

## FLOOR HEATING / - COOLING CONTROLLER HLS 16

HLS 16 is a 1-step floor heating / cooling controller for individual room temperature controlling. Both heating and cooling will be controlled by using the same thermal actuator and by changing the direction of function with the external contact connected to the terminal Z1. (Z1= off = heating or Z1=Go=cooling)

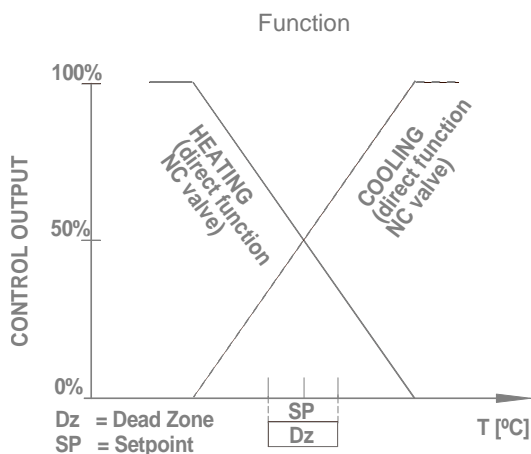
Room temperature will be detected by an internal NTC10 sensor. The output, controlling heating (red light) and cooling (green light), is proportional to the difference between set point and measured value.

The mid point of the set point (factory setting = 21 °C) can be changed by setting the potentiometer to the desired position and by opening and closing jumper S3. Proportional band of 1°C (S2=off) or 2°C (S2=on) will be selected by the jumper S2.

Only thermal actuators can be used with HLS 16 controlling them time proportionally in sequences of about 20 s. Either NC or NO actuators can be used connected to either A1 or A2 terminals.

Normally the display of HLS 16-N indicates the detected value, but when the setting has been changed it will be indicated for 2 s.

Controllers of HLS -series can be used in dry surroundings mounted on the wall surface or on the standard flush mounting boxes with a 60 mm fixing screw hole distance.



### Technical data:

supply	24Vac (20...28V) / 1 VA
set point	18...24, +/- 3 °C, *21 °C
measuring error	+/- 0,5 °C
dead zone	Dz 0...3 °C, *0,0 °C
proportional band	Xp 1 °C or *2 °C
outputs A1 and A2	24Vac 1A
allowed ambient humidity	0...85 % RH (non-condensing)
terminals	1,5 mm <sup>2</sup>
casing	ABS-plastics, IP20
	* = factory settings

### Wiring:

G	supply 24Vac
Go	0 V
A1	output for NC valve (= direct function)
A2	output for NO valve (= reverse function)
Z1	winter=heating / summer=cooling selection; when Z1=Go, is cooling on

### Ordering guide:

Model	Product number	Description
HLS 16	1150160	floor heating / cooling controller
HLS 16-N	1150161	floor heating / cooling controller with display

Products fulfill the requirements of directive 2004/108/EY and are in accordance with the standards EN61000-6-3 (Emission) and EN61000-6-2 (Immunity).

### Produal Oy

Keltakalliontie 18  
48770 Kotka  
FINLAND  
[www.produal.com](http://www.produal.com)

Tel: +358-5-230 9200  
Fax: +358-5-230 9210  
info@produal.fi