






How to Use the Complex to Polar Function Tutorial

Functions -> Programming -> Numeric  -> Complex  -> Complex to Polar 

Start by opening the Functions palette and selecting the Programming sub-palette. Under

Programming open the Numeric  palette where you will find the Complex  sub-palette.

Here you will find the Complex to Polar  function.

We know that a complex number takes the form $ai + b$, however, we also know that complex numbers have a polar coordinate representation that takes the form $r * e^{\theta i}$ which corresponds with the polar coordinate (r, θ) . We can extract these polar coordinate values from a complex value using the Complex to Polar function.

The Complex to Polar function takes in a numeric complex value as its input. It then computes the angle theta and magnitude r of the equivalent polar coordinates and produces them as its two outputs. The two output values are therefore numeric real number data types. Figure 1 shows how the Complex to Polar function is wired in the block diagram.

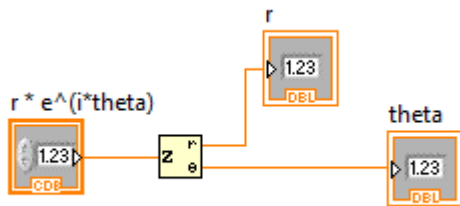


Figure 1

Note that the input can also be of a non-complex data type since the value of the imaginary component in a real number is zero.