

<b>Title</b>	<b>Install, wire to, and connect a machine safety device</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>2</b>

<b>Purpose</b>	<p>This unit standard covers wiring and connection of a machine safety device to a safety controller or a safety PLC. It is intended for people wishing to qualify as electricians predominantly in the industrial sector.</p> <p>People credited with this unit standard are able to:</p> <ul style="list-style-type: none"> <li>– under supervision establish and report on the suitability of a selected machine safety device; and</li> <li>– install, wire, and commission a machine safety device to a safety controller, monitored safety relay, or a safety PLC.</li> </ul>
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<b>Classification</b>	Electrical Engineering > Electrical Installation and Maintenance
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<b>Available grade</b>	Achieved
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### Guidance Information

- 1 This unit standard has been developed for learning and assessment on-job.
- 2 Definitions
  - PLC – programmable logic controller.*
  - Safe and sound practice – as it relates to the installation of electrical equipment is defined in AS/NZS 3000:2007, Electrical Installations (known as the Australian/New Zealand Wiring Rules).*
- 3 Range
  - a Safety devices may include but are not limited to – emergency stop, light curtain, guard switch, rope pull switch, zero speed detection, light grid, light beams and scanners, gate latching devices. Evidence of two different safety devices is required.
  - b Candidates may refer to current legislation and Standards during assessment.
  - c Demonstration of safe working practices and installation in accordance with *safe and sound practice* are essential components of assessment of this unit standard.
  - d All activities and evidence presented for all outcomes and performance criteria in this unit standard must be in accordance with:
    - i legislation;
    - ii policies and procedures;
    - iii ethical codes;
    - iv Standards – may include but are not limited to those listed in Schedule 2 of the Electricity (Safety) Regulations 2010;
    - v applicable site, enterprise, and industry practice; and,

- vi where appropriate, manufacturers' instructions, specifications, and data sheets.

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## Outcomes and performance criteria

### Outcome 1

Under supervision establish and report on the suitability of a selected machine safety device.

#### Performance criteria

- 1.1 Demonstrate knowledge of the risk assessment process and obtain a risk assessment.
- 1.2 Design and draw the safety circuit showing the safety infrastructure and its redundancy to achieve the category of protection required in accordance with the risk analysis.
- 1.3 Ensure that the selected machine safety device, to a safety controller or a safety PLC, meets the electrical and environmental requirements based on specifications and client requirements.
- 1.4 Prepare a report on the suitability of the selected components.

### Outcome 2

Install, wire, and commission a machine safety device to a safety controller, monitored safety relay, or a safety PLC.

#### Performance criteria

- 2.1 Install, wire, and connect safety equipment as outlined in drawings developed in performance criterion 1.2.
- 2.2 Connect a machine safety device to a safety controller or a safety PLC.
- 2.3 Connect and carry out functional and safety tests to ensure any test equipment used will not compromise the safety devices selected for the job and prepare test report.

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**This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.**

#### Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	21 July 2016	31 December 2025
Review	2	24 March 2022	31 December 2025

<b>Consent and Moderation Requirements (CMR) reference</b>	0003
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

This unit standard is expiring