



राष्ट्रीय प्रौद्योगिकी संस्थान वारंगल
National Institute of Technology Warangal
An Institute of National Importance

SIEMENS
Ingenuity for life



3D Engineering

AUTOMATION LAB

NITW SIEMENS CENTRE OF EXCELLENCE, NIT WARANGAL

Course Name: *HMI & Networking*

Course Duration: 40 Hrs.

Basics Prerequisites

- Basic Knowledge on TIA Portal software
- Basic Knowledge on HMI and different Industrial communication Protocols

Course contents

1. Automation Overview, system over view

- HMI types, Features, and benefits
- Basic Panel KTP 700PN and TP700 Comfort Panel
- Components of Automation
- Difference of SCADA and HMI
- Simatic S7 Overview

2. Basic Configuration

- HMI Configuration, Buttons, Inputs and Outputs
- I/O Field, Text Display, Digital Properties and Analog Properties
- Movement and Fill Properties, Libraries, Help Functions

3. Alarm Configuration

- Steps in Configuring alarm, Message Blocks
- Alarm Class,
- Trigger Setting for discrete alarms, Analog Alarms
- Configuration of Trends, Trend Display, Display, Properties of the trend view

4. Trends

- Configuration of Trends, Trend Display, Display, Properties of the trend view
- Practice on Examples



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5. Drive Basic Configuration

- What is Drive, Parameterizing of Drive,
- Introduction of Drives, Basic Configuration of Drive

6. PLC-DRIVE

- PLC Configuration, Drive Configuration, Control Unit, Power Module PM240-2, Commissioning of Drive G120
- Communication Protocols, Communications between PLC and Drive, Telegram
- Controlling of Motor using PLC Drive Communication, Practice

7. Connecting an HMI Device

- Data exchange between Touch panel and CPU, Adapting the S7 Program
- Adding an HMI Device, WinCC Configuration Interface , Buttons and Input/Output Fields
- Configuring the IP Address of a Touch panel, Networking a Touch panel
- Configuring an HMI Connection, Setting the IP address on the Touch panel
- Loading the HMI Project into the Touch panel, Hands on Practices : Various Examples

8. S7-1500 PLC With Remote ET Station

- S7-1500 PLC with Remote Station ET200SP, Different types of ET Stations or Remote IO Modules