PROFINET Certified Class (PN-CNE-I)

Class Syllabus

Ethernet Basics
• Introduction to Ethernet, TCP, UDP, IT protocols *

Network Installation and Infrastructure
• Topologies * • SNMP *
• Building and testing an Industrial Ethernet cable *
• Installation guidelines and best practices
      -Laying cables -Grounding
      -Power system
• Network Load calculation and rules *
• Commissioning checklist

PROFINET Overview
• Technology and Organization

PROFINET performance Levels
• Conformance classes

PROFINET IO
• PLC Configuration (RT, IRT) *
• Ethernet and protocol frames *
• Performance calculations for IRT *
• Diagnostics *, troubleshooting
-Records *, alarms *, error codes *

Wireshark Capture and Analysis
• Ethernet capture guide (port mirror, TAPs, capture tools)
• Ethernet monitor, setup *
• PROFNET Startup Sequence *, Alarms *, Records*, troubleshooting *

Profinet Commander
• IO Controller *
• Name assignment *
• Factory reset *
• Identification and Maintenance *
• Data record objects *

PROFINET GSDML *
• Device description files
• Vendor and Device ID
• GSD module & submodule identification
• File structure and parameters
• GSD Check

Additional Topics
• Simple Device Replacement *
• Fast Start Up
• Shared Device
• I-Device
• Redundancy
• Network Security
• Isochronous mode application
• Application profiles overview
      -PROFIsafe, PROFIenergy, PROFIdrive
• Technology comparisons

Agenda

Day 1-3
All day: Technical learning & exercises
Day 4
Morning: Technical learning & exercises
Afternoon: Practical exam
Day 5
Morning: Written exam

Our certification classes are intense, hands-on courses which will show you where and how to find and use technology related information. We give you the practical knowledge to install and build your own systems, and enable you to troubleshoot networks using tried and true diagnostic methods and tools. These courses are never based on sales or marketing pitches and focus on the vendor neutral details of the technology. You need to learn how the underlying technology works from the application to the frame level and pass both a practical and written exam to become certified. You will receive 24 PDH hours and two Certificates (PROFINET engineer, installer) from PROFINET International (PI) for completing the course.

* *sections with a hands-on lab*