

# TCL-3

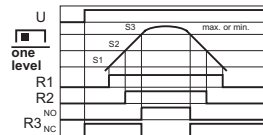
## overview

- ◆ monitors two or three levels of conductive liquids
- ◆ 3 x N.O. output max. 6A
- ◆ programmable filling or emptying mode
- ◆ programmable sensitivity 250 Ohm - 100 kOhm or 50 kOhm - 1 MOhm
- ◆ LED indicators for power-supply and all three relays
- ◆ 45mm DIN rail mount housing



### Function

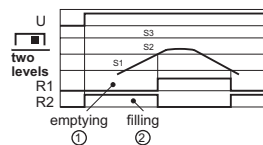
**Control relay to monitor the level of conductive liquids**  
The TCL controls the level of conductive liquids in a conductive or non-conductive container and works by passing a low voltage through the liquid from suitable probes to an earth return which can either be the container or another probe.



#### Single point sensing:

The relays R1, R2 and R3 change over each time the liquid contacts C and S1, C and S2 or C and S3. DIP-switch Function R3 inverts relay 3.

- ① Output relay, function emptying
- ② Output relay, function filling



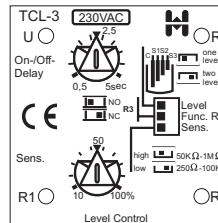
#### Two point sensing:

The relay changes over each time the liquid contacts C, S1 and S2. The relay resets when the liquid level returns below S1.

R1... emptying  
R2... filling

S3 can be used to monitor limits.

**Note:** Do not make a connection between A2 and C when using TCL without galvanic isolation. (DC supply versions)  
DC-DC isolation on request



## specification

<b>supply voltage variation</b>	nominal voltage +10% / -20%
<b>frequency range</b>	48 - 63 Hz
<b>duty cycle</b>	100%
<b>delay time</b>	0,5 - 5s
<b>reset time</b>	0,5 - 5s
<b>max. measuring voltage</b>	± 5,3V
<b>max. measuring current</b>	~ 5mA
<b>probes</b>	cable length max. 100m
<b>output relay specification</b>	max. 6A 230V~
Ue/Ie AC-15	120V/4A 240V/3A
Ue/Ie DC-13	24V/2A
<b>expected life time</b>	SPNO
mechanical	2 x 10 <sup>7</sup> operations
electrical	1 x 10 <sup>5</sup> operations
<b>screws</b>	pozidrive 1
<b>screw tightening torque</b>	0,6...0,8Nm
<b>operating conditions</b>	-20 to +60 °C non condensing
	* EN 60947-5-1 VDE 0435

## ordering information

part no	supply	output	sup. galv. iso*	CE	housing types
<b>TCL3 230Vac</b>	230V~ 2,5VA	3 x NO	yes	-	C
<b>TCL3 115Vac</b>	115V~ 2,5VA	3 x NO	yes	-	C
<b>TCL3 24Vac</b>	24V~ 2,5VA	3 x NO	yes	-	C
<b>TCL3 24Vdc</b>	24V= 2W	3 x NO	yes	-	C

\* The measurement input is galvanically isolated from the power supply

