

40236**Diagnose and correct faults in industrial systems**

Kaupae Level	4
Whiwhinga Credit	20
Whāinga Purpose	<p>This skill standard recognises the skills required to diagnose and correct faults in measurement and control systems used in an industrial environment.</p> <p>This skill standard may contribute to the New Zealand Certificate in Industrial Measurement and Control (Practice) (Level 4) [Ref: 2251].</p>

Hua o te ako me Paearu aromatawai | Learning outcomes and assessment criteria

Hua o te ako Learning outcomes	Paearu aromatawai Assessment criteria
1. Describe common faults in industrial measurement and control systems.	a. Expected symptoms of common faults and their typical root causes are described.
2. Assess fault symptoms in industrial measurement and control systems.	a. Evidence of faults is located using systematic observations, measurements, tests, and logical techniques. b. Diagnostic tools are used to clearly identify the part of the system in which the fault lies.
3. Minimise the consequences of faults and repair procedures in industrial measurement and control systems.	a. Any alternative operating procedures are identified and communicated to prevent further negative consequences. b. Testing and repair procedures are organised to cause minimum disruption to normal operation.
4. Correct faults in industrial measurement and control systems.	a. The appropriate method to correct the fault is followed to meet industry requirements. b. Fault correction details are accurately documented to meet stakeholder requirements.

Pārongo aromatawai me te taumata paearu | Assessment information and grade criteria

Assessment specifications:

Common faults may be described in writing, orally, or using a drawing.

The initial assessment of fault symptoms may involve the process under investigation or be restricted to the measurement and control system, depending on circumstances and enterprise practice.

Evidence for this standard can include repair, replacing with like for like, or performing preventative improvement to correct the fault.

To achieve this standard the candidate must be capable of consistently:

- performing the skill to the required industry standard
- repeating the skill on demand
- performing the skill without supervision
- applying the skill to other work.

Industry requirements refer to 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.

Ngā momo whiwhinga | Grades available

Achieved.

Ihirangi waitohu | Indicative content

- Common faults in measurement and control systems, expected symptoms, and typical root causes. Faults include blocked or isolated process sensing lines, high-resistance connections, leaks in pneumatic systems, control valve faults, incorrect or defective earthing, incorrect or defective power supply.
- Assessment of fault symptoms.
- Logical processes for diagnosis.
- Reference information to support diagnosis.
- Consequences of faults on plant operation and safety
- Consequences of testing and repair procedures on plant operation and safety.
- Fault repair.
- Reporting and documentation.

Rauemi | Resources

- Programme guidance available from qualifications@waihangaararau.nz.
- Manufacturers' instructions and device specification sheets relevant to the systems and equipment used for the task.
- Electricity Act 1992.
- Electricity (Safety) Regulations 2010.
- All vocabulary will align to the IEC 60050 International Electrotechnical Vocabulary (IEV) available at [IEC 60050 - International Electrotechnical Vocabulary](#).

Pārongo Whakaū Kouna | Quality assurance information

Ngā rōpū whakatau-paerewa Standard Setting Body	Waihanga Ara Rau Construction and Infrastructure Workforce Development Council
Whakaritenga Rārangi Paetae Aromatawai DASS classification	Engineering and Technology > Industrial Measurement and Control > Industrial Measurement and Control - Maintenance
Ko te tohutoro ki ngā Whakaritenga i te Whakamanatanga me te Whakaōritenga CMR	0003

Hātepe Process	Putanga Version	Rā whakaputa Review Date	Rā whakamutunga mō te aromatawai Last date for assessment
Rēhitatanga Registration	1	30 January 2025	N/A
Kōrero whakakapinga Replacement information	N/A		
Rā arotake Planned review date	31 December 2029		

Please contact Waihanga Ara Rau Construction and Infrastructure Workforce Development Council qualifications@waihangaararau.nz to suggest changes to the content of this skill standard.