GE IC697MDL250

01 Map the AC input circuits

1 Identify each eight-point group

Record all 32 input assignments with their group, supply phase and return. Separate group power terminals are not internally linked, and groups may be supplied from different AC phases. Trace the actual wiring rather than assuming adjacent terminals share a neutral or that one isolated source removes energy from every group.

2 Check the field-device characteristics

For each electronic switch, compare its on-state voltage/current point with the manufacturer input load line and confirm off-state leakage below 2.2 mA. Keep the device data with the circuit record. A nominal voltage match alone does not establish compatibility with a two-wire proximity switch.

3 Define timing and state acceptance

Identify the application events to be detected and compare their duration with the typical 20 ms input filter plus PLC scan behavior. Define an expected on and off transition for every point. Arrange a safe means of exercising the switches without unintentionally starting equipment.

Circuit inventory	Groups A–D and points 1–8
Electrical check	120 VAC class, 47–63 Hz, device leakage
Timing check	Required event duration and input filtering

IC697MDL250 / Isolate and retain the terminal-board identity

02 Isolate and retain the terminal-board identity

1 Remove all applicable supplies

Isolate the relevant AC field circuits and rack power before removing the module or terminal board. Verify every group because the module can carry multiple supply phases. Label the conductors and preserve the terminal-board identification strap so the wired board returns to the correct rack slot.

2 Release the terminal board correctly

Open the module door to reach the jackscrew and turn it counterclockwise until disengaged. Grasp the top of the terminal board and swing it outward. Do not pull the board using the hinged door, which can be damaged and does not provide the intended removal grip.

3 Inspect the mechanical key

Check the keyed rack position and the replacement module type before seating it. The key normally remains on the rack center rail when the module is removed. Do not bypass a key mismatch; determine whether the selected module or assigned position is incorrect before reconnecting the field circuits.

Energy isolation	Rack and each AC group checked
Board removal	Jackscrew released; grip terminal board
Slot identity	Key and identification strap retained

IC697MDL250 / Reconnect group wiring and secure conductors

03 Reconnect group wiring and secure conductors

1 Preserve phase and return relationships

Follow the specific field-wiring drawing for the module and the approved project wiring. Each eight-point group needs its own power connection; do not add links across isolated groups to simplify the wiring. Compare conductor labels against both the terminal drawing and the PLC input allocation.

2 Use supported terminal conductors

The terminal board accepts 22 to 14 AWG wires. Two wires may share a terminal only if they are the same size. With a fully populated 14 AWG bundle, observe the permitted insulation diameter and leave markers far enough from the termination to avoid obstructing closure of the module door.

3 Strain-relieve without blocking airflow

Secure the wire bundle at the terminal-board cable-tie cleat and restore the identifying strap to the rack. Keep bundles out of the rack ventilation grilles and maintain the required clearances. The finished board should be fully secured, with the door able to close without compressing conductors.

Grouping	Four independent eight-point field groups
Conductor range	22–14 AWG
Final fit	Board fastened, bundle retained, ventilation clear

IC697MDL250 / Prove input thresholds and PLC mapping

04 Prove input thresholds and PLC mapping

1 Measure actual on and off conditions

Apply an approved test stimulus at each field device and verify the input voltage at the module under load. The specified on range is 75–132 VAC and the off range is 0–25 VAC at the required frequency. Do not use an intermediate voltage as evidence of a guaranteed input state.

2 Investigate leakage-related false states

If an electronic switch does not release the input, compare its actual off-state leakage and wiring with the compatibility limits. Distinguish a leakage problem from a wrong PLC reference or a shorted conductor. Avoid adding an unapproved compensating component simply to extinguish the indicator.

3 Compare all three observations

For every point, compare field-device action, the module logic-side LED and the configured PLC input bit. Confirm that the correct bit changes and that neighboring points remain unaffected. Exercise the shortest required events as permitted by the process test procedure and record any timing limitation.

Field observation	Voltage and switch state
Module observation	Correct point LED
PLC observation	Correct reference, stable on/off transitions

IC697MDL250 / Return the input group to service

05 Return the input group to service

1 Retain point-by-point results

Store the accepted input map, phase/return identification and field-device compatibility data. Record any electronic switches checked for leakage and the timing tests performed. Include the module identity, terminal-board association and corrected wiring labels so future work can reproduce the tested arrangement.

2 Remove temporary test arrangements

Restore the approved field supplies and PLC operating state after all points pass their tests. Remove temporary stimuli and maintenance overrides through the site procedure, then confirm normal indication with the process owner. Investigate unexplained flicker or lingering inputs before closing the job.

Technical basis: GE Fanuc 120 VAC Input Module, GFK-0084J, in GFK-0600F.

Related product navigation

- GE IC697BEM713
- GE IC693CPU374 PLUS
- GE IC693ALG223

These are related references, not confirmed substitutes or an automatically approved assembly.