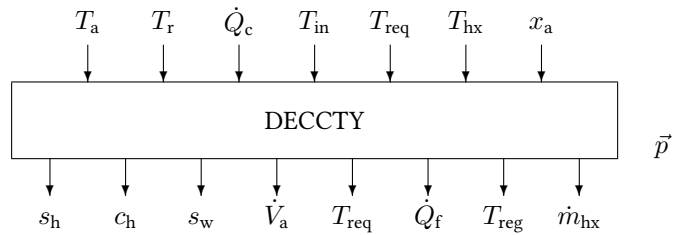


## Block DECCTY

The DECCTY block controls the components of a desiccant cooling unit as a function of the required cooling load optimized.



|                   |        |
|-------------------|--------|
| <b>Name</b>       | DECCTY |
| <b>Function</b>   | st0038 |
| <b>Inputs</b>     | 7      |
| <b>Outputs</b>    | 8      |
| <b>Parameters</b> | 10     |
| <b>Strings</b>    | 0      |
| <b>Group</b>      | L      |

### Inputs

- 1 Ambient temperature / °C
- 2 Room temperature / °C
- 3 Cooling load / kW
- 4 Achieved inlet air temperature as a result of the control strategy / °C
- 5 Regeneration air temperature / °C
- 6 Regeneration air after HX / °C
- 7 Absolut humidity ambient air / g kg<sup>-1</sup>

### Parameters

- 1 Minimum room inlet air temperature / °C
- 2 Maximum regeneration temperature / °C
- 3 Minimum regeneration temperature / °C
- 4 Nominal volume flow of fresh air ventilator / m<sup>3</sup> h<sup>-1</sup>
- 5 Minumum volume flow of fresh air ventilator / m<sup>3</sup> h<sup>-1</sup>
- 6 Nominal volume flow of regeneration air ventilator / m<sup>3</sup> h<sup>-1</sup>
- 7 Nominal power of auxiliary heating / kW
- 8 Auxiliary heating temperature accuracy/ °C
- 9 Maximum number  $N_{\max}$  of iterations

10 Type of supply air humidifier: 0 contact matrix; 1 spray

#### Outputs

- 1 Status of exhaust air humidifier
- 2 Control signal inlet air humidifier (0.2 ...1.0)
- 3 Status of sorption wheel
- 4 Volume flow rate of inlet air (0 ... 1)
- 5 Required air temperature / °C
- 6 Free cooling power / kW
- 7 Controlled regeneration temperature / °C
- 8 Controlled mass flow solar HX / kg s<sup>-1</sup>

#### Strings

None

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