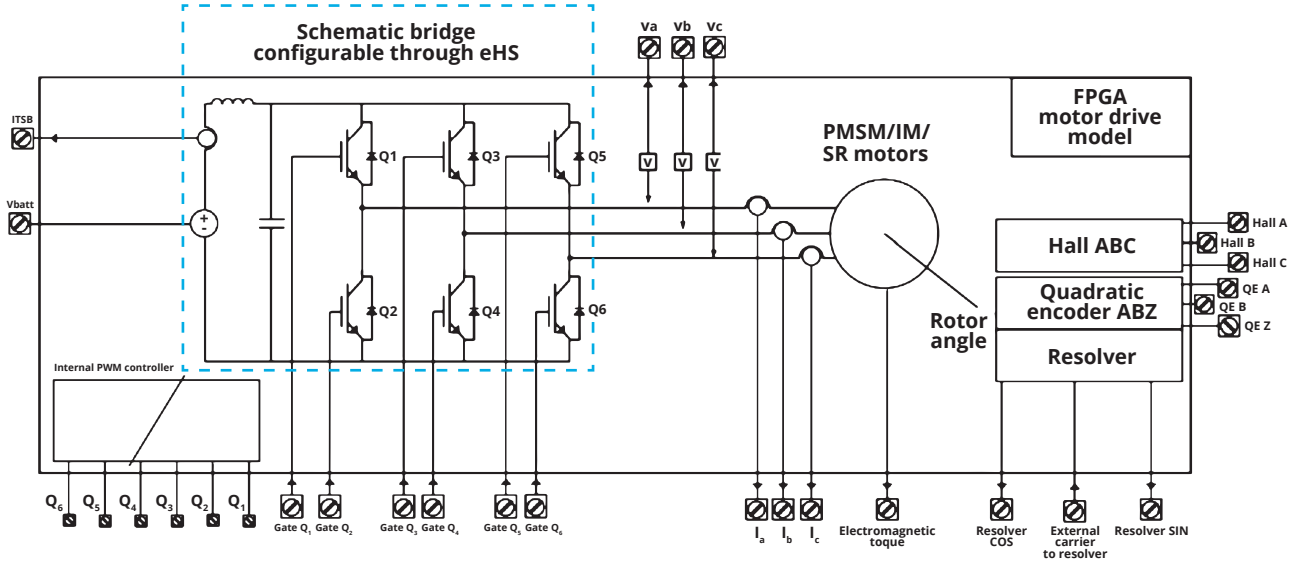
Overall Specification: Default Firmware Delivered with FPGA Electric Machine Library

Table 1: Overall specifications of the default firmware delivered with eFPGASIM and the FPGA Electric Machine Library

	OP4200	OP4510	OP5607 / OP5707
Models			
eHS Power Electronics Solver	1 core of eHS 32	1 core of eHSx64	1 core of eHSx128
PMSM / IPM / BLDC models	1x (VDQ)	2x (VDQ)	4 x (VDQ)
Induction Machine models	1x	2x	4x
Switched Reluctance models	0x	1x	2x
I/Os			
Analog Output channels	16	16	48
Analog Input channels	16	16	16
Digital Output channels	32	32 Selectable DO + 6 quadrature encoder output using RS422	48 Selectable DO + 4 PWM Out, 12 quadrature encoder output
Digital Input channels	32	32 Selectable DI + 6 quadrature encoder input using RS422	64 Selectable DI
Monitoring features			
RT-XSG Scope	4 channels with an 8k buffer per channel	4 channels with an 8k buffer per channel	8 channels with an 16k buffer per channel
Instantaneous power calculation on FPGA	No	Yes	Yes
Switching losses model	No	Yes (up to 32 switches)	Yes (up to 128 switches)
Angle sensors			
Resolver sensors	1x	2x	4x
Quadrature Encoders	1x	2x	4x
Hall Effect	No	Optional	Optional

SPECIFICATION SHEET



Standard I/O module configuration for OP4510 Chassis

	Section A	Section B
Slot 1	OP5353 32 Digital input channels	OP5360-2 32 Digital Output channels
Slot 2	OP5340 16 Analog Inputs 500KSPS	OP5330-3 16 Analog Output channels 1MSPS
Extension slot	RS422 TransceiverBase board	

Standard I/O module configuration for OP5607 / OP5707 Chassis

	Section A	Section B
Slot 1	OP5330-3 16 Analog Output channels 1 MSPS	OP5340 16 Analog Inputs 500 KSPS
Slot 2	OP5353 32 Digital Input channels	OP5360-2 32 Digital Output channels
Slot 3	OP5330-3 16 Analog Output channels 1 MSPS	OP5330-3 Analog Output channels 1 MSPS
Slot 4	OP5353 32 Digital Input channels	OP5360-2 32 Digital Output channels

ABOUT OPAL-RT TECHNOLOGIES

OPAL-RT is the world leader in the development of PC/FPGA Based Real-Time Digital Simulator, Hardware-In-the-Loop (HIL) testing equipment and Rapid Control Prototyping (RCP) systems to design, test and optimize control and protection systems used in power grids, power electronics, motor drives, automotive industry, trains, aircraft and various industries, as well as R&D centers and universities.

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