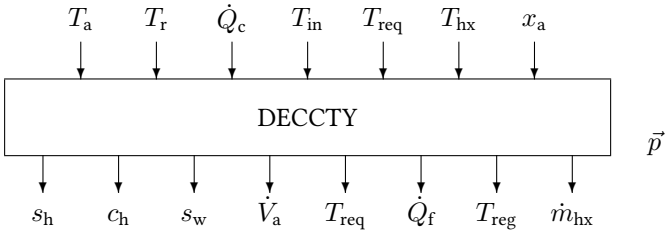
Block DECCTY

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

DEC+



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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^{-1}

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 / $m^3\,h^{-1}$
5 Minumum volume flow of fresh air ventilator / $m^3\,h^{-1}$
6 Nominal volume flow of regeneration air ventilator / $m^3\,h^{-1}$
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 / $kg\,s^{-1}$

Strings

None
