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VOLTCRAFT VC-32

VOLTCRAFT VC-32 Rotary Field Tester Instruction Manual

Model: VC-32 | CAT III 440 V

1. INTRODUCTION

The VOLTCRAFT VC-32 Rotary Field Tester is a specialized instrument designed for determining and verifying the phase sequence in three-phase electrical networks. This device provides a clear, simultaneous display of existing phases and indicates the direction of the rotary field. Its robust design ensures reliable contact through 4 mm spring-loaded plugs, making it an essential tool for electricians and technicians working with three-phase systems.

2. SAFETY INFORMATION

WARNING: Always observe general electrical safety regulations and local accident prevention rules when working with electrical installations. Failure to do so can result in serious injury or death.

- This device is rated for CAT III 400 V. Do not use it on circuits exceeding these voltage limits or in environments not suitable for CAT III measurements.
- Before each use, inspect the tester and its leads for any signs of damage. Do not use if damaged.
- Ensure proper insulation and secure connections when attaching the test leads to the circuit.
- Never touch the metal parts of the test probes when connected to a live circuit.
- Use appropriate personal protective equipment (PPE) such as insulated gloves and safety glasses.
- The device is designed for professional use. If you are not qualified, do not attempt to use this tester.

3. PRODUCT OVERVIEW

The VOLTCRAFT VC-32 Rotary Field Tester is a compact and durable device. It features three integrated test leads, each terminated with a 4 mm spring-loaded plug, designed for secure and reliable connection to electrical terminals.



Figure 3.1: The VOLTCRAFT VC-32 Rotary Field Tester with its three test leads and protective caps. The device is black and grey, with blue, red, and black test leads.

3.1 Components

- **Tester Unit:** The main body of the device, housing the indicators.
- **Test Leads:** Three permanently attached leads (typically blue, red, black) with 4 mm spring-loaded plugs.
- **LED Indicators:** Lights on the front panel to show phase presence (L1, L2, L3) and rotary field direction (clockwise/counter-clockwise).



Figure 3.2: Close-up view of the VC-32's front panel, highlighting the LED indicators for phase presence and rotation direction.

4. SETUP

The VOLTCRAFT VC-32 is a passive device and does not require batteries for operation. It draws power directly from the circuit being tested.

4.1 Connecting Test Leads

1. Ensure the circuit to be tested is within the device's specified voltage range (CAT III 400 V).
2. Carefully connect the three test leads to the respective phases (L1, L2, L3) of the three-phase electrical network. The leads are typically color-coded for easier identification, though specific phase assignments should always be verified according to local standards.
3. Ensure that the spring-loaded plugs make firm and reliable contact with the terminals.

5. OPERATING INSTRUCTIONS

Once the test leads are securely connected to the three-phase circuit, the VC-32 will automatically begin its measurement.



Figure 5.1: User connecting the VC-32 to a three-phase electrical socket for testing.

5.1 Interpreting Results

- **Phase Presence:** The LEDs labeled L1, L2, and L3 will illuminate if the corresponding phases are present and within the operational voltage range. If an LED does not light up, it indicates a missing or insufficient voltage on that phase.
- **Rotary Field Direction:** The device features two additional LEDs, typically indicating clockwise (right arrow) or counter-clockwise (left arrow) rotation. Only one of these LEDs should illuminate to indicate the detected phase sequence.
- **Correct Rotation:** If the desired rotation direction LED illuminates, the phase sequence is correct.
- **Incorrect Rotation:** If the undesired rotation direction LED illuminates, the phase sequence is incorrect. To correct this, swap any two of the phase connections (e.g., L1 and L2) at the source or load, then re-test.

6. MAINTENANCE

The VOLTCRAFT VC-32 Rotary Field Tester requires minimal maintenance to ensure its longevity and accuracy.

- Cleaning:** Clean the device and test leads with a dry, soft cloth. Do not use abrasive cleaners or solvents. Ensure no moisture enters the device.
- Storage:** Store the tester in a dry, dust-free environment, away from direct sunlight and extreme temperatures. Keep the protective caps on the test probes when not in use.
- Inspection:** Regularly inspect the test leads and the device casing for any physical damage, cuts, or cracks. Damaged equipment must be taken out of service immediately and repaired by qualified personnel or replaced.

7. TROUBLESHOOTING

If you encounter issues with your VC-32 Rotary Field Tester, refer to the following common troubleshooting steps:

Problem	Possible Cause	Solution
No LEDs illuminate.	No voltage present on any phase, or poor connection.	Verify the power supply to the circuit. Check all test lead connections for secure contact.
Only one or two phase LEDs (L1, L2, L3) illuminate.	Missing phase(s) or insufficient voltage on specific phase(s).	Check the integrity of the circuit and the power supply for the non-illuminated phases. Ensure test leads are correctly connected.
No rotary field direction LED illuminates, but phase LEDs are on.	Unstable phase conditions or specific fault.	Re-check all connections. If the problem persists, consult a qualified electrician.

8. SPECIFICATIONS

Technical specifications for the VOLTCRAFT VC-32 Rotary Field Tester:

Feature	Specification
Brand	VOLTCRAFT
Model Number	VC-32
Measurement Category	CAT III 400 V
Minimum Operating Voltage	400 Volts
Maximum Operating Voltage	400 Volts
Upper Rated Temperature	40 Degrees Celsius
Primary Function	Rotary Field and Phase Sequence Testing
Product Dimensions (L x W x H)	10.5 x 7.1 x 3.1 cm
Product Weight	9.07 grams
Color	Black and Gray
Power Source	Self-powered (draws power from circuit)

9. WARRANTY AND SUPPORT

VOLTCRAFT products are known for their solid manufacturing and innovative technology. This product comes with **a 1-year availability for spare parts**.

For technical support, service, or warranty claims, please contact your VOLTCRAFT retailer or visit the official VOLTCRAFT website for further assistance. Ensure you have your product model number (VC-32) and purchase information available when seeking support.

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