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This Fluke product will be free from defects in material and workmanship for one year from the date of purchase. This warranty does not cover fuses, disposable batteries, or damage from accident, neglect, misuse, alteration, contamination, or abnormal conditions of operation or handling. Resellers are not authorized to extend any other warranty on Fluke’s behalf. To obtain service during the warranty period, contact your nearest Fluke authorized service center to obtain return authorization information, then send the product to that Service Center with a description of the problem.

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11/99
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Introduction
The Fluke 9040 Phase Rotation Indicator (hereafter referred to, "the 9040") is a handheld instrument designed to detect the rotary field of three-phase systems.

Contacting Fluke
To contact Fluke, call one of the following telephone numbers:
- USA: 1-888-44-FLUKE (1-888-443-5853)
- Canada: 1-800-36-FLUKE (1-800-363-5853)
- Europe: +31 402-675-200
- Japan: +81-3-3434-0181
- Singapore: +65-738-5655
- Anywhere in the world: +1-425-446-5500
- USA Service: 1-888-99-FLUKE (1-888-993-5853)

Or, visit Fluke’s Web site at www.fluke.com.
To register your product, visit register.fluke.com
Unpacking the 9040

The 9040 ships with the following items:

- 3 pieces self-retaining test probes (black)
- Alligator clip
- Users Manual

If an item is damaged or missing, contact the place of purchase immediately.
Safety Information

A △ Caution identifies conditions and actions that may damage the 9040.

A △△ Warning identifies conditions and actions that pose hazard(s) to the user.

⚠️⚠️ Read First: Safety Information

To avoid possible electric shock or fire, do the following:

- Read the following safety information carefully before using or servicing the instrument.
- Adhere to local and national safety codes.
- Individual protective equipment must be used to prevent shock and injury.
- Use of instrument in a manner not specified by the manufacturer may impair safety features/protection provided by the equipment.
- Avoid working alone.
- Inspect the test leads for damaged insulation or exposed metal. Check test lead continuity. Damaged leads must be replaced. Do not use the 9040 if it looks damaged.
- Be careful when working above 30 V ac rms, 42 V ac peak and 60 V dc. Such voltages pose a shock hazard.
• When using the probes, keep fingers away from probe contacts. Keep fingers behind the finger guards on the probes.
• Measurements can be adversely affected by impedances of additional operating circuits connected in parallel or by transient currents.
• Verify operation prior to measuring hazardous voltages (voltages above 30 V ac rms, 42 V ac peak and 60 V dc).
• Do not use the 9040 with any of the parts removed.
• Do not use the 9040 around explosive gas, vapor, or dust.
• Do not use the 9040 in a wet environment.
Symbols
The following symbols appear on the 9040 or in this manual.

Table 1. Symbols

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
<th>Category</th>
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<tbody>
<tr>
<td>⚡</td>
<td>Risk of electric shock</td>
<td></td>
</tr>
<tr>
<td>⚡</td>
<td>Earth</td>
<td></td>
</tr>
<tr>
<td>⚡</td>
<td>AC or DC</td>
<td></td>
</tr>
<tr>
<td>⚡</td>
<td>Hazardous voltage.</td>
<td></td>
</tr>
<tr>
<td>⚡</td>
<td>Conforms to EU directives.</td>
<td></td>
</tr>
<tr>
<td>⚡</td>
<td>Equipment protected by double or reinforced Insulation</td>
<td>CAT III</td>
</tr>
<tr>
<td>⚡</td>
<td>OVERVOLTAGE (Installation) CATEGORY III, Pollution Degree 2 per IEC1010-1</td>
<td></td>
</tr>
<tr>
<td>⚡</td>
<td>refers to the level of Impulse Withstand Voltage protection provided.</td>
<td></td>
</tr>
<tr>
<td>⚡</td>
<td>Equipment of OVERVOLTAGE CATEGORY III is equipment in fixed installations</td>
<td></td>
</tr>
<tr>
<td>⚡</td>
<td>(e.g., electricity meter and primary over-current protection equipment.</td>
<td></td>
</tr>
</tbody>
</table>
Elements of the 9040

Indicators, buttons, and jacks are shown in Figure 1.

![Figure 1. The 9040/9040UK Phase Rotation Indicator](bbx02f.eps)
Determine the Rotary Field Direction

To determine the rotary field direction:
1. Connect the test probes to the end of the test leads.
2. Connect the test probes to the three mains phases.
3. The green ON indicator shows that the instrument is ready for testing.
4. Either the clockwise or counter-clockwise rotary indicator illuminates showing the type of rotary field direction present.

⚠️ ⚠️ Warning
The rotary indicator lights even if the neutral conductor, N, is connected instead of L1, L2, or L3. Refer to the back of the 9040 for more information.

Note
The 9040 is powered from the installation under test.
Maintaining the 9040

⚠️ Caution

To avoid damaging the 9040:

- Do not attempt to repair or service the 9040 unless qualified to do so.
- Make sure that the relevant calibration, performance test, and service information is being used.

The only maintenance the 9040 requires is cleaning. Periodically wipe the case with a damp cloth and mild detergent. Clean only with soap and water and remove any residue afterwards.

⚠️ Caution

To avoid damaging the 9040:

- Do not use abrasives or solvents. Abrasives or solvents will damage the 9040 case.
- Prior to cleaning, remove test leads from the 9040.
Phase Rotation Indicator
Specifications

Specifications

Environmental
Operating Temperature
0 °C to +40 °C
Pollution Degree
2
Type of Protection
IP 40

Mechanical Specifications
Size
124 x 61 x 27 mm (4.9 x 2.4 x 1.1 in)
Weight
200 g (0.44 lbs)

Safety Specifications
Electrical Safety
IEC 61010/EN 61010,
IEC 61557-7/EN 61557-7
Maximum Operating Voltage (Ume)
690 V

Protection Levels
CAT III, 600 V to ground

Electrical Specifications
Power Supply
From unit under test

Determine Rotary Field Direction
Nominal Voltage
40 to 690 VAC
Frequency Range (f_n)
15 to 400 Hz
Current Pickup
1 mA
Nominal Test Current (in per phase)
1 mA