

Title	Maintain temperature measurement devices used in industry		
Level	4	Credits	10

Purpose	People credited with this unit standard are able to: <ul style="list-style-type: none"> – reconfigure or calibrate temperature measurement devices; – service and test temperature measurement devices and systems.
----------------	---

Classification	Industrial Measurement and Control > Industrial Measurement and Control - Maintenance
-----------------------	---

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

Guidance Information

- 1 This unit standard has been developed for learning and assessment in a workplace environment.
- 2 References
 ANSI/ISA-51.1-1979 (R1993) *Process Instrumentation Terminology*;
 Electricity Act 1992;
 Electricity (Safety) Regulations 2010;
 Health and Safety at Work Act 2015 and associated regulations;
 ISSN 0114-0663, *New Zealand Electrical Codes of Practice*, available from
 Worksafe, <https://worksafe.govt.nz/>;
 and all subsequent amendments and replacements.
- 3 References
Industry requirements – includes all asset owner requirements; manufacturers' specifications; enterprise requirements which cover the documented workplace policies, procedures, specifications, and business requirements; and quality management requirements relevant to the workplace in which the assessment is carried out.
Maintain – planned activity during normal operation, to conserve or keep an item or piece of equipment in a state of repair and to ensure that this is done in a sustainable way.
Service – planned activity during normal operation that involves inspection, cleaning, testing, adjusting, or making minor repairs to a piece of equipment to ensure that it works properly.
- 4 Recommended skills and knowledge: Unit 2634, *Demonstrate knowledge of temperature measurement systems used in industry*; and Unit 28078, *Demonstrate knowledge of industrial measurement processes, standards, and calibration*.

Outcomes and performance criteria

Outcome 1

Reconfigure or calibrate temperature measurement devices.

Range resistance temperature transmitter (RTD), thermocouple transmitter, loop equipment.

Performance criteria

1.1 Identify types and causes of typical errors.

Range may include but is not limited to – earth faults, loop resistance, reference-probe error.

1.2 Explain and follow safe work procedures.

Range may include but is not limited to – isolation, temperature, thermowell.

1.3 Select test equipment according to the accuracy required of the device and the full loop to be calibrated.

Range may include but is not limited to – dedicated test equipment, simple resistance testing device, potentiometer, comparative type testing device, ice bath, dry-block, blackbody furnace.

1.4 Calibrate full temperature measuring loop, as specified by the data sheet.

1.5 Document test results in accordance with industry requirements.

Outcome 2

Service and test temperature measurement devices and systems.

Range RTD transmitter, thermocouple transmitter, filled systems, radiation pyrometer, bimetallic thermostats, and associated equipment; evidence of two is required.

Performance criteria

2.1 Locate, interpret, and apply technical information for maintaining equipment.

2.2 Explain and follow safe work procedures.

Range may include but is not limited to – isolation, temperature, thermowell.

2.3 Complete maintenance and repairs to ensure continued operation.

Range may include but is not limited to – tools, materials, parts, techniques (including tests), specifications.

2.4 Produce maintenance reports in accordance with industry requirements.

Planned review date	31 December 2021
----------------------------	------------------

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	31 October 1995	31 December 2013
Revision	2	30 October 1997	31 December 2013
Revision	3	3 April 2001	31 December 2013
Review	4	22 June 2001	31 December 2013
Review	5	19 May 2008	31 December 2019
Review	6	21 November 2013	N/A
Rollover and Revision	7	28 June 2018	N/A

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

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

Comments on this unit standard

Please contact The Skills Organisation reviewcomments@skills.org.nz if you wish to suggest changes to the content of this unit standard.