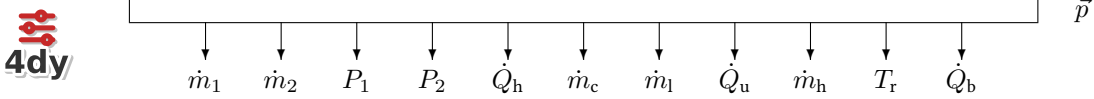
Block CTRL4DY

The CTRL4DY block simulates a real controler of a solar system of a solar driven absorption cooling machine including DHW and heating support.



Name	CTRL4DY
Function	st0039
Inputs	12
Outputs	11
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Strings	0
Group	S

Inputs

1 Collector temperature / °C
2 Collector outlet temperature at HX / °C
3 Storage tank temperature at top node / °C
4 Storage tank temperature at bottem node / °C
5 Time in seconds / s
6 DHW storage tank temperature at top node / °C
7 DHW storage tank temperature at bottom node / °C
8 Required mass flow DHW / kg s^{-1}
9 Inlet temperature of cold water / kg s^{-1}
10 Heating load DHW / kW
11 Heating load building / kW
12 Required supply temperature heating system / °C

Outputs

1 Controlled collector mass flow primary pump / kg s^{-1}
2 Controlled collector mass flow secondary pump / kg s^{-1}
3 Electricity consumption primary collector pump / kW
4 Electricity consumption secondary collector pump / kW

5	Heating energy transferred to storage tank / kW
6	Charge mass flow DHW tank / $kg\,s^{-1}$
7	Load mass flow DHW tank / kg
8	Heating load DHW not covered / kW
9	Mass flow to heating system / $kg\,s^{-1}$
10	Return temperature from heating circuit / °C
11	Heating energy not delivered by solar system / kW

Parameters

1	Nominal collector mass flow primary pump / $kg\,s^{-1}$
2	Nominal collector mass flow secondary pump / $kg\,s^{-1}$
3	Temperature hysteresis / K
4	Minimum operation time / s
5	Electricity consumption primary collector pump / kW
6	Electricity consumption secondary collector pump / kW
7	Control options for the collector pumps 0 - separate control primary and secondary pump 1 - common control primary and secondary pump
8	Charge mass flow DHW tank / $kg\,s^{-1}$
9	Supply water temperature / °C
10	Heat capacity of water / $kJ\,kg^{-1}\,K^{-1}$
11	Temperature difference building heating circuit / K

Strings

None