



Photo: 1884-UTR

The universal temperature controllers 1882-UTR, 1883-UTR and 1884-UTR can be used for varied tasks in the area of temperature control. They are equipped with different relays and sensors. All of them are rail-mounted devices, have a user-friendly backlit touch display and can be flexibly configured. Each type of controller has three control programs and each program again provides a variety of functional options. All programs can be set to heating or cooling operation, either for the complete controller or for individual control channels.

- Depending on the type of controller 1 to 4 power relays and 2 to 4 sensor inputs with selectable sensor type are available.
- Depending on the control program 1 to 4 independent control channels are available.
- Up to three switching values can be set for each control channel: setpoint value, additional value and threshold value, each with its own upper and lower hysteresis.
- It is possible to define a pulse width modulation: A set temperature can be approached in a controlled way and maintained.
- Password protection can be defined: This can be useful, for example, if the configuration of the controller can only be done by qualified personnel.
- All controllers have an additional low-voltage signalling relay and a mini-USB connection.

FUNCTIONS AND OPERATION

For the temperature controllers 1882-UTR, 1883-UTR and 1884-UTR one of the three control programs *single control*, *double control* und *sequential control* can be selected in the basic setting. The available channels can then be adjusted individually with regard to their parameters such as setpoint value, additional value, threshold value, hysteresis of the switching points, operating mode and special relay functions.

The **single control** is a two-point control with adjustable hysteresis for the heating and cooling operation. One sensor and one relay are available for each channel. The purpose of a single control is the preservation of a defined temperature (the setpoint value with separate upper and lower hysteresis). The output is activated if the temperature falls below (heating operation) or goes above the setpoint value (cooling operation). The control can be used, for example, for trace heating, gutter heating, anti-freeze protection or concrete layer heating. The combination of the setpoint value and the threshold value can be used, for example, for controlling a gutter heating, which can be switched off under e. g. -20°C because no more melt water is to be expected at this temperature. The combination of the setpoint value and the additional value is, for example, suitable for raising a temperature alarm via a low-voltage signal.

The **double control** has the same functions as the single control but also contains a secondary 230 V relay. With the help of the additional value this relay may trigger an alarm function or switch on a second heating level. A double control can, for example, be used for anti-freeze protection if an additional alarm via an acoustic warning device is needed or in case of a two-step heating or cooling operation.

The **sequential control** operates with two sensors. The first one monitors the setpoint temperature and ensures that the heating or cooling system is switched on if necessary. The second sensor monitors the temperature of the heating or cooling unit and ensures that it is switched off if needed. The sequential control

can be used as a heating or cooling control with a limitation function, e. g. as a room temperature control with limitation of the floor temperature or as a control for the root heating of outdoor plants.

The additional signalling relay allows for alarms and errors to be passed on, for example, to a building control system.

EQUIPMENT/ORDERING INFORMATION

	1882-UTR	1884-UTR	1883-UTR	1883/A-UTR	1883/R-UTR	1883/L-UTR
Sensor inputs	2	4	2	2	2	2
Power relay 5 A, normally open	2	4	-	-	-	-
Power relay 20 A, normally open *	-	-	1	1	1	1
Power relay 3 / 6 A **	-	-	-	1 (norm. open)	1 (norm. closed)	1 (norm. open)
Signalling relay 30 V, changeover	1	1	1	1	1	1
USB connection	•	•	•	•	•	•
Channels single control	2	4	1	2	2	2
Channels double control	1	2	1	1	1	1
Channels sequential control	1	2	1	1	1	1
Backlit touch graphic display	•	•	•	•	•	•

* maximum of 20 A (4.6 kW) total load on the device including secondary relay for the 1883/L-UTR

** maximum of 3 A (0.7 kW) in case the secondary relay is used for room temperature applications, otherwise 6 A (1.4 kW)

SETTINGS (EXTRACT)

Setting	Description
Measuring and adjustment range	max. -50 °C up to +300 °C
Hysteresis	-20.0 to +20.0 K (factory setting -1.0 K)
Password protection	possibility to set passwords for three menu levels
Counter for operating hours	display of operating hours of the relays in a control channel (operating hours of a relay since the last reset and total operating hours)
Pulse width modulation (PWM)	PWM interval time: The output of a control circuit can be switched on and off once within an interval of 10 to 60 minutes (this can be defined individually for each control circuit). PWM duty cycle: length of the power-on time of the control circuit as a percentage of the PWM interval time, possible settings: 0 to 100 % (factory setting: 0 %)

TECHNICAL DATA (EXTRACT)

Rated voltage:	230 V, 50 Hz	
Acceptable voltage range:	207 V to 253 V	
Power consumption:	approx. 2 VA	
Power relay:	1882: 2 x normally open 5 A corresponding to 1.15 kW * 1884: 4 x normally open 5 A corresponding to 1.15 kW * 1883: 1 x normally open 20 A corresponding to 4.6 kW * 1883/L: 1 x normally open 20 A corresponding to 4.6 kW ***, 1 x normally open 3/6 A corresponding to 0.7 / 1.4 kW ***, 1883/A/R: 1 x normally open 20 A corresponding to 4.6 kW ***, 1 x normally closed 3/6 A corresponding to 0.7 / 1.4 kW ***,	* for rated voltage ** sum of the load on both outputs max. 20 A / 4.6 kW *** load on secondary relay max. 3 A / 0.7 kW for room temperature applications, otherwise max. 6 A / 1.4 kW
Signalling relay:	zero-potential changeover relay, maximum of 1 A for 30 V= (SELV), potential separation from sensor inputs: 50 V~	
Sensor types:	tekmar Series 31 (NTC according to DIN EN 50350), tekmar Series 30, Platinum sensor Pt1000, Silicon PTC KTY81-210, Schlüter/Deltadore UNI, DEVI NTC 15k, OJ NTC 12K, OJ NTC 10K, Döring UAA 33J1, AEG WRFF 2100, Wagner TF21	
Measuring and adjustment range:	maximum of -50 °C to +300 °C (depending on sensor type)	
Enclosure:	rail-mounted device 3 HP (according to DIN 43880)	
Mounting:	mounting rail TH-35 (according to DIN EN 60715)	
Degree of protection, protection class:	IP 20 (according to EN 60529), II if installed properly	
Pollution degree:	2	
Rated surge voltage:	4000 V	
Action type:	type 1.B	
Area of operation:	up to 2000 m above sea level	
Operating/storage temperature:	-15 °C to +40 °C / -20 °C to +70 °C, no condensation	
Weight:	approx. 0.25 kg	

All information, descriptions and values are preliminary and may be changed by tekmar without prior notice.

The product corresponds to the following rules and regulations:

EMC Directive, Low-voltage Directive, RoHS Directive, WEEE-Reg.-No.: DE 75301302, 