



Australian Government

Department of Education, Employment and Workplace Relations

MEM10005B Commission programmable controller programs

Release: 1

MEM10005B Commission programmable controller programs

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers adjusting and commissioning the programmable controller program to specification only.
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Application of the Unit

Application of the unit	All programmable controller programs include single and multi-loop programs and control sequencing of processes. Work is undertaken autonomously or as part of team environment using predetermined standards of quality, safety and workplace procedures. Work is undertaken on location. It is assumed that this unit will normally be accessed in conjunction with units of skill that relate to the operational processes controlled by the programmable controller. Programmable controllers include PLC and DCS or similar devices. Band: A Unit Weight: 4
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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
Path 1	MEM09002B	Interpret technical drawing
	MEM10004B	Enter and change programmable controller operational parameters
	MEM16008A	Interact with computing technology

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Commission programmable controller program	1.1. Program format and operational intent are determined and understood. 1.2. Program instructions are checked for compliance with specifications using appropriate techniques. 1.3. Software timers and counters are set to specifications where required. 1.4. Program is stepped through manually and outputs are checked and measured for compliance with specifications. 1.5. Where applicable, program is edited to meet specifications. 1.6. External inputs are checked for compliance with specifications utilising correct and appropriate techniques. 1.7. Where applicable, program is run and total operation is checked for compliance with specifications. 1.8. Where applicable, final adjustments are undertaken to meet operational specifications using standard operational procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- obtaining all relevant circuit drawings, ladder diagrams, engineering data sheets, manufacturers' procedures and data sheets
- complying with specifications and adjusting programs
- reading, interpreting and following information on written job instructions, specifications, standard operating procedures, charts, lists, drawings and other applicable reference documents
- planning and sequencing operations
- checking and clarifying task related information
- checking external inputs for conformance to specification using appropriate

REQUIRED SKILLS AND KNOWLEDGE

techniques/equipment

- checking process operation, and editing and adjusting as required to ensure conformance to specification
- undertaking numerical operations, geometry and calculations/formulae within the scope of this unit

Required knowledge

Look for evidence that confirms knowledge of:

- format of the program
- program specifications
- procedures and techniques for checking that program instructions comply with specifications
- procedures for dealing with any non-conformances with specifications
- procedures for setting software timers and counters
- function of software timers and counters
- procedures for manually stepping through the program
- checks that can be made of program outputs
- techniques to be used in checking program outputs
- measurements to be taken during the checking of program outputs
- instruments to be used to take measurements
- procedures for editing programs
- checks to be made to ensure that the external inputs comply with specifications
- techniques and equipment to be used in checking external inputs
- procedures for running the program
- specifications and operational processes controlled by the programmable logic controller
- techniques and equipment to be used to check the operational process
- adjustments that can be made to the program
- effects of adjustments on the operational processes controlled by the program
- procedures to be followed when adjusting programs
- hazards and control measures associated with commissioning programmable controller programs, including housekeeping
- safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

A person who demonstrates competency in this unit must be able to commission programmable controller programs. Competency in this unit cannot be claimed until all prerequisites have been satisfied.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.

Context of and specific resources for assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with commissioning programmable controller programs or other units requiring the exercise of the skills and knowledge covered by this unit.

Method of assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning should not require language, literacy and numeracy skills beyond those required in this unit. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

EVIDENCE GUIDE**Guidance information for assessment****Range Statement****RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Specifications

All specifications and procedures gained from circuit drawings, ladder diagrams, engineering data sheets, program print-out manufacturers' procedures and data books

Unit Sector(s)**Unit sector****Co-requisite units**

Co-requisite units		

Competency field

Competency field	Installation and commissioning
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