# CT6-PCR Control module for 6 resistive zones with rotation method from one to five zones.

Device suitable to control via static relays the resistive heating cables for the control of the ambient and surface temperature. The rotation method ensures a power distribution in equal parts of the loads used.
Setting of the number of zones to be introduced in the rotation (1/5 zones) and cycle time (0.5 to 4 min.) via DIP-switches. 6 inputs for thermostats and 6 outputs for static relay.
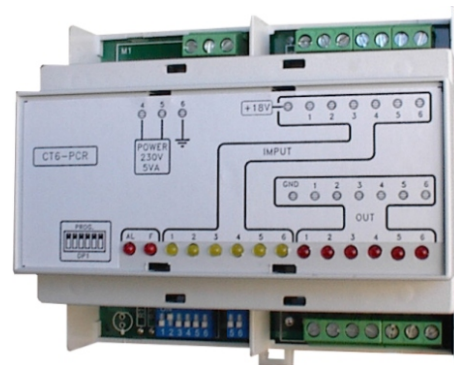
OPERATING METHOD:

A) SETTING OF THE NUMBER OF ZONES TO BE USED:
You can use from two to six zones. Through the use of the same number of inputs and outputs. For example, if there are 4 resistances to be controlled, 4 inputs will activate and 4 outputs will be used for the relays.

B) SETTING OF THE NUMBER OF ZONES TO BE INTRODUCED IN THE ROTATION:
By setting the dp1 you can rotate in the cycle from 1 to 5 zones at the same time. They are activated as follows: With the Dp1-1 (ON) and the remaining ones (OFF) the control unit rotates only one zone.   With the Dp1-2 (ON) and the remaining ones (OFF) the controller rotates two zones at a time. The same applies to the remaining dips up to a maximum of 5 zones (as in table no. 1).
With the Dip1-6 can be activated at 100% permanently all outputs available if the respective inputs are present. IN this case the outputs are activated directly from the input contacts.

C) SETTING THE ROTATION TIME:
You can change the rotation times by setting the Dip2, 0.5-1-2-4min. (as in table no. 2).
If you Dip1-6 (ON) times are not active.

table 1

Dip1 Programming the number of zones in rotation
1 Zona | 2 Zone | 3 Zone | 4 Zone | 5 Zone | Zone 100%

table 2

Dip2 Time of rotation
0,5 min. | 1 min. | 2 min. | 4 min.

CONTROL METHOD:

1) On startup, the device, after having checked for input signals, activates the load or the group of loads. After rotation time has elapsed (tab.2), moves by a position all the required loads and so on up to restarting from the first. Setting the DIP1 it is also possible to generate combinations of responses, that give rise to average percentages delivered as reported in table 3 by setting the no. of loads in the cycle equal to the existing ones or higher.

Moreover, the device is able to evaluate the lack even of a part of the inputs, skipping the activation of the related areas. Useful feature for a possible partition of the loads controlled by different thermostats.

The table below reports the average percentages of engagement of the loads resulting over time from the rotation cycles. The table can be useful to establish the necessary power to be employed.

table 3

IN / OUT Used		2	3	4	5	6
N°loads in the cycle	1	50%	30%	25%	20%	16%
	2	66%	50%	40%	33%	33%
	3	75%	60%	50%	50%	50%
	4	80%	66%	66%	66%	66%
	5	83%	83%	83%	83%	83%

Example of connection combination Thermostats / loads:

With the thermostat T1 one enters the inputs 1, 2, 3 and 4. With the respective logical outputs 1, 2, 3 and 4 one controls the static relays for the control of the four zones.
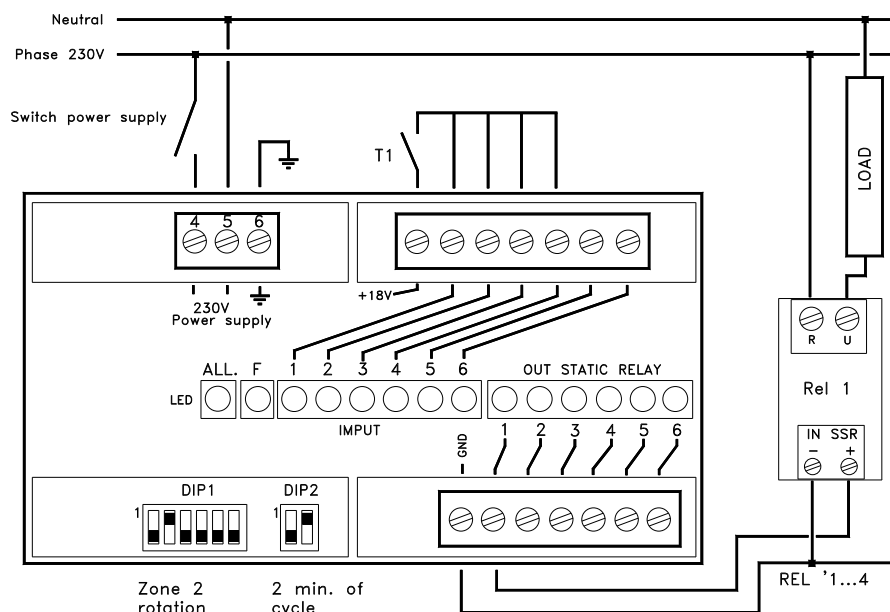
Moreover, the example shows the setting of the no. of loads and the rotation time, two in this case with 2 minutes of rotation cycle.

Technical specifications:
- Power supply 240V AC 5VA
- No. 6 inputs for thermostats N.C. (12-24v dc 2mA).
- No. 6 logical outputs for static relay 15V DC 20mA.

- DIP1 with 6 positions to set No. of zones in rotation from 1 to 5.
- DIP2 with 2 positions to set the rotation time 0.5 -1-2-4 min.
- No. 14 leds for visual diagnostics of control trend.

Electrical connection

Neutral
Phase 230V
Switch power supply
T1
LOAD
230V Power supply
+18V
ALL. F 1 2 3 4 5 6   OUT STATIC RELAY
LED
IMPUT
GND   1 2 3 4 5 6
DIP1   DIP2
Zone 2 rotation   2 min. of cycle
R U
Rel 1
IN SSR - +
REL '1...4

DIMENSIONS L.105 P.70 H.90