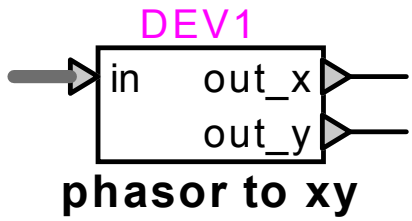
Phasor operation : phasor to (x,y)



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1 Description

This device converts a 2-signal (magnitude,angle) phasor bundle into its (x,y) coordinates.

1.1 Pins

This device has three pins:

pin	*type*	*description*	*units*
in	2-signal bundle	magnitude	any
		angle	rad
out_x	output pin	x-coordinate	same as in_mag
out_y	output pin	y-coordinate	same as in_mag

1.2 Parameters

No parameters are required for this device.

1.3 Input

The input pins may be connected to any 2-signal bundle.

The input is a 2-signal bundle of the polar (magnitude and angle) coordinates of a phasor.

The magnitude is the peak amplitude, not the RMS value. The angle is expressed in radians.

1.4 Output

The outputs are the *x*-axis and *y*-axis projections corresponding to the polar coordinates used as input.

The conversion from polar to (x,y) is immediate, and is calculated as follows:

$$\begin{aligned} x &= \text{magnitude} \cdot \cos(\text{angle}) \\ y &= \text{magnitude} \cdot \sin(\text{angle}) \end{aligned} \qquad (1)$$