

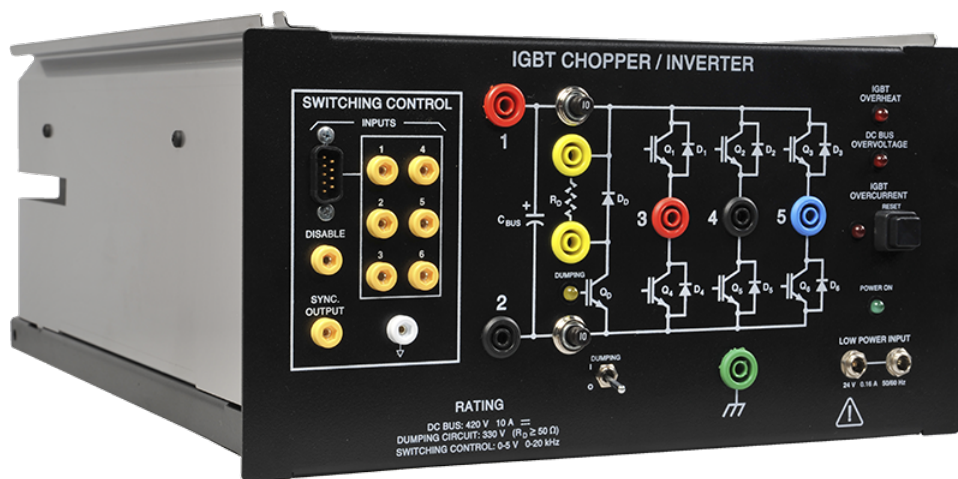
IGBT Chopper/Inverter

586832 (8857-15)

FESTO

LabVolt Series

Datasheet



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Festo Didactic
en 220 V - 50 Hz
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General Description

The IGBT Chopper/Inverter is one of the Power Electronics Devices that can be added to the 2 kW Electromechanical Training System to allow training in power electronics. The Power Electronics Devices are used to filter and convert electrical power flowing in electric circuits. They come as half-size EMS modules equipped with a steel front panel. Internal electrical components are identified on the module front panel by silkscreened symbols.

This module consists of 7 insulated-gate bipolar transistors (IGBT) mounted in a half-size EMS module. Six IGBTs are used to implement choppers and inverters. These IGBTs are protected against a variety of severe operating conditions, such as short-circuits, overvoltage, overcurrent, and overheat. The seventh IGBT and an external dumping resistor allow smooth dissipation of excess energy at the DC bus. The dumping circuit can be activated through the use of a toggle switch on the front panel. The module switching control section allows 0/5 V pulse signals from either the Data Acquisition and Control Interface, Model 9063, the Chopper/Inverter Control Unit, Model 9029, or any compatible 0/5 V control unit, to be applied to the gating circuits of the IGBTs. The signals are input in the IGBT Chopper/Inverter module through a 9 pin connector. Six miniature banana jacks are used as test points to monitor the pulse signals using an oscilloscope.

These jacks can also be used to inject 0/5 V pulse signals from an alternate control unit, as well as to inhibit each gating circuit. The IGBT Chopper/Inverter module also includes a synchronization output to trigger an oscilloscope when observing the switching control signals as well as a switching control disable input that allows all six IGBTs in the chopper/inverter section to be switched off.

Specifications

Parameter	Value
DC Bus	
Maximum Voltage	770 V
Maximum Current	6 A
Filtering Capacitor	680 μ F
Protections	
DC Bus Overvoltage	810 V
DC Bus Circuit Breaker	6 A
IGBT Electronic Overcurrent	50 A approx.
IGBT Overheat	90 °C approx.
Dumping Circuit	
Voltage Threshold	660 V
Suggested External Resistive Load	46.3 Ω - 1045 W
Switching Control Signals	
Level	0/5 V
High Level Current	10 mA
Frequency Range	0-20 kHz
Minimum Dead Time	1.2 μ s
Power Requirements	24 V, 0.16 A, 50/60 Hz
Accessories	
	24 V power cable (1)
	2 mm banana plug test leads (2)
	DB9 connector control cable (1)
Physical Characteristics	
Dimensions (H x W x D)	154 x 287 x 410 mm (6.1 x 11.3 x 16.1 in)
Net Weight	5.6 kg (12.4 lb)

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