

- ▶ Industrial design
- ▶ Width 45mm
- ▶ Level monitoring of conductive liquids
- ▶ 1 change over contact



▶ Technical data

▶ 1. Functions

Level monitoring of conductive liquids with adjustable threshold, timing for tripping delay and turn-off delay separately adjustable

▶ 2. Time ranges

	Adjustment range	
Start-up suppression time:	-	
Tripping delay:	0.5s	10s
Switch-off delay	0.5s	10s

▶ 3. Indicators

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

▶ 4. Mechanical design

Self-extinguishing plastic housing, IP rating IP40
Mounted on DIN-Rail TS 35 according to EN 50022
Mounting position: any
Shockproof terminal connection according to VBG 4 (PZ1 required), IP rating IP20
Initial torque: max. 1Nm
Terminal capacity:
1 x 0.5 to 2.5mm² with/without multicore cable end
1 x 4mm² without multicore cable end
2 x 0.5 to 1.5mm² with/without multicore cable end
2 x 2.5mm² flexible without multicore cable end

▶ 5. Input circuit

Supply voltage:			
24V AC	terminals A1-A2	(TLH4X 24VAC)	
110V AC	terminals A1-A2	(TLH4X 110VAC)	
230V AC	terminals A1-A2	(TLH4X 230VAC)	
Tolerance:			
24V AC	-15% to +10%	(TLH4X 24VAC)	
110V AC	-15% to +10%	(TLH4X 110VAC)	
230V AC	-15% to +10%	(TLH4X 230VAC)	
Rated frequency:	48 to 63Hz		
Rated consumption:			
24V AC	2VA (1.5W)	(TLH4X 24VAC)	
110V AC	2VA (1.5W)	(TLH4X 110VAC)	
230V AC	2VA (1.5W)	(TLH4X 230VAC)	
Duration of operation:	100%		
Reset time:	500ms		
Residual ripple for DC:	-		
Drop-out voltage:	>30% of the supply voltage		

▶ 6. Output circuit

1 potential free change over contact	
Switching capacity:	1250VA (5A / 250V AC)
Fusing:	5A fast acting
Mechanical life:	20 x 10 ⁶ operations
Electrical life:	1 x 10 ⁵ operations at 1000VA resistive load
Switching frequency:	max. 60/min at 100VA resistive load max. 6/min at 1000VA resistive load (according to IEC 947-5-1)
Insulation voltage:	250V AC (according to IEC 664-1)
Surge voltage:	4kV, overvoltage category III (according to IEC 664-1)

▶ 7. Measuring circuit

Input:	conductive probes (type SK1,SK2,SK3) terminals E1-E2-E3
Switching threshold:	5kΩ 0.25 to 5kΩ 100kΩ 5 to 100kΩ
Sensor voltage:	max. 16V AC
Sensor current:	5kΩ max. 7mA 100kΩ max. 200µA
Line length:	5kΩ max. 1000m 100kΩ max. 100m

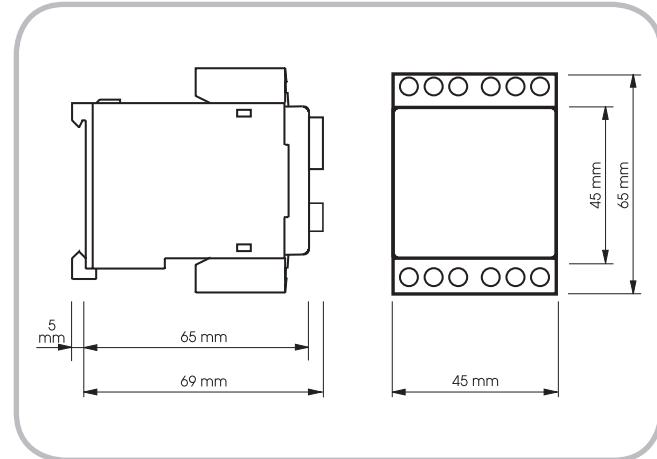
▶ 8. Accuracy

Base accuracy:	-5% to +10% (of maximum scale value)
Adjustment accuracy:	≤10% (of maximum scale value)
Repetition accuracy:	<2%
Voltage influence:	≤0,06% / V
Temperature influence:	≤0,05% / °C

▶ 9. Ambient conditions

Ambient temperature:	-25 to +55°C (according to IEC 68-1)
Storage temperature:	-25 to +70°C
Transport temperature:	-25 to +70°C
Relative humidity:	15% to 85% (according to IEC 721-3-3 class 3K3)
Pollution degree:	3 (according to IEC 664-1)

▶ 10. Dimensions



Functions

Level monitoring of conductive liquids with adjustable threshold, timing for tripping delay and turn-off delay separately adjustable

Pump up

Connection of the probe rods E1, E2 and E3. Alternatively the electrically conducting container can be connected in lieu of the test probe E3.

When the air-fluid level falls below the minimum probe E2, the set interval of the tripping delay (t_1) begins. After the interval has expired the output relay R switches into on-position (yellow LED illuminated). When the air-fluid level again rises above the maximum probe E1, the set interval of the turn-off delay (t_2) begins. After the interval has expired the output relay switches into off-position (yellow LED not illuminated).

Pump down

Connection of the probe rods E1, E2 and E3. Alternatively the electrically conducting container can be connected in lieu of the test probe E3.

When the maximum probe E1 gets moistened, the set interval of the tripping delay (t_1) begins. After the interval has expired the output relay R switches into on-position (yellow LED illuminated). When the air-fluid level falls below the minimum probe E2, the set interval of the turn-off delay (t_2) begins. After the interval has expired the output relay switches into off-position (yellow LED not illuminated).

Minimum monitoring

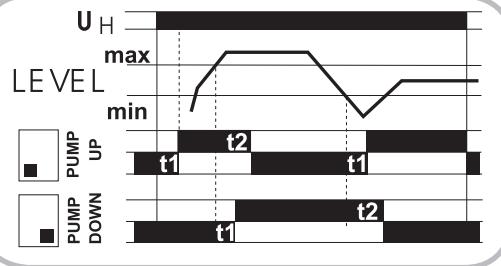
Connection of probe rods E2 and E3 (Bridge E1-E3). Alternatively the electrically conducting container can be connected in lieu of the test probe E3.

When the air-fluid level falls below the probe E2, the set interval of the tripping delay (t_1) begins. After the expiration of the interval the output relay R switches into on-position (yellow LED illuminated). When the air-fluid level again rises above the probe E2, the set interval of the turn-off delay (t_2) begins. After the interval has expired the output relay again switches into off-position (yellow LED not illuminated).

Maximum monitoring

Connection of probe rods E2 and E3 (Bridge E1-E3). Alternatively the electrically conducting container can be connected in lieu of the test probe E3.

When the probe E2 gets moistened, the set interval of the tripping delay (t_1) begins. After the interval has expired the output relay R switches into on-position (yellow LED illuminated). When the air-fluid level sinks below the probe E2, the set interval of the turn-off delay (t_2) begins. After the interval has expired the output relay again switches into off-position (yellow LED not illuminated).



Connections

