

Programmable thermocontroller (J / K)



Technical data:

Code : MC200
Model : AP-212 AP_213
Supply : 220 v , 50 Hz , +/- 10%
Range : 0 ...600 C (J type)
 0 ...1250 C (K type)
Output : Relay (5 A / 250 Vac)
 Triac (1 A / 250 V ac AP_213 only)
Amb. Temp.: -10...+50 C
Dimensions : 72x72 mm front panel mounting

Features:

- Smart & Simple control.
- Auto reset using watch dog.
- Heating & Cooling control.
- On line parameter editing.
- Programmable UP & DOWN hysteresis.
- Offset for zero calibration.
- Relay output for alarm.

Details:

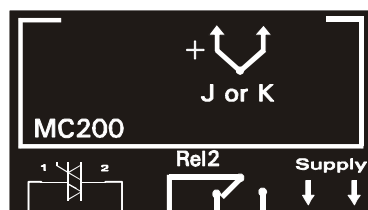
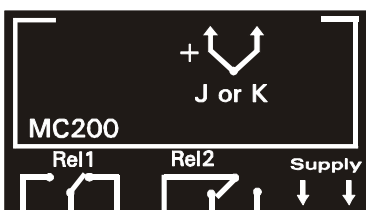
A : Front panel

- 1- Set key : This key is used to:
 - Display and edit preset value.
 - Enter programming mode .
 - Display and edit parameter values.
- 2- UP key : This key is used to :
 - Increase parameter value .
 - Choose the next parameter.
- 3- DN. key : This key is used to :
 - Decrease parameter value .
 - Choose the previous parameter.
- 4- LED-OUT1 : Relay 1 status (ON=Relay is active)
- 5- LED-OUT2 : Relay 2 status (ON=Relay is active)

B : Rare side (Input /Output)

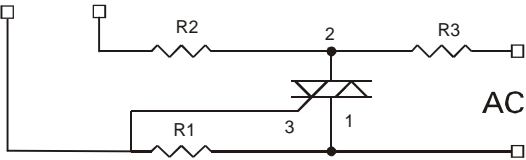
INPUTS:

- 1- Supply : Supply terminals (220 v , 50 Hz , +/- 10%)
- 2- J & K : Thermocouple connection terminals .



OUTPUTS:

| Output 1(control) | Output 2(alarm) | Description |
|-------------------|-----------------|---------------|
| | | Relay control |
| | | Triac control |



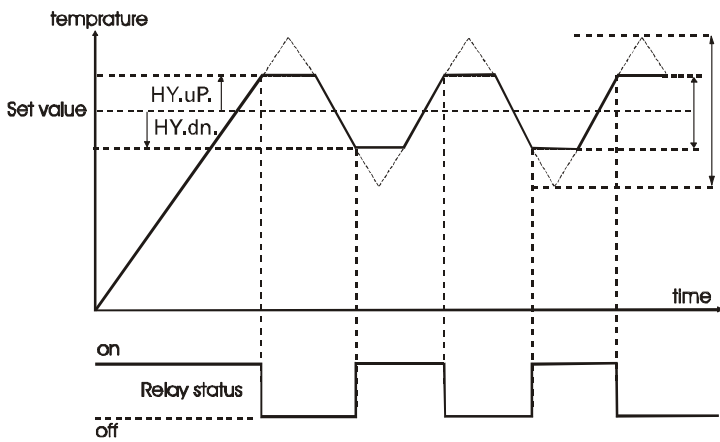
Operating Instructions :

- This unit operates in two different modes Normal mode (Displaying temp.) Programming mode (Displaying parameters). Connect supply and thermocouple wires ,apply power and the unit will flash the characters A.P. for 4 seconds and starts operating in normal mode. (if sensor is misconnected or faulty the word Error will be displayed until)
- To view and edit the set value (S_V) press the “Set” key S_V will be displayed in flashing mode ,use UP or DN key to edit the value.
- To view and edit the control parameters (“Per.”, “hy_up”, “hy_dn”) Press and hold the “Set” key until one of the above parameters is displayed ,release the set key ,now you can view the para. value by pressing the “Set” key again and edit the value by UP/DN keys.
 - To view and edit all the parameters ,power off the unit and while pressing the set key Power on the unit again ,the unit will start in programming mode by displaying the first para.(“hy_up”) release the set key ,now you can view the para. value by pressing the “Set” key again and edit the value by UP/DN keys. Or use UP/DN keys to choose another parameter and view or edit it’s value. To return to normal mode power the unit off and on again . If untouched the unit will return to normal mode after timeout.

Fig 1: Typical ON/OFF control.

Fig 2 : Typical smart control system.

On/off control



smart control

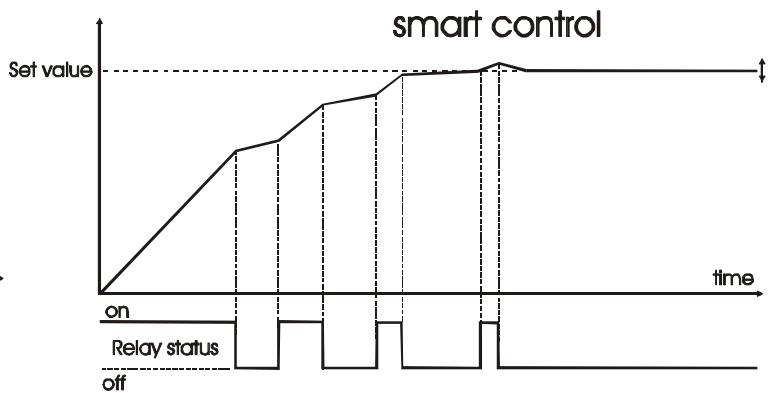


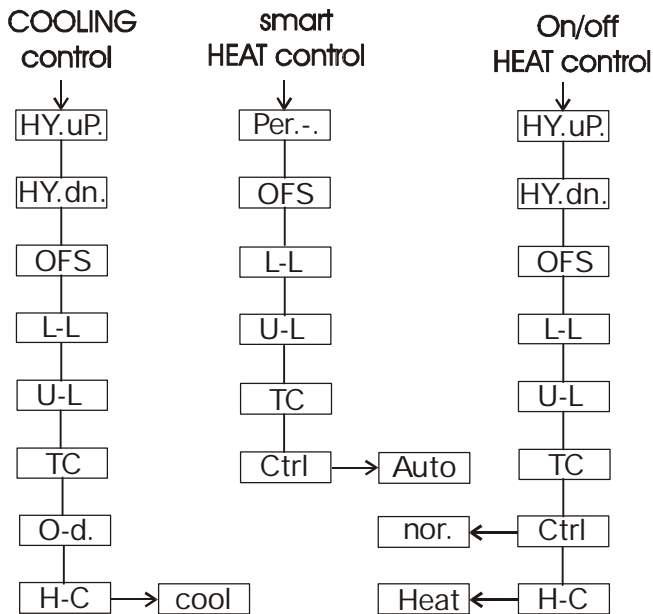
Table 1 shows available parameters and corresponding possible values.

| Para. | Possible value | presence |
|--------|-----------------------------------|----------------------|
| Hy.uP. | 0..50 C | Simple control only |
| Hy.dn. | 0..50 C | Simple control only |
| Per._. | 0.0..100 % | Smart control only |
| OFS | 0..50 C | All cases |
| L_L | 0..600 C for J 0..1200 C for k | All cases |
| U_L | 0..600 C for J 0..1200 C for k | All cases |
| tc | J-K | All cases |
| Ctrl | Auto-nor | Heating control only |
| H_C | HEAt-cooL | Simple control only |
| O.d. | 0.0..300 sec. | Cooling control only |

Parameter description.

Hy.uP. :hysteresis up
 Hy.dn. :hysteresis down
 Per._. :% of energy to maintain temperature at S_V
 OFS :zero calibration
 L_L :S_V can not be set lower than this value.
 UL :S_V can not be set higher than this value.
 Tc : thermocouple choice (J or K)
 Ctrl :control type (Simple or Smart)
 H_C :choose heating or cooling control.
 o.d. :delay time for output relay activation.

Parameter flow chart.



OPTIONAL :

The following optional temperature controllers are available on request.
 (Do not hesitate to contact us for additional requirements.)

SAFETY temperature controller

- When temperature becomes higher than a preset value a relay is activated to switch off the HEAT supply until reset manually.

ARMENIAN PAYAM

