



The PTO, in cooperation with the PROFIBUS Interface Center (PIC), is proud to offer the tenth year of PROFITech Certification Training Courses. These classes are intensive, hands-on, four day training programs conducted at the PIC in Johnson City, Tennessee. Attendees passing the test will receive an official PROFIBUS or PROFINET Certified Engineer



Certificate and 24 PDH hours. In addition, their names and their email addresses will be posted on the PROFIBUS Web site. **New this year** is a two-day PROFIBUS PA class. This class is a follow-on to the PROFIBUS DP class which is a prerequisite. A PROFIBUS PA Certified Engineer certificate is awarded to those who pass; 14 PDH hours are earned.



AGENDA DAYS 1 - 5

Day 1: Technical Material & Exercises, 1:00 pm to 5:00 pm
Day 2 - 3: Technical Material & Exercises, 8:30 am to 5:00 pm
Day 4: Technical Material & Exercises, 8:30 am to 12 pm
Practical Exam, 1:00 to 3:30 pm & 3:30 pm to 6 pm
Day 5: Written Exam, 8:30 to 12 pm
Coffee & pastries at 8 am, morning and afternoon snacks and lunch provided days 2 -5. Class dinner on Tuesday evening.

“It certainly was a deserved certificate and all others in the class felt the same. We were tested on comprehension and not so much for what we remembered. You have two very excellent instructors in Ron and John; they were patient with us, knowledgeable and just plain good people. My only regret is that I did not attend this school a year ago.”

-Roger Randolph, CRB Consulting Engineers

CLASS FEE INCLUDES

- Advanced training by qualified instructors
- Complete set of course materials
- Breakfast and lunch on course days
- PIC-hosted dinner for four day classes
- Official PROFIBUS, PA, or PROFINET Certified Engineer Certificate for graduates
- 24 PDH Credit Hours (14 for PA)
- Web site listing as Certified Engineer with contact information
- Use of PROFITech logo for recognition as PROFIBUS or PROFINET Certified Engineer

“The PROFIBUS class was one of the best classes I have attended. The information was clear and concise. The instructors were excellent. The troubleshooting tools and programs were very good.”
-Norman Ross, Nestle R&D Center, Inc./Ohio



PROFIBUS DP Certified Network Engineer Class

CLASS SYLLABUS

PROFIBUS Overview:

- Protocol Positioning
- Bus Access
- Multi-Master Systems
- Functionality & Protocol Structure of devices
- DP & PA Features
- DP & PA Commonality
- PA Configurations
- Future Protocol Trends

Network Setup & Debug

- Installation & Wiring - Copper
- Network Configuration
- Bus Timing
- Alternative Media

DPVO Telegrams Overview

- Telegram Format
- Master & Slave Interactions

PROFIBUS Bus Monitor

- Monitor Features
- Tracing, Triggering & Filtering

DPVO Master/Slave Interaction Details

- Master Class 1
- Master Class 2

System Debugging

- Bus Monitor
- Other Tools



Bus Timing

- Single-Master System
- Multi-Master System

DPV1 Telegrams Overview

- Telegram Formats
- Master & Slave Interactions

DPV1 Master/Slave Interaction Details

- Master Class 1
- Master Class 2

Network Components

- DP/DP Coupler
- Other Components

Summary of Things to Do & Check

New Features/Profiles

- PROFIsafe
- PROFIdrive
- PROFINET

“I found that the PROFIBUS Engineer Certification has really helped me. I really feel that all the Open Bus technologies should follow suit and come up with their own certification. The information provided in the classroom as well as the Certification Testing has given me the tools to succeed from planning to implementation. Do yourself a favor, attend this Certification Course!
-Phillip M. McGough, Emerson Process Management



PROFIBUS PA Certified Network Engineer Class

CLASS SYLLABUS

PROFIBUS DP and DP-V1 review

Manchester Bus Powered (MBP) transmission technology

- Electrical characteristics
- Topology
- Spurs
- Termination
- Cable specifications
- Grounding and shielding

DP/PA couplers and links

- Currents, voltages and limits
- Specifications
- Performance
- Required bus parameters

Network components

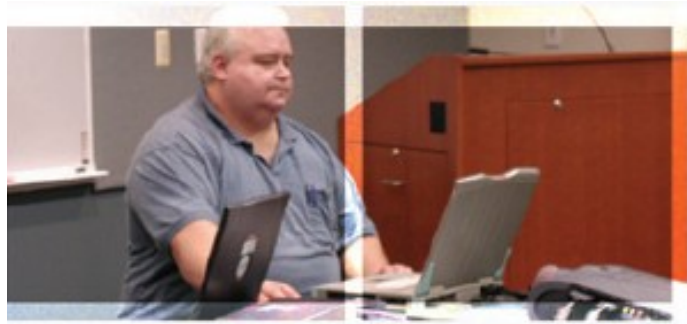
- Connectors
- Junction boxes
- Repeaters

Parameters and profiles

- Structure of cyclical read and control values
- Status value
- Profile GSD files and Ident Numbers
- Parameter sets from a variety of instruments

Engineering tools

- Difference and applications of FDT/DTM/DDI
- PDM
- Field care



Agenda:

Day 1: Technical Material & Exercises, 8:30 am – 5:00 pm

Day 2: Technical Material & Exercises, 8:30 am – 2:00 pm

Day 2: Written Exam, 2:30 pm – 5:00 pm



PROFINET Certified Network Engineer Class

CLASS SYLLABUS

Ethernet Basics and Hands on Exercises
Network Topologies and SNMP and Hands-on
Building and testing a fast-connect Ethernet cable
PROFINET Overview
PROFINET performance levels (TCP/UDP IP, RT, IRT)
PROFINET IO Configuration and Hands-on Exercises
PROFINET IO Ethernet Frames
Ethereal / Wireshark Ethernet Monitor, setup and Hands-on Exercises
ProfinetCommander IO Controller and Hands-on Exercises
PROFINET IO Diagnostics / Troubleshooting and Hands-on Exercises
PROFINET IO with IRT, performance calculations and Hands-on Exercises
PROFINET GSDML device description files and Hands-on Exercises
PROFINET CBA Configuration and Hands-on Exercises
PROFINET CBA Troubleshooting Tips
Additional Features like Automatic Device
Replacement, Fast Start UP,
Topology and Hands-on Exercises
Network Security with PROFINET
PROFIsafe with PROFINET
Certification Test (consists of both Practical and
Written Tests)



Attendee Comments:

"The PROFINET Certified Network Engineer course was the best automation training class I have ever attended."
"Presented very well with great course materials."
"This class took me from the fundamentals of Ethernet all the way to the PROFINET applications and in between, and now when leaving the class I feel like I've been from A to Z."

CLASS SCHEDULES



PROFIBUS DP
Certified Network
Engineer Class

March 22-26
May 17-21
September 13-17
October 11-15
November 8-12



PROFIBUS PA
Certified Network
Engineer Class

May 24-25
September 20-21



PROFINET
Certified Network
Engineer Class

March 15-19
June 7-11
September 20-24
December 6-10

Register for PROFItch classes at www.us.profibus.com.