

Level relay



Conductivity of different liquids.

(concerns to the level relay line NR...)

Type	RS-NR-4	RS-NRU-4	RS-NR2	
Function/ output contact	Level relay RS-NR-4 1 change-over contact 1 normally open contact	Level relay RS-NRU-4 1 change-over contact	Level relay RS-NR2 2 change-over contacts	High-pressure boiler feed water conductance: < 0.11 µS resistance: > 9 MΩ
Basic wiring diagram/ pulse schedule	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Basic wiring diagram, level relays</p> </div> <div style="text-align: center;"> <p>Function diagram, level relays</p> </div> </div>			Total desalted water conductance: 0.1 µS - 10 µS resistance: 100 kΩ - 10 MΩ Simple desalted water conductance: 1 µS - 50 µS resistance: 20 kΩ - 1 MΩ
Wiring diagram				Drinking water: conductance: 100 µS - 1 mS resistance: 1 kΩ - 10 kΩ
LED	2 LED	2 LED	2 LED	
Voltage supply	24 V AC 42-48 V AC 110-127 V AC 230 V AC	24 V AC 42-48 V AC 110-127 V AC 230 V AC	24 V AC 42-48 V AC 110-127 V AC 230 V AC	Waste water conductance: 1 mS - 6.6 mS resistance: 150 Ω - 1 kΩ
other attributes	Switchable Reversal of switching function: no Resistance ranges: 1 kΩ - 100 kΩ 10 kΩ - 2 MΩ	Switchable Reversal of switching function: yes Resistance ranges: 1 kΩ - 100 kΩ 10 kΩ - 2 MΩ	Switchable Reversal of switching function: yes Resistance ranges: 1 kΩ - 100 kΩ 10 kΩ - 2 MΩ	Surface water conductance: 100 µS - 6.6 mS resistance: 150 Ω - 10 kΩ Brackish water conductance: 1 mS - 66 mS resistance: 15 Ω - 1 kΩ
Method of operation	<p>These NR devices are level relays used for monitoring the levels of conductive liquids. The exciting voltage must be applied to terminals A1 and A2 during operation of the devices. Single-terminal electrodes are used for recording measured values. The test circuit of the electronic control is electrically isolated from the power supply, the transformer used is manufactured according to VDE 0551. Electrode current 10 mA, electrode voltage 18 V AC. The delay on energization and the drop-out times are both 0,6s.</p> <p><u>1-point control</u> The reference electrode or conductive vessel wall is connected to terminal B1. The maximum electrode is connected to terminal B2. If the maximum electrode is not moistened by the liquid, then the output relay is attracted instantaneously. If the maximum electrode is moistened by the liquid, then the output relay returns to its normal position. For this function, terminals B1-X2 must be bridged in the case of RS-NRU-4 and RS-NR2. Without the jumper the relay function is reversed.</p> <p><u>2-point control</u> The devices are connected as for the 1-point control with the addition of an electrode (minimum electrode) connected to terminal B3. If the maximum electrode B2 is not moistened by the liquid, then the output relay is attracted instantaneously. If the maximum electrode is moistened by the liquid, then the output relay returns to its normal position. If the minimum electrode is no longer moistened by the liquid, then the output relay attracts again. For this function, terminals X1-X2 must be bridged in the case of RS-NRU-4 and terminals B1-X2 for RS-NR2. Without the jumper the relay function is reversed.</p> <p>Conductivity of different liquids: see column 23 <u>Conductive vessel wall as reference electrode</u> If you use the conductive vessel wall as a reference electrode, you have to connect it to protective ground.</p>			Industrial process water conductance: 6.6 mS - 500 mS resistance: 2 Ω - 150 Ω Concentrate sourness, lye conductance: 66 mS - 1100 mS resistance: 0.9 Ω - 15 Ω
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