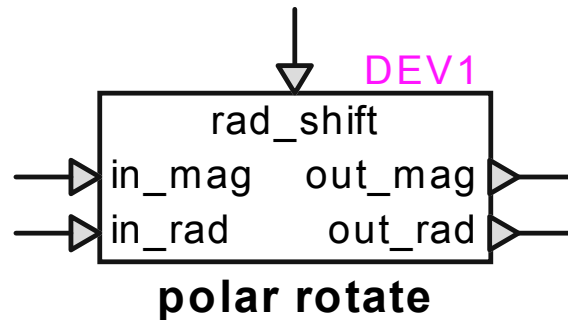


Phasor operation : polar rotate



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1 Description

This device rotates a vector or phasor represented by its polar coordinates.

1.1 Pins

This device has five pins:

<i>pin</i>	<i>type</i>	<i>description</i>	<i>units</i>
in_mag	input pin	input magnitude	any
in_rad	input pin	input angle	rad
rad_shift	input pin	rotation angle	rad
out_mag	output pin	output magnitude	same as in_mag
out_rad	output pin	output angle	rad

1.2 Parameters

No parameters are required for this device.

1.3 Input

The input pins may be connected to any control signals.

1.4 Output

The outputs are the polar coordinates of the input vector rotated by a variable angle.

The operation is immediate, and is calculated as follows:

$$\begin{aligned} \text{out_mag} &= \text{in_mag} \\ \text{out_rad} &= \text{in_rad} + \theta \end{aligned} \quad (1)$$

where θ is the rotation angle