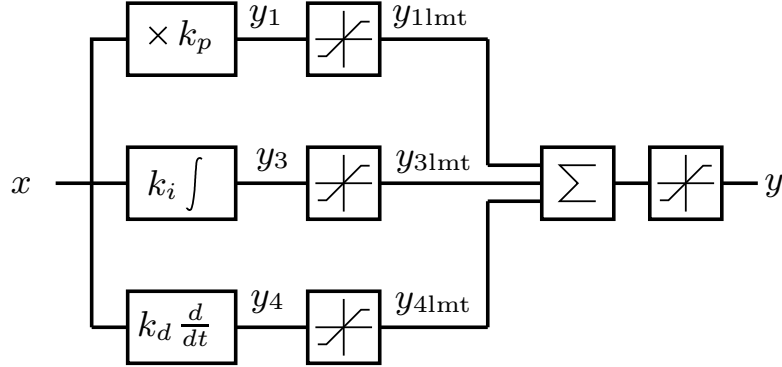


pidcntrl_lmt_1.gce



Attributes

```

mainvars: x y
auxvars: y1 y1_lmt y2 y3 y3_lmt y4 y4_lmt y_prime
outvar:
+   y1_lmt=var_of_y1_lmt
+   y3_lmt=var_of_y3_lmt
+   y4_lmt=var_of_y4_lmt
rparms:
+   kp=1 ki=1 kd=1 tau_d=0.01
+   ymin_p=-2 ymax_p=2
+   ymin_i=-2 ymax_i=2
+   ymin_d=-2 ymax_d=2
+   ymin=-2   ymax=2

```

Description

pidcntrl_lmt_1 is used for PID control, as shown in the block diagram above. The limiting values, **xmin** and **xmax**, are used for the final limiter whereas **xmin_p** and **xmax_p** (etc) are used for the P, I, and D branches. The D branch is generally implemented in a slightly modified form in order to suppress undesirable spikes, i.e.,

$$y_3 = \frac{k_d s}{1 + s\tau_d} . \quad (1)$$

The parameter **tau_d** is used to set the value of τ_d in the above equation.

AC behaviour is not implemented.