TCG-6131P Temperature Controller

TC series intelligent controller is mainly used for temperature control. across verity of industries; from food process, plastics, packaging, oven mechanic to chemical processing, power plants and refinery. This controller reveals both classic and modern control theories combining intelligent PID, auto-tuning optimization.

Product Highlights:

Powered by a single-chip MCU for controlling features.

Two colors, red and green; double rows of digits displaying actual and target values.

Various parameters can be key-in from front panel.

PID parameters auto tuning; Manuel preset value capability.

Alarms when Upper Limit reaches.

Alarm Offset Value setting capability.

Dedicated thermocouple (temp. sensor) included.

Physical Dimensions: (mm)

Depth (length) 110

Front Width 48

Front Height 48

Rear Width 43

Rear Height 43

An opening size of 45.6 x 45.6 should fit the controller installation.

Technical Specification:

1. -199~999
2. Alarm range: Can be set within the whole range.
3. Power supply: 110VAC 50Hz 7VA Max
4. Ambient Temperature: 50 degree C Max; relative humidity < 85%.

This device should be used with the dedicated thermocouple (K type) which should be used within operating range 0~1300 deg C.

Front Panel and Parameter setting loop.

To set **Target Value**

1) Power it and wait for up to 30 seconds for the controller warm up.
2) Press **SET** 0.5s to enter **So** setting window.
3) Press **SET** 0.5s again to go back to Normal window.

1) Press **SET** over 5s to enter/exit the parameter setting loop.
2) Parameters can be adjusted are:

   SHP→Sc→SOH→P→]→d→t→At→LoK
3) When in the **parameter setting loop** and no keys were pressed
   for 30 seconds, it will automatically exit and parameters adjusted
   will not be valid.
   (To exit with adjusted value saved, press **SET** over 5 seconds.)
4) When in the parameter setting loop, if **At**=01 is being set, press
   SET over 5s to exit. Then At indicator will be on and Auto-tuning
   will take effect.
5) Everytime entering **parameter setting loop**, **Auto-tuning** will reset to **At**=00.
6) To prevent other change parameters, **LoK** values can be set to 01 or
   02 before exiting **parameter setting loop**.

1 **Set** Button
2 Decrement button
3 Increment button
4 Measured value display
5 Target value display
6 **OUT1**, Output indicator; (**OUT2** indicator not used)
light on when there is output
light off when not output
7 **AT**, Auto tune indicator
8 **ALM**, Alarm output indicator (red=relay closed)

Parameter	Meaning	Value Range	Comment	Default Value
(1) So	Output Target	0~999 deg C	Set target value	150
(2) SHP	Upper Limit Offset	-20~999 deg C	Above this value the red alarm indicator	10

			turns on. Alarm relay connects closed	
(3) SC	Thermocouple correction	-20~20	To correct offset error of conductions.	0
(4) SOH	Target Value Upper Limit	0-999	Limits target value upper limit.	20
(4) P	Proportional band	1~span	Set heating-side proportional band.	20
(5)]	Integration time	0, 1~3600 sec	To eliminates offset occurring control. 0=Function turned off.	130
(6) d	Derivative time	0, 1~3600 sec	To prevent ripples by predicting output change thereby improving control stability. 0= Function turned off	30
(7) t	Proportional Cycle (Heating side)	1~99 sec	Set control output cycle. Short cycle time make output become pulses.	20(2)
(8) Ar	Auto tunning	00: off 01: on		00
(9) LoK	Lock Setting	00: Not lock 01: Lock all but main control 02: Lock all parameters	To allow or not allow parameter change.	00

Make sure supply voltage of the device is met.

Exams wire for correct hook up and connections.

Try to use same length low impedance wires when connecting thermocouple.

Avoid routing high power wires near signal input wires.

Always check relays connections and wirings first when device is abnormal.