges

Delay On: 0.5s to 10s
Delay Off: 0.5s to 10s

3. Indicators

Green LED ON: indication of supply voltage
Yellow LED ON/OFF: indication of output relay

4. Input circuit

Terminals: A1-A2
Operating voltage: Options and ordering codes
Tolerance: -15% of +10% of U_n
Rated consumption: 2VA (1.0W)
Rated frequency: AC 48 to 63Hz
Duty cycle: 100%
Reset time: 500ms
Drop-out voltage: >30% of supply voltage
Overvoltage category: III (in accordance with IEC 60664-1)
Rated surge voltage: 6kV

5. Output circuit

One volt free change over contact (SPDT)
Rated voltage: 250V AC
Switching capacity: 1250VA AC1 B300/P300
(in accordance with IEC 60947-5-1)
therm. constant current 5A
Fusing: 5A fast acting
Mechanical life: 20 x 106 operations
Electrical life: 2 x 105 operations at 1000VA resistive load
Switching frequency: max. 6/min at 1000VA resistive load
(in accordance with IEC 60947-5-1)
Overvoltage category: III. (in accordance with IEC 60664-1)
Rated surge voltage: 6kV

6. Mechanical design

Self-extinguishing plastic housing
DIN-rail mounting TS 35 according to EN 50022
Shockproof terminal connection according to VBG 4 (PZ1 required),
IP rating IP20
Tightening torque: max. 1Nm
Terminal capacity:
1 x 0.5 to 2.5mm² with/without multi-core cable end
1 x 4mm² without multi-core cable end
2 x 0.5 to 1.5mm² with/without multi-core cable end
2 x 2.5mm² flexible without multi-core cable end

7. Measuring circuit

Measuring input: conductive probes, (type SK1,SK2 and SK3)
Terminals: E1-E2-E3
Sensitivity: 0,25 to 100k• (4mS to 10μS)
Sensor voltage: 12V AC
Sensor current: max. 7mA
Cable Capacitance 100nF/km
max. 1000m (set value <50%)
max. 100m (set value 100%)
Overvoltage category: III (in accordance with IEC 60664-1)
Rated surge voltage: 6kV

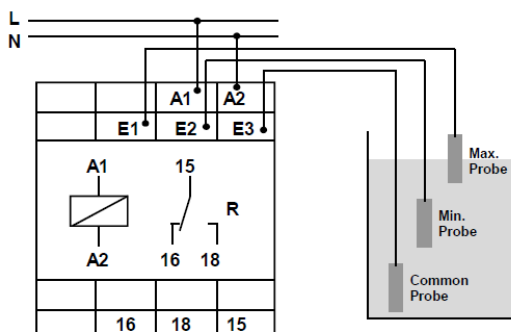
8. Ambient conditions

Ambient temperature: -25 to +55°C
Storage temperature: -25 to +70°C
Transport temperature: -25 to +70°C
Relative humidity: 15% to 85%
(in accordance with IEC 60721-3-3 class 3K3)
Pollution degree: 2, if built in 3 (in accordance with IEC 60664-1)

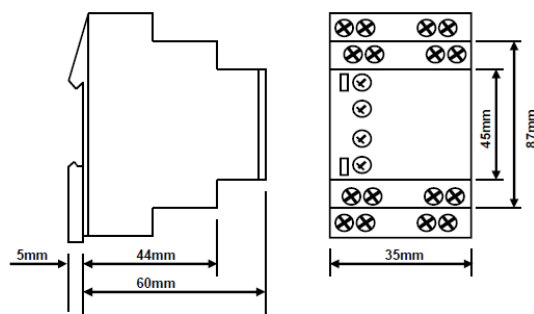
9. Weight

Single packing: 140g

Wiring Connections



Dimensions (mm)



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Functions

Pump up

Connect the probes E1, E2 and E3, or E3 terminal to the tank if metal. When liquid level falls below E2 probe the Delay On timing starts and on expiry relay R switches On (yellow LED On). When the liquid level reaches E1 probe Delay Off timing starts and on expiry relay R switches Off (yellow LED Off)

Pump down

Connect the probes E1, E2 and E3, or E3 terminal to the tank if metal. When the liquid level reaches E1 probe the Delay On timing starts and on expiry relay R switches On (yellow LED On). When the liquid level falls below the E2 probe the Delay Off timing starts and on expiry relay R switches Off (yellow LED not OFF).

Minimum monitoring (Pump up)

Connect the probes E2 and E3 or E3 terminal to the tank if metal, bridge E1 & E3 terminals. When the liquid level falls below E2 probe the Delay On timing starts and on expiry relay R switches On (yellow LED On). When the liquid level reaches E2 probe the Delay Off timing starts and on expiry relay R switches off (yellow LED Off).

Maximum monitoring (Pump down)

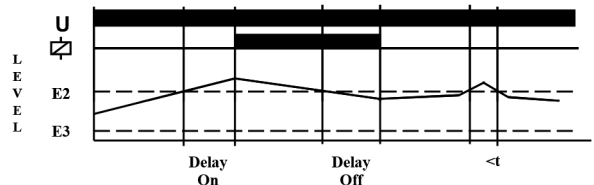
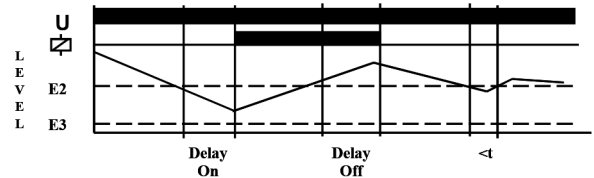
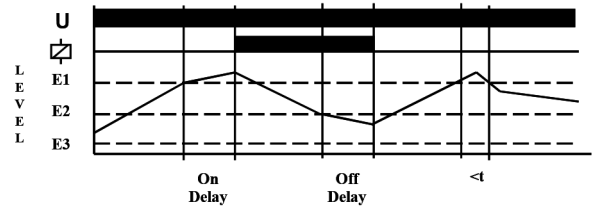
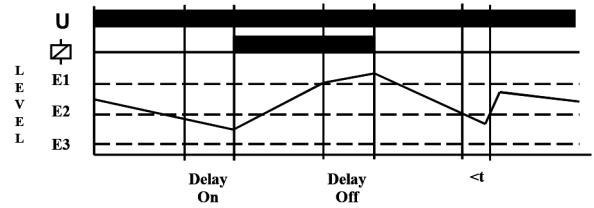
Connect the probes E2 and E3 or E3 terminal to the tank if metal, bridge E1 & E3 terminals. When the liquid level reaches E2 probe Delay On timing starts and on expiry relay R switches On (yellow LED is On). When the liquid level falls below E2 probe the Delay Off Timing starts and on expiry relay R switches Off (yellow LED Off)

Notes:

Please use low capacity cables for wiring the probes especially with extended wiring length.

Setting up instructions:

- Set the time delays to minimum (0.5s).
- The function selector switch must be in pump down position.
- When the probes are immersed turn the sensitivity controller slowly clockwise from min to max until the relay switches on.
- To ensure the relay goes off remove the probes from the tank, or check relay status when tank is empty.
- If the relay doesn't switch off, turn the sensitivity slightly back towards minimum (counter clockwise), until it goes off.
- Now you may set the time delay to a desired value to fade out any short term conduction caused by waves in the liquid.
- Set the function selector switch to desired position. (either pump up or pump down).



Ancillaries

Probe

- Probe for level monitoring of conductive liquids
- Fully insulated stainless steel probe
- Operating temperature range; 0 to 60°C
- Fully immersed SK1 probe, connecting via cable to the holder and WLC controller

Ordering Code

| | |
|-------------------------|----------------|
| Insulated Probe 1x140mm | SK1-140 |
|-------------------------|----------------|

To connect the probes to the holder please use 5mm low capacitance cable preferably twisted pair for long lengths up to 100m maximum.

