The single channel MK91-12-R level control is used to monitor and regulate the levels of conductive liquids. As a dual level regulator, it can be used to control pumps and solenoid valves. As a monitoring device it is designed for run-dry or overflow protection.

The level controller provides optimum reliability in differentiating a wide variety of liquids. The device is also suited for applications requiring distinction between foam and liquid.

The sensitivity (resistance of liquid) is adjustable from 0.2...100 kΩ. One of four sensitivity options can be selected by means of the "Range" selector switch. Fine sensitivity adjustment within the selected range is accomplished with a potentiometer on the front cover.

The adjustable switch-on and switch-off delay is especially important for turbulent liquid levels. A delay time from 0...20 s can be adjusted via two front cover potentiometers.

The device features two relay outputs with one SPDT contact each. They operate in parallel and provide the switching function. The output configuration of both outputs can be programmed from NO to NC for all measuring ranges using the "Range" switch.

A green LED indicates that power is applied to the device. A yellow LED indicates the switching status.

For further information, please order our installation guidelines.
## Level Controls

<table>
<thead>
<tr>
<th>Type</th>
<th>MK91-12-R/230VAC</th>
<th>MK91-12-R/24VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ident-No.</td>
<td>75 450 70</td>
<td>75 450 77</td>
</tr>
</tbody>
</table>

### Power Supply \( U_B \)
- Line frequency/ripple \( W_{pp} \): 48...62 Hz
- Power/current consumption: 3 VA/ < 15 mA_{rms}
- Galvanic isolation between input circuit and output circuit and supply voltage for 250 V_{rms}, test voltage 2.5 kV_{rms}:
  - \( 184...264 \) VAC
  - \( 20...28 \) VDC

### Input Circuits
- Probe voltage: 0.02...5 V_{pp}/150 Hz (triangle)
- Sensitivity range (switching threshold): 0.2...100 k\( \Omega \) (adjustable in 4 ranges)
  - Range 1: 0.2...1 k\( \Omega \)
  - Range 2: 0.8...4 k\( \Omega \)
  - Range 3: 2.5...15 k\( \Omega \)
  - Range 4: 10...100 k\( \Omega \)
- Hysteresis: approx. 10 %
- Switch-on delay: 0...20 s (adjustable)
- Switch-off delay: 0...20 s (adjustable)

### Output Circuits
- Number of contacts: 1 SPDT contact, silver-alloy + 3 µm Au
- Switching voltage: 250 V
- Switching current: \( \leq 3 \) A
- Switching capacity: \( \leq 500 \) VA/60 W

### LED Indications
- Power "ON": green
- Switching status: yellow

### Housing
- Mounting: snap-on clamps for top-hat rail (DIN 50022) or screw terminals for panel mounting
- Connection: 2 x 16 flat terminals with self-lifting pressure plates or with wire sleeves
- Degree of protection (IEC 60529/EN 60529): IP20
- Operating temperature: -25... +60 °C

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