



Scientech 6205BHS PLC and HMI Training Platform offers a PLC (Programmable Logic Controller) with an HMI (Human-Machine Interface) for educational and training purposes. This training unit is designed to provide hands-on experience with industrial automation systems and help users understand the principles of PLC programming and HMI operation.

Looking at career opportunities offered by Industry 4.0, Scientech has designed a PLC training unit with HMI and PLC. Scientech 6205BHS is an ideal setup to study the working of PLC and HMI used for industrial applications. It has been designed to learn and practice:

- Wiring of PLC with different inputs and outputs.
- Push to ON switch and toggle switch as an input to PLC.
- Realistic simulation that can drive indicators
- Communication of PLC with HMI for monitoring and controlling.

Features

- PLC with 16 digital inputs , 16 digital outputs , 6 analog inputs and 2 analog output (one 0-10V and one 4-20mA) with Ethernet communication.
- 7" Human machine interface (HMI) with Ethernet communication .
- Toggle switches, push to ON switch, red indicator , yellow indicator , blue indicator , green indicator.
- On panel variable 0-10VDC Supply.
- MCB for electrical protection .
- Perpetual software license for programming PLC and HMI.
- PC based ladder and HMI programming.
- Extremely easy and student friendly software to develop different programs.
- Several sample ladder and HMI programs.
- Easy downloading of programs.
- Practice troubleshooting skills.
- Compact tabletop ergonomic design.
- Robust construction.

Scope of Learning

- Student will be familiarized with a variety of ladder logic instructions to create complete PLC program from scratch.
- Study the difference between digital and analog signals and how to bring them into a PLC, process them and send them back.
- PLC operation.
- Sequence of operation.
- Program scans cycle.
- Addressing example.
- Upload/download/monitoring.

Program operation

- NO (normally open) and NC (normally close) instruction bit.
- Logic gate.
- S (set) and R (reset) bit instruction.
- Memory bit.
- TON (On delay) timer instruction.
- TOFF (Off delay) timer instruction.
- TONR (tentative on delay timer) instruction.
- UP counter instruction.
- CTD (down counter) instruction.
- Math instruction.
- Compare instruction.
- MOV.
- Analog output.

Human Machine Interface (HMI)

- Human Machine Interface (HMI).
- Creating applications/screens in HMI.
- Downloading and uploading programs.

Design screen for

- Switch and indicator in HMI for communication with PLC.
- Timer in HMI for communication with PLC.
- Counter in HMI for communication with PLC.
- Trend in HMI for communication with PLC.
- Alarm in HMI for communication with PLC.



Technical Specifications

PLC

Digital input	: 16
Digital output	: 16
Program size (words)	: 4096
Boolean execution speed	
Interfacing	: Ethernet
PLC programming software	: Provided

Analog input and output module : 1 no.

Analog inputs	: 4 nos.
Range	: 0-10V DC
Resolution	: 14 bits
Analog outputs	: 2 nos.
First channel range	: 0-10V DC
Resolution	: 14 bits
Second channel range	: 4-20mA
Resolution	: 13 bits

General Specification

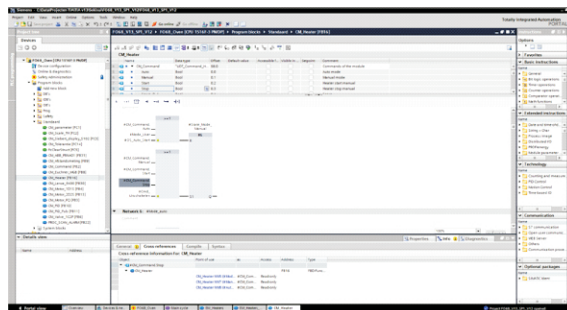
Toggle switch	: 8 nos.
Push to ON switch	: 8 nos.
Red indicator	: 4 nos.
Blue indicator	: 4 nos.
Green indicator	: 4 nos.
Yellow indicator	: 4 nos.

Human machine interface : 1 no.

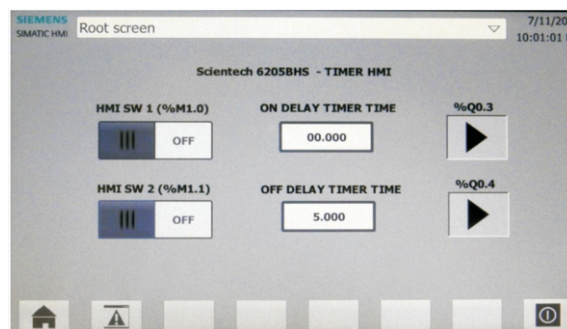
Screen size	: 7" TFT display
Interface	: Ethernet
Supply	: 24VDC
Programming software	: Provided
Power Supply	: 24VDC, 4A
MCB	: 1 no.
Current	: 6 Ampere
Operating temperature	: 0-40°C, 80 % RH
Dimension (mm)	: W600 x H 390 x D 300

Software window

PLC programming software window



HMI software window



List of Accessories

• Ethernet cable	: 1 no.
• PLC programming software	: 1 no.
• HMI programming software	: 1 no.
• 2mm patch cord yellow	: 8 nos.
• 2mm patch cord blue	: 8 nos.

Optional

PLC programming with 3D factory simulation



Test PLC programming skills on Factory I/O software