

## HLS16 Underfloor Heating / Cooling Controller

The HLS16 is 1-stage temperature controller for underfloor heating/cooling applications. The controller works with a thermic actuator and can operate both in heating and cooling modes. The mode is changed via external contact Z1.

The controller has built-in NTC10 temperature sensor. The control output is calculated based on the error between setpoint and the current temperature reading. In the heating mode LED is red when heating is required. In the cooling mode the LED is green when cooling is required.

The factory default setpoint is 21°C can be altered by turning the setpoint knob +/-3°C and closing jumper S3. The proportional band of the controller is selected via jumper S2; when S2=On PB=1°C, and when S2=Off PB=2°C.

HLS16 works with thermic actuators (pulse width modulation). The pulse length is about 20 seconds. Actuators can be either Normally Closed (NC) or normally open (NO) type.

HLS16-N shows the current temperature and the setpoint for about 2 s. during the change of the setpoint.



Model Types	Model	Description
	<b>HLS16</b>	HLS16 Underfloor Heating and Cooling Controller
	<b>HLS16-N</b>	HLS16-N Underfloor Heating and Cooling Controller with Display
<b>Technical Data</b>	Power supply	24Vac (20...26V), 2VA
	Setpoint	18..24, +/-3°C, *21°C
	Accuracy	+/-0.5°C
	Deadzone	Dz = 0..3°C, *0.0°C
	Proportional Band	Xp = *1°C or 2°C (jumper S2)
	Outputs (A1 and A2)	24Vac 1A
	Wiring Terminals	1.5 mm <sup>2</sup>
	Operating Humidity	0..85% rH (non-condensing)
	Protection Class	IP20, ABS Plastic
	CE Approval	Directive 2004/108/EY EN61000-6-3: 2001 (Emissions) EN61000-6-2: 2001 (Immunity)
	Mounting	Wall Mounting
	Overall size	87W x 86H x 32D mm
		* = factory default
<b>Connection Terminals</b>	G	24Vac Supply
	G0	0V
	A1	Output for NC Actuators (max 1A)
	A2	Output for NO Actuators (max 1A)
	Z1	Cooling / Heating Operation Z1 = G0, Cooling Operation Z1 = Open, Heating Operation

**OPERATION DIAGRAM**

The diagram below illustrates the controller operation.

