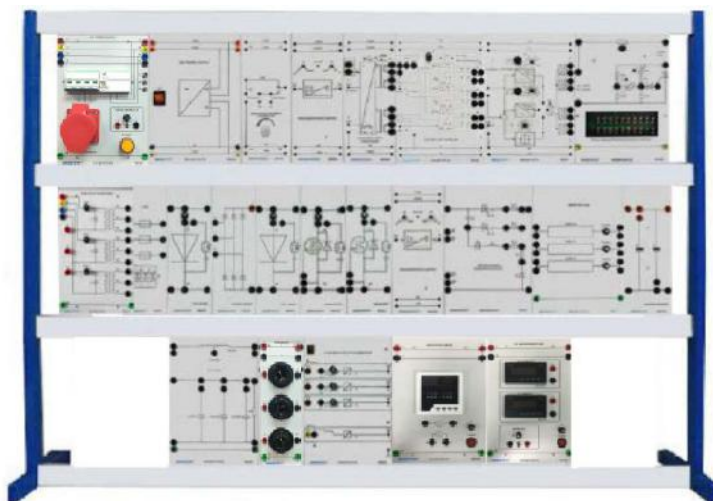


POWER ELECTRONICS TRAINING KIT


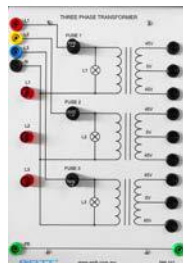
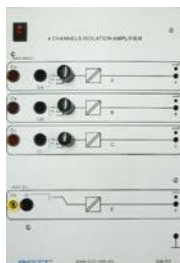


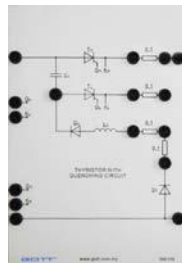
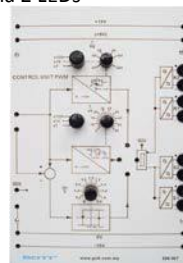
Model Number : GOTT-PET-588A

**DESCRIPTION**

The Power Electronics Training Kit has been designed to control of electrical energy with the greatest efficiency possible. In fact, it allows the implementation of theoretical-practical courses, for the study of power electronics. The individual units of an experimental set-up are connected via 4mm safety sockets which are arranged in large, synoptically graphical symbols and current flow diagrams. Due to the vertical arrangement of the experimental panels, the experimental set-up can be seen from a far distance and can be adapted step by step to the course of the lessons or lectures.

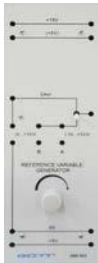










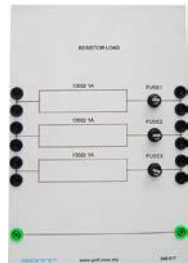

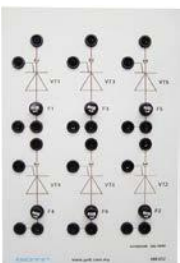


The experiments permit practice-oriented, hands-on training to be carried out, thus assuring the trainees of the proficiency needed to handle the tasks and the equipment found in this field. The training panels and functional units with block circuit diagrams and signal diagrams permit clear and understandable assembly of the experiment circuits.

PRODUCT MODULES

AC POWER SUPPLY	CODE 588-001	THREE PHASE TRANSFORMER	CODE 588-101	FOUR CHANNELS ISOLATION AMPLIFIER	CODE 588-021	CONTROL UNIT SIX PULSE	CODE 588-006
FCCB x 1 unit Mains Contraol Lamps x 3 units 4mm safety sockets Output : 415V DC : 230V/1A Input : AC 415 , 50Hz 3 Phase		Protection Fuse 3A x 3 Input : 415v 3phase Output: AC: 3 x 90V/1.5A with 3 center taps 45V 4mm safety sockets		Channels can be switched on or off individually Frequency Range: DC ... 80kHz Voltage: Max 620VDC/440VAC Overdrive indication with LEDs 4mm Safety Sockets Input: AC 240V, 50Hz 1-Phase		Single pulse or pulse train operation Phase shift can be set for various natural commutating points: 0°, 30°, 60° Output: <ul style="list-style-type: none">Synchronize Voltage: 1...440VACControl Voltage: 0 ... +10VDC Input: ±15VDC	
CONTROL UNIT TWO PULSE	CODE 588-005	THYRISTOR WITH TURN OFF CIRCUIT	CODE 588-016	CONTROL UNIT PWM / PFM		CODE 588-007	
Single pulse or pulse train operation Phase shift can be set for various natural commutating points: 0°, 30° Output: <ul style="list-style-type: none">Synchronize Voltage: 1...250VACControl Voltage: 0 ... +10VDC Input: ±15VDC		Main Thyristor and Turn-off Thyristor: <ul style="list-style-type: none">V_{DRM}: Max 800VI_{T AV}: Max 13AT_Q: 35μs Free-wheeling Diode: <ul style="list-style-type: none">V_{RRM}: Max 1000VI_{T AV}: Max 8AShunts: 4 x 0.1 ohm, 1% Turn-off Capacitor: 4μF, 450V Ring-around reactor: 1mH		Operation can be selected with the following control modes: Pulse Width Modulation (PWM) and Pulse Frequency Modulation (PFM) Control voltage: 0 ... +10VDC Pulse Width Modulator <ul style="list-style-type: none">Frequency Ranges: 20 ... 200Hz / 0.2 ... 2kHz / 2 ... 20kHzPulse Duty Factor t_{ON}: 0 ... 0.95 Pulse Frequency Modulator <ul style="list-style-type: none">Pulse Duration Ranges: 5 ... 50μs / 50 ... 500μs / 0.5 ... 5msFrequency: 20Hz ... 20kHz Output Amplifier <ul style="list-style-type: none">Sustained short-circuit proofIndication of switching state via 2 LEDsINHIBIT input Input: ±15VDC			




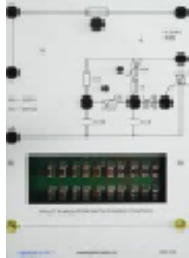



POWER ELECTRONICS TRAINING KIT

Model Number : GOTT-PET-588A

REFERENCE VARIABLE GENERATOR CODE 588-003 Output: (selectable using bridging plug) <ul style="list-style-type: none"> 0 ... +10VDC -10VDC ... +10VDC Input: $\pm 15\text{VDC}$ 	TRIGGER POINT LIMITER CODE 588-004 LED indication for overlap Rectifier Stability Limit: $0^\circ \dots 180^\circ$ Inverter Stability Limit: $180^\circ \dots 0^\circ$ Input: $\pm 15\text{VDC}$ 	IGBT CODE 588-014 V_{CES} : Max 1000V I_{CAV} : Max 10A V_{CESAT} : 3.5V C_{GE} : 1.8Nf 	SINGLE PHASE RECTIFIER CODE 588-029 Periodic Repetitive Peak Reverse Voltage: 500V On-State Current: 10A Protection: Fast Acting Fuse With R-C-D suppressor circuit 
FUSE CODE 588-009 Rated voltage : 415VAC Protection Fuse 2A x 3 units 	POWER DIODE CODE 588-010 V_{RRM} : Max 1000V I_{FRMS} : Max 10A 	TRIAC CODE 588-015 V_{RRM} : 800V 	CAPACITOR UNIT CODE 588-018 Nominal Capacitance: 2 x 1000 μF Nominal Voltage : 415V 
RECTIFIER CODE 588-011 Nominal Voltage: 3 x 400V Nominal Current: 10A Surge Forward Current: 300A 	MOSFET CODE 588-013 V_{DS} : Max 500V I_D : Max 10A $R_{DA(ON)}$: 0.6 Ω 4 Each 	BULB SOCKET CODE 588-020 Incandescent Lamp x 3 units Input: AC 240V, 50Hz 1-Phase 	RESISTOR LOAD CODE 588-017 Resistor 100 Ω x 3 units Protection Fuse 1A x 3 units 
DC POWER SUPPLY CODE 588-002 Two red LED (Voltage monitor) 4 mm Sockets Output: $\pm 15\text{VDC}$ & +5VDC Input: AC 240V, 50Hz 1-Phase 	THYRISTOR CODE 588-012 Thyristor x 6 units Protection Fuse 1.5A x 6 units V_{RRM} : Max 1000V I_{FRMS} : Max 12A 	ELECTRICAL METER CODE 588-038 Voltmeter range: 0...500VAC Ammeter range: 0...5A Input: AC 230V, 50Hz 1-Phase 2 Each 	DC MEASUREMENT UNIT CODE 159-008 Voltmeter range: 0...500VDC Ammeter range: 0...5A Output: 230VDC Input: AC 230V, 50Hz 1-Phase 2 Each 

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RLC LOAD Resistor 1kΩ Inductor 50mH 2.5A with tap at 12.5mH Capacitors 4/8/16μF, 450VAC 	CODE 588-019	SAFETY U-LINK A unit which is wed to link the unit together 	CODE 446-000	SAFETY CONNECTING LEAD 4mm connecting leads 	CODE 237-001	FAULT SIMULATOR PHASE CONTROL A total of 20 faults from the following categories can be switched on: • Faulty components • Interruption • Faulty assembly • Short-circuit Input: AC 240V, 50Hz 1-Phase 	CODE 588-008
U-LINK A unit which is wed to link the unit together 	CODE 159-019	VERTICAL FRAME High Level: Din Standard A4 with two shelves Material: Aluminium Side Frame: T shape Size: 3-Layer 1450mm Length 	CODE 297-000	EXPERIMENT MANUAL 	CODE 588-032		

EXPERIMENT TOPICS :

The Power Electronics Training Kit makes it possible to build up straightforward experimental circuits in keeping with practical requirements. Groups of experiments on basic power electronic circuits are presented, demonstrated and explained on the basis of rectifiers in a tried-and-tested didactic manner and sequence.

- Single-Phase Half-Wave Half Controlled Rectifier Circuit
- Single-Phase Full-Wave Controlled Rectifier Circuit
- Single-Phase Bridge-Type Controlled Rectifier Circuit
- Single-Phase AC Booster Circuit
- Three-Phase Bridge-Type Controlled Rectifier Circuit
- Quenching Circuit Step-Down DC Chopper Module
- MOSFET Step-Down DC Chopper Circuit
- IGBT Step-Down DC Chopper Circuit
- Passive Inverter Circuit
- Fault Simulator
- Connection Diagram

ADDITIONAL MODULE:

Please refer to page “Advanced Power Electronics Training Kit Additional Module”.

Manuals :

- (1) All manuals are written in English.
- (2) Model Answer
- (3) Teaching Manuals

General Terms :

- (1) Accessories will be provided where applicable.
- (2) Manuals & Training will be provided where applicable.
- (3) Designs & Specifications are subject to change without notice.
- (4) We reserve the right to discontinue the manufacturing of any product

Warranty :

2 Years

ORDERING INFORMATION :

ITEM	MODEL NUMBER	CODE
POWER ELECTRONICS TRAINING KIT	GOTT-PET-588A	590-000

*Proposed design only, subject to changes without any notice.