The Technology

Certifications

Test reports on FirePro's suitability to suppress Li-Ion battery fires are available upon request.

FirePro Advantages

- Space & weight savings
- 15-year product life
- Easy installation in new or retrofit projects
- Can tolerate small openings
- Easy to transport
- No piping or nozzles required
- Non-pressurized
- Operating temperatures: -50°C to +100°C
- Non-Oxygen Depleting

HFC FREE — HFC-free

CFC FREE — CFC-free

Zero Global Warming Potential

EPA SNAP — ODS Listed Alternative

O_3 — Zero Ozone Depletion Potential

ISO — Manufactured under ISO 9001 ISO 14001

FirePro fire suppression systems are EPA SNAP listed for Normally Occupied Areas.

Distribution Network

EUROPE
Albania
Austria
Belgium
Bulgaria
Croatia
Cyprus
Czech Republic
Denmark
Estonia
Finland
France
Georgia
Germany
Greece
Hungary
Iceland
Ireland
Italy
Latvia
Lithuania
Luxembourg
Malta
Netherlands
Norway
Poland
Portugal
Romania
Serbia
Slovakia
Spain
Sweden
Switzerland
Turkey
United Kingdom

AMERICAS
Argentina
Bolivia
Brazil
Canada
Chile
Colombia
Guatemala
Mexico
Paraguay
Peru
Uruguay
USA

GULF & MIDDLE EAST
Bahrain
Iraq
Jordan
Kuwait
Lebanon
Oman
Qatar
Saudi Arabia
UAE

ASIA & OCEANIA
Australia
Bangladesh
China
Hong Kong
India
Indonesia
Malaysia
Maldives
Myanmar
New Zealand
Pakistan
Philippines
Singapore
South Korea
Sri Lanka
Taiwan
Thailand
Vietnam

AFRICA
Algeria
Angola
Botswana
Congo
Egypt
Ghana
Kenya
Libya
Mauritania
Mauritius
Morocco
Nigeria
South Africa
Sudan
Tanzania
Tunisia

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FirePro.

Global Headquarters,
R&D and Production Facilities
Limassol, Cyprus EU

Find us on
www.firepro.com

Made in the **EU**

FirePro.

Lithium-Ion Batteries

Fire Protection Systems

Reinventing
Fire Suppression

FirePro.

Li-Ion Battery Safety

Li-Ion battery technology, despite being constantly improved, still poses a significant fire hazard.

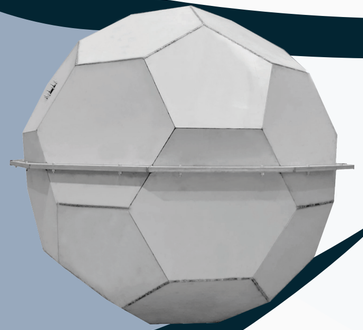
A mechanical shock or other misuse of the battery may lead to an increase in its internal temperature, triggering a thermal runaway in the affected cells.

R&D

FirePro is at the forefront of research aimed at understanding the diverse fire behaviour of such batteries.

A spherical test chamber, specially designed for FirePro, was used to conduct fire suppression tests, explosive tests and off-gassing analyses.

Our technology has been tested in several Li-Ion battery fire scenarios by accredited laboratories and Li-Ion battery manufacturers, demonstrating its effectiveness as a final layer of protection against the worst-case scenarios.



How FirePro Works

In the event of a Li-Ion battery fire, the FirePro active agent consisting of potassium salts (K_2CO_3) neutralizes the electrolyte's decomposition products, such as Hydrogen Fluoride (HF), forming stable products (KF, 2KHF). Thus, preventing the formation of highly flammable gases such as Hydrogen (H_2).

The resulting neutralizing action ultimately controls the fire and allows the temperature in the enclosure to drop below the threshold necessary for the thermal runaway to sustain itself.

ESS System Design

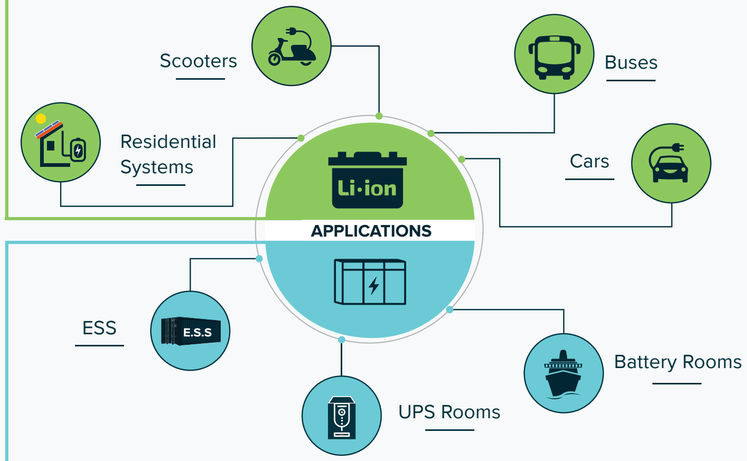
1. Fire Alarm and Extinguishing Panel
2. System Abort Switch
3. Disconnect Switch
4. Gas Release Sign
5. 1st Stage Sounder (Bell)
6. 2nd Stage Sounder/Beacon (Horn/Strobe)
7. FirePro Condensed Aerosol Generators
8. Sequential Activator
9. Combination of different detection technologies
   - Smoke
   - Heat
   - CO
   - Gas
   - Aspiration
   - Linear Heat
   - Flame
   - Other

Applications

Battery Pack Protection

FirePro cylindrical models are compact and provide a practical solution for applications with space limitations such as residential battery-storage systems and electric vehicles.

These generator models are placed within the battery pack compartment and are activated automatically either through electrical or mechanical means.



Energy Storage System Protection

Larger volumes such as Battery Energy Storage Systems, usually placed in containers, are protected using our pre-engineered box-type models.

Upon activation of the condensed aerosol generators, the agent totally floods the enclosure, rapidly controlling and suppressing battery fires.