SCIENTICO INDIA
Manufacturer & Exporter · Ambala, Haryana, India

PRODUCT DATA SHEET
Catalogue reference for product evaluation

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IGBT Inverter Training Module | SC-IGB 1083

Category: TVET Equipments · **Order Code:** IGB 1083 · **Country of Origin:** India

Product Overview

The IGBT Inverter Training Module – SC-IGB 1083 is a six-IGBT inverter rated Vce 1,200 V and Ic 15 A, with a maximum output of 1 kVA. A DSP-based control and measuring unit provides 6-pulse AC inverter control, with selectable 1–20 kHz PWM using sinusoidal or space-vector methods. The modulation index is adjustable and displayed. Integrated current and voltage measurement is provided, along with overvoltage and overload cut-off and an integrated brake chopper. All IGBT terminals are 4 mm safety sockets, and DC link discharge resistors are fitted. A USB interface links the unit to Windows 10/11 control and waveform software under a room licence. It complies with IEC/EN 61010-1 and CE standards.

View this product online: https://scienticoindia.com/product/igbt-inverter-training-module-sc-igb-1083/



Request a model-specific quotation
Include quantity and delivery country.

Technical Specifications

IGBT Inverter Training Module – SC-IGB 1083: Technical Specifications

Category	Specification
Devices	6 IGBTs
Voltage Rating	Vce 1,200 V
Current Rating	Ic 15 A
Control	6-pulse IGBT AC inverter control; DSP-based control and measuring unit
PWM Frequency	1–20 kHz, selectable
Modulation	Sinusoidal PWM and space-vector PWM; modulation index adjustable and displayed
Analogue Input	Yes
Measurement	Integrated current and voltage measurement
Protection	Overvoltage and overload monitoring with cut-off
Brake Chopper	Integrated
Maximum Output	1 kVA
Interface	USB
Software	Control, monitoring and waveform software; Windows 10/11; room licence; no recurring fee
Terminals	4 mm safety sockets on every IGBT terminal

Category	Specification
DC Link	Discharge resistors and indicator
Compliance	IEC/EN 61010-1; CE marked

Key Features

Key Features

- **Six-IGBT Inverter:** 1,200 V, 15 A devices for AC inverter training
- **DSP Control:** digital signal processor for control and measurement
- **Selectable PWM:** 1–20 kHz switching frequency
- **Two PWM Methods:** sinusoidal PWM and space-vector PWM
- **Adjustable Modulation:** modulation index set and displayed
- **Integrated Measurement:** current and voltage monitoring
- **Protection Monitoring:** overvoltage and overload cut-off
- **Brake Chopper:** integrated for regenerative energy handling
- **Safety Sockets:** 4 mm sockets on every IGBT terminal
- **DC Link Discharge:** resistors and indicator fitted
- **Software Included:** Windows 10/11 control and waveform software, room licence, no recurring fee

Experiments

- Six-pulse IGBT inverter operation and output waveform generation
- Sinusoidal PWM generation and modulation index adjustment
- Space-vector PWM operation and comparison with sinusoidal PWM
- Effect of switching frequency (1–20 kHz) on output waveform and losses
- Current and voltage measurement at inverter output
- Overvoltage and overload protection response
- Brake chopper operation and DC link voltage control
- Analogue input control of inverter output
- Waveform capture and analysis using the supplied software
- DC link discharge and safe handling procedures

Construction and Design

The IGBT Inverter Training Module – SC-IGB 1083 contains six IGBTs connected in a three-phase bridge. A DSP-based control and measuring unit generates the PWM signals and monitors current and voltage. Each IGBT terminal is a 4 mm safety socket. DC link discharge resistors and an indicator are fitted for safety. An integrated brake chopper is included. A USB interface links the module to the supplied software.

Software

Control, monitoring and waveform software for Windows 10/11 is included under a room licence, with no recurring fee.

Scope of Delivery

- IGBT inverter module
- USB cable and software
- English manual with circuit diagrams and graded experiments

Ordering & Delivery

- Send the product name, quantity, delivery country and destination with your enquiry.
- Production schedule, freight, payment terms and export documents are confirmed in the written quotation.

Frequently Asked Questions

Q: What are the IGBT ratings?
A: The module uses six IGBTs rated at Vce 1,200 V and Ic 15 A.

Q: What PWM methods are available?
A: The module supports sinusoidal PWM and space-vector PWM, with switching frequency selectable from 1 to 20 kHz.

Q: How is the module controlled?
A: A DSP-based control and measuring unit provides 6-pulse IGBT AC inverter control. The modulation index is adjustable and displayed, and an analogue input is available.

Q: What protection is included?
A: Overvoltage and overload monitoring cut off the output when limits are exceeded. An integrated brake chopper is also fitted.

Q: What is the maximum output and how is the module connected to a PC?
A: The maximum output is 1 kVA. The module connects by USB to control, monitoring and waveform software for Windows 10/11, supplied under a room licence with no recurring fee.

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