



Australian Government

UEEEL0010 Evaluate and modify low voltage socket outlets circuits

Release: 2

UEEEL0010 Evaluate and modify low voltage socket outlets circuits

Modification History

Release 2. This is the second release of this unit of competency in the UEE Electrotechnology Training Package.

Typographic error fixed in Application

Workplace evidence requirements updated in Performance Evidence and Assessment Conditions.

Assessor requirements updated in Assessment Conditions.

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology Training Package.

Application

This unit involves the skills and knowledge required to evaluate and modify low voltage (LV) socket outlets circuits.

It includes working safely, identifying and repairing/replacing faulty socket outlets, ensuring all work complies with relevant Australian Standards and legislation, and completing work and documenting activities.

The skills and knowledge described in this unit require a licence or permit to practice in the workplace where work is carried out on electrical installations which are designed to operate at voltages greater than 50 volt (V) alternating current (a.c.) or 120 V direct current (d.c.).

Competency development activities in this unit are subject to regulations directly related to licensing. Where a licence or permit to practice is not held, a relevant contract of training, such as an Australian Apprenticeship, may be required.

Additional and/or other conditions may apply in some jurisdictions subject to regulations related to electrical work. Practice in the workplace and during training is also subject to work health and safety (WHS)/occupational health and safety (OHS) regulations.

Pre-requisite Unit

UEECD0007 Apply work health and safety regulations, codes and practices in the workplace

UEECD0019 Fabricate, assemble and dismantle utilities industry components

UEECD0020 Fix and secure electrotechnology equipment

UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications

UEEEL0019 Solve problems in direct current (d.c.) machines

UEEEL0021 Solve problems in magnetic and electromagnetic devices

UEEEL0020 Solve problems in low voltage a.c. circuits

UEEEL0023 Terminate cables, cords and accessories for low voltage circuits
and

UEECD0043 Solve problems in direct current circuits
or

UEECD0044 Solve problems in multiple path circuits

UEECD0046 Solve problems in single path circuits

Competency Field

Electrical

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes

1 Prepare to work on socket outlet circuits

2 Evaluate and modify

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element

- | | |
|------------|---|
| 1.1 | Scope of work is obtained from relevant documentation, electrical drawings or relevant person/s |
| 1.2 | WHS/OHS requirements and workplace procedures for a given work area are identified and applied |
| 1.3 | Hazards are identified, risks are assessed and control measures are implemented |
| 1.4 | Advice is sought from work supervisor to ensure the work is coordinated effectively with others |
| 1.5 | Sources of materials required for work are determined in accordance with workplace procedures |
| 1.6 | Tools, equipment and testing devices required to carry out work are obtained and checked for correct operation and safety |
| 2.1 | Socket outlets and circuits are checked and arrangement |

socket outlet circuits	identified
2.2	Circuits are checked and isolated in accordance with workplace procedures and regulatory requirements
2.3	The need to test or measure live work is determined in accordance with WHS/OHS requirements and, as necessary, conducted in accordance with workplace procedures
2.4	Fault/s and probable cause/s are identified from measure and calculated values as they apply to socket outlet circuits
2.5	Components are identified and replaced in accordance with manufacturer specifications and industry standards
2.6	Unexpected situations are dealt with safely and with the approval of relevant person/s
3 Complete work and document activities	3.1 WHS/OHS work completion risk control measures and workplace procedures are followed
	3.2 Worksite is cleaned and made safe in accordance with workplace procedures
	3.3 Justification for solutions used to modify circuits and equipment is documented
	3.4 Work completion is documented and an appropriate person/s notified in accordance with workplace procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEE Electrotechnology Training Package Companion Volume Implementation Guide.

Evaluating and modifying LV socket outlets circuits must include at least two of the

- single phase three pin socket outlets
- three phase four pin socket outlets

following socket outlets:

Evaluating and modifying LV socket outlets circuits must include at least three of the following circuits:

- three phase five pin socket outlets
- circuits supplying 10 A socket outlets
- circuits supplying 15 A socket outlets
- circuits supplying 20 A socket outlets
- circuits supplying 32 A socket outlets

Unit Mapping Information

No equivalent unit

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>

Assessment Requirements for UEEEL0010 Evaluate and modify low voltage socket outlets circuits

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions on at least two separate occasions and include:

- # applying work health and safety (WHS)/occupational health and safety (OHS) workplace procedures, including:
 - # identifying hazards, assessing risks and implementing control measures
- # checking circuits are isolated in accordance with workplace procedures and regulatory requirements
- determining the operating parameters of existing socket outlets circuits
- # altering existing socket outlets circuits to comply with specified operating parameters
- # developing socket outlets circuits to comply with a specified function and operating parameters
- # determining conditions causing existing socket outlets circuits to be unsafe
- installing circuits supplying a combination of socket outlets and equipment
- installing, terminating and testing of supported pendant outlets
- # verifying correct operation of the installed circuits, including dead testing to comply with industry standards
- # verifying the polarity of switched socket outlets
- # identifying faulty socket outlets from visual inspection and/or test results
- ensuring all work complies with relevant Australian Standards and legislation
- completing work and documenting activities.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of

the requirements of the elements, performance criteria and range of conditions and include knowledge of:

- circuits for socket outlets, including:
 - different types of socket outlets and their purpose
 - requirements concerning the polarity of switched socket outlets
 - techniques for checking for phase rotation for three phase outlets
 - correct cable size to supply 10 ampere (A), 15 A, 20 A and 32 A socket outlets (single and three phase) for given installation conditions
 - verifying number of socket outlets connected to a 16 A and 20 A circuit breaker in accordance with industry standards
 - installation methods of single phase socket outlet circuits
 - correct operation of the installed circuits, including dead testing for correct in accordance with industry standards
 - circuit protection and residual current device (RCD) requirements for socket outlets circuits
 - use of cable support systems for pendant outlets
 - socket outlets for vehicle charging
- final sub-circuits and segregation, including:
 - purpose of mixed circuits
 - circuit loading for a mixed circuit
 - purpose of segregation of circuits and the AS/NZS 3000 requirements
 - installation methods a single phase mixed circuit
 - verifying correct operation of the installed circuits, including testing for correct compliance with industry standards
- identifying faults in socket outlets circuits including:
 - circuit diagrams, wiring diagrams, cable schedules and specifications of socket outlets circuits
 - common fault symptoms and associated causes
 - common faults in socket outlets circuits
 - techniques for locating and repairing/replacing faulty socket outlets
 - methods to determine the cause of RCD operation in a socket outlets circuits
- hazards and safety requirements related to equipment incorporating electronic components used in electrical systems
- relevant manufacturer specifications.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessors must also hold the occupational licence for the jurisdiction the assessment is occurring where the activity being assessed requires a licence to practice.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in suitable workplace operational situations where it is appropriate to do so, where this is not appropriate, assessment must occur in suitable simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, facilities, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation, including workplace procedures, equipment specifications, regulations, relevant industry standards, codes of practice and operation manuals.

In addition, evidence of Performance Evidence items of this unit marked with a hash (#) must be gathered in authentic workplace operational conditions (not simulated) before final determination of competence in this unit can be made.

Links

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