

ROOM CONTROLLER HLS 33

HLS 33 is designed for two or three stage room control applications. The controller has one stage for heating and two stages for cooling.

The controller controls the heating (indicator light is red) or cooling (indicator light is green) actuators according to the measured temperature and the set point. The dead zone (indicator light is off) between heating and cooling stages is adjustable (0...3 °C). The controller function (outputs) can be changed reverse.

The actuators can be 0...10 V controlled motors and either 3-point or thermal actuators. The thermal output signal is time proportional and uses 20 second (PWM) pulses.

One cooling stage is controlled with 0...10 V signal and the other stage is controlled either with 3-point or thermal actuator control.

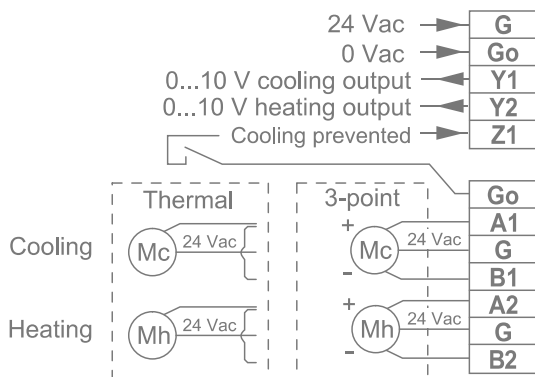
The cooling can be prevented by connecting Z1=Go with an external switch.

NOTE: The jumper settings must only be changed when the controller is disconnected from the power supply.

Codings

S1	Cooling output	<input type="checkbox"/> <input type="checkbox"/>	Direct
		<input type="checkbox"/> <input checked="" type="checkbox"/>	Reverse
S2	Heating output	<input type="checkbox"/> <input type="checkbox"/>	Direct
		<input type="checkbox"/> <input checked="" type="checkbox"/>	Reverse
S3	Control method	<input type="checkbox"/> <input type="checkbox"/>	PI
		<input type="checkbox"/> <input checked="" type="checkbox"/>	P
S4	Actuator type (outputs A1 and A2)	<input type="checkbox"/> <input type="checkbox"/>	3-point motor
		<input type="checkbox"/> <input checked="" type="checkbox"/>	Thermal actuator
S5	Number of cooling stages	<input type="checkbox"/> <input type="checkbox"/>	1
		<input type="checkbox"/> <input checked="" type="checkbox"/>	2
S6	2-stage cooling	<input type="checkbox"/> <input type="checkbox"/>	1st stage first
		<input type="checkbox"/> <input checked="" type="checkbox"/>	2nd stage first

Wiring



The external NTC 10 sensor of the EXT models is connected to the terminals below the potentiometer.



Technical data

Supply	24 Vac (20...26 V) / 2 VA
Set point	18...26 °C, *21 °C, ±3 °C
Accuracy	±0.5 °C
Dead zone	Dz 0...3 °C, *1,5 °C
Proportional band	Xp 1...8 °C, *4 °C
Integration time	Tn 50...500 s, *300 s
3-point actuator running time	Mt 30...300 s, *180 s
Outputs Y1 and Y2	0...10 V / 10...0 V, 2 mA
Outputs A1 and A2	3-point motor, 24 Vac 1 A thermal actuator, 24 Vac 1 A
Allowed ambient humidity	0...85 % RH (non cond.)
Wiring terminals	1,5 mm ²
Housing	ABS plastic, IP20
Mounting	on the wall or on the standard flush mounting box (60 mm hole distance)

* = Factory setting

Ordering guide:

Model	Product number	Description
HLS 33	1150090	room temperature controller; internal sensor
HLS 33-N	1150091	room temperature controller with display; internal sensor
HLS 33-EXT	1150092	room temperature controller; terminals for external NTC 10 sensor
HLS 33-EXT-N	1150093	room temperature controller with display; terminals for external NTC 10 sensor