

Introduction to Schematics 4.0

Overview

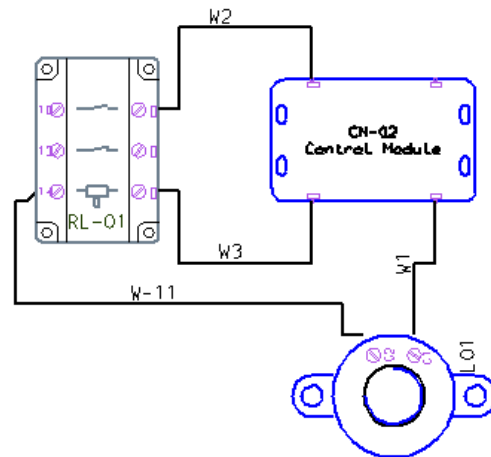
Course Code TRN-5114-T

Course Length 24 Hours

In this course, you will learn how to use Creo Schematics to create schematic diagrams for both electrical harness and piping designs. You will also learn how to administer the Creo Schematics working environment, configure the catalog library, and create functional block diagrams and block interconnect diagrams. In addition, you will learn how to create electrical circuit diagrams, wiring diagrams (including wire interconnect diagrams), and process and instrumentation design diagrams for piping systems. Finally, you will learn how to use wiring diagrams and process and instrumentation design diagrams to configure 3-D harness designs and industrial piping designs created within Creo Parametric.

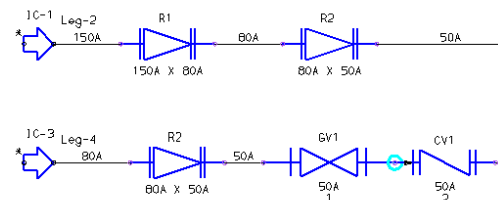
At the end of each module, you will complete a set of review questions to reinforce critical topics from that module. At the end of the course, you will complete a course assessment in PTC University Proficiency intended to evaluate your understanding of the course as a whole.

This course has been developed using Creo Schematics 4.0.



Course Objectives

- Understand the 2-D schematic design processes for electrical harness designs and piping designs
- Configure the Creo Schematics working environment
- Create and configure the catalog library
- Create functional block diagrams (including block interconnect diagrams)
- Create wiring diagrams (including wire interconnect diagrams)
- Understand the automated design process for CID to WID.
- Create process and instrumentation design diagrams
- Communicate diagram information to Creo Parametric



Prerequisites

- None

Audience

- This course is intended for engineers involved in the schematic 2-D layout of either electrical diagrams or piping diagrams. People in related roles will also benefit from taking this course.
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Agenda

Day 1

Module	1	Introduction to Creo Schematics
Module	2	Configuring the Working Environment
Module	3	Configuring Designs and Diagram Sheets
Module	4	Configuring Catalog Properties
Module	5	Creating Design Templates and Template Sheets
Module	6	Using Creo Schematics Tools

Day 2

Module	7	Creating Catalog Artifacts
Module	8	Creating and Configuring a Central Catalog
Module	9	Reviewing Designs
Module	10	Instancing and Manipulating Objects
Module	11	Creating Block Diagrams

Day 3

Module	12	Creating Wiring Diagrams
Module	13	Creating Interconnect Diagrams
Module	14	Automated Design Process for CID to WID
Module	15	Creating P and ID Diagrams
Module	16	Using Schematic Design Data in Creo Parametric Harness and Piping Designs
Module	17	Using Pro/DIAGRAM Information

Course Content

Module 1. Introduction to Creo Schematics

- i. Electrical Diagram and Harness Design Process
- ii. Piping Design Process
- iii. Understanding Diagram Types
- iv. Understanding Creo Schematics Concepts and Terminology

Knowledge Check Questions

Module 2. Configuring the Working Environment

- i. Understanding the Creo Schematics User Interface
- ii. Customizing the Schematic Ribbon Interface
- iii. Configuring Working Environment Options
- iv. Configuring Colors

Knowledge Check Questions

Module 3. Configuring Designs and Diagram Sheets

- i. Creating and Configuring Designs and Diagram Sheets
- ii. Configuring Grids
- iii. Configuring Layers
- iv. Configuring Location Sets

Knowledge Check Questions

Module 4. Configuring Catalog Properties

- i. Configuring Object Types and Global Parameters
- ii. Configuring Derived Parameters
- iii. Utilizing the Parameter Pane

Knowledge Check Questions

Module 5. Creating Design Templates and Template Sheets

- i. Creating and Configuring Template Sheets
- ii. Creating and Using Design Templates

Knowledge Check Questions

Module 6. Using Creo Schematics Tools

- i. Using Selection Tools
- ii. Using Viewing Tools
- iii. Understanding Probe Specifier Tools

Knowledge Check Questions

Module 7. Creating Catalog Artifacts

- i. Understanding Catalog Artifacts
 - ii. Using Datatables and Datasets
 - iii. Creating Ports
 - iv. Creating Blocks
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- v. Creating Fibers
- vi. Understanding Groups
- vii. Creating Groups
- viii. Creating Cables
- ix. Exporting and Importing Design Items

Knowledge Check Questions

Module 8. Creating and Configuring a Central Catalog

- i. Creating a Central Catalog
- ii. Managing Central Catalogs

Knowledge Check Questions

Module 9. Reviewing Designs

- i. Using the Model Explorer

Knowledge Check Questions

Module 10. Instancing and Manipulating Objects

- i. Instancing Objects
- ii. Manipulating Objects

Knowledge Check Questions

Module 11. Creating Block Diagrams

- i. Creating Block Diagrams

Knowledge Check Questions

Module 12. Creating Wiring Diagrams

- i. Creating Wiring Diagrams

Knowledge Check Questions

Module 13. Creating Interconnect Diagrams

- i. Understanding Interconnect Diagrams
- ii. Creating Block Interconnect Diagrams
- iii. Creating Wiring Interconnect Diagrams
- iv. Verifying Interconnect Diagrams

Knowledge Check Questions

Module 14. Automated Design Process for CID to WID

- i. Understanding CID to WID Automated Process
- ii. Automatic Placement of WID Component and Connector
- iii. Routing Wires in the WID
- iv. Verifying CID to WID Designs

Knowledge Check Questions

Module 15. Creating P and ID Diagrams

- i. Creating P and ID Diagrams
- ii. Updating P and ID Diagrams

Knowledge Check Questions

Module 16. Using Schematic Design Data in Creo Parametric Harness and Piping Designs

- i. Transferring XML Data into 3-D Harness Designs
- ii. Understanding 3-D Piping Design Approaches
- iii. Transferring XML Data into 3-D Piping Designs
- iv. Checking and Repairing a Design Database

Knowledge Check Questions

Module 17. Using Pro/DIAGRAM Information

- i. Migrating Pro/DIAGRAM Schematics

Knowledge Check Questions



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