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ELEKTRONISCHE REGELUNGEN GMBH

TECHNICAL MANUAL TAR 2120
Temperature Controller

5310890-00/01 E

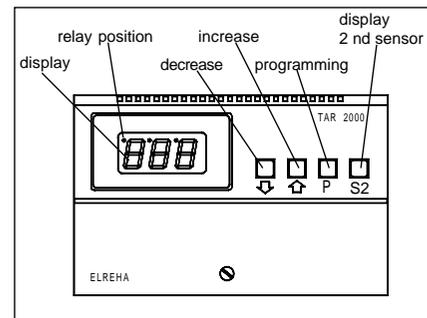
General

The TAR 2120 controller is a single circuit ON/OFF control with a single control probe input and an additional sensor input with a 'display only' function.

Function

The controller senses the actual temperature with a temperature probe and displays the value in a digital display. This value is compared with the setpoint and according to the difference the output relay switches ON or OFF. A second sensor measures a temperature which is displayed on request (push button S2).

Operation



Using the ↑ and ↓ keys you can now select the parameter you want. Pressing the Programming key again results in displaying the value of this parameter.

Changing Parameter Value

When the value of a selected parameter is displayed, it can be changed by using the ↑ and ↓ keys again. The new value will be stored immediately.

Operator Code

To prevent parameters from being changed by unauthorized persons, you can change those only after punching in the access code. Only the code itself and the control setpoint are available without prior identification. The code for all TAR controllers is "88":

- Push Programming
- Select parameter P09 with ↑/↓ keys
- Press Programming again
- Increase display to read "88"

All parameters are available now and can be changed as explained above. If you don't press any key for about one minute, the access code is canceled.

Parameter Explanation

- P01 **Actual sensor temp.** in °C /°F (display only)
- P02 Control setpoint, can be changed at any time within the limits set by P04 and P05
- P03 Switching differential (hysteresis) range 0...10K / 0...17F
- P04 Setpoint high limit

Operating the TAR controller is very easy by three keys allowing to select all parameters and changing their values and a fourth key to display the 2nd sensor.

Three seconds after connecting power to the controller, the actual sensor temperature is being displayed.

Calling up Parameters

Upon pressing the Programming key, a parameter number is shown in the display.

This manual has been set up with care and to our best knowledge. Mistakes are still possible. If you have still problems or difficulties or questions please don't hesitate asking our technical support. Technical details can be changed without notice.		
<p>Tel. front desk: 0 62 05 / 2009-0 Fax: 0 62 05 / 2009-39 Technical Support: 0 62 05 / 200925 or / 200926</p>	set up: 7.2.95	by: K. Gabriel
	checked: 7.2.95	by: T. Ludwig
	approved: 7.2.95	by: K. Gabriel

P05.....Setpoint low limit

P06.....Relay action

- 1= Refrigeration (Default)
Relay is energized with increasing temperature. Connect load to N/O contact.
- 2= Heating
Relay is energized with decreasing temperature. Connect load to N/O contact.
- 3= Freezing
Relay is energized with decreasing temperature. Connect load to N/C contact.

Relay is energized with decreasing temperature. Connect load to N/O contact.

Relay is energized with decreasing temperature. Connect load to N/C contact.

P07.....Display Mode

- 1 = °C (default), 2 = °F

P08.....Sensor Correction (range ±10K or ±17F)

P09.....Access Code Code is --- 88 ---

Installation

Before applying voltage to the controller, make sure that all electrical wiring has been made in accordance with the wiring diagram in this manual. Sensor leads should be shielded type with one end of the shield connected to ground. This minimizes the effect of irregular switching events caused by electromagnetic interference. The sensor leads may be up to some hundred meters long. Any wire size from 0.5 sqmm up can be used.

After the power has been switched on, the controller will display the actual sensor temperature. After programming the access code, you can set the configuration according to the application.

- Set the hysteresis with P03,
- Set the setpoint range limits P04/P05,
- Set the relay action with P06 and the display mode with P07. If the displayed value of sensor temperature shows any off-set from the actual value you can use parameter "P08" to add a corrective value.

Failure Mode

If the controller detects a broken or shorted sensor, the relay will be de-energized immediately and the display starts flashing.

Technical Data

Supply Voltage	230V / 50 Hz
Power consumption:	approx. 3.5 VA
Relay Rating:	8 (3)A / 250V	
Temp. Range	working:	-10...+55°C
	storage:	-30...+70°C
Display:	LED red 1/2"	
Relay position indicator:	1.2 mm red
Screw terminals:	2,5mm	
Protection	TAR 1xxx:	IP 54 from front
	TAR 4xxx:	IP 54
	TAR 2xxx:	IP 30

Available Types

TAR 212	Temp. Sensor TFB 201
	0= Range -50°...+50°C

Dimensions and Wiring TAR 2120

