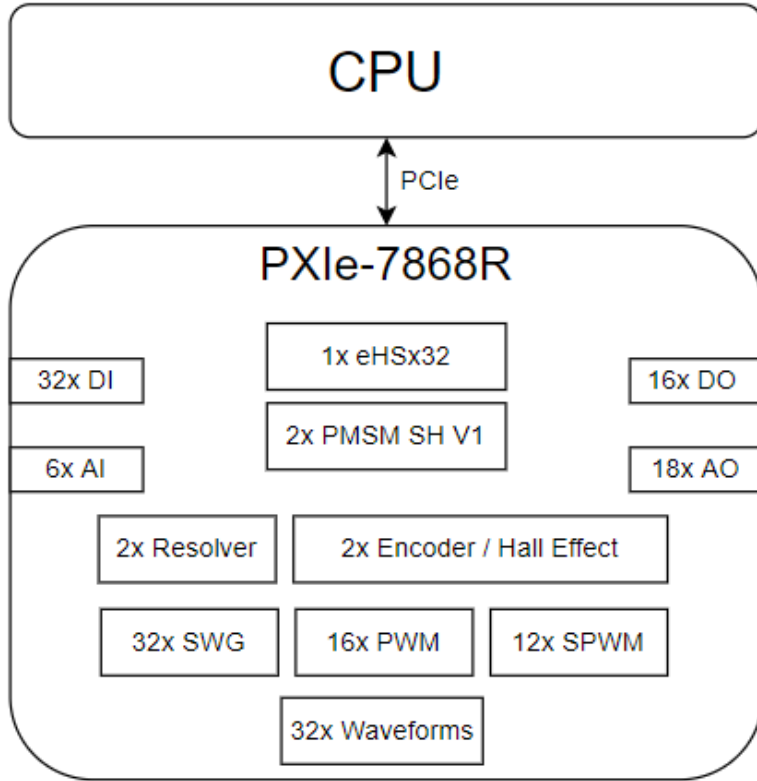


eHSx32_Dual_PMSM_SH_IO_7868R

Specifications



IO Capabilities

This configuration requires the following FPGA boards. Please refer to the linked product page for additional information.

Quantity	FPGA Board
1	PXIe-7868R

The PXIe-7868R supports the following features:

IO Type	Details
Analog Input	6 CH, 1MS/s, 16-bit, +/- 10V Input Signal Range, Differential Tunable Gain, Offset, and Min/Max Saturation
Analog Output	18 CH, 1MS/s, 16-bit User-defined mapping to Analog Outputs available with tunable Gain, Offset, and Min/Max Saturation. <ul style="list-style-type: none"> • Measurements • Sinewaves • CPU (VeriStand) • Dual PMSM SH
Digital Input	32 CH, 80MHz, 3.3V TTL (Connector 1)

Digital Output	<p>16, 10MHz, 3.3V TTL (Connector 0)</p> <p>User-defined mapping to Digital Outputs available with tunable Polarity.</p> <ul style="list-style-type: none"> • CPU (VeriStand) • Encoders • PWMs • Digital Inputs
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Refer to [7868 IO Assignment \[eHSx32_Dual_PMSM_SH_IO_7868R\]](#) to see the IO assignment.

Modeling Capabilities

This configuration includes a pre-compiled firmware/bitfile which contains the following features:

Features	Additional Information
1x eHSx32 Solver	<p>User-defined mapping to Circuit Sources available:</p> <ul style="list-style-type: none"> • CPU (VeriStand) • Sinewaves • Dual PMSM SH • Analog Inputs <p>User-defined mapping to Circuit Switches available:</p> <ul style="list-style-type: none"> • CPU (VeriStand) • PWMs • SPWMs • Digital Inputs
2x PMSM Spatial Harmonics Model	V1 implementation of the PMSM SH machine model. Refer to Permanent Magnet Synchronous Machine Models Comparison for more information.
1x Resolver/motor	Excitation can be generated internally or assigned to any Analog Input port.
1x Encoder/motor	Can be configured to simulate a Quadrature Encoder or a Hall Effect sensor. Outputs are assignable to any Digital Output port.
32x Sinewave Generators	
16x PWM Generators	
12x Sinusoidal PWM Generators	
Analog Output Mapping and Rescaling	
Analog Input Rescaling	
32x Waveform Acquisition Channels	