2016 Internationally Certified Training Course

Certified PROFINET Engineer Course

3 Day

Commencing: • Perth: 16 -18 November

• Melbourne 22 - 24 November

- **Certified 3 Day course including theory & practical exams on PROFINET network operations, design & commissioning**

REGISTER NOW

profibusaustralia.com.au (Training)

AUST +61 2 9555 7899

Who should attend the course ?

This course is designed for all people requiring knowledge and a technical understanding on PROFINET and its operational advantages in production and plant automation.

No formal qualification or course pre-requisites are required. Students must be familiar with Industrial Automation and Electrical Engineering principles and terminology.

This course is targeted at System Integrators, System Design engineers, Advisors & Consultants, Project Managers, Programmers, Hardware Engineers, Installers and Suppliers.

What does the course cover ?

This is an examinable course covering theoretical and practical aspects of PROFINET relevant for designing and trouble-shooting PROFINET networks.

PROFINET Engineer begins with a current overview on Ethernet plus Profibus and its relationship with PROFINET; followed by an in-depth analysis on PROFINET's competitive advantages and most favourable applications areas.

This course systematically reviews the basics of Ethernet, PROFINET and Profinet IO.

Includes inter-active class discussions on PROFINET & Profibus cost-comparisons, PROFINET vs other Ethernet systems and instruction on available diagnostics tools.

Practical exercises include: setting up a network; start-up & watchdog time; changing names and IP addresses; configuring switches, assembling connectors testing cables, configuring a PROFINET installation and integrating a Profibus segment.

Practical Course Components:

- Setting up a network & sub-network
- Troubleshooting network conflicts & faults
- Start-up and watchdog time.
- Changing names and IP addresses
- Message recording and decoding
- Device start-up
- Cycle time
- Building and testing an Ethernet cable
- Configuring switches & set-up
- Diagnostics

Theoretical Course Components:

- Introduction to PROFINET Protocol
- PROFINET Installation
- Basics of Ethernet
- PROFINET Infrastructure
- Switch features
- Network Diagnotics using SNMP, DCP, LLDP, DHCP
- PROFINET Isochronous Real-Time (IRT)
- GSD Files.

More details overleaf

Booking & Payment Information:

To reserve your place in this course, complete the Registration Form now available on the PAA website and email to: info@profibusaustralia.com.au

Course Information:

- 3 day Certified Course
- Includes the Certified PROFINET Installer Course (1 day)
- Course qualifications recognised by PI. Official Certificates & Honour Roll listing
- Training Manual provided
- Laptop provided • Lunch provided

Course Cost:

Australia:

Certified PROFINET Engineer - $3,500.00 + GST (Non-Members)

Certified PROFINET Engineer - $2,900.00 + GST (Members)

Venue

Perth:
Siemens
185 Great Western Hwy,
Belmont, WA
Ph: 08 9241 4400

Melbourne:
Siemens
885 Mountain Hwy
Bayswater, VIC
Ph: 03 9721 2000

For More Information:
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Certified PROFINET Engineer Course

The course content includes:

- Basics of Ethernet, IEEE802.3, the ISO/OSI model, TCP, UDP, IP, ARP, Ping, and the Ethernet frame.
- Network Addressing: MAC Address, IP Address, Subnet Mask and subnetting.
- Network Infrastructure - switches, hubs, routers, gateways and firewalls
- Switch features for industrial applications and PROFINET.
- Monitoring Ethernet traffic with switch port mirroring or a network tap
- Network topologies and wireless.
- Network diagnostics using SNMP, DCP, DHCP and LLDP. Tools for network management.
- PROFINET installation, cables and connectors. Cable testing.
- PROFINET IO: Device types, certification requirements, conformance classes.
- Application Relations (AR's) and Communication Relations (CR's).
- Device names and name setting.
- Real Time (RT) communications, timing parameters and cycle times. Communication optimisation.
- Isochronous Real Time (IRT) communications, IEEE 1588 V2, synchronisation, IRT communication classes, cycle time, jitter and frame scheduling/bandwidth optimisation.
- Controller and device start-up sequence, fast start-up, troubleshooting.
- Read and Write services, diagnostics and alarm handling.
- Configuring a PROFINET system, GSDML files, use of PROFINET XML-Viewer.
- Integration with fieldbus using a proxy.
- Ethernet and PROFINET Frame analysis using Wireshark and other tools.
- Additional features including redundancy, I&M functions etc.,

Practical content and equipment

Attendees work in pairs, each with their own rack of PROFINET IO devices, hand tools, cables and connectors, test tools and a with a modern laptop.

Practical work features the following hand-on exercises:

- Making and testing cables.
- Setting up a network and sub-network.
- Switch configuration and setup.
- PROFINET system configuration.
- Ethernet and PROFINET frame analysis using Wireshark.
- Handling errors and alarms.
- Use of network management and diagnostic software.