Customer information sheet
Basic Electrical Fault-Finding Principles

NICEIC package includes:

- training delivery exercises.

Code	Core assessments	Practical provisions
BEFFP	Basic electrical fault-finding principles	Further details can be found on the package guidance doc.

Introduction

This training course is designed for suitably qualified/experienced learners who have proven experience in electrical aspects of heating installation and/or maintenance activities.

On successful completion of this training course the learners will have a better understanding of interpreting readings taken using an electrical test meter and apply their knowledge more effectively when performing electrical fault diagnosis.

Depending on the learner's previous work experience, the learner may get greater benefit from the NICEIC Certification Electrical Testing and Fault-Finding for Heat Pump Technicians by initially completing this training package.

This course is also suitable for learners who are working towards a qualification/MLP award as part of a gas industry standards of training approved entry route.

In all cases suitable supervision and risk assessments must be in place regarding safe electrical isolation and the suitability of the learner.

This course is also suitable for learners who are working towards a qualification/MLP award as part of a gas industry standards of training approved entry route.

Contents

This course consists of several trainer demonstrations and learner exercises explained in the following text.

The design of the test boards is explained in the Approved Centre Guidance document, you will need to familiarise yourself with their design and construction in order to effectively deliver this training package.

- Exercise 1: Continuity testing (mapping the wiring of the test board)
- Exercise 2: Wiring Simple Circuits
- Exercise 3: Functional flow wiring diagrams
- Exercise 4: Wiring more complex circuits
- Exercise 5: Polarity readings
- Exercise 6: Fault finding techniques
- Resistance testing
- Live testing.

Learner pre- requisites

The application form contains a section to assist with determining the suitability of the learner, the learner is asked to declare their qualifications and experience allowing the centre to make an informed decision.

Proven experience in:

- Heating installation and/or maintenance activities?
- Working towards qualification / MLP award as part of a gas industry standards of training approved entry route?

Certificate of training

A certificate of training will be issued if a candidate can meet the requirements laid down within the training specification document.

Guidance doc. theory provisions

Theory provisions	Initial
The classroom or resource room shall be in a suitable and quiet location.	✓
Adequate space and layout that benefits and encourages a conducive learning environment.	✓
Appropriate space between learners when undertaking tests (1 metre).	✓
A clock should be in full view.	✓
Adequate lighting levels (minimum 500 lux) must be provided.	✓
Adequate heating and environmental comfort levels.	✓
Teaching aids to include flip charts, pen boards, projectors and reference materials.	✓
Classroom risk assessed for health, safety and environment conformance.	✓
Practical provisions	
Electrical test meter(s) to measure resistance and voltage in accordance with GS38.	✓
Electrical test board (see diagram for layout and construction in the package centre guidance).	✓
Assorted single cable.	✓
Electrical insulated screwdriver.	✓
Electrical crimping tool/wire stripper.	✓
Writing materials for candidates to draw their own wiring diagrams.	✓
Flipchart/whiteboard and coloured marker pens (not PowerPoint).	✓
The electrical test board consists of:	
4 x 1-way light switches.	✓
4 x electrical components such as synchronous motors.	✓
1 x wiring centre with 16 terminals and provision for main L N E terminals, example shown below. The links in the L terminals will need to be removed.	✓
Flipchart/whiteboard and coloured marker pens (not PowerPoint).	✓
Each component/switch terminal is connected to one of the numbered terminals in the wiring centre.	✓
The wiring should not be visible.	
• If surface run use trunking to conceal the wires.	✓
• If the wires are not surface run, they must not be accessible to the learner.	✓

Wire each board differently so that no two boards are wired in the same way.	✓
Take the electrical supply via a fused RCD plug (fitted with a 3A fuse) to the LNE provision in the wiring centre.	✓
Wire the trainer's test board (as shown in exercise 3) to make it consistent with the exercises and explanations provided in this guidance document:	✓
Each component/switch terminal is connected to one of the numbered terminals in the wiring centre.	✓
The wiring should not be visible.	✓
If surface run use trunking to conceal the wires.	✓