Australian Government

# UEEIC0025 Provide solutions to extra-low voltage (ELV) electro-pneumatic control systems and drives

**Release: 1**

# UEEIC0025 Provide solutions to extra-low voltage (ELV) electro-pneumatic control systems and drives

## Modification History

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 provide solutions to extra-low voltage (ELV) electro-pneumatic elements operating at ELV and variable speed drives.

It includes working safely, establishing required control functions, checking device installation, entering instruction into programmable devices, following workplace instruction and procedures and completing documentation.

Electrical connections referred to in this unit are confined to pre-assembled plug and socket sets. This unit does not cover competencies for installation and connection of electrical wiring.

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, skills and knowledge described in this unit require a relevant contract of training, such as an Australian Apprenticeship.

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.

Permits may also be required for some work environments, such as confined spaces, working aloft, near live electrical apparatus and site rehabilitation.

No other licensing, legislative or certification requirements apply to this unit at the time of publication.

## Pre-requisite Unit

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

## Competency Field

Instrumentation & Control

# Unit Sector

Electrotechnology

# Elements and Performance Criteria

| ELEMENTS | PERFORMANCE CRITERIA |
|---|---|
| Elements describe the essential outcomes. | Performance criteria describe the performance needed to demonstrate achievement of the element. |
| **1 Prepare to problem solve electro-pneumatic control systems** | **1.1** WHS/OHS processes and workplace procedures for a given work area are identified, obtained and applied |
| | **1.2** Hazards are identified, WHS/OHS risks assessed, and control measures and workplace procedures implemented in preparation for work |
| | **1.3** Safety hazards that have not previously been identified are reported on job safety assessments and advice on risk control measures is sought from relevant supervisor |
| | **1.4** Control functions and drive system required to perform work are identified and documented from work instructions/specifications, relevant work supervisor or customer |
| | **1.5** Tools, equipment, inspection and testing devices needed to carry out the work are obtained and checked for correct operation and safety |
| **2 Provide electro-pneumatic control systems solutions** | **2.1** WHS/OHS risk control measures and workplace procedures for carrying out work are followed |
| | **2.2** Circuits/machines/plant are checked and isolated, as required, in accordance with WHS/OHS requirements and workplace procedures |
| | **2.3** Circuits for electro-pneumatic control and drive system are developed to meet the required functions and specifications |
| | **2.4** Locations of control field devices are inspected, checked and adjusted to ensure they function correctly |
| | **2.5** Circuits for the electro-pneumatic control and drive system component connections are inspected and |

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| | | checked against the developed circuits specifications |
| | **2.6** | Functioning of the systems entering into programmable components and parameters is set in accordance with developed circuit and manufacturer programming instructions/specifications |
| **3 Inspect, test and document electro-pneumatic control systems** | **3.1** | Operation of the electro-pneumatic control and drive system is tested in accordance with WHS/OHS requirements and workplace procedures |
| | **3.2** | Operating anomalies are identified and corrected in accordance with workplace procedures |
| | **3.3** | WHS/OHS work completion risk control measures and workplace procedures are followed |
| | **3.4** | Worksite is cleaned and made safe in accordance with workplace procedures |
| | **3.5** | Work completion is reported and 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.

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| Developing an electro-pneumatic system using a programable logic controller (PLC) must include the following: | • at least four digital input/outputs (I/O)<br>• at least one analogue output |

## Unit Mapping Information

This unit replaces and is equivalent to UEENEEI138A Provide solutions to extra low voltage (ELV) electro-pneumatic control systems and drives.

# Links

Companion Volume implementation guides are found in VETNet - - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6