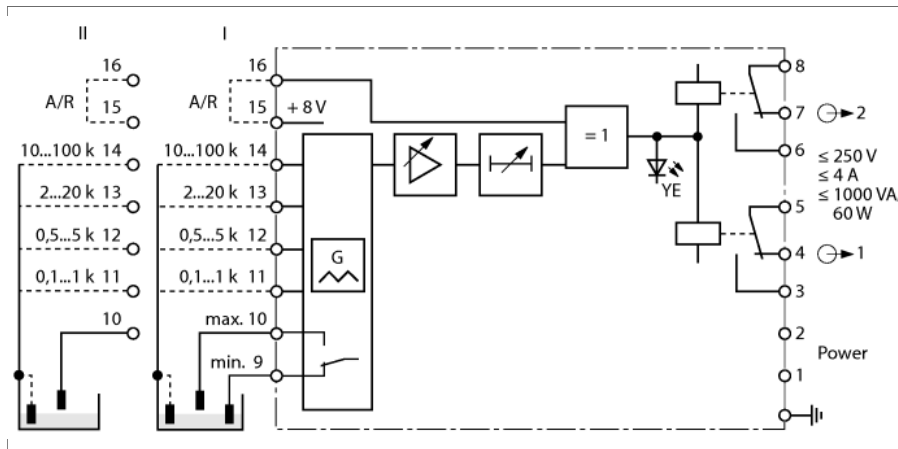


**Level controller
1-channel
MS91-12-R**



The 1-channel level control MS91-12-R monitors and regulates conductive liquid levels (II). As a dual level regulator, it can be used to control pumps and solenoid valves (I). As monitoring device it is designed for run-dry or over flow protection.

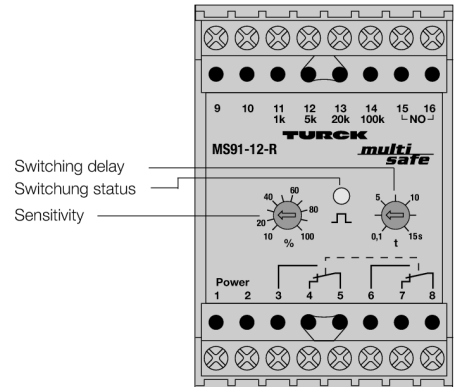
The sensitivity (liquid resistance) is adjustable between 0.1 ... 100 kΩ. One of the four sensitivity ranges is selected by the terminal configuration. Fine adjustment of the switch point within the selected range is achieved with a front cover potentiometer. The level controller not only provides optimum reliability in differentiating liquids, it is also suited for the distinction between foam and liquid .

The adjustable switch-on and switch-off delay is very important for turbulent liquid levels. A delay time between 0.1 ... 15 s can be set via the potentiometer on the front.

Two parallelly operating relay outputs with one changeover contact each are provided to output the switching commands. The output configuration of both outputs can be changed from NC mode (no bridge between terminal 15/16) to NO mode (with bridge between terminals 15/16).

The switching status is indicated by a yellow LED.

The switching status of the output is indicated by a yellow LED and operational readiness by a green LED.

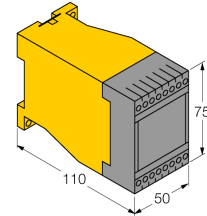


- **Output: 2 relays with changeover contact**
- **Responsivity: 0.2...100 kΩ**
- **Removable terminal blocks**
- **Switching of electrodes via auxiliary relay**
- **Switch-on/off delay adjustable 0.1...15 s**
- **Reliable distinction between foam and liquid**
- **Galvanic isolation of input circuits, output circuits and power supply**

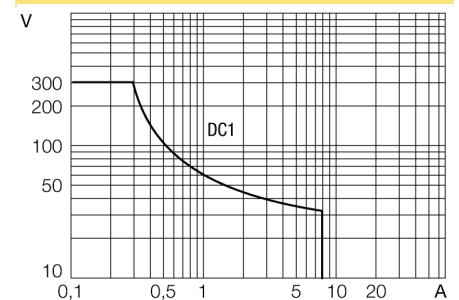
**Level controller
1-channel
MS91-12-R**

Type designation	MS91-12-R
Ident no.	5220110
Nominal voltage	Universal voltage supply unit
Operating voltage	20...250 VAC
Frequency	40...70 Hz
Operating voltage range	20...250 VDC
Power consumption	≤ 3 W
Input circuits	2 electrodes or alternatively 3 electrodes
Schaltpunkt	0,1-100 kΩ
Probe voltage	5 V _{pp} /100 Hz (triangle)
Schaltsschwelle	0,1...1 kΩ
Schaltsschwelle	0,5...5 kΩ
Schaltsschwelle	0,8...4 kΩ
Schaltsschwelle	10...100 kΩ
Einschaltverzögerung	0,1...15s
Ausschaltverzögerung	0,1...15s
Hysterese	10%
Output circuits (digital)	2 x relay (change-over)
Output switching voltage relay	≤ 60 VDC / ≤ 250 VAC
Switching current per output	≤ 4 A
Switching capacity per output	≤ 1000 VA/60 W
Switching frequency	≤ 10 Hz
Contact quality	AgNi, 3μ Au
Galvanic isolation	
Test voltage	2.5 kV
Indication	
Switching state	yellow
Protection class	IP20
Ambient temperature	-25 ... +60 °C
Dimensions	75 x 50 x 110 mm
Weight	246 g
Mounting instructions	DIN rail (NS35) or panel
Housing material	Polycarbonate/ABS
Electrical connection	2 x 8-pin removable terminal blocks, reverse polarity protected, screw connection
Terminal cross-section	1 x 2.5 mm ² / 2 x 1.5 mm ²

Dimensions



Output relay – Load curve



Output relay – Electrical lifetime

