



Digital Energy

Product Safety and Regulations Specific Information for GE Digital Energy's Power Equipment products

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GE Digital Energy CE Marking Language Requirements Document.

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Product Safety and Regulations Specific Information

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Product Safety and Regulations Specific Information

Chapter 1: General requirements

Introduction

Purpose of this document

The purpose of this document is to provide the user with additional product safety and regulatory compliance information related to Digital Energy's Power Equipment products. This document should be used as a companion with applicable user manuals, installation manuals and any other provided documentation.

Due to the countless installation scenarios and environments in which devices can operate, the user must carefully assess all the risks associated with the equipment, its installation, and maintenance. While comprehensive, this guide is not intended to describe every possible risk that may arise.

Please contact the respective GE Digital Energy customer service centre for additional information or clarification of information provided in this document.

Abbreviations used in GE Digital Energy's Power Equipment documentation

This document uses the following abbreviations.

- ACAlternating Current (electricity)
- AELAccessible Emission Limit
- ANSIAmerican National Standards Institute
- ATS.....Automatic Transfer Switch
- AWG.....American Wire Gauge
- CdCadmium (chemical element)
- CT.....Current Transformer
- DC.....Direct Current (electricity)
- EMC.....Electro-Magnetic Compatibility

ESD	Electro-Static Discharge
Hg.....	Mercury chemical element
IEC.....	International Electro technical Commission
IEEE	Institute of Electrical and Electronics Engineers
NEC	National Electrical Code
NFPA	National Fire Protection Association
Pb	Lead (chemical element)
SELV.....	Safety Extra Low Voltage
UPS.....	Uninterruptible Power Supply
VT	Voltage Transformer

Graphical symbols used in GE Digital Energy's Power Equipment documentation

The following graphical symbols may appear on the products or in the product documentation.



Warning

In documentation or on equipment.

The caution icon indicates that possible damage to equipment or data may occur if instructions are not properly followed.



Caution

In documentation or on equipment.

The caution icon indicates that possible damage to equipment, data, or personnel may occur if instructions are not properly followed.



Danger

In documentation or on equipment.

The danger icon provides users with a warning about the possibility of serious or fatal injury to themselves or others.



Risk of electric shock

In documentation or on equipment.

Arc flash or shock hazard. Appropriate PPE (personal protective equipment) required.

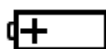


Battery, general

On battery powered equipment.

To identify a device related to the supply of power to equipment by means of a (primary or secondary) battery, for instance a battery test button, the location of the connector terminals, etc.

This symbol is not intended to indicate polarity.



Positioning of cell

On and in battery holders.

To identify the battery holder itself and to identify the positioning of the cell(s) inside the battery holder.



AC/DC converter, rectifier, substitute power supply

To identify an AC/DC converter and, in case of plug-in devices, to identify the relevant receptacles.



Plus; positive polarity

To identify the positive terminal(s) of equipment which is used with, or generates direct current.

The meaning of this graphical symbol depends upon its orientation.



Minus; negative polarity

To identify the negative terminal(s) of equipment which is used with, or generates direct current.

The meaning of this graphical symbol depends upon its orientation.



“On” (power)

To indicate connection to the mains, at least for mains switches or their positions, and all those cases where safety is involved.

The meaning of this graphical symbol depends upon its orientation.



“Off” (power)

To indicate disconnection to the mains, at least for mains switches or their positions, and all those cases where safety is involved.

The meaning of this graphical symbol depends upon its orientation.



Stand-by

To identify the switch or switch position by means of which part of the equipment is switched on in order to bring it into the standby condition.



“On/Off” (push-push)

To indicate connection to or disconnection from the mains, at least for mains switches or their positions, and all those cases where safety is involved. Each position, “ON” or “OFF”, is a stable position.



“On/Off” (pushbutton)

To indicate connection to the mains, at least for mains switches or their positions, and all those cases where safety is involved. “OFF” is a stable position, while the “ON” position only remains during the time the button is pressed.



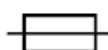
Lamp; lighting; illumination

To identify switches which control light sources, e.g. room lighting, lamp of a film projector, dial illumination of a device.



Air impeller (blower, fan, etc.)

To identify the switch or control which operates the air impeller, e.g. a fan of a film or slide projector, a room fan.



Fuse

To identify fuse boxes or their location.

**Earth (ground)**

To identify an earth (ground) terminal in cases where neither the **Noiseless (clean) earth (ground)** nor the **Protective earth (ground)** symbols shown below are explicitly required.

**Noiseless (clean) earth (ground)**

To identify a noiseless (clean) earth (ground) terminal, e.g. of a specially designed earthing (grounding) system to avoid causing malfunction of the equipment.

**Protective earth (ground)**

To identify any terminal which is intended for connection to an external conductor for protection against electric shock in case of a fault, or the terminal of a protective earth (ground) electrode.

**Frame or chassis ground**

To identify the frame or chassis ground terminal.

**Equipotentiality**

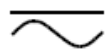
To identify the terminals which, when connected together, bring the various parts of an equipment or of a system to the same potential, not necessarily being the earth (ground) potential, e.g. for local bonding.

**Direct current**

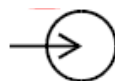
To indicate on the rating plate that the equipment is suitable for direct current only; to identify relevant terminals.

**Alternating current**

To indicate on the rating plate that the equipment is suitable for alternating current only; to identify relevant terminals.

**Both direct and alternating current**

To indicate on the rating plate that the equipment is suitable for both direct and alternating current (universal); to identify relevant terminals.

**Input**

To identify an input terminal when it is necessary to distinguish between inputs and outputs.

**Output**

To identify an output terminal when it is necessary to distinguish between inputs and outputs.

**Dangerous voltage**

To indicate hazards arising from dangerous voltages.

In case of application in a warning sign, the rules according to ISO 3864 shall be followed.

**Caution, hot surface**

To indicate that the marked item can be hot and should not be touched without taking care.

The inner symbol is standardized in ISO 7000-0535 "Transfer of heat, general". Warning signs are standardized in ISO 3864.



Not to be used in residential areas

To identify electrical equipment which is not suitable for a residential area (e.g. equipment which produces radio interference when in operation).



Signal lamp

To identify the switch by means of which the signal lamp(s) is (are) switched on or off.



Electrostatic sensitive devices

On packages containing electrostatic-sensitive devices and on the devices themselves.

For further information see IEC 60747-1.



Non-ionizing electromagnetic radiation

To indicate elevated, potentially dangerous, levels of non-ionizing radiation. In case of application in a warning sign, the rules according to ISO 3864 shall be adhered to.



Radiation of laser apparatus

To identify the radiation of laser products.

In case of application in a warning sign, the rules according to ISO 3864 shall be adhered to.



Transformer

To identify switches, controls, connectors or terminals which connect electrical equipment to the mains through a transformer. It can also be used on an envelope or a case to indicate that it contains a transformer (e.g. in the case of a plug-in device).



Class II equipment

To identify equipment meeting the safety requirements specified for Class II equipment according to IEC 60536.

The position of the double-square symbol shall be such that it is obvious that the symbol is part of the technical information and can in no way be confused with the manufacturer's name or other identifications.



Test voltage

To identify equipment which can withstand a test voltage of 500 V.

Other values of test voltage may be indicated in accordance with relevant IEC standards: see for example IEC 60414.



Class III equipment

To identify equipment meeting the safety requirements specified for class III according to IEC 60536.



Rectifier, general

To identify rectifying equipment and its associated terminals and controls.

**DC/AC converter**

To identify a DC/AC-converter and its associated terminals and controls.

**Short-circuit-proof transformer**

To identify a transformer which can withstand a short-circuit, inherently or non-inherently.

**Isolating transformer**

To identify an isolating type transformer.

**Safety isolating transformer**

To identify a safety isolating transformer.

**Non-short-circuit-proof transformer**

To identify a transformer which cannot withstand a short-circuit.

**Converter with stabilized output current**

To identify a converter supplying a constant current.

**Alarm, general**

To indicate an alarm on control equipment.

The type of alarm may be indicated inside the triangle or below the triangle.

**Urgent alarm**

To indicate an urgent alarm on control equipment.

The type of alarm may be indicated inside the triangle or below the triangle.

The urgency of the alarm may be indicated by varying a characteristic of the alarm, e.g. flashing rate of a visual signal, or coding of an audible signal.

**Alarm system clear**

On alarm equipment.

To identify the control by means of which the alarm circuit can be reset to its initial state.

The type of alarm may be indicated inside the open triangle or below the triangle.

**Alarm inhibit**

To identify the alarm inhibit on control equipment.

The type of alarm may be indicated inside the triangle or below the triangle.

Technical vocabulary for GE Digital Energy's Power Equipment documentation

The following terminology may appear on the products or in the product documentation.

Accident.....	An unpredictable, unusual and unintended external action which occurs with no apparent and deliberate cause but with marked effects.
Battery.....	One or more electrochemical cells that convert stored chemical energy into electrical energy.
Blower.....	A mechanical device for moving air or other gases.
Burns.....	A type of injury to the flesh caused by heat, electricity, chemicals, light, radiation or friction.
Calibration.....	The process of adjusting the output on a measurement instrument to agree with value of the applied standard, within a specified accuracy.
Caution.....	A statement describing a potential hazard.
Chassis.....	The reference point in an electrical circuit from which other voltages are measured, or a common return path for electric current, or a direct physical connection to the earth.
Circuit breaker.....	An automatically operated electrical switch designed to protect an electrical circuit from damage caused by overload or short circuit.
Combustible gas.....	A gas that burns, including the fuel gases, hydrogen, hydrocarbon, carbon monoxide, or a mixture of these.
Conductor.....	A material allowing the flow of electric current.
Conduit.....	Used for protection and routing of electrical wiring.
Contact.....	A conductive device for joining electrical circuits together.
Cracks.....	The formation of a fracture or partial fracture in a solid material.
Current.....	The flow of electric charge, typically carried by moving electrons, in a conductor.
Danger.....	A statement describing the threat of adverse events.
Device.....	A device that focuses on handling a particular type of information and related tasks.
Dielectric.....	An electrical insulator.
Discharge.....	The releases stored energy.
Earth.....	The reference point in an electrical circuit from which other voltages are measured, or a common return path for electric current.
Electrolyte.....	Any substance containing free ions that make the substance electrically conductive.
Electrostatic.....	Slow-moving electric charges.
Energy.....	The ability a physical system has to do work on other physical systems.
Equipment.....	Any machine powered by electricity.
Explosion.....	The rapid increase in volume and release of energy in an extreme manner, usually with the generation of high temperatures and the release of gases.

Factory.....	An industrial building where laborers manufacture goods or supervise machines processing one product into another.
Fault.....	Any abnormal flow of electric current.
Fire.....	The rapid oxidation of a material in the chemical process of combustion, releasing heat, light, and various reaction products.
Flammable.....	How easily something will burn or ignite, causing fire or combustion.
Frame.....	A structural system that supports other components of a physical construction.
Fuse.....	A type of sacrificial overcurrent protection device.
Gas.....	One of the three states of matter.
Gas vapor	A substance in the gas phase at a temperature lower than its critical point.
GND.....	The abbreviation for ground.
Ground bus.....	A conductor used as a zero voltage reference in a system.
Ground CT	A Current Transformer used to measure ground current.
Hazard	A situation that poses a level of threat to life, health, property, or environment.
Hazardous location	A place where concentrations of flammable gases, vapors, or dusts occur.
High voltage.....	Circuits with more than 1000 V for alternating current and at least 1500 V for direct current.
Hi-pot.....	An abbreviation for high potential.
Housing	An enclosure containing some equipment.
Inhale.....	The movement of air from the external environment, and into the lungs.
Injury.....	Damage to a biological organism.
Instrument transformer.....	Used for measuring voltage and current in electrical power systems, and for power system protection and control.
Insulate.....	A material that resists the flow of electric charge.
Lead	A soft, malleable poor metal.
Lethal.....	That which is capable of causing death.
Light energy	The perceived energy of light.
Live circuit.....	An AC electrical circuit refers to the wire (in a single-phase system) which carries an oscillating voltage with respect to the earth.
Mains.....	The general-purpose alternating current (AC) electric power supply.
Maintenance.....	Routine actions which keep the electrical device in working order.
Meter	A device that measures the amount of electric energy consumed.
Oxides	A chemical compound formally containing an oxygen in this state.
Phase CT	A device used for measurement of phase electric currents.
Power switch	An electrical component that can break an electrical circuit, interrupting the current or diverting it from one conductor to another.

Power system	A network of electrical components used to supply, transmit and use electric power.
Primary protection	Principal means to protect of electrical power systems from faults.
Protective device.....	Device to protect electrical equipment from energy transients.
Protective equipment..	Protective clothing, helmets, goggles, or other garment designed to protect the wearer's body from injury by blunt impacts, electrical hazards, heat, chemicals, and infection, for job-related occupational safety and health purposes.
Protective relay	A complex electromechanical device designed to calculate operating conditions on an electrical circuit and trip circuit breakers when a fault is detected.
Puncture.....	A wound caused by an object puncturing the skin.
Radiation.....	A process in which energetic particles or energy or waves travel through a medium or space.
Reboot.....	Restarting software control by removing power.
Resistance	A measure of the degree to which an object opposes an electric current through it.
Secondary circuits	Wiring connected to the secondary winding of a transformer, induction coil, or similar device.
Shielded	Electrical cable of one or more insulated conductors enclosed by a common conductive layer.
Shock	Electrical contact that causes a sufficient current through the skin, muscles or hair.
Short circuit.....	An electrical circuit is one that allows a current to travel along a path where essentially no (or a very low) electrical impedance is encountered.
Shorting block.....	A device that prevents current transformer burn up.
Stator	The stationary part of a rotor system, found in an electric generator or electric motor.
Stored energy	The energy stored in a system due to its position in a force field or due to its configuration.
Substation	Part of an electrical generation, transmission, and distribution system, where voltage is transformed from high to low, or the reverse, or many other important functions.
Symbol	An object, picture, written word, sound, or particular mark that represents some piece of information by association, resemblance, or convention.
Temperature.....	A physical property of matter that quantitatively expresses the common notions of hot and cold.
Thermal cycling.....	A temperature modulation process developed to improve the performance, strength and longevity of a variety of materials.
Toxic	The degree to which a substance can damage an organism.
Transceiver.....	A device that has both a transmitter and a receiver which is combined and share common circuitry or a single housing.
Transformer	Static device that transfers electrical energy from one circuit to another through inductively coupled conductors.

- Warning A precautionary statement providing information on potential hazards, and proper procedures.
- Wet contacts Mercury-wetted contacts.

General instructions for all products

Environmental instructions



This label indicates that this product should not be disposed of with household waste. It should be deposited at an appropriate facility to enable recovery and recycling.

- Batteries are marked with a symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg).
- Dispose of used batteries according to the manufacturer's instructions.
- Do not dispose of the battery in a fire or with household waste.
- For proper recycling, return the battery to your supplier or contact your local waste disposal agency for the address of the nearest battery disposal site.
- Unless otherwise noted, this is a Class A product for use in industrial environments only.
- EMC in other environments may be compromised due to conducted and/or radiated disturbances.

General safety precautions

- Failure to practice safe working procedures is likely to damage the equipment, cause severe injury and/or death.
- The use of appropriate safety gloves, safety glasses and protective clothing are recommended during equipment installation, maintenance and service of the equipment.
- All procedures must be strictly adhered to.
- Failure to observe and follow the instructions provided in the equipment manual(s) could cause irreversible damage to the equipment and could lead to property damage, personal injury and/or death.
- Before attempting to use the equipment, it is important that all danger and caution indicators are reviewed.
- If the equipment is used in a manner not specified by the manufacturer or functions abnormally, proceed with caution. Otherwise, the protection provided by the equipment may be impaired and can result in Impaired operation and injury.
- Beware of potential hazards, wear personal protective equipment and carefully inspect the work area for tools and objects that may have been left inside the equipment.
- Caution: Hazardous voltages can cause shock, burns or death.
- Test personnel must be familiar with general device test practices, safety precautions and follow standard ESD precautions to avoid personal injury or equipment damage.
- Before performing visual inspections, tests, or periodic maintenance on this device or associated circuits, isolate or disconnect all hazardous live circuits and sources of electric power.

- Failure to shut equipment power off prior to removing the power connections could expose you to dangerous voltages causing injury or death.
- All recommended equipment that should be grounded must have a reliable and uncompromised grounding path for safety purposes, protection against electromagnetic interference and proper device operation.
- Equipment grounds should be bonded together and connected to the facility's main ground system for primary power.
- Keep all ground leads as short as possible.
- At all times, equipment ground terminal must be grounded during device operation.
- Where applicable, do not expose batteries to storage conditions that do not meet the manufacturer's recommendation.
- While the equipment manual may suggest several safety and reliability steps, safety precautions must be used in conjunction with the safety codes in force at your location.
- LED transmitters are classified as IEC 60825-1 Accessible Emission Limit (AEL) Class 1M. Class 1M devices are considered eye safe to the unaided eye. Do not view directly with optical instruments.

Assembly instructions

- Installation must be performed according to the national electric code of the appropriate country.
- It is the responsibility of the end-user to ensure that the equipment is installed, operated, and used for its intended function in the manner specified by GE.
- To avoid the potential for personal injury due to fire hazards, ensure the unit is mounted in a safe location and/or within an appropriate enclosure.
- Do not install if the device is damaged. Inspect the box for obvious defects such as cracks in the housing.
- Turn off the electric power before making any electrical connections, and ensure a proper ground connection is made prior to connecting facility power to the device.
- CAUTION: Do not apply more than the maximum electrical rating that the device can withstand.
- Refer to the equipment labels and/or manual(s) before applying voltages. Failure to do so can result in property damage, personal injury and/or death.
- Any and all wires not immediately used must be properly insulated to ensure that an accidental turning on of the power will not cause a short or electrical hazard.
- To avoid equipment malfunction or mis-operation, it is recommended that all metallic conduits or cable shields be connected to the ground at one point.

Maintenance instructions

- There are no user serviceable parts inside. Only qualified personnel should work on this equipment.
- Beware of working around this equipment when the voltage is live.
- Use caution and follow all safety rules when handling, testing, or adjusting the equipment.
- Always disconnect the power source before and remove all voltage inputs prior to servicing the equipment.
- Since voltages may be present inside the device even if the equipment is powered off, maintenance personnel should be familiar with the hazards associated with electrical equipment.

- Attempting to resolve equipment problems using methods not recommended by the manufacturer may result in damage or injury to persons and property.
- If required and to avoid electric shock, disconnect power before attempting to replace fuses and/or batteries. Only replace fuses or batteries with the same or equivalent type recommended by the manufacturer.
- CAUTION: A new battery may explode if it is incorrectly installed.
- Battery installation must conform to national and local codes.
- Handle a damaged or leaking battery with extreme care - do not disassemble, incinerate, puncture, crush or short-circuit the battery. If you touch the electrolyte, wash the exposed skin with soap and water. If the electrolyte contacts your eye, flush the eye with water for 15 minutes. If you have inhaled the electrolyte, move to fresh air, and monitor breathing and circulation. In each case, seek immediate medical attention.

Information for use

- Ensure the operating conditions (that is, electrical and environmental) are within the specifications listed in the equipment manual(s). Failure to do so can cause abnormal equipment operation, equipment damage and/or personal injury.
- Do not operate the equipment with safety shields or covers removed that have been installed to prevent accidental contact.
- When connecting to a desktop computer, ensure the devices share the same ground reference. If, however, connecting to a portable computer, it is recommended to have it powered with its internal battery.
- Caution: Beware of the possibility of losing communication during firmware change processes.
- If applicable, ensure the dust covers are installed when the fiber is not in use.
- Dirty or scratched connectors can lead to high losses on a fiber link.



Product Safety and Regulations Specific Information

Chapter 2: Special requirements

Power Switching

ATS Automatic Transfer Switches

- Hazardous voltage can cause severe injury or death.
- Turn off all power before installation, adjustment, or removal of a transfer switch or any of its components.
- Due to hazardous voltage and current, GE recommends that a GE certified technician or a qualified electrician must perform the installation and maintenance of the switch.
- Connecting engine start may cause the generator to start.
- Before connecting, turn the generator off.
- CAUTION: Do not manually operate if power is available.
- A protective device such as a molded case circuit breaker or fused disconnect switch *must* be installed on both sources of incoming power for circuit protection and as a disconnection device.
- All references to the term “N” or “Source 1” relate to a normal power source.
- All references to the term “E” or “Source 2” relate to an emergency or alternative power source.
- Due to hazardous voltage and current, it is recommended that a GE certified technician or a qualified electrician must perform the installation and maintenance of the switch.
- Hazardous voltages may exist on termination connections/plugs other than those that go into the device.
- When performing a hi-pot or dielectric test on the power section, *disconnect* the control panel plugs from the microprocessor to avoid potential damage.

Power sensing

Instrument Transformers

- WARNING:** A continuously variable resistance must be used to avoid opening the high-turn winding circuit when resistance values are changed. As the resistance is increased, the voltage across the resistance will approach open-circuit value.
- Always consider an instrument transformer as a part of the circuit to which it is connected and do not touch the leads and terminals or other parts of the transformer unless they are known to be adequately grounded.
- The insulation surface of molded transformers should be considered the same as the surface of a porcelain bushing since a voltage stress exists across the entire insulation surface from terminals to grounded metal parts.
- Always ground the metallic cases, frames, bases, etc., of instrument transformers.
- The secondary should be grounded close to the transformers. However, when the secondary of transformers are interconnected, there should only be one grounded point in this circuit to prevent accidental paralleling with system grounding wires.
- Do not open the secondary circuit of a current transformer while the transformer is energized and do not energize while the secondary is open.
- Current transformers may develop open-circuit secondary voltages, which may be hazardous to personnel or damaging to the transformer or equipment connected in the secondary circuit.
- To provide the maximum protection against damage to other equipment or injury to personnel in the event of a voltage transformer failure, it is usually necessary to use the smallest fuse ampere rating, which will not result in nuisance blowing. Increasing the fuse ampere rating to reduce nuisance blowing is usually accompanied by slower clearing and increased possibility of damage to other equipment or injury to personnel.

UPS Uninterruptible Power Supplies

- End-users must follow applicable regional occupational safety codes/regulations during installation, operation and equipment maintenance. This may require additional field marking or labeling to define the appropriate level of PPE (Personal Protection Equipment) to reduce the risk of arc-flash related injuries. Contact technical support for product-specific information.
- Battery system chassis ground (earth) must be connected to the UPS chassis ground (earth).
- If conduits are used, this ground conductor must be routed in the same conduit as the battery conductors.
- In case of air shipment, the positive and negative cables going to the battery fuses/terminals shall be disconnected and isolated.
- Caution:** To avoid battery malfunction, all battery packs have to be replaced! It is not possible to replace only one pack.
- Avoid any connections between new and old battery packs.
- A qualified service person must install and service the battery. Keep unauthorized personnel away from the battery.
- Power-off the equipment and remove the battery fuses.

- Full voltage and current are always present at the battery terminals, if terminals are shorted together or if any battery terminal is inadvertently grounded, it may cause severe injury.
- Battery voltage is dangerous to personal safety. Do not touch uninsulated battery terminals.
- Remove rings and metal wristwatches or other metal objects and jewelry.
- Wear protective clothing, such as rubber gloves and boots and protective eye wear.
- Do not carry metal objects in your pockets where the objects can fall into the battery cabinet.
- Tools must have insulated handles and must be insulated so that they will not short battery terminals.
- Do not allow a tool to short between individual or separate battery terminals or to the cabinet or rack.
- Do not lay tools or metal parts on top of the battery and do not lay them where they could fall onto the battery or into the cabinet.
- When connecting cables, never allow a cable to short across a battery's terminals, a string of batteries, or to the cabinet or rack.
- Align the cables on the battery terminals so that the cable lug does not contact any part of the cabinet or rack, even if the battery is moved.
- Where conductors may be exposed to physical damage, protect the conductors in accordance with all applicable codes.
- Keep the cable away from any sharp metal edges.
- To reduce the risk of fire or electric shock, install the battery in a temperature and humidity controlled indoor area, free of contaminants.
- When replacing the batteries, they must be of the same manufacturer and have the same date of production.
- Avoid charging the battery in a sealed container.
- After switching off power, wait five minutes for the DC capacitors to discharge because a lethally high voltage remains at the terminals of the electrolytic capacitors.
- All maintenance and service work must be performed by qualified service personnel. The UPS contains its own energy source (battery).
- The field-wiring outlets may be electrically live, even when the UPS is disconnected from the mains.
- Dangerous voltages may be present during battery operation.
- The battery must be disconnected during maintenance or service work.
- This UPS contains potentially hazardous voltages.
- Be aware that the inverter can restart automatically after the mains voltage is restored.
- WARNING! High earth leakage current! The earth connection is essential before connecting to AC input!
- Switching OFF the unit does not isolate the UPS from the mains.
- Do not install the UPS in an excessively humid environment or near water.
- Avoid spilling liquids on or dropping any foreign object into the UPS.
- WARNING! Risk Of electrical shock. Do not remove covers
- CAUTION! Risk Of electric shock. The UPS contains batteries. The appliance outlets may be electrically live, even when the UPS is disconnected from the mains.
- The UPS contains potentially hazardous voltages.
- Do not open the unit; there are no user serviceable parts inside.

- All maintenance and service work, except for the replacement of the batteries and plug-in cards, should be performed by qualified service personnel.
- WARNING! This is a Class C2-UPS product. In a domestic environment this product may cause radio interference, in which case the user may be required to take additional measures.
- DANGER! When the UPS operates, all parts of the electronics are directly connected to the utility and high voltages are present on all internal parts, including the battery. Even after disconnection from the utility, all parts inside the UPS, including the battery, conduct dangerous voltages (except the COM port output). For your safety, only authorized service personnel may remove the cabinet cover.
- Qualified, skilled personnel are persons who are authorized to be responsible for the safety of the equipment, at all times while carrying out their normal duties and are therefore aware of, and can report, possible hazards (observe IEC 60364 and national wiring regulations and accident prevention rules).

Power delivery

Disposal of capacitors or impregnant

- The capacitor and the liquid it contains should be disposed of in a manner consistent with the applicable local, state and federal regulations. Loss of the liquid into the environment should be avoided or minimized. Consult the Material Safety Data Sheet for further information.

Combustible impregnant fire hazard

- Capacitors contain a Class III B combustible liquid which could possibly ignite if there is a case puncture or rupture in the presence of an electrical arc. Capacitors containing these materials should be suitably protected from mechanical damage and located where a possible fire could be contained and would result in minimum damage and hazard to the surrounding area.

Handling of failed capacitors

- Some failed capacitors may be found considerably bulged due to internal pressure from gassing prior to circuit clearing. Such capacitors should be handled very carefully. A failed capacitor should be short-circuited before handling (see Protection Against Shock). It is further recommended that a bulged capacitor be permitted to cool before handling. This will lower the internal pressure, reducing the possibility of case rupture.
- Consult the Material Safety Data Sheet for information on further precautions in handling failed capacitors.

Explosion hazard

- The correct application of capacitor fuses will greatly minimize the possibility of case rupture; but since considerable stored energy may be available upon the occurrence of a fault inside a capacitor, it is possible to get explosive case rupture in any application, even with proper fusing. For three-phase capacitors fused only on two terminals or single-phase two-bushing capacitors fused on only one terminal, and applied on delta or ungrounded wye systems, an internal ground fault from the

unfused phase to case might result in case rupture. These remote possibilities must be considered when locating the capacitors or equipment.

- If capacitors or equipment are not supplied with fuses, follow the fusing guides recommended in NEMA Standard CP1; ANSI / IEEE Standard 18; or refer to the nearest General Electric Sales Office.

Protection against shock

- **WARNING:** Disconnect capacitors or equipment from power before doing any work. Check for an open circuit to be certain that the capacitors are disconnected from the power source. Wait 5 minutes after de-energization for self-discharge and then short-circuit and ground the capacitors before handling.
- Capacitors for shunt or series application on power systems have internal discharge resistors (so indicated on the nameplate) which are designed to reduce the voltage, after the power is switched off in five minutes for those rated over 600 volts, and in one minute for those rated 600 volts or less. For some applications internal discharge resistors are not used, as indicated on the nameplate. Generally these capacitors are discharged by a circuit in the equipment. Verify that this function has occurred before proceeding. After the indicated time, the capacitor or equipment should be shorted and grounded by using a shorting stick with an insulated handle. Then, by using a shorting wire, the capacitor terminals should be connected together and to the case before handling.



Digital Energy

Product Safety and Regulation Specific Information

Chapter 3: EU declaration of conformity

GE Digital Energy conformity templates

The following three pages contain the generic EU Declaration of Conformity document and the generic EU Declaration of Conformity Appendix that are included with GE Digital Energy products.

EC Declaration of Conformity

Declaration No.

CE 11

Issuer's Name:

Address:

Authorized representative:

Address:

Object of the declaration

We (the Issuer) declare that the product(s) described above is in conformity with applicable EC harmonization Legislation:

Document No.	Title	Edition/Issue
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Harmonised standards or references to the specifications in relation to which conformity is declared:

Document No.	Title	Edition/Issue
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Additional Information

Signed for and on behalf of: (enter Issuers' company name here)

Name:
Function:

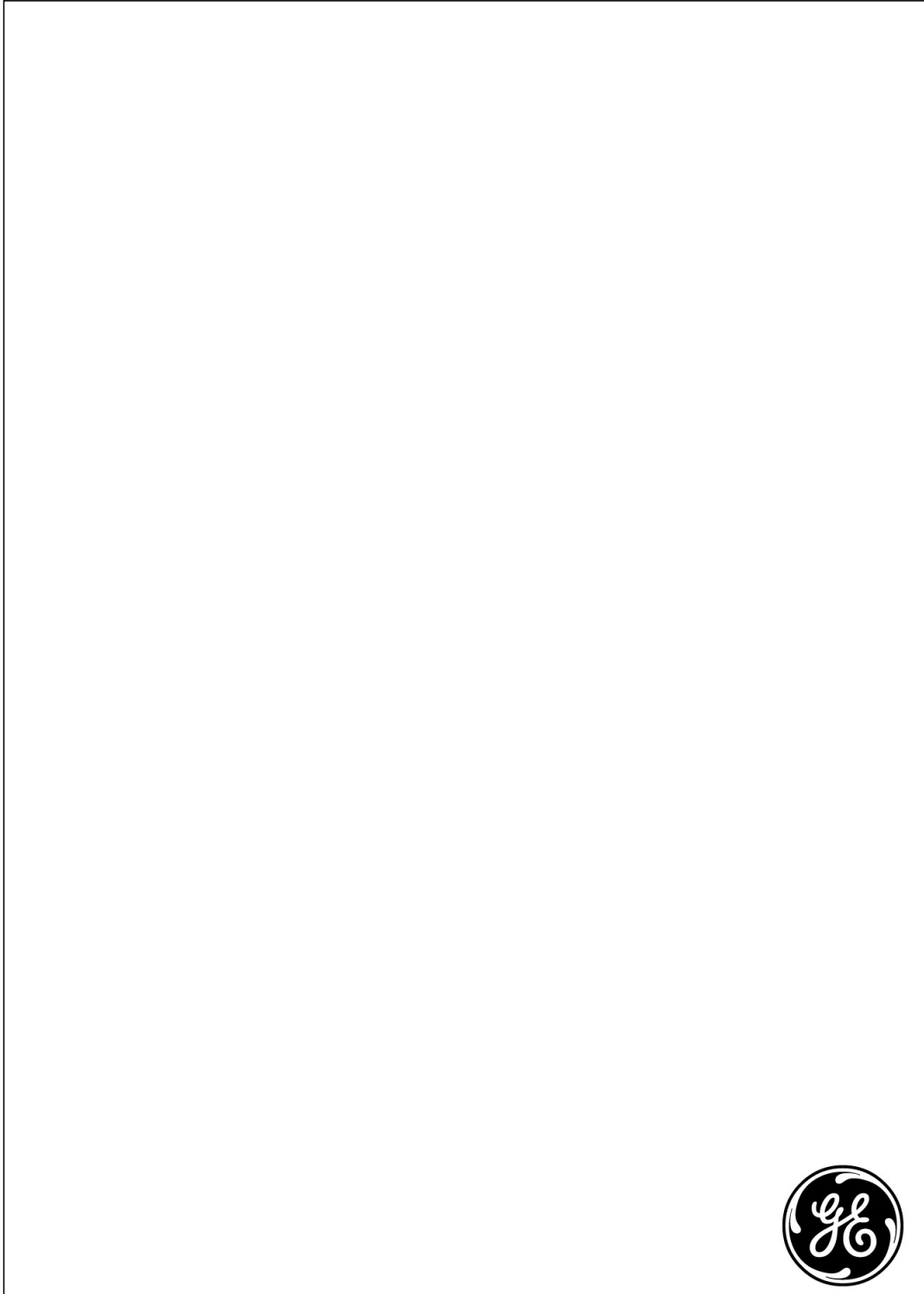
Name:
Function:

Signature:

Signature:

Issued Date:
Revised Date:





EC Declaration of Conformity Appendix

Declaration No.

(Unique ID number of declaration)

CE 11

Object of the declaration





Product Safety and Regulations Specific Information

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