



## BASIC PROGRAMMABLE LOGIC CONTROLLERS (PLC) (CPM-001)

### Course Overview

The course is designed to provide the Delegates with basic PLC knowledge and understanding and the practical skills necessary to prepare and analyse basic programmes. Practical activities will provide Delegates with the principles and use of PLC's used in conjunction with Instrumentation Systems and Plant Control. The course will include a minimum of 50% practical work.

The course aims to give Delegates the necessary theoretical training and practical skill development opportunities to be able to undertake basic programming and gain an understanding of the input & output interfaces With plant control equipment.

### Course Content

- Course introduction.
- Introduction to PLC controllers.
- Relevant health & safety.
- Principles of PLC operation.
- PLC architecture and LED indication.
- Types of input & output.
- Hardware configuration.

UT – OGI – 037



#### STANDARD

UT/CPM Standard



#### FREQUENCY

On Demand ( Minimum 4 Delegates to 8 Delegates maximum)



#### DURATION

4 Days



#### LANGUAGE

English/Myanmar



#### PRICING

Upon request; includes lunches and certification.



#### PREREQUISITES

NRIC or Passport Scan Copy, 2 passport size photos.



#### VALIDITY

No expiry;



- The selection of drivers for communications via programming software.
- Storage methods.
- Understand basic Ladder programs.
- Addressing, tags and data formats.
- Online monitoring and searching.
- Basic Instructions, contacts, Set, reset etc.
- Relays, Timers and Counters.
- Coverage of number formats, bits, words, binary, floating point, integer theory
- How to monitor various blocks.
- User defined data formats.
- Toggling v Forcing techniques.
- Trending.
- Data monitoring using the data table.
- Communications principles in RS-232 and RS-485 PLC serial interfaces.
- Basic fault finding principles and software routines.
- Application exercises on PLC's and Live Pilot Plant.
- Searching and monitor programs.
- Basic troubleshoot of a PLC system in a competent and confident manner.
- Recognize PLC hardware and be able to replace where practical modules/input/outputs when a fault occurs.
- Understand basic instruction set and be able to make minor modifications to software.
- Backup and restore a PLC programs when required.

- Reload programs.
- I/O Fault finding.
- Fault finding on the communication links.
- Interpret and understand basic ladder logic.
- Using interface software or handheld programmer to connect online and monitor programs to determine plant problems.

## Topics

- Risk assessments will be carried out prior to any practical exercises.
- Basic scenario driven PLC programming.
- Prove the system operates.
- Undertake scenario activities under supervision on the Live Process Plant under Permit to Work system.