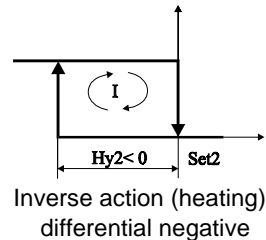
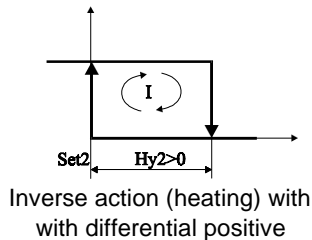


Hy1 Differential1: (Down Sc./Full Sc.) The temperature differential relating to Set Point 1 is used only when the ON/OFF function is selected. The mark shows if the differential is above (positive mark) or below (negative mark) the SET 1. This parameter cannot be set to zero. The type of action inverse for heating or direct for cooling, can be selected using parameter S1C.

Parameter S1C=0 for Inverse action (Heating)

Parameter S1C=1 for Direct action (Cooling)



Hy2 Differential 2: (Down Sc./Full Sc.) Intervention differential for set point 2. It can be set with positive value or with negative value. The kind of action (direct or inverse) is set by the S2C parameter.

LS1 Minimum set point1: (Down Sc./ Set1) Sets the minimum acceptable value for the set point.1

LS2 Minimum set point 2: (Down Sc./ Set2) Sets the minimum acceptable value for the set point 2.

US1 Maximum set point1: (Set1/ Full Sc.) Sets the maximum acceptable value for set point1.

US2 Maximum set point 2: (Set2/ Full Sc.) Sets the maximum acceptable value for set point 2.

ALU Maximum alarm:

with ALC=0: alarm relative to set point1, (0÷|Full Sc.-Set1|) Maximum alarm is enabled when the temperature exceeds the "SET1+ALU" value.

with ALC=1: absolute alarm, (Set÷Full Sc.) Maximum alarm is enabled when the temperature exceeds the "ALU" value.

ALL Minimum alarm: (Down Sc./ Full Sc.) **with ALC=0:** relative to set point1, (0÷|Down Sc.-Set1|) this value is subtracted from the set point1. The alarm signal is enabled when the temperature goes below the "SET1-ALL" value.

with ALC=1 (absolute) minimum alarm is enabled when the temperature goes below the "ALL" value.

Ald Alarm delay: (0÷999 min) time interval between the detection of an alarm condition and alarm signalling.

dAO Delay of alarm at start-up: (0÷999 min) time interval between the detection of the alarm condition after instrument power on and alarm signalling.

Pb Proportional band: (1÷ Full Sc.) is the band around the Set Point 1 within which the proportional action is activated. When the probe signal is below Set1-Pb/2 the relay output 1 is always on, when the probe signal is above the Set1+Pb/2 the relay output 1 is always off. See also "Proportional Function".

Int Integral action time: (0÷ 999sec for 3 digit models; 0÷3600sec for 4 digit models) it determines how strong is the integral contribution during the PID regulation. The lower "Int" value is the higher power supplied to the system becomes, as a result the temperature (or the controlled signal) will reach the SET1 faster. Int=0 excludes the integral action and the controller will work as PD (proportional-derivative).

dEt Derivative action time: (0÷ 999sec for 3 digit models; 0÷3600sec for 4 digit models) it determines how strong is the derivative contribution during the PID regulation. The higher "dEt" value is the lower response time of the controller becomes during a suddend temperature change. dEt=0 excludes the derivative action and the controller will work as PI (proportional-integral).

Sr Derivative sampleing time: (1 to 10sec) time between two successive readings for the calculation of the derivative function.

rS Proportional band reset: (Down Sc./ Full Sc.) permits to calibrate up and down the proportional band to adjust the regulation when the display read-out is not exactly Set point value.

Ar Integral band limit: (0°C to Pb/2) if during the PID function the difference between the Set Point1 and the temperature is greater than Ar, the contribution of the integral time is not increased. Therefore at higher values it corresponds to a greater incisiveness of the integral action. Suggested initial value : Ar =Pb/2, if Ar=0 this control is disabled.

od Output delay: (0÷500 sec) minimum interval between the load stop and the following restart.

Cyt Cycle time: (1 to 500sec) minimum time between two successive relay activation's, once the PID action has been started. Suggested initial value Cyt=13.

drb Soft Start restart band: (0 to Pb/2) value in degrees of the band below the Set point 1 within which the SOFT Start function is disabled. When the controlled signal decreases under the Set point 1 - drb, the Soft Start function restart working.

- dSi Set point increment during the Soft Start function:** (0 to Full Sc.) value, in degrees, of the dynamic increase of the Set Point.
- dSt Dynamic Set Point increment interval:** (1 to 999sec for 3 digit models; 1 to 3600sec for 4 digit models) time between two successive increments of the dynamic set Point.
- LCI Start of scale with current or voltage input:** (3 digit: -999÷999; 4 digit: -999÷7000). Adjustment of read out corresponding to 4mA or 0V input signal.
- UCI End of scale with current or voltage input** (3 digit: -999÷999; 4 digit: -999÷7000). Adjustment of read out corresponding to 20mA or 1V or 10V input signal.
- LAO Lower analog output limit:** (only for models with analog output) minimum value of temperature associated to the 4mA (or 0V) analog output. This value can be absolute or relative to the Set Point 1 by setting the AOC parameter.
- UAO Upper analog output limit:** (only for models with analog output) maximum value of temperature associated to the 20mA (or 1V) analog output. This value can be absolute or relative to the Set Point 1 by setting the AOC parameter.
- OPb Probe calibration:** (-999-999) allows to adjust possible offset of the probe.
- Ad1..Ad2: RS485 serial address (0÷94):** identifies the instrument within a control or supervising system.
- Ft Regulation type:** (ON/OFF; PID)
0 = ON/OFF regulation
1 = PID regulation
- PbC Probe selection:** input type. For RTD or Thermocouples only: 0=Tc J; 1=Tc K (Ni100); 2=Tc S (Pt100).
- AOC Analog output configuration:** (only for models with analog output) **AOC=0** Probe reading. The analog output parameters LAO and UAO are independent and correspond to the absolute read-out probe signal.
AOC=1 Probe-Set Point. the analog output parameters LAO and UAO are related to the Set Point 1.
AOC=2 the analog output parameters LAO and UAO are expressed as % of power given by the PID function (only for Ft=1). Suggested values are LAO=0% and UAO=100%.
Note1: If PID control is not selected, AOC=2 is not enabled.
Note2: If PID control is changed to ON/OFF the AOC will default to 1 "Probe reading".
- OUC Output connections** (0=dependent; 1=independent): select if the SET2 depends on SET1 (so SET2=SET1 + SET2), or if SET2 is independent from SET1.
- S1C Action type:** S1C=0 inverse action (heating); S1C=1 direct action (cooling)
- S2C Action type output 2:** S2C=0 inverse action (heating); S1C=2 direct action (cooling)
- So1 Relay 1 status with faulty probe:** So1=0 open; So1=1 closed
- So2 Relay 2 status with faulty probe:** So2=0 open; So2=1 close
- Hdd Half digit display:** (Hdd=0 OFF; Hdd=1 ON) the right hand digit can be set to read out only 0 or 5, or to read out all values from 0 to 9.
E.g. if **Hdd= 0** the displayed values could be: 231, 232, 233...
if **Hdd= 1** the displayed values could be 230, 235, 240...
- rES Decimal point ON/OFF:** (0=no decimal point; 1=with d. p.) select the resolution of the controller: with decimal point or without decimal point.
NOTE1: on all models, if a unit is changed from "without decimal point" into "with decimal point", all parameters values expressed in degrees (**SET1, SET2, HY1, HY2, LS1, US1, LS2, US2, ALU, ALL, Pb, rS, Ar, drb, dSi, LCI, UCI, LAO, UAO, OPb**) will automatically be **divided by 10**.
To restore the right behaviour multiplies by 10 the above parameters.
NOTE2: the decimal point selection is not available on models with thermocouple input.
- CF Temperature measurement unit (no on models with current or voltage input):** 0 = Celsius; 1 = Fahrenheit.
Note: after modifying this parameter all the parameters expressed in degrees, must be checked and updated for the new unit of measurement.
- ALC Set point alarms configuration:**
0 = the alarm parameters are related to set point.
1 = the alarm parameters are referred to absolute values of the read-out.
- SAO Analog output safety with probe fault:** (only for models with analog output) determines what state the analog output should assume when the probe is faulty: SAO = 0; analog output = 20mA or 5Vdc.
SAO = 1; analog output = 4mA or 0Vdc.
- OnF Switching ON/OFF enabling from keyboard:** (0 = disabled; 1=enabled) It permits the switching ON/OFF of the instrument by pressing the SET key for more than 4s.
- Ptb Parameters table:** (read only) Shows the factory default settings.
- rEL Software release:** (read only)