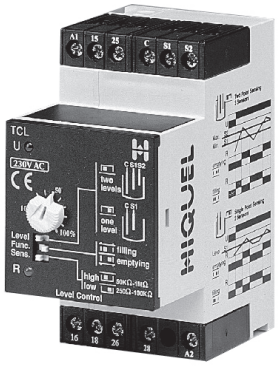
TCL

overview

- **monitors one or two levels of conductive liquids**
- **DPCO output max. 6A**
- **programmable filling or emptying mode**
- **programmable sensitivity 250 Ohm - 100 kOhm or 50 kOhm - 1 MOhm**
- **LED indicators for power supply, relay and reaction timer**
- **45mm DIN rail mount housing or 11pin plug in housing**

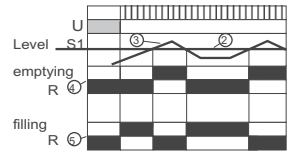


Function

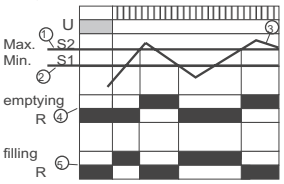
Control relay active
Control relay passive
Contact closed
Contact open

① max. level
② min. level
③ monitored level
④ Output relay, emptying function
⑤ Output relay, filling function

1 level Single Point Sensing using 2 Sensors



2 level Two Point Sensing using 3 Sensors



Control relay to monitor the level of conductive liquids

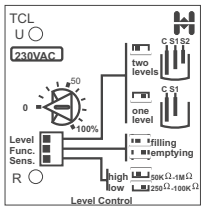
The TCL controls the level of conductive liquids in a conductive or non-conductive container and works by passing a low voltage through the liquid from a suitable probe to an earth return which can either be the container or another probe.

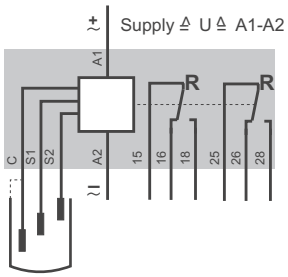
Single point sensing:
The relay changes over each time the liquid contacts C and S1.

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.

The polarity of the sensor voltage is periodically reversed and is sufficiently low to avoid electrolytic action between the probes.

Note:
Do not make a connection between A2 and C when using TCL without galvanic isolation. (DC supplied versions)





specification

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

* EN 60947-5-1 VDE 0435

ordering information

part no	supply		ouput	sup. galv. iso*	housing types
TCL 230Vac	230V~	2,5VA	DPCO	yes	C
TCL 115Vac	115V~	2,5VA	DPCO	yes	C
TCL 24Vac	24V~	2,5VA	DPCO	yes	C
TCL 24Vdc	24V=	2W	DPCO	no	C
PCL 230Vac	230V~	2,5VA	DPCO	yes	G
PCL 115Vac	115V~	2,5VA	DPCO	yes	G
PCL 24Vac	24V~	2,5VA	DPCO	yes	G
PCL 24Vdc	24V=	2W	DPCO	no	G

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

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