

## HLS 35 FLOOR HEATING / COOLING CONTROLLER

The HLS 35 is made for individual room floor heating / cooling applications, especially for buildings where, in the summer time, heating water can be changed to cooling water. Electric boiler may be the heating source. HLS 35 controllers have built-in RS-485 channels for Modbus communications and they can be connected to any supervisory software / system supporting Modbus RTU.

The HLS35 has a built-in display and unique touch sensitive buttons for adjusting the user parameters and for configuring the controller.

HLS 35 controllers support using of 0...10V actuators, and also using of 3-point controlled or thermal (PWM) actuators.

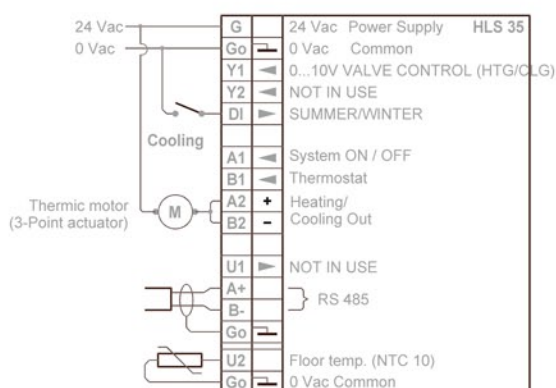
HLS 35 has two sensor inputs, internal and external. When the internal sensor is a master sensor, is the external sensor working like a restricting sensor, limiting either highest or lowest temperatures. Convenient floor surface temperature remains, as the minimum temperature is limited and the floor covering damages will be avoided, as the maximum temperature is limited. Restricting features are not available, if the external sensor is working like a master sensor.

External floor temperature sensor can be connected to the controller for limiting minimum temperature and to maintain convenient surface temperature of the floor.

The controller has DAY and NIGHT operating modes set via Modbus. When in the NIGHT mode, the controller can be overridden to the DAY mode via a hardware input by touching day extension button or via the MODBUS network. Return to NIGHT mode is automatic after pre-set delay.

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.

### Wiring:



### Technical data:

supply	24Vac/dc (20...26V) < 1 VA
	Note! When using dc supply only 0-10V outputs are operational
inputs	1 x NTC10 return water temp. 1 x digital (summer / winter)
output Y1	0...10V, 2mA
A2/B2, selectable by commissioning	3-point actuator, 24Vac 1A or thermal actuator 24Vac 1A
output A1 = OFF = ON	when controller is inside of Dz when controller is outside of Dz
output B1	thermostat output
set point for room	day mode: 21°C, *+/- 3°C, *21°C night mode: 5-20°C, *17°C
set point for floor	0...50°C, *21°C
accuracy	+/- 0,5 °C
dead zone	Dz day mode: 0...3 °C, *0 °C night mode: 0...10 °C, *6°C
P-band	Xp 1...32 °C, *2 °C
integration time	Tn 50...5000 s, *300 s
3-point act. running time	Mt 30...300 s, *180 s
allowed ambient humidity	0...85 % RH (non-condensive)
wiring terminals	1,5 mm²
housing	ABS-plastics, IP20
dimensions w x h x d	87 x 86 x 32 mm
	* = factory setting

### Ordering guide:

Model	Product number	Description
HLS 35	1150130	floor heating controller with MOD-bus communication
TEL NTC 10	1175280	floor temperature sensor