

Doubly-Fed Induction Generator (DFIG) Control Function Set

587056 (9069-D0)



LabVolt Series

Datasheet

The screenshot displays the 'DFIG Control' software interface. The main window is titled 'DOUBLY-FED INDUCTION MOTOR DRIVE (Vector Control)'. It features a detailed circuit diagram of a DFIG system, including a three-phase supply, a rotor-side converter, a DC link, and a grid-side converter. The interface also includes a 'Controller Diagram' and a 'Speed Command' knob set to 0. A 'Start/Stop' button and an 'Encoder' indicator are visible at the bottom left. The status bar at the bottom indicates 'Connected to DACI #SIM1 (Ready)'.

On the right side, there is a 'DFIG Control Settings - SIM1' panel with the following settings:

Function Selection	Doubly-Fed Induction Motor Drive
Function	Doubly-Fed Induction Motor Drive
Status	Stopped
Speed Control	
Speed Control	Knob
Speed Command (r/min)	1000
Speed Control Prop. Gain [Kp4]	25.00
Speed Control Int. Gain [Ki4]	25.00
Reactive Power Control	
Reactive Power Control Prop. Gain [Kp3]	5.00
Reactive Power Control Int. Gain [Ki3]	15.00
Vector Control	
Quadratic Current Limit [a Limit] (A)	3.0
Flux Control Prop. Gain [Kp1]	1.00
Flux Control Int. Gain [Ki1]	2.00
Torque Control Prop. Gain [Kp2]	1.00
Torque Control Int. Gain [Ki2]	2.00

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General Description

The Doubly-Fed Induction Generator (DFIG) Control Function Set enables the following devices required for the study of DFIGs to be implemented using the Data Acquisition and Control Interface, Model 9063, the IGBT Chopper/Inverter, Model 8837-B, and the Rectifier and Filtering Capacitors, Model 8842-A:

- Doubly-Fed Induction Generator (DFIG) Control

Specifications

Parameter	Value
Speed Control	
Speed Control	Knob, AI-1 (0 to 10 V)
Speed Command	0-2500 r/min
Speed Control Prop. Gain	0.01-100
Speed Control Int. Gain	0-200
Reactive Power Control	
Reactive Power Control Prop. Gain	0.01-100
Reactive Power Control Int. Gain	0-200
Vector Control	
Quadrature Current Limit	0-3 A
Flux Control Prop. Gain	0.01-100
Flux Control Int. Gain	0-200
Torque Control Prop. Gain	0.01-100
Torque Control Int. Gain	0-200

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