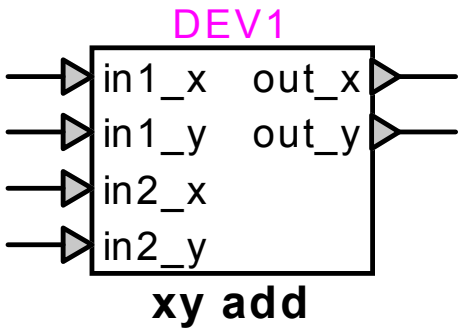
Phasor operation : (x,y) add



1 Description

This device adds 2 vectors or phasors represented by their (x,y) coordinates.

1.1 Pins

This device has six pins:

pin	*type*	*description*	*units*
in1_x	input pin	input-1 x-coordinate	any
in1_y	input pin	input-1 y-coordinate	any
in2_x	input pin	input-2 x-coordinate	same as in1_x
in2_y	input pin	input-2 y-coordinate	same as in1_y
out_x	output pin	output x-coordinate	same as in1_x
out_y	output pin	output y-coordinate	same as in1_y

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 (x,y) coordinates of the sum of the (x,y) coordinates of the inputs.
The operation is immediate, and is calculated as follows:

$$\begin{aligned} out\_x &= in1\_x + in2\_x \\ out\_y &= in1\_y + in2\_y \end{aligned} \qquad (1)$$