

Certification and Compliance areas of use



Industrial Automation & Control Systems

- Relevant Standards: EFT / SURGE
- Applications: PLCs, motor controllers, factory I/O systems
- Why: Ensures electrical safety in industrial test and measurement devices; EMC immunity standards ensure reliability in noisy industrial environments.

Information Technology & Office Equipment

- Relevant Standards: EMC for multimedia / Flicker
- Applications: Network switches, servers, data acquisition systems
- Why: Covers IT and AV equipment safety, ensures emissions are low enough for office/residential use.

Telecommunications & Networking

- Relevant Standards: EMC immunity
- Applications: Telecom cabinets, wireless access points, base stations
- Why: Compliance with low-voltage and EMC immunity makes them reliable even in high-interference communication environments.

Laboratory & Test Equipment

- Relevant Standards: Lab & test equipment / & radiated immunity
- Applications: Benchtop analysers, calibration systems
- Why: Is a core safety standard for lab devices, especially where precision and electrical protection are critical.

Broadcast & Audio-Visual (AV) Systems

- Relevant Standards: Noise Control
- Applications: AV controllers, amplifiers, signal processors
- Why: Support use in multimedia and entertainment electronics with stringent noise control.

Smart Buildings & Home Automation

- Relevant Standards: Voltage fluctuations
- Applications: Building management systems (BMS), lighting control, HVAC controllers
- Why: Power quality and emission control are key in residential and mixed-use installations.

Renewable Energy Systems (Non-grid-tied)

- Relevant Standards: Surge, Voltage dips
- Applications: Solar charge controllers, battery management units
- Why: Surge and dip immunity allow stable operation in variable power environments.

Glossary

Term	Definition	Standard	Impact if Not Compliant
ESD	Static discharges from people or objects	EN 61000-4-2	Damage to electronics, false triggering
EMC	Overall interference control (emissions + immunity)	EN 55032, EN 61000-4-x	Malfunctions, interference with other equipment
Flicker	Visible fluctuations in lighting from power line disturbances	EN 61000-3-3	Eye strain, user discomfort
Radiated Immunity	Resistance to external radio frequency fields	EN 61000-4-3	Unexpected resets, noise-induced errors
EFT (Fast Transients)	Rapid bursts of high-frequency interference from switching events	EN 61000-4-4	Logic errors, device resets, data corruption

Certification and Compliance Table

Relevant Standards	Industry / Application	Use Case Examples
UL61010, EN 61000-4-4/5/6/8	Industrial Automation	Control panels, PLCs, factory machinery
IEC 62368-1, EN 55032, EN 61000-3-3	IT & Office Equipment	Network gear, servers, desktop power units
IEC 62368-1, EN 61000-4-2/3/6	Telecom & Networking	Routers, base stations, wireless infrastructure
UL61010, EN 61000-4-2/3/4	Laboratory & Test Equipment	Oscilloscopes, analysers, data loggers
IEC 62368-1, EN 55032	Broadcast & AV Systems	Audio amplifiers, signal processors, video equipment
EN 55032, EN 61000-3-3	Smart Buildings / BMS	Lighting control, access systems, HVAC control
EN 61000-4-5, EN 61000-4-11	Renewable Energy (Off-grid)	Solar charge controllers, DC-AC inverters, battery storage systems