
REGULATED QUALIFICATION FRAMEWORK (RQF)

QUALIFICATION SPECIFICATION

LCL Awards Level 2 Award Principles of Metering for Renewable Heat Installations

1.0 Qualification Objectives

The objectives of the qualification are to:

1. Prepare learners to progress to a qualification in the same subject area but at a higher level or requiring more specific knowledge, skills and understanding
2. Prepare learners to progress to a qualification in another subject area.

2.0 Prior qualifications, knowledge, skill or understanding which learners are required to have achieved before taking the qualification

There are no prerequisites for learners to enrol on the qualification. However, the Approved Centre (AC) shall carry out an initial assessment of the learner's capability to complete the qualification.

3.0 Other requirements which a learner must have satisfied before the learner will be assessed or before the qualification will be awarded

None.

4.0 Qualification Framework

The qualification comprises of one mandatory Unit which must be satisfactorily completed by learners.

Unit Title	Unit Reference Number	Type of Unit	Level	Credit Value
Principles of Metering for Renewable Heat Installations	LCL-R2001	Knowledge	2	1

4.1 Qualification Time and Credit Value:

- Total Qualification Time (TQT) is 10 hours
- The Guided Learning Hours (GLH) are 5
- The total credit value of the qualification is 1.

4.2 Qualification Level

The qualification has been assigned at level 2.

4.3 Grading Structure

The grading structure for the qualification is that learners are required to achieve a result of **Pass** to be awarded credit for the unit.

This qualification will be achieved when learners have successfully completed:

- The LCL Awards set and marked multiple choice and written knowledge examinations.

4.4 Assessment Methods

The assessment method within the qualification is paper based examinations consisting of:

- Multiple Choice Paper
- Short Response Paper.

The assessment method has been designed to assess the knowledge and understanding of learners.

The multiple choice and short response examinations are set by LCL Awards and marked by an LCL Awards approved assessor at the AC.

5.0 The criteria against which learners' level of attainment will be measured

The Learning Outcomes and Assessment Criteria against which learners' level of attainment will be measured are detailed in the examination and assessment specification for each unit below.

Unit Learning Outcomes and Assessment Criteria

LCL-R2001: Principles of Metering for Renewable Heat Installations

Learning Outcome 01. The learner will know the requirements for metering renewable heat installations.

The learner will demonstrate knowledge of:

- 1.1 When metering is require
- 1.2 The types of heat meters and other system meters.
- 1.3 The statutory legislation that applies to heat metering
- 1.4 Relevant industry guidance and standards (non-statutory).

Learning Outcome 02. The learner will know how to select heat meter and components.

The learner will demonstrate knowledge of:

- 2.1 The meaning of the following terms in relation to a heat meter Range:
 - Accuracy
 - Resolution
 - Q_i
 - Q_p
 - Q_s
 - Calibration
 - Minimum temperature difference.
- 2.2 How pressure drop and liquid type affects heat metering arrangements
- 2.3 The key heat meter components and their functionality:
 - Calculator (integrator)
 - Flow sensors
 - Temperature sensors as matched pair.
- 2.4 Identifying correct ancillary fittings.

Learning Outcome 03. The learner will know where to position meters and their components

The learner will demonstrate knowledge of:

- 3.1 Identify correct metering component positioning arrangements
- 3.2 Relevance of, and be able to identify sources of, flow disturbance.

Learning Outcome 04. The learner will know how to install heat meters

The learner will demonstrate knowledge of:

- 4.1 The heat meter installation procedure
- 4.2 The importance of installing components in accordance with heat meter manufacturer instructions:
 - Correct orientation of flow sensor
 - Correct alignment of flow sensor with direction of flow
 - Correct mounting of temperature sensors
 - Maintaining the temperature sensor cable resistances.

Learning Outcome 05. The learner will know how to commission the heat meter installation.

The learner will demonstrate knowledge of:

- 5.1 The commissioning procedure in accordance with the manufacturer's instructions.
- 5.2 The handover procedure to the customer:
 - The explanation of operation and use of meter(s) including error codes
 - The handover documentation

Learning Outcome 06. The learner will know how to fault find and maintain heat meters

The learner will demonstrate knowledge of:

- 6.1 The servicing and maintenance requirements:
 - Visual inspections of components and mechanical connections
 - Verification of absence of contaminants and composition of heat transfer liquid
 - Review of integrator / calculator error / fault codes
 - Obtain integrator / calculator readings
 - Verification of integrator / calculator readings
 - Verification that any anti-tampering features are intact
 - Potential requirement for re-calibration in accordance with manufacturer's instructions.

6.0 Other Information

Qualification Regulator Numbers:

- Ofqual QAN 601/3482/3
- Qualifications Wales C00/0647/7

Sector Skills Area: SSAs: 5.2 Building and Construction.

Age suitability: 16 plus.

Last Qualification Review Date October 2023

Next Qualification Review Date: 31.10.2026

Amended April 2024