

# IT.IE2060

## **Industrial Electronics Trainer**



## ALL ELECTRONIC CIRCUITS TRAINERS

- Basic Electronic Circuits Trainer
- Basic Electricity and Electronic Trainer
- Digital Logic Circuits Trainer
- Advanced Digital Logic Circuits Trainer
- Electronic Circuits Trainer
- Practical Electronic Circuits Trainer
- ▼ Power Supply Circuits Trainer
- Industrial Electronics Circuits Trainer



## **Industrial Electronics Trainer**

Company with Quality Management System Certified by DNV = ISO 9001/2015 =

# **IE2060**

## **DESCRIPTION**

Curriculum Outlines:

- Design and implementation of UJT and PUT thyristor
- Design and implementation of SCR, TRIAC, and DIAC
- Design and implementation of SCS, GTO, SBS, and SSR thyristor circuits.
- Design and implementation of MOSFET, BJT, and IGBT transistor circuits.
- Design and implementation of temperature sensors and optical elements circuits.

### FEATURES

**Curriculum Objectives:** 

- Understanding the basic theory of industrial electronics circuits.
- Design and implementation of the ability training for thyristor and transistor.
- Ability to research and develop the thyristor and
- Familiar with the applications of the high





1 UJT and PUT

#### **UJT and PUT Circuits**

Experiment 1: UJT Volt-ampere Characteristic Curve Measurement Experiment 2: UJT Relaxation Oscillator Experiment 3: UJT Equivalent Circuit Experiment 4: PUT Volt-ampere Characteristic Curve Measurement

Experiment 5: PUT Relaxation Oscillator



2 SCR and GTO

#### SCR and GTO Circuits

Experiment 1: SCR Characteristic

Measurement

Experiment 2: SCR Phase Angle Controlled

Circuit

Experiment 3: Zener and SCR Circuit

Experiment 4: GTO Characteristic Circuit

Experiment 5: GTO Oscillation Circuit



3 **DIAC and TRIAC** 

#### **DIAC and TRIAC Circuits**

Experiment 1: Zener Breakdown Characteristic Measurement

Experiment 2: DIAC Characteristic

Measurement

Experiment 3: DIAC and TRIAC Circuit

Experiment 4: Zener and TRIAC Circuit

Experiment 5: PUT and TRIAC Circuit



4 SCS and SSR

#### SCS and SSR Circuits

**Experiment 1: SCS Characteristic** 

Measurement

Experiment 2: SCS Equivalent Circuit

Experiment 3: SCS and SCR Circuit

Experiment 4: SSR DC Output Circuit

Experiment 5: SSR AC Output Circuit



5 SBS and Temperature Sensors

#### **SBS Circuit and Temperature Sensors**

Experiment 1: SBS Characteristic

Measurement

Experiment 2: SBS and TRIAC Circuit

**Experiment 3: Temperature Sensor Using** 

SCR and LM335

Experiment 4: Temperature Sensor Using

SCR and TC620

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- Familiar with the applications of the high efficiency industrial electronics circuits.

# CE

# Optical Elements and Application Circuits

Experiment 1: Photoresistor Circuit Experiment 2: Photo Interrupter/Photo Coupler Circuit Experiment 3: Photodiode Circuit Experiment 4: Phototransistor Circuit

## 6

**Optical Elements** 



### **MOSFET and Application Circuits**

Experiment 1: MOSFET Characteristic Measurement

Experiment 2: MOSFET Regulator Experiment 3: MOSFET Full Bridge Circuit

Experiment 4: MOSFET PWM

Controlled Circuit

Experiment 5: MOSFET and PUT

Circuit

7

**MOSFET** 



#### **BJT and IGBT Circuits**

Experiment 1: BJT Characteristic Measurement

Experiment 2: BJT Full Bridge Circuit Experiment 3: BJT PWM Controlled Circuit

Experiment 4: IGBT Characteristic Measurement

Experiment 5: IGBT PWM Controlled Circuit

8

BJT and IGBT



# UJT/PUT/SCR/TRIAC/IGBT Application Circuits

Experiment 1: UJT Application Circuit Experiment 2: PUT Application Circuit

Experiment 3: SCR Application Circuit

Experiment 4: TRIAC Application

Experiment 5: IGBT Application Circuit

9

SCR/SCS/DIAC/TRIAC



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