ICTTEN208 Use electrical skills when working with telecommunications networks

Release: 1

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Modification History

Release	Comments
Release 1	This version released with ICT Information and Communications Technology Training Package Version 5.0.

Application

This unit describes the skills and knowledge required to use electrical skills when working with analog and digital, cabling and wireless networks in telecommunications.

It applies to entry-level workers who undertake basic testing, circuit building, and evaluation of cable and wireless devices, and who may work in domestic, commercial or industrial situations.

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

Unit Sector

Telecommunications – Telecommunications Networks Engineering

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1 Connect, test and verify alternating current (AC) and direct current (DC) circuitry	1.1 Identify work health and safety (WHS) issues and notify appropriate personnel 1.2 Connect a series and a parallel circuit following safe work practices 1.3 Choose appropriate test equipment and measure voltage (V), current (I) and resistance (Ω) values for the electricity in these circuits 1.4 Use calculations to verify the flow of electrical current in these circuits 1.5 Compare measured values to calculated values and determine reasons for any variations

ELEMENT	PERFORMANCE CRITERIA
	1.6 Measure low voltage (LV), extra low voltage (ELV) or telecommunications network voltage (TNV) and determine if values are within equipment or power supply specifications
	1.7 Use appropriate test equipment to measure AC voltage (multimeter) or AC current (clamp meter) in a safe manner that does not require an LV circuit to be disconnected
	1.8 Test residual current devices (RCD) or earth leakage devices to ensure they are operational prior to working with AC mains powered equipment, power supplies and tools
	1.9 Evaluate results and determine probable faults as required
2. Evaluate analog and digital signals	2.1 Compare characteristics of an analog signal and a digital signal
	2.2 Produce a layout using building blocks to represent a typical analog and a typical digital circuit to show different characteristics
3. Perform cable selection	3.1 Compare basic transmission characteristics, resistance, impedance and effects of signal frequency of different types of cables and select the most appropriate type to suit application
	3.2 Connect two devices with a patch cable and test the connection

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance, but not explicit in the performance criteria.

Skill	Description
Reading	• Interprets textual information to inform decision-making process
Writing	• Uses industry specific language to produce technical documentation
Oral Communication	• Articulates specific concerns and issues clearly and listens to and acts on responses of others
Numeracy	• Performs basic calculations to check data, make predictions and make comparisons • Selects and uses appropriate tools to take measurements, analyse results and perform calculations
Navigate the world of work	• Follows legislative requirements and enterprise protocols, policies and procedures relevant to own role
Get the work done	• Determines job sequence and works logically and systematically to undertake clearly defined tasks

Skill	Description
	• Identifies task requirements to decide on appropriate equipment and practices • Applies problem-solving processes within scope of own role to locate and resolve faults

Unit Mapping Information

No equivalent unit. Supersedes and is not equivalent to ICTTEN201 Use electrical skills in telecommunications work.

Links

Companion Volume Implementation Guides are available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2