GE UR8MH

Installation & Commissioning Guide

01 Identify the module and prepare the relay service record

Match the complete UR identity

Record UR8MH from the offered label and compare the UR-8M-H order-code form with the installed horizontal relay assembly. The 8M option provides sensitive-ground 4CT/4VT inputs with enhanced diagnostics. Check the complete host relay order code and approved module position.

Separate module and relay capabilities

UR8MH supplies analog CT/VT input hardware. CPU, power supply, communication, contact outputs and protection elements belong to the configured host assembly. Do not use a matching connector or a common UR family name as the sole replacement criterion.

Preserve settings and test records

Save the relay configuration and record its firmware, hardware revision, CT ratios, phase assignment and ground-current arrangement. Keep the terminal drawing and existing commissioning results available. A module replacement should be evaluated against the actual protection scheme.

Establish the maintenance boundary

Use the site protection-maintenance procedure to isolate the relay and connected circuits. Plan the required CT secondary shorting and voltage-circuit isolation before accessing the assembly. The manufacturer recommends shorting or isolating external circuits even though current-input modules include automatic shorting.

Field reference

Offered reference	GE UR8MH; retain every identity character
Input option	8M sensitive-ground 4CT/4VT
Host record	Relay model, order code, firmware and hardware
Installation record	Horizontal assembly, slot and terminal schedule

Identify	Connect	Verify
Exact UR8MH label, host and slot	Approved CT/VT terminal schedule	Diagnostics and protection tests

02 Remove and insert the module under controlled isolation

Disconnect only after establishing isolation

With power to the unit off, follow the applicable maintenance instructions for disconnecting the front and rear connections. Identify and label the circuits before disturbing them. Retain the original slot position so the replacement returns to the correct location.

Use the ejector and inserter clips correctly

Release the module using the top and bottom ejector/inserter clips together. Insert the correct module smoothly with both clips disengaged; engage them together after they clear the raised chassis edge. Locked clips indicate that the module is fully inserted.

Keep the CT circuit protection independent

Each AC current input has an isolating transformer and a shorting mechanism on withdrawal. That feature does not replace external CT isolation and shorting. Follow the approved circuit procedure and do not use automatic shorting as authorization to withdraw an energized module.

Check the CPU and CT/VT hardware pairing

The manual warns that new and old CT/VT hardware must be paired with the corresponding CPU generation. A mismatch can prevent relay operation and produce DSP ERROR or HARDWARE MISMATCH. Confirm the supported pairing instead of assuming all UR modules are interchangeable.

Field reference

Power state	Unit powered off for module access
Removal record	Original slot and all circuit connections identified
Insertion check	Correct type and slot; both clips locked
Hardware acceptance	Supported CPU and CT/VT pairing; no mismatch indication

03 Reconnect CT, ground-current and voltage circuits

Match the CT secondary rating

The UR current-input arrangement supports 1 A and 5 A CT secondaries through the appropriate terminals. Verify each connected secondary rating against its terminal selection and settings. A mismatch can cause damage or inadequate protection, so retain the approved terminal drawing at the work location.

Preserve phase-channel assignments

Channels are grouped as 1-4 and 5-8. Channels 1/5 are phase A, 2/6 phase B and 3/7 phase C. Channels 4/8 serve ground current IG or auxiliary voltage VX according to the input group. Replace the drawing slot symbol with the actual installed position.

Retain the sensitive-ground arrangement

The sensitive ground input has ten times the standard ground-input sensitivity. Phase CT and phase VT inputs retain regular CT/VT characteristics. Preserve the intended ground-current transformer and wiring; twisted-pair cabling is recommended for a zero-sequence core-balance CT.

Review grounding and terminations

Current inputs have no internal ground connection. Follow the protection scheme grounding arrangement and check every termination. The manual identifies 12 AWG as commonly used and 10 AWG as the maximum connection size. Do not apply unrelated power-supply or digital-I/O wiring rules to the CT/VT terminals.

Field reference

Phase channels	A: 1/5; B: 2/6; C: 3/7
Single-phase channels	4/8: IG or VX, according to input group
CT ratios	Applicable primary setting 1-50000 A; secondary 1 A or 5 A
Ground-current wiring	Preserve the approved sensitive-ground CT arrangement

04 Verify diagnostics and prove measurement performance

Confirm a healthy hardware configuration

Restore the assembly under the authorized commissioning procedure and inspect relay self-test indications. Enhanced diagnostics can detect CT/VT hardware failure and take the relay out of service. Resolve hardware and configuration alarms before enabling normal protection service.

Check phase-current and voltage measurements

Use the approved secondary-injection method and test equipment to compare applied values with relay measurements. Confirm phase assignment, polarity, CT ratio and voltage settings. The test values and tolerances must come from the applicable relay and protection test plan.

Test the sensitive ground channel separately

Verify the ground-current measurement using the procedure appropriate to the sensitive input. Do not assume standard-ground test settings apply unchanged. Retain the measured results and confirm that the intended host protection elements use the correct input source.

Release the complete protection scheme

After measurement checks, perform the required host protection and trip-circuit functional tests under the site procedure. Remove temporary test conditions, restore the approved settings and verify normal relay status. Record who accepted the return to service and which configuration was tested.

Field reference

Hardware check	No unresolved CT/VT or CPU compatibility error
Phase tests	Current/voltage scaling, phase and polarity confirmed
Ground test	Sensitive input measurement verified
Release check	Approved scheme tests complete; normal settings restored

05 Retain the replacement evidence and support reference

Keep the final service package

Retain the UR8MH label, host relay order code and revision, original slot, terminal schedule, settings backup and injection-test results. Include the final diagnostic state and any approved configuration change so future work can reproduce the acceptance check.

Ask for exact-code support guidance

Request current lifecycle and replacement guidance for the complete UR8MH reference from GE Vernova. Technical order-code and CT/VT instructions establish the module configuration, not its present lifecycle phase. Notices for other input-option codes must not be transferred to 8M.

Identify	Connect	Verify
Exact UR8MH label, host and slot	Approved CT/VT terminal schedule	Diagnostics and protection tests

Explore other GE references

Portfolio navigation only; no compatibility or substitution is implied.

GE IC693CPU374 PLUS	View product
GE IC693MDL940H	View product
GE IC695ALG616	View product
GE IC694MDL240	View product

Discuss the complete offered reference

GE UR8MH | New, original product

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Technical reference

GE Grid Solutions G60 Generator Protection System Instruction Manual, 1601-0110-AF2 (GEK-131001A), version 7.6x

Apter Power application summary. Follow the complete module and host equipment instructions.