

UL, CSA, ETL and CE: What's the Difference?

If you look on the back panel of products/modules, you'll see a silk-screened **certification mark** or logo such as **UL, CSA, ETL** or **CE**. The CE logo also appears on cartons. What do these certification marks mean?

Basically they are stamps of approval. Products with those logos meet rigorous standards for electrical safety and electromagnetic emissions. The acronyms are spelled out below:

UL: Underwriters Laboratories Inc.

CSA: Canadian Standards Association

ETL: Originally a mark of ETL Testing Laboratories, now a mark of Intertek Testing Services.

CE: Conformance European (Communaut Europeenne or Conformit Europeenne)

Lets look more closely at each organization.



In operation for more than a century, Underwriters Laboratories Inc. is an independent nonprofit organization that writes and tests products for safety and certifies them. UL has developed more than 800 standards for safety, and millions of products and their components are tested to ULs safety standards.

ULs web site is at <http://www.ul.com>. Information about UL standards can be found at <http://ulstandardsinfontet.ul.com>.

Some examples of UL standards are:

UL 1492: Audio-Video Products and Accessories

UL 1419: Professional Video and Audio Equipment

UL 1581: Reference Standard for Electrical Wires, Cables, and Flexible Cords

UL 1411: Transformer and Motor Transformers for Use in Audio-, Radio-, and Television-Type Appliances

UL 6500: Standard for Audio/Video and Musical Instrument Apparatus for Household, Commercial, and Similar General Use

If a product is UL listed, you know it has passed ULs stringent tests for electrical safety. For example, the chassis is grounded to the round pin on the power cord, so that if the hot lead of the power cord accidentally shorts to the chassis, the current will go to the building's safety ground and not through someone touching the amplifier chassis.



The Canadian Standards Association (CSA) is a nonprofit association serving business, industry, government and consumers in Canada and the global marketplace. Among many other activities, CSA develops standards that enhance public safety.

A Nationally Recognized Testing Laboratory, CSA is very familiar with U.S. requirements. According to OSHA regulations, the CSA-US Mark qualifies as an alternative to the UL Mark.

Here are some areas where CSA standards are applied:

- Canadian Electrical Code, Part III-Outside Wiring
- Electrical Engineering Standards

- Electromagnetic Compatibility

Example: C108.8: Limits and Methods of Measurement of Electromagnetic Emissions



The ETL Listed Mark is an alternative to the CSA and UL marks.

ETL Testing Laboratories has been conducting electrical performance and reliability tests since 1896. Intertek Testing Services (ITS) acquired ETL from Inchcape in 1996. ITS is recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL), just as Underwriters Laboratories (UL), Canadian Standards Association (CSA) and several other independent organizations are recognized.

ITS tests products according to nearly 200 safety and performance standards. The ETL Listed Mark and C-ETL Listed Mark are accepted throughout the United States and Canada when denoting compliance with nationally recognized standards such as ANSI, IEC, UL, and CSA.

This certification mark indicates that the product has been tested to and has met the minimum requirements of a widely recognized (consensus) U.S. product safety standard, that the manufacturing site has been audited, and that the applicant has agreed to a program of periodic factory follow-up inspections to verify continued conformance.

If the mark includes a small US and/or C, it follows product safety standards of United States and/or Canada, respectively.



What is the CE mark, and what is its purpose?

The European Commission describes the CE mark as a "passport" that allows manufacturers to circulate industrial products freely within the internal market of the EU. The CE mark certifies that the products have met EU health, safety and environmental requirements that ensure consumer and workplace safety. All manufacturers in the EU and abroad must affix the CE mark to those products covered by the "New Approach" directives in order to market their products in Europe. Once a product receives the CE mark, it can be marketed throughout the EU without undergoing further product modification.

An important document related to CE is the **Declaration of Conformity** (D.O.C.). Basically it's a piece of paper which a company authority must sign to say that the device meets the requirements of the Directive. The D.O.C. must include a list of any standards used to justify the claim of compliance with the Directive..

In summary, the certification marks on products are your assurance that the product meets rigorous standards for electrical safety and electromagnetic emissions. It poses no shock hazard (except as noted on the product or in the manual), and it will not cause electromagnetic interference with other devices beyond a certain distance. You can use the product with confidence.