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DATA SHEET

# HLS 45

Produal

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# ROOM CONTROLLER HLS 45

HLS 45 is a versatile room controller for individual room temperature and VAV control applications. The controller can be connected to any system that supports Modbus RTU protocol. The bus is galvanically isolated from the controller's other electronics.

HLS 45 is especially suitable for floor heating and cooling applications when there is a possibility to change the supply water from heating to cooling in summer time.

Controller supports 0...10 V controlled actuators and/or thermal actuators and 0…10 V controlled dampers. The fan coil fan speed can be controlled directly with a 0…10 V output if the fan coil is equipped with EC motor. FCRY 3 relay module is needed for controlling the fan speed of 3-step motors.

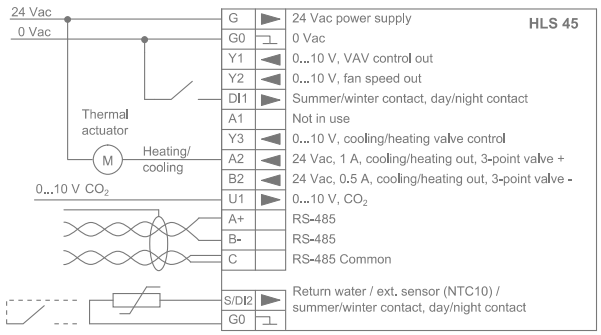
There is one 0…10 V output reserved for variable air volume control. A demand based and energy saving ventilation can be implemented with a separate carbon dioxide measurement connected to the U1 input.

Temperature is detected with an internal or external NTC10 sensor (terminals included). Alternatively the external temperature sensor terminals can be used for connecting contact (condensation switch, night/day mode switch or summer/winter switch) or return water temperature measurement. The floor surface can be kept comfortable in floor heating solutions by limiting the return water temperature.

The controller has day and night operating modes. The operating modes can be controlled by an external card switch, PIR occupancy detector, over Modbus and from menu. The day mode can be activated temporarily for a specific time (1...480 min) by touching the "man in house" button. The controller returns to the night mode after the delay, if the day mode is not simultaneously activated over the Modbus.

The controller settings can be supplied with controller buttons or by using the HLS 45-SER commissioning tool which speeds up the commissioning.

Wiring:






**Technical data**

| | |
|---|---|
| Supply | 24 Vac/dc** (20…28 V), < 1 VA |
| Set point | |
| day mode | 18….26 °C, *21 °C, ±3 °C |
| night mode, winter | 8…30 °C, *18 °C |
| night mode, summer | 8…30 °C, *25 °C |
| Accuracy (measurement) | ±0.5 °C |
| Proportional band (Xp) | 1…32 °C, *1 °C |
| Integration time (Tn) | 50…5000 s, *300 s |
| Outputs | 3 x 0…10 V, 2 mA<br>2 x 24 Vac triac output (1 A and 0,5 A) for thermal actuators and 3-point actuators |
| Communication | Modbus RTU |
| Ambient temperature | 0...50 °C |
| Ambient humidity | 0...85 % RH (non cond.) |
| Wiring terminals | 1,5 mm² |
| Housing | ABS plastic, IP20 |
| Dimensions (w x h x d) | 87 x 86 x 32 mm |
| Mounting | on the wall surface or on the standard flush mounting box (60 mm hole distance) |

* = Factory setting
**= **NOTE:** Only the 0...10 V outputs work when using DC supply voltage.

**Ordering guide:**

| Model | Product number | Description |
|---|---|---|
| HLS 45 | 1150270 | Modbus room controller |
| FCRY 3 | 1183070 | fan coil relay with a 0...10 V input |
| HLS 45-SER | 1150271 | Commissioning tool for HLS 45 |

**NOTE:** The controller is available also with various button configurations.

Products fulfil the requirements of directive 2004/108/EC and are in accordance with the standards EN61000-6-6: 3 (Emission) and EN61000-2001-2: 2001 (Immunity).

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