

Testing and Certification of Fire Detection and Extinction Alarm Systems

Complete service towards the testing and certification of the products that integrate the alarm systems.



Detection and extinction alarm systems have the objective to protect people and goods, in addition to reducing the risk to acceptable limits. Manufacturers and distributors of alarm systems are directly responsible for ensuring the correct performance of their products and must prove that they comply with the latest regulations for each market.

Latest regulations to access international markets (EU, GCC, UAE, Russia, and China)

- To commercialize an alarm system in the markets pertaining to the European Union (EU), products must be CE marked according to the criteria marked for each product:
 - **EN 54:** Fire detection and fire alarm systems
 - **EN 12094-1:** Fixed firefighting systems - Components for gas extinguishing systems - Part 1: Requirements and test methods for electrical automatic control and delay devices
 - **EN 14604:** Smoke alarm devices
- To export an alarm system in countries members of the **Gulf Cooperation Council (GCC)**, like Saudi Arabia Emirates, Qatar, Oman, and Kuwait, manufacturers must obtain a certification that complies with the European standards and products must be tested in a GCC notified laboratory.

- To access the **Russian market**, manufacturers and distributors must obtain the EAC marking.
- To access the **Chinese market**, manufacturers and distributors must obtain the CCC marking.

Our methodology

Our experts study each project and identify the optimal certification route for the manufacturer's dampers. This study helps to identify which models of the product are most adequate as testing samples in order to achieve the maximum number of certified models with the lowest number of tests. Our services include:

- Project study and selection of samples
- Accredited laboratory testing and product classification
- Issuance of extension reports for results
- Initial and annual inspection of the factory production control (FPC)
- Issuance of certificate of conformity

Our laboratories

We have our own laboratories and highly specialized and versatile equipment, which allows us to carry out all the tests required for each product.

- Fire and Thermal testing
- Acoustic, Environmental and Vibration testing
- Electrical and Electromagnetic Compatibility testing
- Radio testing (Wireless and IoT)
- Cybersecurity evaluation

The versatility of our laboratories allows us to test different elements of the alarm system with the same setup and manage a more efficient schedule.

Access to Global Markets

European market: Arplus+ Laboratories provides a complete testing and certification service for the CE marking of Fire Detection and Extinction Alarm Systems. We are a Notified Body (NB 0370) for the Construction Products Regulations (CPR 305/2011) and the EMC (2014/30/UE) and Radiofrequency (2014/53/UE) directives. Our laboratories are accredited by ENAC-ILAC (ISO/IEC 17025). Our services include:

- **Initial type testing**

- **EN 54-2:** Control and indicating equipment
- **EN 54-3:** Alarm devices – Sounders
- **EN 54-4:** Power supplies – Power supply equipment for fire protection equipment
- **EN 54-5:** Fire detectors – Heat point detectors
- **EN 54-7:** Fire detectors – Smoke point type detectors
- **EN 54-10:** Fire detectors – Flame point type detectors
- **EN 54-11:** Manual Call Points (MCP)
- **EN 54-13:** Compatibility assessment of system components
- **EN 54-16:** Voice alarm control and indicating equipment
- **EN 54-17:** Short-circuit isolators
- **EN 54-18:** Input/output devices
- **EN 54-20:** Fire detectors – Aspirating smoke detectors
- **EN 54-21:** Fire alarm signal transmission systems
- **EN 54-23:** Alarm devices – Optic signaling devices
- **EN 54-24:** Alarm devices – Loudspeakers for voice alarm systems
- **EN 54-25:** Components using radio links
- **EN 12094-1:** Control and indicating equipment – Control panels
- **EN 14604:** Smoke alarm devices (autonomous)
- **Initial inspection of the factory production control (FPC)**
- **Annual follow-up inspection of the FPC**

CertAlarm certification: The CertAlarm certification is a European quality mark for fire detection and security system products. Advantages of the CertAlarm certification:

- CertAlarm allows manufacturers to prove the compliance of their products in all European countries.
- The CertAlarm mark englobes all the additional requisites of the different European Union countries.
- CertAlarm is the only European certification scheme approved by EA (European co-operation for Accreditation) according to scheme 5.
- Applus+ is the only partner needed to test and certify your alarm system under the CertAlarm scheme.

Applus+ is a Recognized Testing Laboratory (RTL) by CertAlarm to carry out the complete certification process and Certification Body (CCB) for the delivery of the certificates.

Accessing other markets: For access to other markets, our experts work with manufacturers to define the optimal testing and certification plan for their products and target markets.

- Applus+ Laboratories is a Telecommunications Certification Body to certify and register radiofrequency products with the FCC that operate in the spectrum with no license (Unlicensed Radio Frequency Devices) and inside Scope A (A1, A2, and A4).
- We are also a Foreign Certification Body (FCB) to certify and register radio-electrical products with the IC/ISED included in Scope 1 (License-exempt Radio Frequency Devices).
- **A+ Fire Safety Certification:** To enable manufacturers of fire protection products to access global markets, Applus+ Laboratories has created the A+ Fire Safety certification. The A+ Fire Safety certification gives access to markets in the Middle East, as it is a recognized scheme by the Gulf Cooperation Council. The advantages of the A+ Fire Safety mark are:
 - It allows all tests and studies carried out on a product to be summarised in the same report in order to present the scope of its characteristics in an organized way.
 - The mark is backed by a laboratory with worldwide recognition.
 - It is an ENAC accredited certification scheme (12/C-PR054).
 - In Europe, the A+ Fire Safety mark applies to those fire protection products not regulated by CPR 305/2011, providing a voluntary certification scheme for these products.

CYBERSECURITY SERVICES

Applus+ Laboratories offers several cybersecurity services tailored for the Industrial sector and specifically to Fire alarms Systems solutions:

- Threat Analysis and Risk Assessment under specific standards such as IEC 62443
- Design Review, Source Code review and Vulnerability Analysis
- Full Stack Penetration testing to evaluate the attack resistance and resilience of the device (i.e. Fire Alarm Control Panel)
- Testing range from application and communication protocol to embedded hardware and software used into the product through the most advanced hacking techniques