

## PROGRAMMABLE LOGIC CONTROLLERS

## PT 1208 Simulator

## Universal PLC Trainer



The PT 1208 Universal trainer is a programmable Logic Controller Trainer that combines high performance and easy of use operation for training students in PLC operation and programming.

It can be programmed from its own panel, without computer using manual switching, or can be programmed via its USB port (PT 1208U) or Ethernet (PT 1208E) using a PC. PT 1208E allows networking of multiple PT 1208 CPUs.

The basic module is composed of a CPU with 12 digital inputs (2 of which can be analogue inputs) and 8 relay outputs and with extension modules can be configured up to 32 inputs and 16 outputs and up to 3 parallel process CPUs.

Simulation of the inputs is either through 3 stage switches and/or externally through terminals.

The programming software is also supplied to allow programming the PLC from the computer, if so preferred. It offers a 7 x 24V power supply outputs to devices for controlling so the user needs no independent supply to power the controlled devices.

Needs 220V /60Hz single phase power supply.

It can be connected as PLC to the following automation laboratories:

- Hydraulics/Electrohydraulics training system
- Pneumatics /Electropneumatics training systems
- Mechatronics
- Robotics
- CIM

The programming software for the PLC provides many features, such as:

- A graphical user interface for offline creation of your circuit program by means of Ladder Diagram (contact chart / circuit diagram) or Function Block Diagram (function chart).
- Simulation of your circuit program on the PC.
- Generating and printing of an overview chart for the circuit program.
- Saving a backup of the circuit program on the hard drive or other media.
- Comparing circuit programs.
- Easy configuration of blocks.
- Transferring the circuit program in both directions from the PC to the PLC or vice versa.
- Reading the values of the hour counter.
- Setting the time of day.
- Online testing that provides a display of status changes and process variables in RUN mode:
  - \* Status of digital I/O, flags, shift register bits and cursor keys

- \* Values of all analog I/O and flags
- \* Results of all blocks
- \* Current values (including the times) of selected blocks

- Starting and stopping circuit program execution from the PC (switching between RUN and STOP modes).
- Network communication – (Ethernet If optional).
- Creating UDF blocks for use in a circuit program.
- Configuring the Data Log function block for your circuit program to record process values of the configured function blocks.

**Software Advantages**

- You can develop the circuit program on your PC.
- You simulate the circuit program on your computer and verify its functions before you actually implement it in your system.
- You can add comments to the circuit program and create hard copies.
- You can save a copy of your circuit program to the file system on your PC, to make it directly available for modifications.
- It takes only a few key actions to download the circuit program to the programming software.

The PT 1208E trainer also connects to a virtual PT CIM 1208S application which can simulate a virtual industrial environment created by the student and have a real time simulation with 3D graphics of the equipment and process in a Computer Integrated Manufacturing (CIM) environment or Mechatronics.

The software runs on any of the following operating systems: 32 bit/64 bit Windows 7, 8 or higher.

**Available Port and CPU configurations:**

- PT 1208U: 12 inputs /8outputs + USB I/F
- PT 1208E: 12 inputs /8outputs + Ethernet I/F
- PT 1608E: 16 inputs /12 outputs, 2 x CPUs, Ethernet IF
- PT i804E/U: 8 Inputs /4 Outputs, USB or Ethernet IF
- PT 2016E: 20 inputs /16 Outputs, Ethernet II/F
- PT 3216E: 32 inputs /16 outputs,3x CPUs, Ethernet IF

In order for the students to initiate the first and simple PLC project, we recommend as an accessory the **PT-21GD Garage Door** control system. It provides the basic features of opening and closing a garage door with various control parameters. The students can program the control of:

- 1) termination switches
- 2) garage door motor
- 3) infrared sensor
- 4) light alarm
- 5) sound alarm

It's recommended for all PLC experiments.

