SCIENTICO INDIA
Manufacturer & Exporter · Ambala, Haryana, India

PRODUCT DATA SHEET
Catalogue reference for product evaluation

Phone: +91 7015865225 **Email:** info@scienticoindia.com **Web:** scienticoindia.com **Address:** #71, Industrial Area, Ambala Cantt, Haryana, India

Power Electronics Devices Training Modules | SC-PED 1082

Category: TVET Equipments · **Order Code:** PED 1082 · **Country of Origin:** India

Product Overview

The Power Electronics Devices Training Modules – SC-PED 1082 is a modular power electronics set for rectifier, chopper, inverter, and cycloconverter experiments. It includes diode units (20 A, 1,200 V), thyristor and triac units (10 A, 800 V and 600 V), and 6-pulse and 4-pulse SCR gate control. Converter modules cover single-phase cycloconverter, DC chopper, and single-leg, two-leg and PWM inverters. A power MOSFET module, matching loads, and 4-channel isolated data acquisition at 100 kS/s per channel are included. Two desktop PCs with DAQ software are supplied. Shrouded HV terminals, enclosed heatsinks, and an RCD on the supply provide safety. It complies with IEC/EN 61010-1 and CE standards.

View this product online: https://scienticoindia.com/product/power-electronics-devices-training-modules-sc-ped-1082/



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

Technical Specifications

Power Electronics Devices Training Modules – SC-PED 1082: Technical Specifications

Category	Specification
Diode Units	Full bridge and 6-fold; 20 A; 1,200 V
Thyristor Units	6-fold fully controlled bridge and half-controlled bridge; 10 A; 800 V
Triac Unit	10 A; 600 V
Gate Control	6-pulse and 4-pulse SCR gate control units; firing angle 0–180°; single or multiple pulse
Cycloconverter	Single-phase; 10 A; 800 V
DC Chopper	Step-down and step-up
Inverters	Single-leg, two-leg and PWM
MOSFET Module	Power MOSFET characteristic and switching; D/S/G on 4 mm sockets
Loads	Matching resistive and inductive loads
Data Acquisition	4 isolated differential channels; 100 kS/s per channel
Voltage Probes	Up to 800 V
Current Probes	Up to 10 A RMS
Interface	USB; Windows 10/11 room licence
PCs	2 desktop PCs with DAQ software installed

Category	Specification
Safety	Shrouded HV terminals; enclosed heatsinks; RCD on supply
Compliance	IEC/EN 61010-1; CE marked

Key Features

Key Features

- **Diode Modules:** full bridge and 6-fold units, 20 A, 1,200 V
- **Thyristor Modules:** fully controlled and half-controlled bridges, 10 A, 800 V
- **Triac Unit:** 10 A, 600 V
- **Gate Control:** 6-pulse and 4-pulse units with 0–180° firing angle
- **Cycloconverter:** single-phase, 10 A, 800 V
- **DC Chopper:** step-down and step-up operation
- **Inverter Options:** single-leg, two-leg and PWM
- **MOSFET Module:** characteristic and switching tests on 4 mm sockets
- **Isolated Data Acquisition:** 4 channels at 100 kS/s per channel
- **Included PCs:** 2 desktop PCs with DAQ software installed
- **Safety Features:** shrouded HV terminals, enclosed heatsinks, RCD on supply

Experiments

- Single-phase full bridge diode rectifier with resistive and inductive loads
- Six-pulse fully controlled thyristor bridge operation at different firing angles
- Half-controlled bridge rectifier output and free-wheeling action
- Gate firing angle control using 6-pulse and 4-pulse SCR gate control units
- Triac AC control and phase angle regulation
- Single-phase cycloconverter output waveform and frequency conversion
- DC chopper step-down and step-up voltage conversion
- Single-leg and two-leg inverter output and switching behaviour
- PWM inverter operation and output waveform analysis
- Power MOSFET characteristic curves and switching performance
- Voltage and current measurement with isolated data acquisition

Construction and Design

The Power Electronics Devices Training Modules – SC-PED 1082 consists of separate modules connected by 4 mm safety sockets. Diode, thyristor, triac, gate control, converter, and MOSFET modules are supplied together with matching resistive and inductive loads. High-voltage terminals are shrouded and heatsinks are enclosed. Data acquisition is provided through isolated differential channels with voltage and current probes. Two desktop PCs with DAQ software installed complete the set.

Software

Windows 10/11 DAQ software with room licence is included, installed on two desktop PCs.

Scope of Delivery

- All listed power electronics modules
- Resistive and inductive loads
- Connection lead set
- 2 PCs with isolated DAQ and software
- English manual with graded experiments and safe working procedures

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: Which diode and thyristor ratings are included?
A: Diode units are rated 20 A, 1,200 V. Thyristor units are rated 10 A, 800 V, and the triac unit is rated 10 A, 600 V.

Q: What gate control options are provided?
A: Gate control is provided by 6-pulse and 4-pulse SCR gate control units, with firing angle from 0 to 180 degrees in single or multiple pulse mode.

Q: What converters are included?
A: The set includes a single-phase cycloconverter (10 A, 800 V), DC chopper units for step-down and step-up, and single-leg, two-leg and PWM inverters.

Q: How is measurement data collected?
A: Data is collected through four isolated differential channels at 100 kS/s per channel. Voltage probes measure up to 800 V and current probes up to 10 A RMS, with data handled by DAQ software on the supplied PCs.

Q: What safety features are fitted?
A: High-voltage terminals are shrouded, heatsinks are enclosed, and an RCD is fitted on the supply. The unit complies with IEC/EN 61010-1 and CE standards.

SCIENTICO INDIA
Manufacturer & Exporter · Ambala, Haryana, India
#71, Industrial Area, Ambala Cantt, Haryana, India

+91 7015865225 · info@scienticoindia.com
scienticoindia.com
Product reference: PED 1082