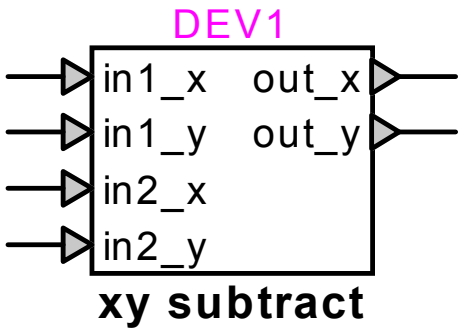
# Phasor operation : (x,y) subtract

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## 1 Description

This device subtracts 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 difference of the (x,y) coordinates of the inputs.
The operation is immediate, and is calculated as follows:

$$\begin{aligned} out_x &= in1_x - in2_x \\ out_y &= in1_y - in2_y \end{aligned} \qquad (1)$$