

**021306T4ICI**

**INDUSTRIAL CONTROL AND INSTRUMENTATIONS LEVEL 6**

**ENG/OS/IC/CR/3/6**

**Manage Instrumentation and Process Control Systems**

**July/ Aug 2025**



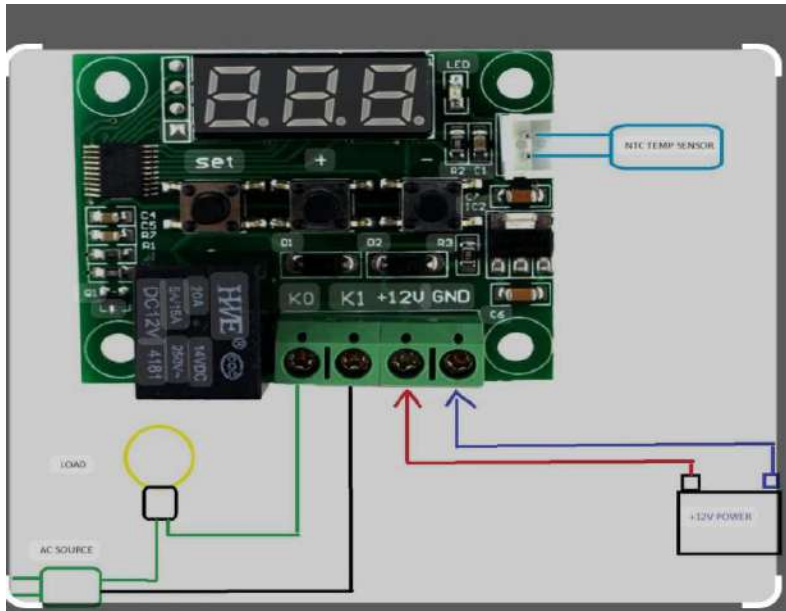
**TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND  
CERTIFICATION COUNCIL (TVET CDACC)**

**PRACTICAL ASSESSMENT**

**Time: 3 Hours**

**INSTRUCTIONS TO CANDIDATES**

1. Review the provided documentation for the Temperature Controller model and the system requirements.
2. Gather necessary tools and equipment.
3. Ensure safety protocols are understood and followed.
4. Use the user manual during this set up.



### Task 1: Mounting the Controller

- i. Design the control panel layout
- ii. Ensure the temperature controller is placed on a wooden/plastic table and NOT metallic to avoid shorting
- iii. Ensure proper ventilation around the controller to prevent overheating.

### Task 2: Electrical Connections

- i. Connect the power supply to the controller according to the wiring diagram provided in the manual.
- ii. Connect the temperature sensor to the designated input terminals on the controller.
- iii. Connect output devices (e.g., heater) to the designated output terminals on the controller.
- iv. Use the multi-meter to verify that connections are secure and there are no short circuits.

### Task 3: Testing and Verification

- i. Turn on the power supply and observe the controller's startup sequence.
- ii. Test the temperature sensor to ensure it is correctly recognized by the controller.

- iii. Verify that the output devices respond correctly to the controller commands (e.g., heater turns on when temperature is below set point).
- iv. Use the multimeter and other testing tools to ensure that all connections are working as expected.

2. You have the following materials to carry out this exercise:

- Temperature controller (W1209)
- Temperature sensor (packed with module)
- Power supply DC 12 V
- Power supply 240 V, 50HZ
- Heater (bulb 90 W)
- Connecting cables
- Multimeter

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