TYPE 669: PROPORTIONAL CONTROLLER

General Description

This component returns a control signal between 0 and 1 that is related to the current value of an input as compared to a user defined minimum and maximum value.

Detailed Description

Type669 takes the values of up to 10 input signals. Those signals are compared to the current values of upper and lower set points. If an input value is equal to or greater than the upper set point, Type669 will output a value of 1. If the input value is equal to or less than the lower set point value, Type669 will report a control signal value of 0. The control scheme is described in Figure 1 below.

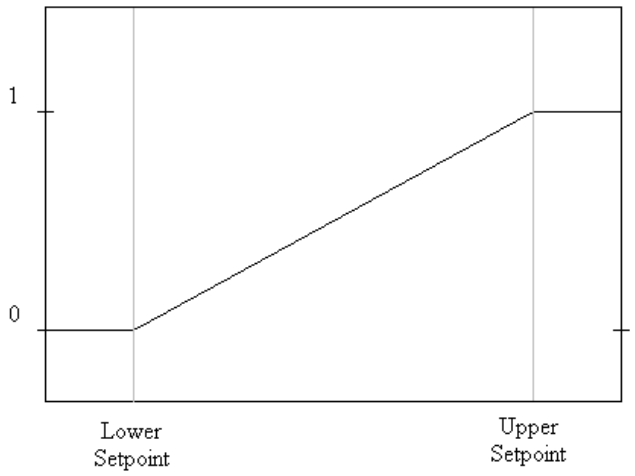


Figure 1: Proportional Control Diagram

Mathematically, the signal generated by the controller is described by Equation 669.1.

$$\gamma = \max\left(0, \left(\min\left(1, \frac{Value - LowerSetPt}{UpperSetpt - LowerSetPt}\right)\right)\right) \quad \text{(Eq. 669.1)}$$

While Type669 is defaulted to being able to generate up to 10 output control signals based on the values of 10 input signals, this is an arbitrary limit that can be changed by modification of the Fortran code and relinking of the appropriate TRNSYS dll.

Example

Type669 is used in an example that can be found in:
" ..\trnsys16\TESS Models\Studio Projects\Controllers Library\Lots of Controllers.tpf"