Sinewave Generators Section

Use the Sinewave Generators to generate up to 32 independent sinusoidal signals on the FPGA. These signals can be mapped directly to **Analog Output** channels or to voltage and current **Sources** in the circuit model.

Sinewave Generators Section Channels

In the **System Explorer** window configuration tree, expand the **Power Electronics Add-On** custom device, then **Circuit Model >> Sinewave Generators** to display the following subsections and custom device channels. Assign values to the channels to configure the Sinewave Generators.

Frequency Engines					
	Channel Name	**Type**	**Units**	**Default Value**	**Description**
	Frequency Engine *X*	Input	Hertz	60Hz	Frequency of the engine. Up to 32 Frequency Engines are available in each hardware configuration.
Reset					
	Channel Name	**Type**	**Units**	**Default Value**	**Description**
	Auto Synchronize	Input		0 (False)	• **False**: Normal operation • **True**: Synchronizes all Frequency Engines to each other to prevent phase drift but if the amplitude, phase, or offset of the generator is changed it can cause undesired outputs.
	Reset	Input		0 (False)	• **False**: Normal operation • **True**: Resets all Frequency Engines to 0 degrees
SWG *X*					
	Channel Name	**Type**	**Units**	**Default Value**	**Description**
	Amplitude	Input	Volts	0V	Amplitude of the generated sinewave. The peak-to-peak value will be twice the amplitude.
	Frequency Engine	Input		0	Index of the **Frequency Engine *X*** used to generate the sinewave. Setting a value of **2** will connect **Frequency Engine 2** to the sinewave generator. Assign the same **Frequency Engine *X*** index to multiple sinewave generators to ensure that they stay phase locked in time.
	Offset	Input	Volts	0V	DC offset of the generated sinewave.
	Phase	Input	Degrees	0°	Phase offset of the generated sinewave relative to the other sinewaves using the same frequency engine.

Related Links

- How to Simulate a Three Phase Voltage Source using Sinewave Generators