Hall Effect (PMSM VDQ)

This version of the Hall Effect sensor and its associated **Hardware Configurations** have been archived. If starting a new project, consider using a different Hardware Configuration.

Hall Effect Configuration Page

In the **System Explorer** window configuration tree, expand the **Power Electronics Add-On** custom device and select **Circuit Model >> PMSM VDQ >> Hall Effect** to display this page. Use this page to configure the Hall Effect sensor model.

This page includes the following components:

Name				Specifies the name of the sensor.
Description				Specifies a description for the sensor.
Angle Conditioning				
	Symbol	**Units**	**Default Value**	**Description**
Angle A	A	Radians	0	Sensor angle at which Channel A outputs a high signal pulse.
Angle B	B	Radians	3.14159	Sensor angle at which Channel B outputs a high signal pulse.
Angle C	C	Radians	-3.14159	Sensor angle at which Channel C outputs a high signal pulse.

Hall Effect Sensor Description

A Hall effect sensor is a device that is used to measure the magnitude of a magnetic field. Manufacturers of electrical machines will place magnetic materials on the machine at particular rotor angles to allow Hall Effect sensors to be able to detect when they are near the specific position on the machine. Through simple signal processing the voltage induced by the magnetic materials can be transformed into digital signals that turn active (true) when the Hall Effect sensor reaches the angle of the machine. The digital signals can then be used by a controller to calculate absolute position and/or speed. This Hall Effect Sensor model supports three independent sensor positions.