

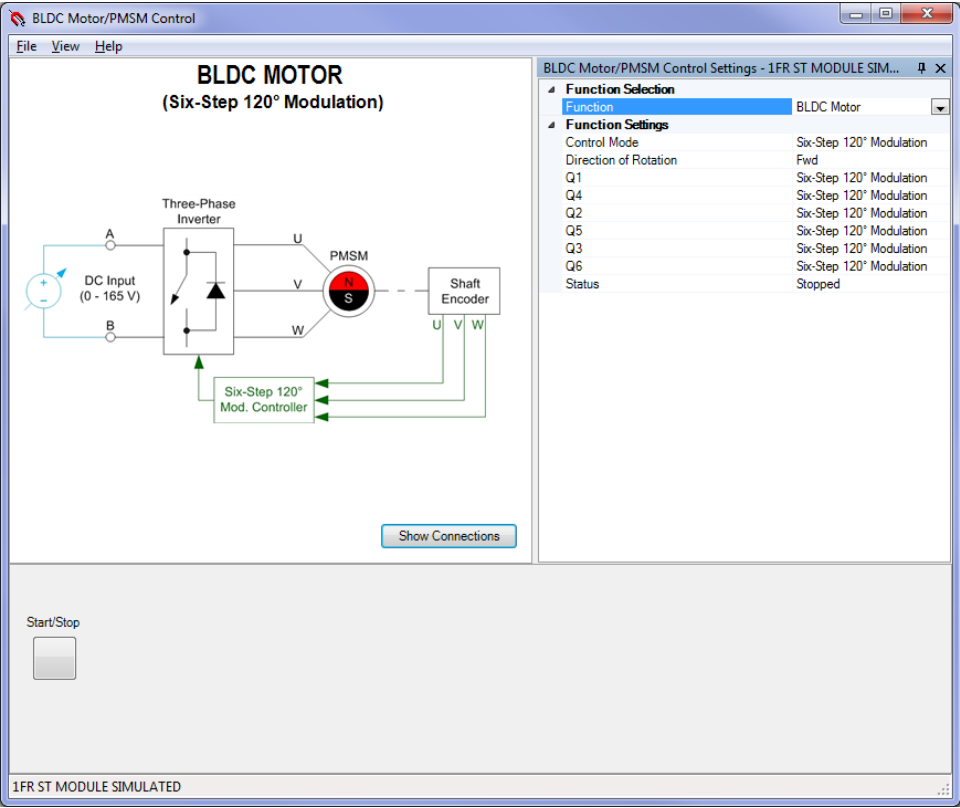
BLDC Motor/PMSM Control Function Set

581457 (9069-60)



LabVolt Series

Datasheet



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General Description

The BLDC Motor/PMSM Control Function Set enables the following control types for brushless dc (BLDC) motors and permanent-magnet synchronous machines (PMSM) to be implemented using a Data Acquisition and Control Interface, and a IGBT Chopper/Inverter, or using two Data Acquisition and Control Interface, and two IGBT Chopper/Inverter:

- Three-Phase, Six-Step 120° Modulation Inverter
- Brushless DC Motor
- Permanent Magnet Synchronous Motor Drive
- Wind Turbine with Permanent Magnet Synchronous Generator

Specifications

Parameter	Value
Control Modes	
Control Modes	Three-Phase, Six-Step 120° Modulation Inverter
	Brushless DC Motor
	Permanent Magnet Synchronous Motor Drive
	Wind Turbine with Permanent Magnet Synchronous Generator
Three-Phase, Six-Step 120° Modulation Inverter	
Phase Sequence	Forward (1-2-3) or reverse (1-3-2)
Frequency	0-400 Hz
IGBTs Q1 to Q6	Six-step 120° modulation, on, or off
Brushless DC Motor	
Control Mode	Six-step 120° modulation or low-side six-step PWM
Direction of Rotation	Forward or reverse
Permanent Magnet Synchronous Motor Drive	
Control Mode	Constant V/f ratio or vector control
Switching Frequency	400 Hz to 20 kHz
Direction of Rotation	Forward or reverse
Frequency	0-300 Hz
Knee Peak Voltage	0-100% of dc bus voltage/2
Knee Frequency	1-300 Hz
Low-Speed Boost Voltage	0-25% of dc bus voltage/2
Modulation Type	Sinusoidal pulse-width modulation or space vector
Acceleration Time (0 to Knee)	0-100 s
Deceleration Time (Knee to 0)	0-100 s
Wind Turbine with Permanent Magnet Synchronous Generator - First Module (BLDC Motor/PMSM Control)	
Switching Frequency	400 Hz to 20 kHz
Direction of Rotation	Forward or reverse
MPP Tracker	On or off
Vector Control Direct Current Command	0-5 A
Vector Control Quadrature Current Limit	0-3.5 A
Wind Turbine with Permanent Magnet Synchronous Generator - Second Module (PWM Rectifier/Inverter Control)	
DC Bus Voltage Command	150-250 V
PWM Rectifier/Inverter Reactive Current Command	-1.5 A to 1.5 A
PWM Rectifier/Inverter Phase Adjustment	-90° to 90°

Reflecting the commitment of Festo Didactic to high quality standards in product, design, development, production, installation, and service, our manufacturing and distribution facility has received the ISO 9001 certification.

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Festo Didactic SE

Rechbergstrasse 3
73770 Denkendorf
Germany

P. +49(0)711/3467-0
F. +49(0)711/347-54-88500

Festo Didactic Inc.

607 Industrial Way West
Eatontown, NJ 07724
United States

P. +1-732-938-2000
F. +1-732-774-8573

Festo Didactic Ltée/Ltd

675 rue du Carbone
Québec QC G2N 2K7
Canada

P. +1-418-849-1000
F. +1-418-849-1666

www.labvolt.com

www.festo-didactic.com