



## National Certificate in Fire Detection and Alarm Systems (Level 4)

**VERSION:** 4

**CREDIT RANGE:**

Level 1 credits	4
Level 2 credits	52
Level 3 credits	45
Level 4 or above	116
Total	217

**STUDENT FEES:**

*Please contact  
Competenz on  
**0800 526 1800**  
to get the 2012 fees for  
this course.*



**DURATION:** The qualification can typically be achieved in the course of a four year traineeship or apprentice programme or depending on your experience in the Fire Protection industry it is possible to finish the qualification sooner.

**LOCATION:** Distance Learning

**FURTHER STUDY:** This qualification is a good lead into the **National Certificate in Fire Protection Systems Technology (Inspection and Testing) (Level 4)**

**ENTRY REQUIREMENTS:** Open

**ADDITIONAL DOCUMENTATION:**  
Applicants must supply certified copies of proof of identify (passport or birth certificate) and proof of residency (where appropriate).

This qualification is for technicians in the fire protection industry, whose work involves installation and maintenance of fire detection and alarm systems.

The qualification covers skills and knowledge in the following areas:

- fire protection principles and industry knowledge;
- electrical principles and safety;
- electronic fault finding;
- installation, commissioning, and servicing of fire detection and alarm systems;
- first aid, resuscitation and safe working practices;
- literacy and numeracy skills;
- Communications and report writing.

### Are you able to?

- Set-up site facilities,
- Install, pre-commission, and commission conventional fire detection and alarm systems,
- Specialise in the installation and pre-commissioning of addressable fire detection and alarm systems, or
- Design conventional fire detection and alarm systems?

**Then this is the  
qualification for you!!**



## Course Detail:

This is the order in how the assessments will be sent to the learner.

### YEAR ONE:

**Unit 497 - Demonstrate knowledge of workplace health and safety requirements.**

**Level: 1                      Credit: 3**

**Purpose:**

People credited with this unit standard are able to: identify and describe legislative rights and responsibilities for workplace health and safety; describe the systems approach to workplace health and safety; and explain how hazards are defined in the HSE Act.

**Unit 4647 - Explain principles of fire science.**

**Level: 2                      Credit: 1**

**Purpose:**

People credited with this unit standard are able to demonstrate knowledge of the basic principles of the chemistry of fire, and demonstrate knowledge of the basic principles of the physics of fire.

**Unit 3492 - Write a short report.**

**Level:2                      Credit: 3**

**Purpose**

People credited with this unit standard are able to write a short report.

**Unit 9677 - Participate in groups and/or teams to gather ideas and information.**

**Level: 2                      Credit: 3**

**Purpose:**

People credited with this unit standard are able to contribute to ideas and information gathering, and contribute to group and/or team function.

**Unit 750 - Demonstrate knowledge of electrical test instruments and take measurements.**

**Level: 2                      Credit: 2**

**Purpose:**

People credited with this unit standard are able to demonstrate knowledge of electrical test instruments, and take electrical measurements.

**Unit 3271 - Suppress fire with hand extinguishers and fixed hose reels.**

**Level: 2                      Credit: 1**

**Purpose:**

People credited with this unit standard are able to demonstrate knowledge of the fire classes and fire suppression techniques, and select and implement a strategy to deal with fire.

**Unit 57 - Provide customer service in given situations.**

**Level: 2                      Credit: 2**

**Purpose:**

This unit standard is for people entering or employed in the service sector who wish to build their customer service skills. People credited with this unit standard are able to: identify elements of good service in a given situation; provide customer service in a given situation; and respond to customer complaints in a given situation.

**Unit 1277 - Communicate information in a specified workplace.**

**Level:2                      Credit:3**

**Purpose:**

People credited with this unit standard are able to: give information to clients in a specified workplace; record and convey information in a specified workplace; and respond to an inquiry in a specified workplace.

**Unit 5934 - Prevent electrostatic damage to electronic components.**

**Level: 2                      Credit: 1**

**Purpose:**

This unit standard is for electronics technicians and others who have to handle electronic components and equipment, where the possibility of damage by electrostatic discharge exists.

It includes:

- The causes of static electricity;
- The damage it does to semiconductors;
- How the problem can be minimised;
- The use of anti-static precautions.



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### **Unit 15843 - Demonstrate knowledge of magnetism and electricity.**

**Level: 2                      Credit: 15**

**Purpose:**

People credited with this unit standard are able to: demonstrate knowledge of electrical conductors, insulators, and semiconductors, resistance, resistivity, and resistors; compare calculated with measured values in resistive circuits; demonstrate knowledge of electrical power and energy; analyse resistive circuits; and demonstrate knowledge of electromotive force (e.m.f.) production, electrochemistry, magnets and magnetism, and direct current (d.c.) and alternating current (a.c.) generation.

### **Unit 15847 - Demonstrate knowledge of mathematics and mechanics for electrical trades.**

**Level: 2                      Credit: 4**

**Purpose:**

People credited with this unit standard are able to demonstrate knowledge of: mathematics for electrical trades; mechanical terms and their units; and lever systems and mechanical drives.

### **Unit 15849 - Perform manual soldering and de-soldering procedures for electrotechnology work.**

**Level: 2                      Credit: 2**

**Purpose:**

People credited with this unit standard are able to: demonstrate knowledge of soldering procedures for electrical work; prepare and maintain soldering and de-soldering equipment; solder and de-solder electrical components; and perform soldering and de-soldering on printed circuit boards (PCBs).

### **Unit 15846 - Demonstrate knowledge of capacitors and semiconductor diodes.**

**Level: 2                      Credit: 3**

**Purpose:**

People credited with this unit standard are able to demonstrate knowledge of capacitors and semiconductor diodes; and test semiconductor diodes.

### **Unit 15848 - Demonstrate knowledge of safeguards for use with portable electrical appliances.**

**Level: 2                      Credit: 2**

**Purpose:**

People credited with this unit standard are able to: demonstrate knowledge of regulations for safeguards for portable electrical appliances; demonstrate knowledge of residual current devices (RCD), isolating transformers, and double insulation for purpose of protection; and inspect portable electrical appliances for defects.

### **Unit 15851 - Demonstrate knowledge of electrical safety and safe working practices for electrical workers.**

**Level: 2                      Credit: 3**

**Purpose:**

People credited with this unit standard are able to: demonstrate knowledge of the hazardous nature of electricity, the Health and Safety in Employment Act, the safety management of electrical hazards, general safety practices in the workplace, special hazards, and safe use of tools and test equipment; and analyse electrical incidents.

### **Unit 15852 - Isolate and test low-voltage electrical subcircuits.**

**Level: 2                      Credit: 2**

**Purpose:**

People credited with this unit standard are able to isolate electrical circuits from the supply of electricity and test electrical circuits to ensure safety prior to reconnection.

**Unit 6401 - Provide first aid & Unit 6402 - Provide resuscitation level 2, will be provided by your own preferred provider and the credits will be registered by them.**



## YEAR TWO:

### **Unit 15845 - Draw and explain simple electrical diagrams.**

**Level: 2**                      **Credit: 4**

**Purpose:**

People credited with this unit standard are able to: draw and explain simple electrical circuit diagrams; draw electrical location diagrams; draw single-line diagrams for electricity distribution; and draw a schematic circuit, block, and wiring diagrams from inspection of a given electrical product.

### **Unit 15862 - Demonstrate knowledge of industrial process control.**

**Level: 4**                      **Credit: 3**

**Purpose:**

People credited with this unit standard are able to demonstrate knowledge of common transducers, open-loop and closed-loop control, and control actions and three-term controllers.

### **Unit 15871 - Demonstrate knowledge of electrical installation in damp situations.**

**Level: 4**                      **Credit: 3**

**Purpose:**

People credited with this unit standard are able to: recognise damp situations with respect to electrical equipment; and demonstrate knowledge of the Ingress Protection (IP) code, the zone system of classification in damp areas, and the requirements of current regulations and standards for installation in damp situations.

### **Unit 16407 - Use and maintain hand and power tools for electrical work.**

**Level: 3**                      **Credit: 4**

**Purpose:**

People credited with this unit standard are able to use hand tools safely for electrical work, maintain hand tools, use power tools safely for electrical work, and maintain power tools.

### **Unit 23258 - Demonstrate knowledge of fire detection and alarm systems and installation practices.**

**Level: 3**                      **Credit: 20**

**Purpose:**

People credited with this unit standard are able to, for fire detection and alarm systems, demonstrate knowledge of: legislation, standards, and codes; input and output devices; conventional control equipment; addressable systems; gas flood systems; wiring requirements and procedures; and commissioning tests and procedures.

### **Unit 15861 - Demonstrate knowledge of direct current (d.c.) power supplies.**

**Level: 3**                      **Credit: 3**

**Purpose:**

People credited with this unit standard are able to: demonstrate knowledge of d.c. power supply principles, d.c. power supply filters, voltage regulators, and a variable d.c. power supply; and take measurements on a regulated d.c. power supply and compare with expected values.

### **Unit 8191 - Demonstrate systematic and logical fault finding techniques in electronic products or systems.**

**Level: 3**                      **Credit: 6**

**Purpose:**

This unit standard covers basic fault finding in electronic products or systems in a systematic and logical manner.

Included are:

- identification of relevant fault symptoms;
- application of logical and systematic techniques to identify fault location and cause.

### **Unit 17712 - Demonstrate knowledge of organisations and documentation that impact on the fire protection industry.**

**Level: 3**                      **Credit: 4**

**Purpose**

People credited with this unit standard are able to demonstrate knowledge of organisations and documentation that impact on the fire protection industry.

### **Unit 23259 - Demonstrate knowledge of checking and testing of fire detection and alarm systems.**

**Level: 3**                      **Credit: 8**

**Purpose:**

People credited with this unit standard are able to demonstrate knowledge of: general requirements for maintaining systems in compliance and good working order; monthly checks and tests; and annual checks and tests.



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## YEAR THREE:

### Work Place Assessment:

#### **Unit 23260 - Install fire detection and alarm systems.**

Level: 4                      Credit: 30

#### **Purpose:**

People credited with this unit standard are able to: plan and prepare for installations; install cabling; install fire detection and alarm equipment; and complete installation documentation.

#### **Unit 23261 - Commission fire detection and alarm systems.**

Level: 4                      Credit: 30

#### **Purpose:**

People credited with this unit standard are able to: prepare for commissioning; conduct examination and tests; and complete documentation and handover.

## YEAR FOUR:

### Work Place Assessments:

#### **Unit 23265 - Service fire detection and alarm systems.**

Level: 4                      Credit: 30

#### **Purpose:**

People credited with this unit standard are able to, for fire detection and alarm systems: prepare to service, service and document results of servicing.

#### **Unit 23267 - Design fire detection and alarm systems.**

Level: 5                      Credit: 20

#### **Purpose:**

People credited with this unit standard are able to, for fire detection and alarm systems: prepare to design, design, and prepare drawings and specifications.



Analogue addressable fire detection and alarm panel