

CAT for Air Conditioners

Introduction

The CATIII system offers an effective solution in electronic rust protection, designed to address corrosion concerns across various applications. With a track record spanning over three decades, CAT Systems has been a leading provider of Electronic Rust Protection products. The CATIII Electronic Rust Protection System embodies our commitment to combat rust in diverse environmental conditions.

Technical & Design Summary

The CAT System utilises an optimal blend of voltage and frequency to deliver maximum corrosion inhibition in air conditioner systems. The Modular Design allows for easy expansion, with the Main Generator Module featuring 2 output circuits. Each circuit can support up to 6 coupler pads linked in series, providing a total capacity of 12 Coupler Pads for both circuits. Additional coupler pads can be seamlessly added to enhance system performance.

Corrosion Control - Background

While traditional methods of corrosion control, such as coatings, are effective for certain applications, they may not fully address the unique challenges faced by air conditioner systems. The CAT System pioneers a different approach by employing alternating current (AC) with specific waveforms and frequencies to interrupt and slow down the corrosion process within the metallic components of air conditioner units. This technology has been refined since its inception in 1989, demonstrating its effectiveness even in real-world conditions. While the exact mechanisms behind its efficacy are still debated, it is widely believed that the CAT technology helps regulate stray currents within the system, thereby mitigating corrosion.

Advantages of CAT Rust Protection for Air Conditioner Units

Choosing CAT offers numerous benefits tailored for air conditioner systems:

- **Comprehensive coverage:** CAT reaches virtually all metallic components, both internally and externally, ensuring protection even in areas where traditional coatings may be inadequate.
- **Long-term solution:** Unlike coatings that degrade over time, CAT provides continuous corrosion suppression, offering a lifetime of protection.
- **Continuous protection:** CAT operates 24/7, providing uninterrupted defense against corrosion.
- **Environmentally friendly:** CAT eliminates the risk of chemical leakage associated with coatings, posing no harm to the environment.

- **Non-interference:** CAT will not interfere with on board control systems found in AC systems
- **Easy installation:** no drilling or screw-fixing required.
- **Durable design:** Built to withstand harsh environmental conditions, CAT ensures reliable performance in any setting.
- **Cost-effective:** CAT helps prevent costly corrosion-related repairs, making it a wise investment for air conditioner maintenance.
- **Compatibility:** CAT is compatible with both 12VDC and 24VDC systems, with an option for 240VAC conversion.
- **Paint protection:** Anecdotally we have found the CAT slows down paint oxidation, further preserving the integrity of air conditioner units.

Importance of Protective Coating

While CAT offers robust corrosion protection, the effectiveness of the system is enhanced by a suitable dielectric coating, typically paint. A high-quality coating is essential to maximize the performance of the CAT System. In instances where metal surfaces are exposed, a thin layer of ferric oxide may form, underscoring the importance of proper coating. Regular maintenance, including sealing of paint, is recommended to optimize CAT's performance and minimize the risk of rust-related issues.

Capabilities and Limitations

What CAT can achieve:

The CAT System has been proven to reduce the rate of corrosion by disrupting electrochemical rusting processes, particularly when combined with an effective dielectric coating.

What CAT cannot do:

CAT cannot reverse existing rust damage, as the energy required to reverse the rusting process exceeds the system's capabilities. While CAT can slow down or halt corrosion progression, it cannot restore rusted components to their original state.

Continuous Improvement and Testing

Since its inception, CAT has undergone continuous improvement to enhance effectiveness and reliability. Technical advancements have led to a reduction in size without compromising power output. Rigorous testing, including salt fog and humidity chamber tests, ensures that CAT consistently meets performance standards. Independent testing, such as the recent evaluation by SGS Laboratories in April 2015, validates CAT's effectiveness in real-world conditions.



Long-term Field Trials and Endorsements

Over three decades, CAT technology has garnered praise from various industries. Long-term clients attest to the system's effectiveness in preserving air conditioner units in diverse environments. Certifications from regulatory bodies such as C-Tick, FCC, and CE further underscore CAT's reliability and compliance with international EMC standards.

FAQs

Q: What is electronic rust prevention?

A: Electronic rust prevention utilizes electricity to mitigate corrosion on metal surfaces. CAT employs this technology that can protect air conditioner units from rust and degradation.

Q: How does CAT work?

A: CAT disrupts the natural electrochemical rusting process within air conditioner systems, providing continuous corrosion protection.

Q: Is CAT protection expensive?

A: No. The cost of CAT installation represents a small fraction of the value of air conditioner units, offering long-term savings by preventing costly corrosion-related repairs.

Q: Does CAT come with a warranty or guarantee?

A: Yes. All CAT Systems are backed by a 10-year product replacement guarantee, subject to terms and conditions.

Q: What voltage is needed to power the CAT system?

A: The CAT system requires either a 12VDC or 24VDC constant voltage source. For 240VAC installations, a power transformer will be necessary. (a 12VDC domestic down light transformer is ideal for this purpose.)

Q: Is CAT effective on larger air conditioner units?

A: Yes. CAT's modular design allows for scalability, making it suitable for various sizes of air conditioner units.

Q: Is it practical to install CAT on air conditioner units with existing rust?

A: While CAT can help mitigate further corrosion, it cannot reverse existing rust damage. It's recommended to address existing rust issues before installing CAT for optimal protection.

Q: Will CAT interfere with the operation of air conditioner units?

A: No, CAT does not interfere with the operation of air conditioner units. It operates independently and seamlessly integrates with the existing system without affecting its performance.

Q: Is CAT compatible with existing protective coatings?

A: Yes. CAT is fully compatible with various protective coatings, enhancing corrosion resistance when used in conjunction with suitable coatings.