

Title	Demonstrate practical electrical skills for Electronic Security Installers		
Level	3	Credits	4

Purpose	<p>This unit standard covers the practical electrical skills required for registration as <i>Electrician limited to Electronic Security Installer</i>.</p> <p>People credited with this unit standard are able to:</p> <ul style="list-style-type: none"> – identify cable types and sizes; – identify subcircuits and determine cable for connection of security control panel; – install and terminate cable to connect security control panel to existing subcircuit; – inspect, test, rectify abnormal conditions, and commission connection of security control panel to existing subcircuit.
----------------	--

Classification	Electronic Engineering > Electronic Security
-----------------------	--

Available grade	Achieved
------------------------	----------

Guidance Information

- 1 This unit standard has been developed for learning and assessment off-job.
- 2 This unit standard was developed as a component of the National Certificate in Electronic Security (Level 3) [Ref: 0414], which includes training and assessments relating to the cabling and connection of security control panels to existing 230 volt subcircuits. Candidates who have obtained the National Certificate may apply to the Electrical Workers Registration Board (EWRB) for registration and licensing as *Electrician limited to Electronic Security Installer*.
This registration is a limited electrical registration, which covers the safe connection of cabling and security control panels to existing 230 volt subcircuits in domestic installations. It does not cover work at switchboards other than circuit isolation or fuse replacement.
- 3 Competency in this unit standard should be assessed only after competency in the following unit standards has been achieved, or equivalent knowledge and skills demonstrated:
 - Unit 1204, *Demonstrate knowledge of earthing*;
 - Unit 1205, *Demonstrate knowledge of electrical switchboards*;
 - Unit 15855, *Demonstrate knowledge of circuit protection*;
 - Unit 15856, *Demonstrate knowledge of the electricity network and the multiple earthed neutral system of supply*;
 - Unit 15859, *Demonstrate knowledge of electrical cables and accessories*;

Unit 15861, *Demonstrate knowledge of direct current (d.c.) power supplies*;
Unit 15864, *Demonstrate knowledge of semiconductor power devices*;
Unit 15871, *Demonstrate knowledge of electrical installation in damp situations*.

- 4 Competency under this unit standard does not entitle the candidate to legally connect security control panels to subcircuits without appropriate supervision, until he/she has been registered and licensed.
- 5 References
AS/NZS 3000:2007, *Electrical installations (known as the Australian/New Zealand Wiring Rules)*;
AS/NZS 3008.1.2:1998, *Electrical Installations – Selection of Cables, Cables of alternating voltages up to and including 0.6/1kV, Typical New Zealand installation conditions*;
AS/NZS 3760:2003, *In-service safety inspection and testing of electrical equipment*;
AS/NZS 3820:1998, *Electrical installations – Essential safety requirements for low voltage electrical equipment*;
Electrical Workers Registration Board, *Manual for Safety Training in the Electrical Industry*, March 2000, Wellington;
Electricity Act 1992;
Electricity Regulations 1997;
NZS 3019 (Int):2007, *Electrical installations – In-service testing*;
and all subsequent amendments and replacements.
- 6 Performance of all outcomes must comply with the legislation and standards listed in guidance information note 5.

Outcomes and performance criteria

Outcome 1

Identify cable types and sizes.

Range flexible cables – circular section PVC, rubber sheathed;
fixed wiring cables – tough plastic sheathed (TPS), conduit wire, butyl rubber insulated (BRI) or vulcanised india rubber (VIR), neutral screened cable.

Performance criteria

- 1.1 Cable types are identified by sight.
- 1.2 Cable conductor sizes are identified by sight or measurement.

Outcome 2

Identify subcircuit and determine cable for connection of security control panel within the scope of Electronic Security Installer registration.

Performance criteria

- 2.1 Existing subcircuit suitable for providing power to security control panels is identified by inspection.

- 2.2 Cable type and size suitable for connection of security control panel to existing subcircuit are determined in accordance with current legislation and standards.

Outcome 3

Install and terminate cable to connect security control panel to existing subcircuit within the scope of Electronic Security Installer registration.

Performance criteria

- 3.1 Subcircuit is isolated, tagged and proven safe.
- 3.2 Cable is installed in accordance with current legislation and standards.
- 3.3 Cable terminations are made in accordance with current legislation and standards.

Outcome 4

Inspect, test, rectify abnormal conditions, and commission connection of security control panel to existing subcircuit.

Performance criteria

- 4.1 Visual inspection of all parts of the subcircuit is conducted in accordance with current legislation and standards.
- 4.2 Electrical tests and measurements of all parts of the subcircuit are made in accordance with current legislation and standards.
- Range tests and measurements – resistance of protective earthing conductors, insulation resistance, polarity, correct circuit connections.
- 4.3 Abnormal circuit conditions or hazards are identified and corrected.
- Range abnormal conditions – high earth resistance, no earth connection, loose termination, incorrect cable type, high resistance joint.
- 4.4 Results are recorded according to current legislation and standards.
- 4.5 Subcircuit fuses, circuit breakers, or residual current devices are restored, subcircuit proven as fully functional, and safety tags removed.

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	23 March 2004	31 December 2021
Rollover	2	21 November 2008	31 December 2021
Review	3	24 January 2019	31 December 2021

Consent and Moderation Requirements (CMR) reference	0003
--	------

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

This unit standard is Expiring