

## WENGART 2NC

# Wengart WCT-50 2NC AC230V 50A Compact AC Contactor User Manual

Model: WCT-50\_AC230V (2NC Configuration)

Brand: WENGART

## 1. PRODUCT OVERVIEW

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The Wengart WCT-50 Compact AC Contactor is an electrical device designed for connecting and disconnecting circuits over long distances using alternating current. It is primarily utilized in power supply systems and industrial facilities to control the on/off status, rotation direction, and speed of electric motors and other loads.

This AC contactor functions as an automation and remote control device, capable of managing significant currents while requiring only a small control current for its operation. It is an essential component in modern industrial control systems, providing a reliable solution for electrical automation.

This modular contactor is suitable for various applications, including the control of large lighting circuits, public hot water systems, geothermal supply, automatic window blinds, and small motors. In large public facilities such as hotels, railway stations, hospitals, and office buildings, it facilitates efficient control of diverse electrical devices and serves as an optimal final execution unit within intelligent building systems.

## 2. PRODUCT FEATURES

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# Product Feature



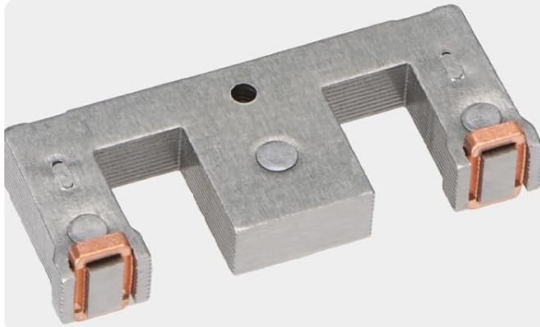
- **High Durability:** Constructed with high-quality materials and advanced manufacturing techniques to ensure a long lifespan and high reliability, even under frequent use and extreme conditions.
- **Enhanced Safety:** Designed to strict safety standards to protect homes and electrical devices from electrical fires and shocks, offering reliable protection under high loads and unstable grid environments.
- **Precise Control:** Enables accurate control for starting, stopping, or adjusting electrical loads such as motors, ensuring smooth and rapid operation.
- **Energy Efficient:** Features an optimized electromagnetic system that significantly reduces the contactor's holding power, leading to high energy efficiency.
- **Versatile Protection:** Compatible with various protection devices, such as thermal relays, to provide comprehensive overload and short-circuit protection.
- **Easy Installation:** Simple design allows for quick and easy installation without the need for specialized tools.
- **Status Indication:** An action indicator window clearly displays the contactor's switching status for easy monitoring and maintenance.

## 3. PRODUCT DETAILS

# Detail

## Pure copper coil

Low electrical resistance  
Copper coil with strong conductivity, high efficiency, and long service life.



## Iron core

Moving core and fixed core were made of high-precision silicon steel material

## Flame retardant shell

The shell made of flame-retardant material ensures safety.

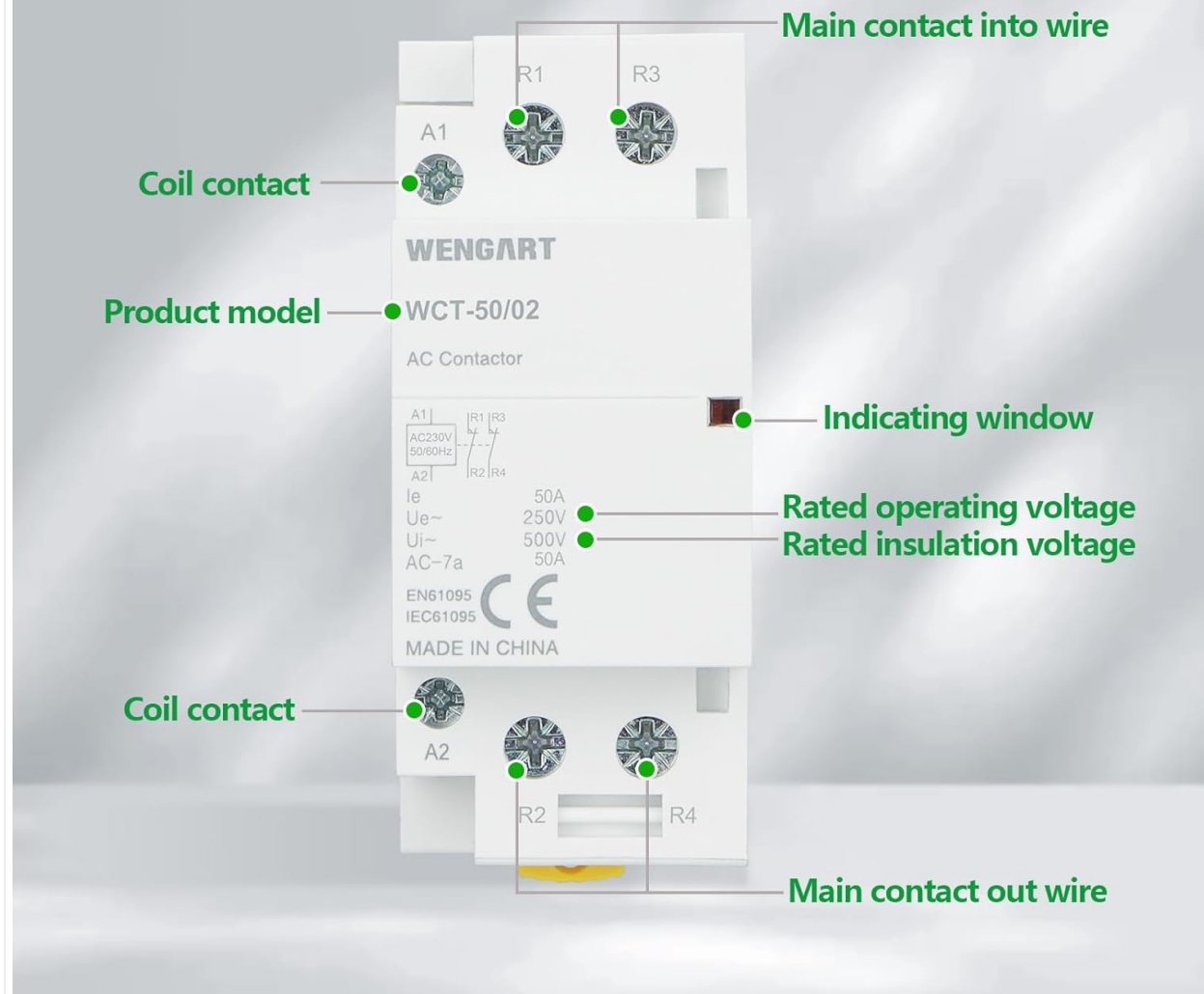


- **Pure Copper Coil:** Features a low electrical resistance pure copper coil, ensuring strong conductivity, high efficiency, and a long service life.
- **High-Precision Iron Core:** Both the moving and fixed cores are manufactured from high-precision silicon steel material for optimal performance.
- **Flame Retardant Shell:** The outer shell is made from flame-retardant PC material, enhancing safety during operation.

## 4. PRODUCT ANALYSIS AND COMPONENTS

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# Product Analysis



The WCT-50 contactor features clearly labeled connection points and an indicator for operational status:

- **Main Contact Input (R1, R3):** Terminals for incoming power to the main circuit.
- **Coil Contact (A1, A2):** Terminals for the control voltage that energizes the contactor coil.
- **Product Model:** WCT-50/02 (specific model shown in diagram, refer to your product for exact configuration like 2NC).
- **Indicating Window:** A visual indicator showing the current switching status of the contactor.
- **Rated Operating Voltage:** The voltage at which the contactor is designed to operate.
- **Rated Insulation Voltage:** The maximum voltage the insulation can withstand.
- **Main Contact Output (R2, R4):** Terminals for outgoing power to the electrical load.

## 5. SETUP AND INSTALLATION

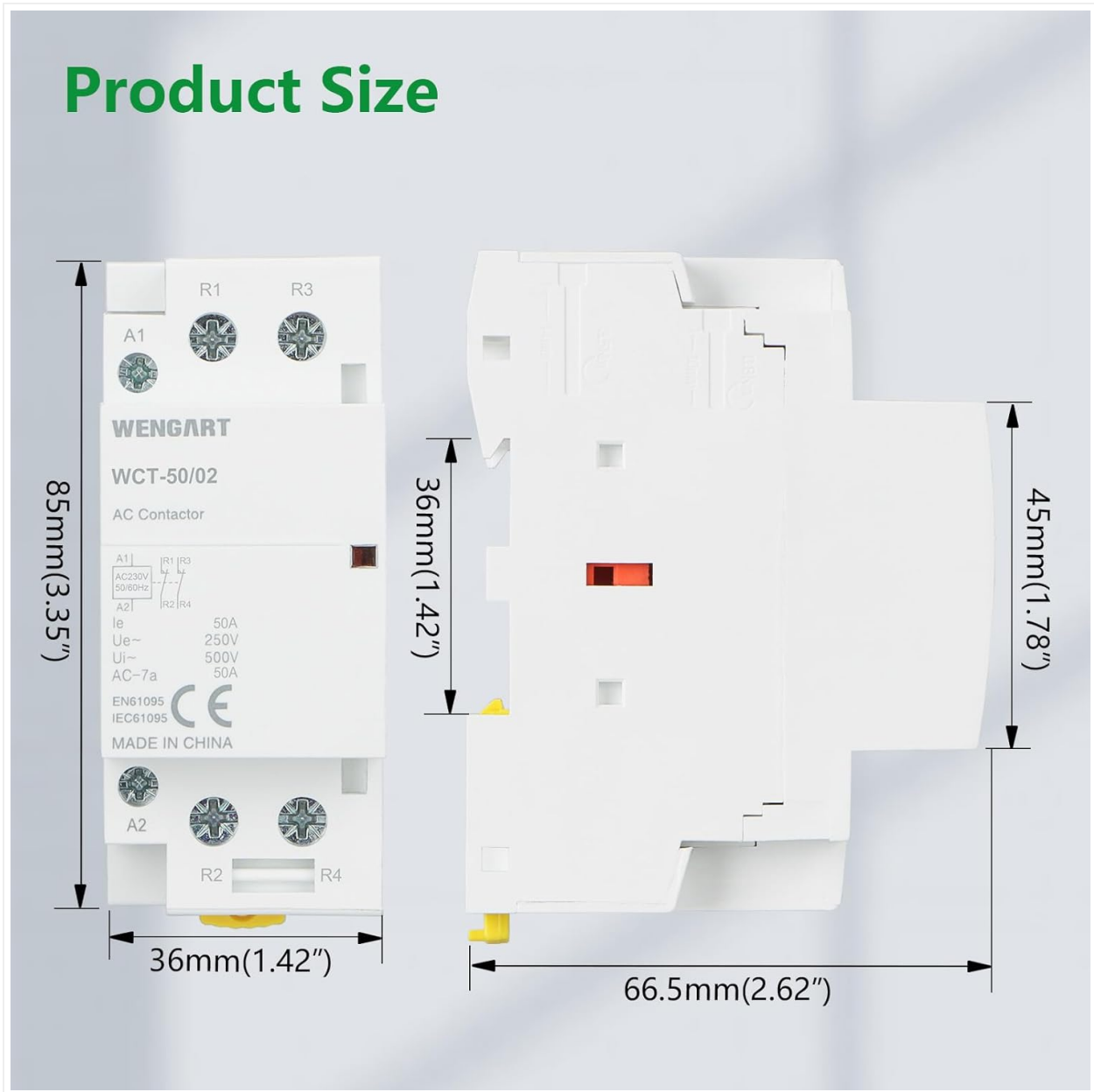
### 5.1 Mounting



The WCT-50 contactor is designed for easy DIN-rail mounting. Simply align the contactor with the DIN-rail and snap it into place. Ensure it is securely fastened to prevent movement during operation.

## 5.2 Dimensions

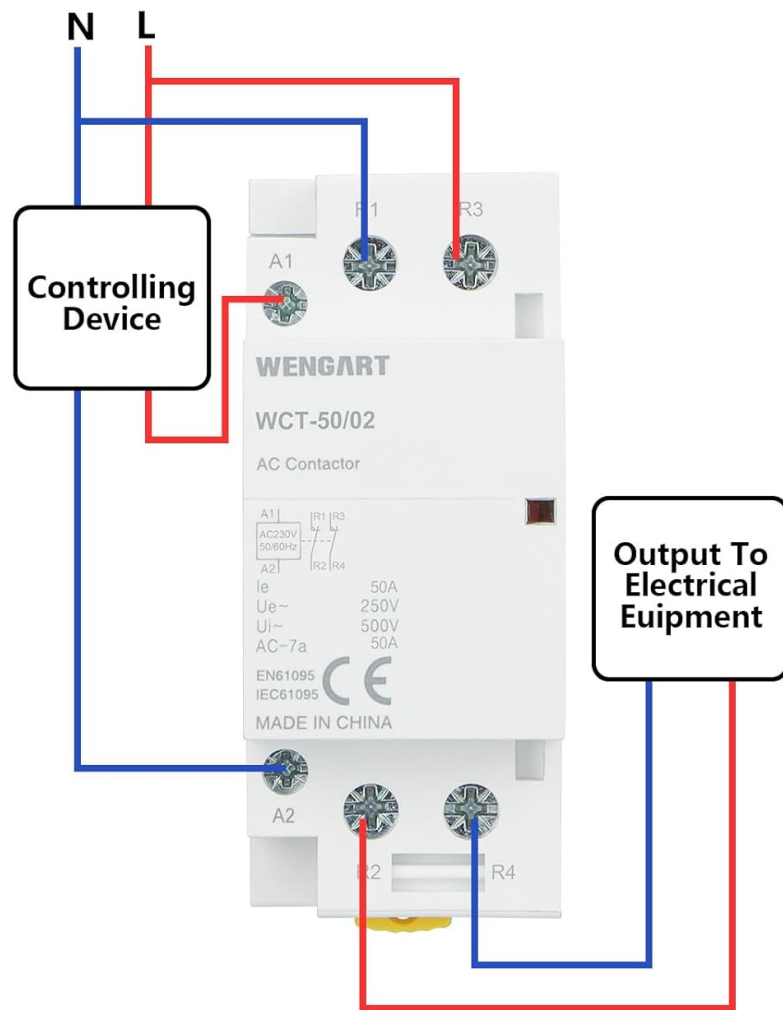
# Product Size



Before installation, ensure adequate space. The approximate dimensions of the contactor are: **Height:** 85mm (3.35 inches), **Width:** 36mm (1.42 inches), **Depth:** 66.5mm (2.62 inches).

## 5.3 Wiring Diagram

# Diagram



Follow the diagram for correct wiring:

1. Connect the **Controlling Device** to the coil terminals **A1** and **A2**.
2. Connect the incoming power (**N** for Neutral, **L** for Line) to the main contact input terminals **R1** and **R3**.
3. Connect the **Output To Electrical Equipment** from the main contact output terminals **R2** and **R4**.

**Warning: All electrical work should be performed by a qualified electrician in accordance with local electrical codes and regulations.**

## 6. OPERATING INSTRUCTIONS

Once properly installed and wired, the WCT-50 contactor operates by receiving a control signal at its coil terminals (A1, A2). When the coil is energized, the main contacts (R1-R2, R3-R4) close, allowing power to flow to the connected electrical load. When the coil is de-energized, the contacts open, interrupting the power supply.

- **Control:** Use your controlling device (e.g., switch, timer, thermostat) connected to A1/A2 to energize or de-energize the contactor.
- **Status Monitoring:** Observe the action indicator window on the front of the contactor to confirm its switching status (open or closed).

- **Applications:** The contactor can be used for automatic and remote control of various electrical loads, including motors, lighting systems, heating elements, and automated blinds.

## 7. MAINTENANCE

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To ensure optimal performance and longevity of your Wengart WCT-50 AC Contactor, follow these general maintenance guidelines:

- **Regular Inspection:** Periodically inspect the contactor for any signs of physical damage, discoloration, or loose connections.
- **Cleanliness:** Keep the contactor free from dust, dirt, and debris, which can impede proper operation and heat dissipation. Use a dry, soft cloth for cleaning.
- **Connection Integrity:** Ensure all wiring connections are tight and secure. Loose connections can lead to overheating and poor performance.
- **Environmental Conditions:** Verify that the operating environment remains within the specified temperature and humidity ranges.

**Caution: Always disconnect power to the circuit before performing any inspection or maintenance on the contactor.**

## 8. TROUBLESHOOTING

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If you encounter issues with your Wengart WCT-50 AC Contactor, consider the following troubleshooting steps:

- **Contactor Does Not Energize:**
  - Check the control voltage supply to terminals A1 and A2.
  - Verify that the controlling device is functioning correctly.
  - Inspect the coil for any visible damage.
- **Contactor Does Not De-energize:**
  - Ensure the control voltage to A1 and A2 is completely removed.
  - Check for any mechanical sticking of the contacts.
- **Overheating:**
  - Confirm that the connected load does not exceed the contactor's rated current.
  - Check for loose connections, which can cause resistance and heat.
  - Ensure adequate ventilation around the contactor.
- **No Power to Load:**
  - Verify that the main power supply to R1 and R3 is present.
  - Check if the contactor is energized (indicator window).
  - Inspect the wiring from R2 and R4 to the load.

For persistent or complex issues, it is recommended to consult a qualified electrician.

## 9. SPECIFICATIONS

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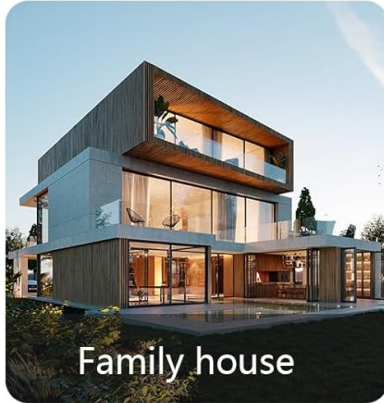
<b>Brand</b>	WENGART
<b>Model</b>	WCT-50_AC230V (2NC Configuration)
<b>Control Voltage</b>	AC 230V (50/60Hz)
<b>Rated Current (AC-7a)</b>	50 Ampere
<b>Operating Temperature</b>	-5 °C to +50 °C
<b>Electrical Life</b>	10,000 cycles
<b>Mechanical Life</b>	100,000 cycles
<b>Max Switches per Hour</b>	30
<b>Max Switches per Day</b>	100
<b>Rated Impulse Withstand Voltage (Uimp)</b>	2.5 kV (4 kV for 12/24/48 VAV)
<b>Protection Level</b>	IP20
<b>Mounting Type</b>	DIN-rail
<b>Included Components</b>	Household AC Contactor
<b>Item Weight</b>	118 Grams

## 10. APPLICATIONS

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# Application

AC contactors are widely used in various occasions with sensitive contacts and excellent performance



The Wengart WCT-50 AC Contactor is suitable for a wide range of applications due to its sensitive contacts and reliable performance:

- **Residential:** Control of lighting circuits, water heaters, and small motors in family houses.
- **Commercial:** Efficient control of electrical devices in schools, hospitals, shopping malls, and office buildings.
- **Industrial:** Automation and remote control in power supply systems and industrial facilities.
- **Specialized Systems:** Control of geothermal supply and automatic window blinds.

## 11. SAFETY INFORMATION

Your safety is paramount. The Wengart WCT-50 AC Contactor is designed with safety in mind, incorporating several features to protect users and equipment:

- **Safety Standards:** Manufactured according to strict safety standards to prevent electrical fires and shocks.
- **Flame Retardant Material:** The contactor's shell is made from flame-retardant PC material, reducing fire hazards.
- **IP20 Protection:** Provides protection against solid objects larger than 12.5mm, though it is not protected against water.

- **Professional Installation:** Always ensure installation and maintenance are carried out by qualified personnel to avoid electrical hazards.
- **Power Disconnection:** Before any installation, wiring, or maintenance, ensure the main power supply to the circuit is completely disconnected.

## 12. WARRANTY AND SUPPORT

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For warranty information, technical support, or service inquiries, please refer to the documentation provided with your purchase or contact Wengart customer service through their official channels. Keep your purchase receipt as proof of purchase for warranty claims.