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Dwyer DCT1022

Dwyer DCT1022 Dust Collector Timer Controller Instruction Manual

Model: DCT1022

1. Introduction

The Dwyer DCT1022 is a robust Dust Collector Timer Controller designed for industrial applications. This unit provides precise control over dust collection systems, ensuring efficient operation and maintenance. It features a 300VA output power rating and is built for reliable performance in demanding environments. This manual provides essential information for the safe and effective installation, operation, and maintenance of your DCT1022 controller.



Figure 1: Top view of the Dwyer DCT1022 Dust Collector Timer Controller, showcasing the main circuit board and protective clear cover.

2. Safety Information

WARNING: Improper installation or operation can result in serious injury or death. Always follow all local and national electrical codes.

- This unit must be installed by qualified personnel only.
- Ensure the power supply is disconnected before performing any installation, wiring, or maintenance.
- The unit's line input rating is 100 to 240 VAC nominal, +10% - 15%, 50/60Hz single phase. Verify your power source matches these requirements.
- Use 14-20 AWG copper wire only for line and load connections. Torque terminals to 5 in. lb.
- Replace fuses only with a Type 3AG fast acting 3 Amp 250V fuse.**DO NOT USE SLOW BLOW FUSES.**
- This unit must be enclosed. Use NEC Class 1 wiring rated 60/75°C.
- Failure to comply with these requirements will void the manufacturer's warranty and may result in hazardous conditions.



Figure 2: Side view of the DCT1022, highlighting the wiring terminals and a critical safety warning regarding fuse types.

3. Setup and Installation

3.1 Mounting

The DCT1022 controller is designed for panel mounting. It has pre-drilled holes on its base plate for secure installation. Ensure the mounting surface is stable and provides adequate ventilation for the unit's operating temperature range of -40°C to 80°C (-40°F to 176°F).



Figure 3: Bottom view of the DCT1022, showing the metal mounting plate with pre-drilled holes for installation.

3.2 Wiring Connections

All wiring should be performed by a qualified electrician in accordance with all applicable electrical codes. Refer to the terminal block labels on the unit for correct connections.

1. **Power Input:** Connect the main power supply to the L1 and L2 terminals. Ensure the voltage is within the 100-240 VAC range.
2. **Solenoid Outputs:** Connect the dust collector solenoid valves to the numbered output terminals (1 through 22) and the common (COM) terminal. The outputs are rated for 300 VA maximum.
3. **Alarm Connections:** If utilizing the alarm function, connect external alarm devices to the designated alarm terminals.

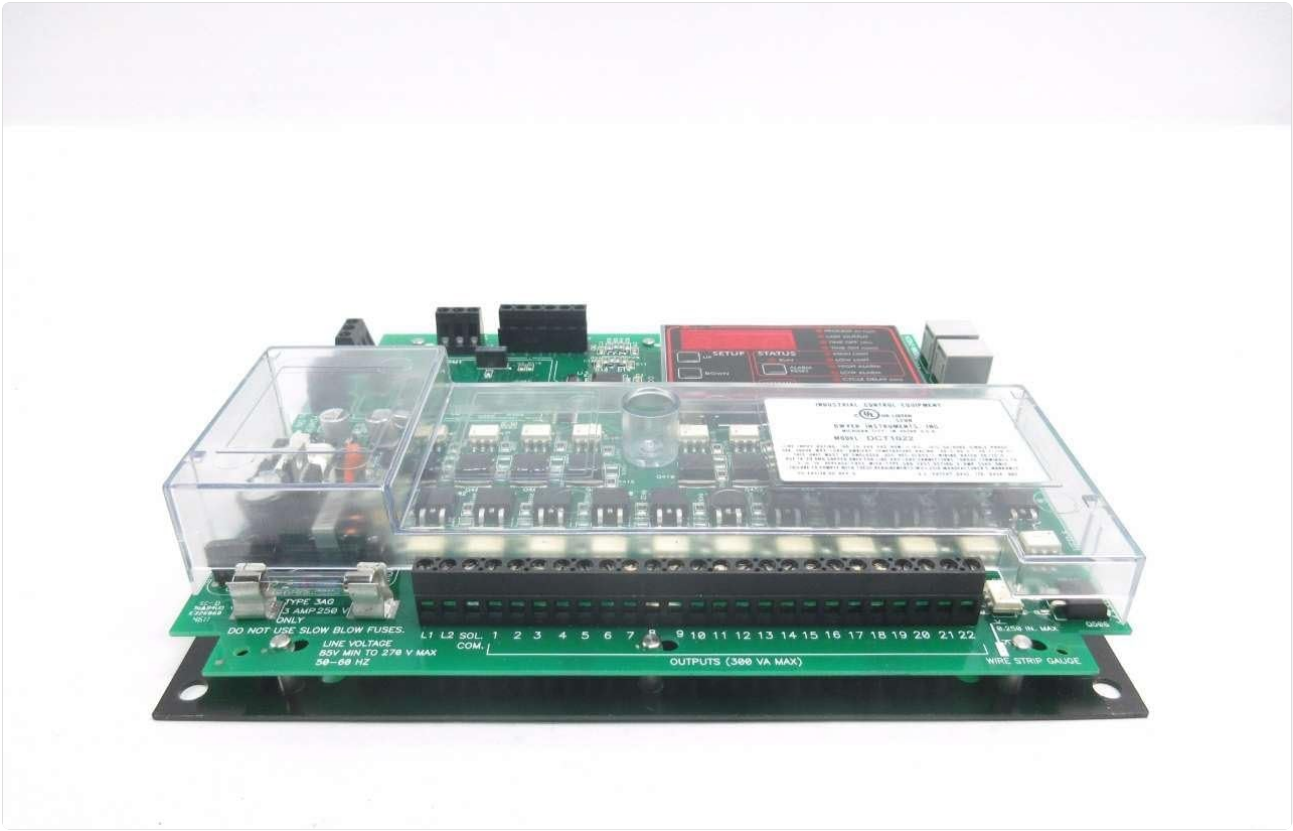

Figure 4: Angled view of the DCT1022, providing a clear look at the terminal block where all electrical connections are made.

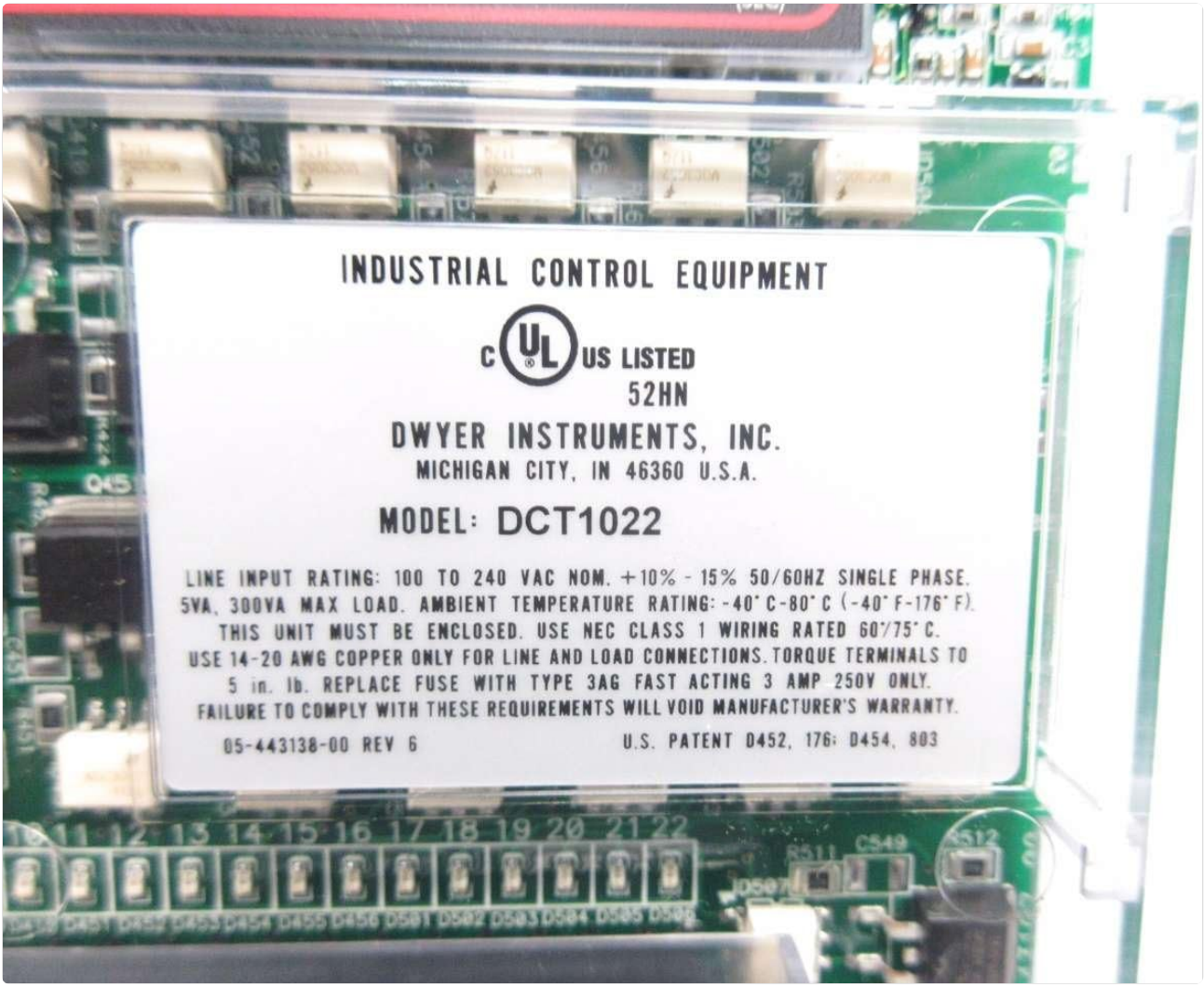

Figure 5: Detailed view of the product label, providing critical specifications such as model number, input voltage, temperature range, and wiring instructions.

4. Operating Instructions

The DCT1022 controller features a digital display and several buttons for configuration and manual control.

4.1 Display and Indicators

The red digital display shows current values or settings. Various LED indicators provide status feedback:

- **PROCESS:** Indicates the current process status.
- **LAST OUTPUT:** Shows the last activated output.
- **TIME OFF (SEC):** Indicates the off-time setting in seconds.
- **TIME ON (MSEC):** Indicates the on-time setting in milliseconds.
- **HIGH LIMIT** / **LOW LIMIT:** Indicate alarm thresholds.
- **ALARM:** Illuminates when an alarm condition is present.
- **CYCLE DELAY:** Indicates if a cycle delay is active.
- **AUTO ALARM RESET:** Indicates if automatic alarm reset is enabled.

4.2 Buttons

The control panel includes the following buttons:

- **SETUP:** Enters setup mode for configuring parameters.
- **STATUS:** Displays various operational statuses.
- **UP** / **DOWN:** Used to navigate menus and adjust values in setup mode.
- **SELECT:** Confirms selections or enters sub-menus.
- **MANUAL CLEAN:** Initiates a manual cleaning cycle.



Figure 6: Angled view of the DCT1022's user interface, showing the digital display and control buttons for setup and operation.



Figure 7: Close-up of the DCT1022's display and a label indicating the model and firmware version (FVN 1.0.4).

5. Maintenance

Regular maintenance ensures the longevity and optimal performance of your DCT1022 controller.

- **Fuse Replacement:** If the unit loses power, check the fuse. Replace it only with a Type 3AG fast acting 3 Amp 250V fuse. Ensure power is disconnected before replacing.
- **Cleaning:** Periodically clean the exterior of the unit with a soft, dry cloth. Do not use abrasive cleaners or solvents. Ensure no dust or debris accumulates on the circuit board.
- **Connections Check:** Annually inspect all wiring connections for tightness and signs of corrosion. Re-torque terminals to 5 in. lb if necessary.

6. Troubleshooting

This section provides basic troubleshooting steps for common issues. For complex problems, contact qualified service personnel.

- **No Power:**
  - Check the main power supply to the unit.
  - Verify the fuse is intact and correctly rated (Type 3AG, 3 Amp, 250V).
- **Outputs Not Activating:**
  - Check wiring to solenoid valves.
  - Verify input signals or process conditions are met.
  - Check for any active alarm indicators on the display.
- **Alarm Indicator On:**
  - Refer to the specific alarm LED (High Limit, Low Limit) to identify the issue.
  - Consult your system's operational parameters to resolve the condition triggering the alarm.

7. Specifications

Feature	Specification
Model	DCT1022
Manufacturer	DWYER
Output Power Rating	300 VA
Type	Controller

Feature	Specification
SKU	D526671
Product Dimensions	12 x 10.75 x 4 inches
Item Weight	1.3 pounds
Line Input Rating	100 to 240 VAC Nom. +10% - 15% 50/60Hz Single Phase
Ambient Temperature Rating	-40°C to 80°C (-40°F to 176°F)
Wiring Requirements	14-20 AWG Copper, Torque terminals to 5 in. lb.
Fuse Type	Type 3AG Fast Acting 3 Amp 250V



Figure 8: Product label indicating the model name, function, power rating, and SKU D526671.

8. Warranty and Support

Dwyer Instruments, Inc. warrants its products to be free from defects in material and workmanship for a specified period from the date of shipment. Please note that failure to comply with the installation and operational requirements outlined in this manual will void the manufacturer's warranty.

For technical support or warranty claims, please contact Dwyer Instruments directly. Refer to the official Dwyer website for the most current contact information and detailed warranty policy.

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