

Flammable refrigerant



Refrigerant designation

Safety group

R32	A2L
R134a	A2L
R152a	A2
R600a	A3
R290	A3
R170	A3
R142b	A2L

## Heat Pump & Flammable Refrigerant Application Solutions Using Explosion-Proof Relays

As the world moves towards more environmentally friendly refrigerants, the transition to A2L refrigerants is gaining momentum. A2L refrigerants, with their lower global warming potential, offer a promising solution for reducing environmental impact. However, these refrigerants come with their own set of challenges, particularly in terms of safety. To ensure the safe operation of systems using A2L refrigerants, the need for explosion-proof relays has become paramount.

Explosion-proof relays are specifically designed to prevent the ignition of flammable substances, making them essential components in systems using A2L refrigerants. These relays are engineered to withstand the potential hazards associated with flammable environments, ensuring the safety of both the equipment and the surrounding area. By utilizing explosion-proof relays, the risk of ignition due to electrical arcing or sparking is significantly reduced, providing a reliable and secure solution for A2L refrigerant applications.

The explosion-proof relays must adhere to stringent safety standards, such as IEC/EN 60079-15, which specifically addresses equipment protection in explosive atmospheres. These relays undergo rigorous testing to confirm their non-flammability and compliance with safety regulations. By meeting these standards, explosion-proof relays provide peace of mind to engineers, installers, and end-users, knowing that their systems are equipped with reliable and safe components.



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OMRON Device and Module Solutions has made it their focus to meet the growing market demand for anti-explosion relays. Many of OMRON's existing relays have been tested to add the IEC/EN 60079-15 rating to their list of conformed standards. OMRON is also building out their future relay line-up to expand the offering of anti-explosion relays to higher capacity products. It is the company's focus to support applications such as heat pump or refrigeration, and ensure safe-switching with the transition to environmentally friendly refrigerants.

[Watch this webinar](#) which will focus on OMRON's range of explosion-proof relays, highlighting their compliance with safety standards such as IEC/EN 60079-15 for explosive atmospheres. In this session, it will emphasize the importance of using explosion-proof relays in heat pumps and other applications that utilize green refrigerants, which are expected to become more widespread in the future. Green (A2L) refrigerants have lower global warming potential but can be flammable, posing ignition hazards. By using explosion-proof switching components, the entire equipment can be made explosion-proof while ensuring safety. During this webinar, discussions will include:

- Overview of the Green Refrigerant transition and need for Explosion-Proof Relays
- OMRON's Explosion-Proof Relay line-up and roadmap
- How OMRON's Relays can be utilized within Heat Pumps and Flammable Refrigerant Applications

Webinar Title: Heat Pump & Flammable Refrigerant Application Solutions Using Explosion-Proof Relays

**Presenter:**



Zac Hendrix attended Northern Illinois University and obtained a Bachelor of Science degree in Mechanical Engineering, with emphasis in sustainable energy. He is currently the Relay Product Manager for OMRON, serving as the America's technical contact for OMRON's diverse relay product offerings. He has expertise with relay applications within the Automated Testing Equipment, Factory Automation, and Smart Home Building industries.

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