Australian Government

UEEIC0015 Develop, enter and verify word and analogue control programs for programmable logic controllers

Release: 1

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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 develop, enter and verify word/text and analogue control programs for programmable logic controllers (PLCs).

It includes identifying, developing and entering industrial control system programs, as well as monitoring, verifying and documenting programming activities. It also includes installing and testing programs for an industrial system requiring advanced control functions using structure logic and acceptable design techniques.

No 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

UEEIC0013 Develop, enter and verify discrete control programs for programmable controllers

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 Identify industrial control system	**1.1** Work health and safety (WHS)/occupational health and safety (OHS) requirements and workplace procedures

		are identified and applied
	1.2	Hazards are identified, risks are assessed and control measures implemented
	1.3	Mode of operation of control system is determined from job specifications and consultations with relevant person/s
	1.4	Equipment, software and testing devices for work are obtained in accordance with workplace procedures and checked for correct operation and safety
	1.5	Installation of programmable controller is checked for compliance with regulations, relevant industry standards and job specifications
2 Develop and enter programs for industrial control system	**2.1**	WHS/OHS risk control measures and procedures for carrying out the work are followed
	2.2	Control solutions are developed and documented based on operational mode and using acceptable methods for designing control system containing numeric variables and values
	2.3	Control solution is entered using information technology and appropriate software
	2.4	Programming elements are written and used to manipulate word data
	2.5	Program control values are assigned using applicable numbering systems and codes
	2.6	Programs are written to read and write analogue signals
	2.7	Arithmetic functions are used to scale analogue inputs to a specified input range
	2.8	Arithmetic functions are used to un-scale an engineering value to drive an analogue output
	2.9	Unplanned situations are responded to in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
3 Monitor, verify and document programming activities	**3.1**	Device operation is tested in accordance with workplace procedures and manufacturer specifications

3.2 Programming is tested in accordance with specified control mode requirements

3.3 Operating anomalies are identified and corrected in accordance with workplace procedures

3.4 WHS/OHS work completion risk control measures and procedures are followed

3.5 Control system specifications and programs are documented 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.

Developing, entering and verifying word/text and analogue control programs for PLCs must include at least five of the following:

- hardware configuration
- software configuration
- number systems
- converting between systems
- basic diagnostics
- binary word structure
- integer (INT), double integer (DINT) and REAL arithmetic operations
- scaling and un-scaling engineering units

Unit Mapping Information

This unit replaces and is equivalent to UEENEEI151A Develop, enter and verify word and analogue control programs for programmable logic controllers.

Links

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