Basic PLC and SCADA

Software	Generic
Duration	10 Days
PLC-Type	Generic
Pre-Requisites	none
Maximum Delegates	8

Brief Description

The aim of this course is to teach basic PLC and SCADA configuration, programming and troubleshooting. As a result of this course students will be able to write PLC programs in two basic languages, Ladder(LAD), and Function Block Diagram (FBD). They will also be introduced to Sequential Flow Chart (SFC) and Structure Text (ST) They will be able to configure the PLC to communicate with remote IO and the SCADA over a network. They will be able to create graphic screens, create data displays and data entry screens, create trends and bargraphs and configure an archive alarms. The PLC elements will be taught using Mitsubishi Q series IEC GX Developer

Course Documentation

Basic PLC Tutorial Basic SCADA Tutorial

Course Content

HOW DO I DO THE FOLLOWING? PLC Elements

* Basic Hardware configuration of a rack based PLC
* Communication with the PLC via RS232 and Ethernet
* Software configuration of PLC hardware
* Program Structure to IEC 61131 standard
* Program Documentation, Tags
* Tasks, Routines and Programs
* Programming languages, LAD, STL, FBD
* Basic Data types, BOOL, INT, DINT
* Basic Instructions, contacts, coils, Latched coils, Timers, Counters.
* Word Instructions, MOVE, COPY,
* Maths and Comparator instructions
* Introduction to Function Blocks (Add On Instructions)
* Introdction to SFC programming
* Monitoring programs effectively
* On line editing
* Uploading and downloading programs
* Working with backup media, EEPROMS, Flash EPROMs
* Configuring Remote IO over a network
* Linking to HMIs SCADA Elements
* Create graphical displays
* Create pushbuttons and slider controls
* Data inputting

* Data display
* Creat bargrahs and bar charts
* Trending data
* Creating alarm screen and banners
* Trending data
* Archiving and retrieving data
* Understanding drivers
* Linking to PLCs
* Alarm screens and banner
* Security and passwords
* Introduction to scripting Background information also covered Understanding of the following:
* Number formats, bits,words,double words
* Binary, BOOL, Real, Integer, DINT,
* Basic Communications, RS232 and Ethernet
* Network Basics
* Setting up a simple Ethernet network

Equipment

* PLC
* PC SCADA Workstation
* Remote IO
* Simulator

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