Safety Standards for Electronic Products

The following are some of the safety standards for all types of electronic products.

- **ANSI C95.3:1972** / Techniques & instrumentation for measurement of potentially hazardous electromagnetic radiation at microwave frequencies.
- **ANSI/ISA S82.01:1994** / Safety standard for electrical & electronic test, measuring, controlling, & related equipment / General requirements
- **ANSI/ISA S82.02.02:1996** / Safety requirements for electrical equipment for measurement control & laboratory use
- **ANSI/ISA S82.02.04:1996** / Safety requirements for electrical equipment for measurement control & laboratory use
- **ANSI/ISA S82.03:1988** / Standard for electrical & electronic test, measuring, controlling, & related equipment / Electrical & electronic process measurement & control equipment
- **EN 563** / Safety of machinery. Temperatures of touchable surfaces. (establish temperature limit values for hot surfaces)
- **EN 626-2** / Safety of machinery. Reduction of risk to health from hazardous substances emitted by machinery. Part 2 - Methodology leading to verification procedures
- **EN 746-2** / Industrial thermoprocessing equipment. Part 2 - Safety requirements for combustion & fuel handling systems
- **EN 746-3** / Industrial thermoprocessing equipment. Part 3 Safety requirements for the generation & use of atmospheric gases.
- **EN 777-4** / Multiburner gas-fired overhead radiant tube heater systems for nondomestic use. Part 4 - System H. Safety
- **EN 793** / Requirements for safety of medical supply units
- **EN 809** / Common safety requirements for pumps & pump units for liquids
- **EN 957-1** / Stationary training equipment. Part 1 - General safety requirements & test methods; Amendment A1:1998 to EN 957-1
- **EN 982** / Hydraulics; safety requirements for fluid power systems & their components
- **EN 983** / Pneumatics; safety requirements for fluid power systems & their components
- **EN 1070** / Terminology, safety of machinery
- **EN 1987-1** / Explicit requirements for safety of electrically propelled road vehicles. Part 1 - Storage of energy on-board
- **EN 1987-2** / Explicit safety requirements for electrically propelled road vehicles. Part 2 - Functional safety means & protection against failures
- **EN 1987-3** / Explicit safety requirements for electrically propelled road vehicles. Part 3 - Protection against electrical hazards for users
- **EN 12547** / Centrifuges; common safety requirements
- **EN 12626** / Laser processing machines safety requirements (ISO 11553:1996, modified)
- **EN 41003:1998** / Safety requirements particular to equipment to be connected to telecommunications networks
- **EN 45502-1** / Active implantable medical devices. Part 1 - General requirements for safety, marking, & information to be provided by the manufacturer
- **EN 50019** / Electrical apparatus for potentially explosive atmospheres – improved safety
- **EN 50020** / Electrical apparatus for potentially explosive atmospheres - intrinsic safety
- **EN 50061/A1** / Medical electrical equipment; safety of implantable cardiac pacemakers
- **EN 50065-1:1991** / Signaling on low-voltage electrical installations for frequency range of 3 kHz to 148.5 kHz. Part 1 - General requirements, frequency bands, & electromagnetic disturbances; Amendment A3:1996 to EN 50065-1:1991
- **EN 50068-1:1993** / Cabled distribution systems for television, sound, & interactive multimedia signals. Part 1 - Safety requirements; Amend. A2
- **EN 50078:1993** / Safety of household & like electrical appliances
- **EN 50080** / Safety of electric toys. Amendment A1 to EN 50088; Amendment A2 to EN 50088
- **EN 50091-1:1993** / (USP) Uninterruptible power systems. Part 1 - General & safety requirements
- **EN 50091-1-1:1996** / (USP) Uninterruptible power systems. Part 1.1 - General & safety requirements for UPSs used in operator access areas
- **EN 50091-1-2:1998** / Uninterruptible power systems. Part 1.2 - General & safety requirements for UPSs used in restricted access locations
- **EN 50106** / Safety of household & similar electrical appliances / Particular rules for routine tests referring to appliances under the scope of EN 60335-1 & EN 60967; Amendment A1 to EN 50106
- **EN 50116:1996** / Information technology equipment. Routine electrical safety testing in production
- **EN 50144-1** / Safety of handheld electric motor operated tools. Part 1 - General requirements
- **EN 50144-2-1** / Safety of handheld electric motor operated tools Part 2-1 Requirements specifically for drills
- **EN 50144-2-2** / Safety of handheld electric motor operated tools. Part 2.2 - Requirements specifically for screwdrivers & impact wrenches
- **EN 50144-2-4** / Safety of handheld electric motor operated tools. Part 2.4 - Requirements specifically for sanders
- **EN 50144-2-5** / Safety of handheld electric motor operated tools. Part 2.5 - Requirements specific to circular saws & circular knives
- **EN 50144-2-6** / Safety of handheld electric motor operated tools. Part 2.6 - Requirements for hammers
• EN 50144-2-7 / Safety of handheld electric motor operated tools.
  Part 2.7 - Requirements for spray guns
• EN 50144-2-8 / Safety of handheld electric motor operated tools.
  Part 2.8 – Requirements specific to sheet metal shears & nibblers
• EN 50144-2-9 / Safety of handheld electric motor operated tools.
  Part 2.9 - Requirements for tappers
• EN 50144-2-10 / Safety of handheld electric motor operated tools.
  Part 2.10 - Requirements for jig saws
• EN 50144-2-11 / Safety of handheld electric motor operated tools.
  Part 2.11 - Requirements specific to sabre & reciprocating saws
• EN 50144-2-14 / Safety of handheld electric motor operated tools.
  Part 2.14 - Requirements for electronic planing tools
• EN 50144-2-15 / Safety of handheld electric motor operated tools.
  Part 2.15 - Requirements for hedge trimmers
• EN 60065:1993 / Safety for mains-operated electronic & related machinery
  for household & similar general use. Amendment A11:1997 to EN60065:1993
• EN 60065:1998 / Audio, video, & comparable electronic equipment
• EN 60073 / Basic & safety principles for man/machine interface, marking &
  identification. Coding principles for indication devices & actuators
• EN 60143-1:1993 / Series capacitors for power systems. Part 1 Performance,
  testing, & rating. Guide for installation
• EN 60204-1:1997 / Safety of machinery electrical equipment of machines.
  Part 1 - General requirements
• EN 60215:1989 / Safety requirements for radio transmitting equipment.
  60215:1989
  Part 1 - General requirements; Amendment A2:1988 to EN 60335-1:1988;
  Amendment A5:1989 to EN 60335-1:1988; Amendment A6:1989 to EN
  60335-1:1988; Amendment A51:1991 to EN 60335-1:1988; Amendment
  60335-1:1988; Amendment A56:1995 to EN 60335-1:1988
  Part 1 - General requirements; Amendment A1:1996 to EN 60335-1:1994;
  Amendment A11:1995 to EN 60335-1:1994; Amendment A12:1996 to EN
  60335-1:1994; Amendment A13:1998 to EN 60335-1:1994; Amendment
  A14:1998 to EN 60335-1:1994
  Part 2.2 - Requirements specific to vacuum cleaners & water suction cleaning
  Part 2.3 - Requirements for electric irons Amendment A1:1999 to
  EN 60335-2-3:1995
• IEC 60601-1-3:1994 / Medical electrical equipment  Part 1 - General requirements for safety  3. Collateral standard: General requirements for radiation protection in diagnostic x-ray equipment
• IEC 60601-1-4:2000 / Medical electrical equipment  Part 1.4 - General requirements for safety  Collateral standard: Programmable electrical medical systems
• IEC 60601-2-1:1998 / Medical electrical equipment  Part 2.1 - Specific requirements for safety of electron accelerators in the range of 1 to 50 MeV
• IEC 60601-2-2:1998 / Medical electrical equipment  Part 2.2 - Specific requirements for high-frequency surgical equipment
• IEC 60601-2-3:1991 / Medical electrical equipment  Part 2 - Specific requirements for short-wave therapy equipment
• IEC 60601-2-4:1983 / Medical electrical equipment  Part 2 - Requirements specific to cardiac defibrillators & cardiac defibrillator monitors
• IEC 60601-2-5:2000 / Medical electrical equipment  Part 2.5 - Requirements for ultrasonic physiotherapy equipment.
• IEC 60601-2-6:1984 / Medical electrical equipment  Part 2 - Requirements for the safety of microwave therapy equipment
• IEC 60601-2-7:1998 / Medical equipment  Part 2.7 - Requirements for the safety of high-voltage generators of diagnostic x-ray generators
• IEC 60601-2-8:1999 / Medical equipment  Part 2.8 - Requirements for the safety of therapeutic x-ray equip operating in the range of 10 kV to 1 MV
• IEC 60601-2-9:1996 / Medical electrical equipment  Part 2 - Requirements for patient contact dosimeters used in radiotherapy with electrically connected radiation detectors
• IEC 60601-2-11:1997 / Medical equipment  Part 2 - Requirements for the safety of gamma-beam treatment equipment
• IEC 60601-2-15:1988 / Medical equipment Part 2 - Requirements for the safety of capacitor discharge x-ray generators
• IEC 60601-2-17:1989 / Medical electrical equipment Part 2 -Requirements remote-controlled automatically driven gamma-ray afterloading equipment
• IEC 60601-2-18:1996 / Medical electrical equipment  Part 2-Requirements for the safety of endoscopic equipment
• IEC 60601-2-22:1995 / Medical electrical equipment  Part 2-Requirements for diagnostic & therapeutic laser equipment
• IEC 60601-2-24:1998 / Medical electrical equipment  Part 2.24 Requirements for the safety of infusion pumps & controllers
• IEC 60601-2-25:1993 / Medical electrical equipment  Part 2 - Specific requirements for the safety of electrocardiographs
• IEC 60601-2-26:1994 / Medical electrical equipment  Part 2 - Specific requirements for the safety of electroencephalographs
• IEC 60601-2-27:1994 / Medical electrical equipment  Part 2 - Specific requirements for the safety of electrocardiographic monitoring equipment
• IEC 60601-2-28:1993 / Medical electrical equipment  Part 2 - Specific requirements for x-ray tube assemblies & x-ray source assemblies for medical diagnosis
• IEC 60601-2-29:1999 / Medical electrical equipment  Part 2.29 - Requirements for the safety of radiotherapy simulators
• IEC 60601-2-30:1999 / Medical electrical equipment  Part 2.30 - Specific requirements for the safety including essential performance of automatic cycling noninvasive blood pressure monitoring equipment
• IEC 60601-2-31:1994 / Medical electrical equipment  Part 2 Requirements for external cardiac pacemakers with an internal power source
• IEC 60601-2-32:1994 / Medical electrical equipment  Part 2 - Specific requirements for associated equipment of x-ray equipment
• IEC 60601-2-33:1995 / Medical electrical equipment  Part 2 - Requirements for magnetic resonance (MRI) equipment for medical diagnosis
• IEC 60601-2-34:2000 / Medical electrical equipment  Part 2.34 Requirements for invasive blood pressure monitoring equipment
• IEC 60601-2-40 / Medical electrical equipment Part 2.40 - Requirements for the safety of electromyographs & evoked response equipment
• IEC 60601-2-44:1999 / Medical electrical equipment  Part 2.44 - Requirements for the safety of x-ray equipment for computed tomography
• IEC 60601-2-45:1998 / Medical equipment Part 2.45 - Requirements for the safety of mammographic x-ray equipment & mammographic stereotactic devices
• IEC 60601-2-46:1998 / Medical electrical equipment / Part 2.46 - Specific requirements for the safety of operating tables
• IEC 60728-11:1997 / Cabled distribution systems for television & sound signals Part 11 – Safety
• IEC 60742:1983 / Requirements for isolating & safety transformers
• IEC 60745-1:1997 / Safety of handheld motor-operated electric tools Part 1 - General requirements
• IEC 60825-2:2000 / Safety of laser products Part 2 - Safety of fibre optic communication systems
• IEC 60825-4 / Safety of laser products Part 4 - Laser guards
• IEC 60825-7 TR2:2000 / Safety of laser products Part 7- Safety of products emitting infrared optical radiation, exclusively used for wireless "free air" data transmission & surveillance
• IEC 60825-9 TR3:1999 / Safety of laser products Part 9 - Compilation of maximum permissible exposure to incoherent optical radiation
• IEC 60924:1990 / DC supplied electronic ballasts for tubular fluorescent lamps  General & safety requirements
• IEC 60926 / Auxiliaries for lamps Starting devices (other than glow starters) General & safety requirements
• IEC 60928:1999 / Auxiliaries for lamps Ac-supplied electronic ballasts for tubular fluorescent lamps General & safety requirements
• IEC 61010-2-010:1992 / Safety requirements for electrical equipment for measurement, control, & laboratory use Part 2.010 – Requirements for laboratory equipment for the heating of material
• IEC 61010-2-020:1992 / Safety requirements for electrical equipment for measurement, control, & laboratory use / Part 2.020 - Requirements for laboratory centrifuges
• IEC 61010-2-031:1993 / Safety requirements for electrical equipment for measurement, control, & laboratory use Part 2.031 - Requirements for handheld probe assemblies for electrical measurement & test
• IEC 61010-2-032:1994 / Safety requirements for electrical equipment for measurement, control, & laboratory use Part 2.032 - Requirements for handheld current clamps for electrical measurement & test
• IEC 61010-2-061:1995 / Safety requirements for electrical equipment for measurement, control, & laboratory use Part 2.061 - Requirements for laboratory atomic spectrometers with thermal atomization & ionization
• IEC 61029-1:1990 / Safety of transportable motor operated electric tools Part 1 - General requirements
• IEC 61046:1993 / Dc- or ac-supplied electronic step-down convertors for filament lamps General & safety requirements
• IEC 61293:1994 / Marking of electrical equipment with ratings related to electrical supply Safety requirements
• IEC 61557-1:1997 / Electrical safety in low-voltage distribution systems up to 1000 V AC & 1500 V DC Equipment for testing measuring or monitoring of protective measures Part 1 - General requirements
• IEC 61557-2:1997 / Electrical safety in low-voltage distribution systems up to 1000 V AC & 1500 V DC / Equipment for testing, measuring or monitoring of protective measures Part 2 - Insulation resistance
• IEC 61557-3:1997 / Electrical safety in low-voltage distribution systems up to 1000 V AC & 1500 V DC Equipment for testing measuring or monitoring of protective measures Part 3 - Loop impedance
• IEC 61508-4:1998 / Functional safety of electrical electronic & programmable safety-related systems Part 4 - Definitions & abbreviations
• IC 61508-7:2000 / Functional safety of electrical, electronic & programmable safety-related systems Part 7 - Overview of techniques
• IEC 61557-1:1997 / Electrical safety in low-voltage distribution systems to 1000V AC & 1500V DC Equipment for testing, measuring, or monitoring of protective measures Part 1 - General requirements
• **IEC 61557-2:1997** / Electrical safety in low-voltage distribution systems up to 1000V AC & 1500V DC  Equipment for testing measuring or monitoring of protective measures  Part 2 - Insulation resistance

• **IEC 61557-3:1997** / Electrical safety in low-voltage distribution systems up to 1000V AC & 1500V DC  Equipment for testing measuring or monitoring of protective measures  Part 3 - Loop impedance

• **IEC 61557-4:1997** / Electrical safety in low-voltage distribution systems up to 1000V AC & 1500V DC  Equipment for testing measuring or monitoring of protective measures  Part 4 - Resistance of earth connection & equipotential bonding

• **IEC 61557-5:1997** / Electrical safety in low-voltage distribution systems up to 1000V AC & 1500V DC  Equipment for testing measuring or monitoring of protective measures  Part 5 - Resistance to earth

• **IEC 61557-6:1997** / Electrical safety in low-voltage distribution systems up to 1000V AC & 1500V DC  Equipment for testing measuring or monitoring of protective measures  Part 6 - Residual current devices (RCD) in TN &TT systems

• **IEC 61557-7:1997** / Electrical safety in low-voltage distribution systems up to 1000V AC & 1500V DC  Equipment for testing, measuring, or monitoring of protective measures  Part 7- Phase sequence

• **IEC 61557-8:1997** / Electrical safety in low-voltage distribution systems up to 1000V AC & 1500V DC  Equipment for testing measuring or monitoring of protective measures  Part 8 - Insulation monitoring devices for IT systems

• **IEC 61557-9:1999** / Electrical safety in low-voltage distribution systems up to 1000V AC & 1500V DC  Equip. for testing measuring or monitoring of protective measures  Part 9 – Equipment for insulation fault location in IT systems

• **IEC 61557-10:2000** / Electrical safety in low-voltage distribution systems up to 1000V AC & 1500V DC  Equipment for testing measuring or monitoring of protective measures  Part 10 - Combined measuring equipment for testing measuring or monitoring

• **IEC 61558-1:1998** / Safety of power transformers, power-supply units, & like  Part 1 - General requirements & tests

• **IEC 61558-2-1:1997** / Safety of power transformers, power-supply units, & like  Part 2 - Particular requirements for separating transformers for general use

• **IEC 61558-2-2:1997** / Safety of power transformers, power supply units, & like  Part 2.2 - Requirements specific to control transformers

• **IEC 61558-2-4:1997** / Safety of power transformers, power-supply units, & like  Part 2 - Requirements for isolating transformers for general use

• **IEC 61558-2-6:1997** / Safety of power transformers, power-supply units, & similar  Part 2 - Requirements for isolating transformers for general use

• **IEC 61558-2-7:1997** / Safety of power transformers, power-supply units, & similar  Part 2 - Specific requirements for transformers for toys

• **IEC 61558-2-8:1998** / Safety of small power transformers, power-supply units & like  Part 2.8 - Requirements for bell & chime transformers

• **IEC 61558-2-13:1999** / Power transformers, power-supply units, & similar devices  Part 2.13 - requirements for auto-transformers for general use
- IEC 61558-2-15:1999 / Safety of power transformers, power-supply units, & like
  Part 2.15 - Requirements for isolating transformers for the supply of medical locations
- IEC 61558-2-17:1997 / Power transformers, power supply units & like
  Part 2 - Requirements for transformers for switch-mode power supplies
- IEC 61558-2-19:2000 / Power transformers, power supply units, & like devices
  Part 2.19 - Requirements for perturbation attenuation transformers
- IEC 61558-2-20:2000 / Safety of power transformers, power supply units, & like devices
  Part 2.20 - Specific requirements for small reactors
- IEC 62083:2000 / Medical electrical equipment Requirements for the safety of
  radiotherapy treatment planning systems
- IEC 62151:2000 / Safety of equipment connected to a telecommunication network
- IEEE C95.1:1999 / IEEE standard for safety levels with respect to human exposure
  to radio-frequency electromagnetic fields, 3 kHz to 300 GHz
- IEEE C95.3:1991 (R1997) / IEEE-recommended practice for the measurement of
  potentially hazardous electromagnetic fields RF & microwave
- IEEE 80:2000 / Safety in ac substation grounding
- IEEE 81.2:1991 / IEEE guide for measurement of impedance & safety characteristics
  of large, extended, or interconnected grounding systems
- IEEE 510:1983 / IEEE recommended practices for safety in high-power &
  high-voltage testing
  commercial power systems
- ISO 10079-1:1999 / Medical suction equipment Part 1 - Safety requirements for
  electrically powered suction equipment
- ISO 11197:1996 / Medical electrical equipment Requirements specific to safety of
  medical supply units
- ISO 11553:1996 / Safety of machinery Laser processing machines
- ISO 13090-1:1998 / Mechanical vibration & shock Guide on safety of tests &
  experiments with people Part 1 - Exposure to whole-body mechanical vibration &
  repeated shock
- ISO 14708-1:2000 / Implants for surgery Active implantable medical devices
  Part 1 - General requirements for safety marking as well as information to be
  provided by the manufacturer
- SO/TR 16142:1999 / Medical devices Guidance on the selection of standards in
  support of recognized essential principles of safety & performance of medical devices