

# Heaty Complete-Series

## Replenishments

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Heaty Complete Mini GLT (OFK)

Heaty Complete Small GLT (OFK)

Heaty Complete Big GLT (OFK)

Heaty Complete Tall GLT (OFK)



## Technical Data

Measuring ranges:	20 / 200 2000 $\mu\text{S}/\text{cm}$ , depending on the measuring cell and amplification
Temperature compensation:	Linear 2.2 % / K, reference temperature 25 °C using PT100
Limit value display:	Optical via LED, limit value adjustable between 1 and >100 % of the measuring range
Limit value output:	Potential-free relay contacts, max. 6 A / 250 V AC.
Analogue outputs:	0-10 V, $R_a > 1 \text{ k}\Omega$ , corresponds to 0- 20 / 200 / 2000 $\mu\text{S}/\text{cm}$ 4-20 mA, load max. 500 $\Omega$ , corresponds to 0- 20 / 200 / 2000 $\mu\text{S}/\text{cm}$
Power supply:	22 - 26 V DC voltage, protected against polarity reversal or 230 V 50/60 Hz
Power consumption:	Approx. 3 W / 3 VA
Housing:	Surface-mounted housing 120 x 122 x 57 mm, polycarbonate, IP 65. 4 cable entries on the underside of the housing.

## Device description

The Heaty Complete GLT is a replenishment system with capacity control and output of a message to the GLT. The message is issued via a potential-free contact (NC or NO), which is switched when the resin is exhausted or there are problems with the measuring technology.

Device for measuring the electrical conductivity of aqueous solutions in conjunction with two-electrode measuring cells.

Output of the measured value via interface 0-10 V and 4 - 20 mA.

1 relay output (changeover contact) potential-free (K1).

1 relay output (changeover contact) potential-free (K2).

Display of the measured value in the top line of the display.

Display of the temperature at the measuring cell when the temperature sensor is connected and temperature compensation is switched on in the bottom line of the display.

When the temperature sensor is connected and temperature compensation is switched on, the set limit values are displayed for approx. 5 seconds by pressing buttons G1 or G2.

Pressing buttons K1 or K2 inverts the respective switching state of the relay. The mode of operation of the limit value switching can be changed with switch 6 (relay energised or not energised when limit value is exceeded).

### Setting the Complete GLT

To enter the setting mode, press the F1, G1 and G2 buttons simultaneously for 3 seconds. Programming mode is then active and the LED at F1 flashes. To adjust the limit value G1, press the F1 and G1 buttons simultaneously. If the F1 and G1 buttons are pressed together briefly, the conductance value is increased by 1 $\mu$ s. However, if the buttons remain pressed, the Complete GLT counts up the setting in 10 $\mu$ s increments. When the value reaches 200 $\mu$ s, the Complete GLT counts down again. If the buttons are released, the Complete GLT stops at the desired position. To save the desired setting on G1, please wait approx. 5 seconds after the last operation. Programming mode is then deactivated and the settings are saved automatically. LED F1 lights up continuously again.

**ATTENTION:** G2 is only a second limit value that can be programmed. This contact can be used for the building management system, which issues a collective fault signal (NC or NO) when limit value 2 is reached.

### Manual test

The manual test is used to check the connected solenoid valve. Pressing the K1 button energises the solenoid valve and opens it.

### Display settings

If the Complete GLT system is in operating mode, you can display the limit values by briefly pressing G1 or G2.

<b>Operation / Display</b>	
Upper line display	Conductivity in $\mu\text{S}/\text{cm}$
Lower line display without temperature compensation	Limit values 1 and 2
If the PT 100 sensor is connected and temperature compensation is switched on when G1 or G2 is pressed for 5 seconds	Temperature at the probe or limit values 1 and 2
If the PT 100 sensor is broken, disconnected or short-circuited and TC is switched on	! T-sensor !
If the permissible measuring range is exceeded	! LF > MB !

<b>LEDs</b>		
F1	green	Operating display, flashing in programming mode
K1	green	Relay 1 activated
K2	green	Relay 2 activated
G1	red	Conductivity, limit value 1 exceeded
G2	red	Conductivity, limit value 2 exceeded

<b>Keys</b>	
F1	Function button for programming mode
K1	Manual control of relay 1
K2	Manual control of relay 2
G1, G2	Limit value display for operation with temperature compensation

**The mode of operation of the relay outputs can be changed using switch 6:**

Switch to „on“ (top):	Relays are energised when the limit value is exceeded
Switch to „off“ (bottom):	Relays de-energise when limit value is exceeded

The buttons for relay activation reverse the existing switching status for the time they are pressed.

## Limit value setting

Press buttons F1, G1 and G2 simultaneously for 3 seconds. Programming mode is then active and the LED at F1 flashes. Limit value 1 can then be adjusted using buttons F1 and G1 and limit value 2 using buttons F1 and G2. Approx. 5 seconds after the last actuation, both limit values are saved and the setting mode is locked. LED F1 lights up continuously again. Both limit values can be set to any value between 1 % and 100 % of the measuring range.

## Switches and potentiometers

Potentiometer from left to right:

Conductivity zero point

Conductivity range

Temperature range

Setting 0 °C (Pt 100 = 100.0 Ohm)

Output range 0-10 V, 4-20 mA

Switch settings from left to right:

	S1	S2	S3	S4	S5	S6	benötigte Messzelle
Measuring range 0 - 20 with TC	off	on	on	off	off	xx	c = 0,1, PT100
Measuring range 0 - 20 without TC	off	on	on	off	on	xx	c = 0,1
MMeasuring range 0 - 200 with TC	on	off	off	on	off	xx	c = 0,1, PT100
Measuring range 0 - 200 without TC	on	off	off	on	on	xx	c = 0,1
Measuring range 0 - 2000 with TC	on	off	on	on	off	xx	c = 1,0, PT100
Measuring range 0 - 2000 without TC	on	off	on	on	on	xx	c = 1,0
General: TC in operation						off	
without TC						on	
Relay activated for LF > limit value						off	
Relay activated for LF < limit value						on	

Only one of the two possible power supplies may be connected - 230 V AC or 24 V DC. The 24 V input is protected against polarity reversal. AC voltage at the 24 V input or DC voltage at the 230 V input will destroy the device immediately and completely.

Operating the measuring devices above the possible measuring range or permanently short-circuiting the electrodes can cause the devices to malfunction. The measuring cell connection cable should be shielded for lengths over 1 m in the industrial sector.

The earth and shield terminals are connected together to the internal device earth (voltage insulation to the mains transformer or to the 24 V DC connection 1000 V). These must never be bridged to another terminal or connected to an existing earth, as otherwise the electrical isolation of the measuring cell and the measuring electronics will be cancelled.



### NOTE

If a maximum hardness of 0.3°dH is required, G1 must be set to 20 $\mu$ S.

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<b>Connection terminals</b>		
1	Shield	Probe cable shield
2	MG1	LF measuring cell
3	MG1	LF measuring cell
4	MG2	PT100
5	MG2	PT100
6	0-10V	Output 0-10V
7	4-20mA	Output 4-20 mA
8	Masse	Ground for outputs 0-10V or 4-20 mA
9	K1 Ein	Centre contact K1
10	K1 Ö	Normally closed contact K1
11	K1 S	Normally open contact K1
12	K1 Ein	Centre contact K2
13	K1 Ö	NC contact K2
14	K1 S	Normally open contact K2
15	24 V -	Supply voltage 24 V, earth
16	24 V +	Supply voltage 24 V, positive
17	BR1	internally bridged to terminal 18, potential-free
18	BR1	internally bridged to terminal 17, floating
19	BR2	internally bridged to terminal 20, potential-free
20	BR2	internally bridged to terminal 19, potential-free
21	230 V AC	230 V AC
22	230 V AC	230 V AC

# our water. safe.

Your contact:

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