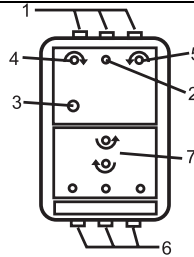**User's Guide**

EXTECH
INSTRUMENTS

Motor Rotation and 3-Phase Tester
Model 480303

Introduction

Congratulations on your purchase of Extech's Motor Rotation and 3-Phase Tester. This professional meter, with proper care, will provide years of safe reliable service.

Controls and Indicators

1. Motor Rotation Test Terminal
2. Power Indicator
3. Power Button
4. Clockwise Indicator
5. Counter Clockwise Indicator
6. 3-Phase Rotation Tester Input
7. 3-Phase Rotation Indicator

Operation

Phase Sequence Function
The Phase Sequence function determines if the 3 phases are live and the direction a motor will turn if connected as indicated in Table 1.
1. Connect the three test leads to the power source
2. Observe that all three lights (L1, L2, L3) are active
3. Observe the directional indication lights.
4. If the direction indicated is counter-clockwise, reconnect any two wires until the clockwise indicator is lighted.
5. If the clockwise indicator is lighted, label the power source "L1, L2, L3"

Motor Rotation Function
1. Make sure there is no voltage present.
2. Insert the test leads into the input terminals:
3. L1 - Black, L2 - Red, L3 - White. Attach the other ends of the leads to the 3 phase motor.
4. Press and Hold the power button. The green power indicator will light up.
5. Rotate the motor shaft clockwise (as viewed from the end of the shaft). If the red clockwise indicator is lit the 3-phase motor will rotate **clockwise** if connected to the power supply by the **L1-L2-L3** sequence.
6. Rotate motor shaft counter-clockwise. If the red counter-clockwise indicator is lit the 3-phase motor will rotate **clockwise** if connected to the power supply by the **L1-L2-L3** sequence.
7. If you want the motor to rotate counterclockwise, change the order of the connections to **L2-L1-L3** and the motor will rotate **counter-clockwise**.

Table 1 3 Phase Tester Indication				
Direction	Indication	L1	L2	L3
Clockwise	⟳	●	●	●
Counter Clockwise	⟳	●	●	●
L1 No Connection	⟳	○	●	●
L2 No Connection	⟳	●	○	●
L3 No Connection	⟳	●	●	○
Light ON = ●		Light OFF = ○		

Specifications

Signal Input Voltage	100VAC up to 660VAC max., 3 minute limit for over 500VAC. (3 phase Indicator only)
Signal Frequency Range	45 to 70 Hz
Operating Temperature	32ºF to 122ºF (0ºC to 50ºC)
Operating Humidity	Less than 90% RH
Power Supply	006P DC9V battery
Power Consumption	Consumption current approx. 14mA for motor rotation field tester and 7mA per phase for rotation field indicator
Dimension	5.9 x 3.4 x 1.6" (150 x 85 x 40mm)
Weight	0.5 lbs. (230g) without battery
Standard Accessories	Test leads (red, black & white) and Instruction Manual

Maintenance

Battery Replacement
1. Replace the battery when green indicator becomes dim.
2. Open the battery cover with flat screwdriver or coin.
3. Replace the battery (006 DC9V) and reinstall the battery cover

Fuse Replacement
1. Replace fuse when red indicators fail to light.
2. Open the case and replace the 0.2A fuse.
3. Reinstall the case.

Warranty

EXTECH INSTRUMENTS CORPORATION warrants this instrument to be free of defects in parts and workmanship for one year from date of shipment (a six month limited warranty applies on sensors and cables). If it should become necessary to return the instrument for service during or beyond the warranty period, contact the Customer Service Department at (781) 890-7440 ext. 210 for authorization or visit our website at www.extech.com (click on 'Contact Extech' and go to 'Service Department' to request an RA number). A Return Authorization (RA) number must be issued before any product is returned to Extech. The sender is responsible for shipping charges, freight, insurance and proper packaging to prevent damage in transit. This warranty does not apply to defects resulting from action of the user such as misuse, improper wiring, operation outside of specification, improper maintenance or repair, or unauthorized modification. Extech specifically disclaims any implied warranties or merchantability or fitness for a specific purpose and will not be liable for any direct, indirect, incidental or consequential damages. Extech's total liability is limited to repair or replacement of the product. The warranty set forth above is inclusive and no other warranty, whether written or oral, is expressed or implied.

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