

# Trailer Refrigeration Solutions

Reliable transport innovations for trailer fleets





# Your trusted partner

Fresh thinking, passion, and problem-solving are foundational to our culture and extensive trailer offerings.

Our drive for innovation began in 1938 and continues to lead the industry in breakthrough technologies that raise the bar in efficiency, safety, sustainability, and reliability. Our experience and world-class engineering team bring concepts to life – challenging what's possible as we merge innovation with customer and industry needs to ensure all temperature-critical products are protected throughout transport no matter the climate or distance. Supported by a dedicated dealer network that spans the Americas, our mission is to help you be successful, no matter where the road takes you.

As part of Trane Technologies, we are a world leader in creating comfortable, sustainable, and efficient environments. Sustainability is at the core of our business – it's part of our business strategy and greater purpose.

We are committed to lead by example, change the way we do business and be a force of positive change. This includes reworking and converting our supply chain and operations to have a restorative impact on the environment.

And we're making landmark promises like the Gigaton Challenge. We have pledged to reduce one gigaton of carbon emissions (CO<sub>2</sub>e) from our customers' footprint by 2030, and we are well on our way with the changes we've made at our facilities and the sustainable improvements to our products.

Together with our customers, we will continue to challenge what's possible for a more sustainable world.



TRANE  
TECHNOLOGIES™

We **boldly** challenge  
what's possible for a  
sustainable world.

# Choice is power

Thermo King provides reliable trailer refrigeration for fresh, frozen, or high-risk loads on any route.

We understand our customers vary in size, business goals and needs. Thermo King has the speed, scale, and support to keep your business moving. And our suite of trailer solutions, coupled with intelligent innovations and accessories, give you the choices you need to ensure success.

Leading the way is our Precedent® transport refrigeration unit (TRU) line, which has been making an impact since 2013. With more than 250,000 units in the field, Precedent continues to set the bar high with enhanced performance, double-digit fuel savings, the cleanest engines, performance standards, a complimentary 24-month telematics subscription, and a variety of equipment options.





## The Proven Evergreen Choice, 50-State CARB & EPA Compliant

### Precedent S-Series: Single- and Multi-Temperature Units

If sustainable operation is essential to your fleet, or if you run refrigerated trailers in California, choose our S-Series. Developed to achieve evergreen California Air Resources Board (CARB) and Tier 4 EPA emissions compliance, the Precedent S-Series lineup is compliant in 50 states – and it has been since 2013. With more than 150,000 units produced, it has proven its performance on the road time and time again.

## Hybrid Electric: Our most innovative, connected choice

### Precedent S-750i Single-Temperature Unit

The Precedent S-750i offers a hybrid-electric architecture with integrated shore power and embedded telematics to deliver powerful performance on and off the road. CARB Ultra-Low Emission TRU (ULETRU), 50-state compliant and equipped with our 30-watt ThermoLite® solar panel, the S-750i offers our most precise temperature control, fastest pull-down and superior deep-frozen capacity.



## Cost-effective Reliable Choice, 49-State EPA Compliant

### Precedent C-Series: Single- and Multi-Temperature Units

For businesses that do not operate in California, the C-Series has an option for you. Offering the proven Precedent performance, these units feature a < 25 HP engine and R-452A refrigerant to provide a lower global warming potential (GWP), reducing the carbon footprint by nearly 50%.

## Food Distribution Made Easy Single- and Multi-Temperature Options

Our premier Precedent trailer platform offers countless trailer configurations to fit any food distribution model with an impressive multi-temperature unit lineup and remote evaporator options. For even more customization, the S-610DE model offers two separate longitudinal temperature zones in one trailer, with options for additional zones. Whatever your configuration, Thermo King's TRUs deliver faster pulldowns and hit lower setpoints than any other product on the market.

# Experience and innovation

Our vision to deliver freshness is at the forefront of all we do.

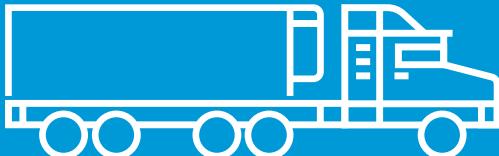
We are committed to supporting each customer's mission with innovation and service that meets fleet needs both today and in the future. We are pioneers in the ultra-low emission space and continue to innovate. Our experience, our talent, our industry leadership and our dedication to moving your business forward set us apart.

## Quality and reliable design

Experience counts. We pioneered the transport refrigeration industry and have been designing innovative solutions out of our headquarters in Bloomington, Minnesota for nearly 90 years. We are proud of our legacy, which includes decades worth of industry-leading and patent-earning products. Our trailer platform engineering team works closely with our US-based manufacturing facilities to ensure quality and reliability is delivered with every unit built.



Part of a global enterprise, we also benefit from research and development labs around the globe, sharing resources, expertise and industry-leading testing capabilities among our Bloomington, Galway, Ireland, and Kolin, Czech Republic world-class testing labs. With industry leading testing capabilities that include drive-in test bays, we can emulate the harshest of environments and climates – from -20°F to 130°F, to ensure unmatched reliability, engineering and performance in our trailer technologies.



## Thermo King U.S. Trailer Factories



Bloomington, MN



Arecibo, PR



Greenville, SC

# We are there when it matters

With more than 180 dealership locations across North America, our dealer partners are strategically located and offer consistent, reliable service you can trust. Standardized training, factory certified technicians, and a commitment to gold standard service levels ensure our dealer network has the expertise necessary to help keep refrigerated trailers on the road.

Our dealer network offers unique services including remote equipment monitoring, predictive maintenance, mobile and after-hours service, extended warranties, and guaranteed maintenance programs to prevent the unexpected. These services can significantly improve your overall cost of ownership and maximize fleet uptime.

## Blue Track by Thermo King®

Our Blue Track by Thermo King dealers have raised the bar further through triage and express services, dwell-time monitoring, real-time updates to customers, and extended dealership hours. These certified dealers provide enhanced service offerings that help expedite planned and unplanned transport refrigeration service and maintenance. Blue Track by Thermo King redefines customer service in the transport refrigeration industry.

## Guaranteed Maintenance Programs

Looking to cut costs and maximize your fleet uptime? Our range of service plans help you choose the right maintenance investment to keep you on the road and running strong.



Thermo King Dealer



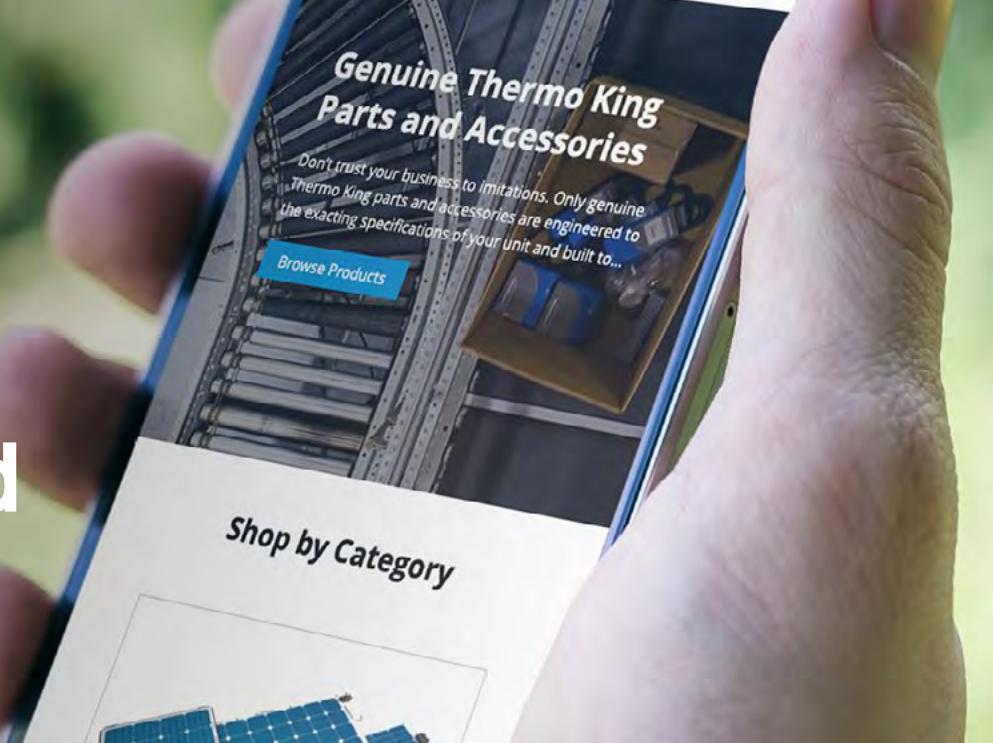
## 180+ DEALER LOCATIONS IN THE U.S. & CANADA

- **997** service bays across North America
- **613** mobile service trucks across North America
- **42** dealer families
- **~62,000** hours of dealer technician training each year
- **75+** years of training from Thermo King Education Center staff

Choose the program that best fits your business needs to:

- Increase uptime
- Access key performance indicators
- Predict maintenance costs
- Improve workforce efficiency
- Maximize fleet utilization
- Eliminate new technology uncertainties

# Parts – we've got you covered



We're here to help you work smarter by maximizing uptime with the parts you need, when you need them.

With more than 1.5 million parts stocked in our shared national dealer inventory and approximately 225,000 additional parts in our North America distribution center, we can get you what you need within 1-3 days, 98% of the time. From individual components to specialized kits, our teams work together to keep your assets moving to optimize your operations.

## **Genuine Thermo King Parts and Accessories**

Don't trust imitations. Only genuine Thermo King parts and accessories are engineered to the exact specifications of your trailer unit – and they're built to last longer and perform better than will-fitters. And we have everything you need to keep your units running smoothly. This includes belts, starters, alternators, controllers, batteries, filters, and everything in between. To ensure authenticity, genuine Thermo King parts are only available through our dealer network or directly from Thermo King.

## **Two easy ways to purchase our genuine parts**

1. Visit or call an authorized Thermo King dealer. Our dealers have large inventories of parts ready – for pick-up or delivery through mobile parts trucks.
2. Buy genuine Thermo King branded parts online.

Purchase directly from our website 24/7 and enjoy a digital purchasing experience. Search and add parts to your cart easily – by product category, model or part number. Online orders are fulfilled by your local, authorized Thermo King dealer. To fit your business needs, you can have the order shipped to you, added to a regularly planned delivery, or scheduled for pick up from your dealer. You can pay with a credit card or via purchase order, and your account page gives you access to tracking information, past order history, wish lists, and more.



## 1.7M+ in parts

We are ready to serve you!  
Our aftermarket service network  
of dealers and warehouse has  
approximately 1.7 million parts  
in inventory.

**25K+ hours**  
Each year, we dedicate more  
than 25,000 hours to enhancing  
the quality and reliability of  
Thermo King products.



## 266 parts delivery trucks

Our network of dealers is  
equipped to bring the parts you  
need to your location.

# Essential data that ensures fresh deliveries and compliance

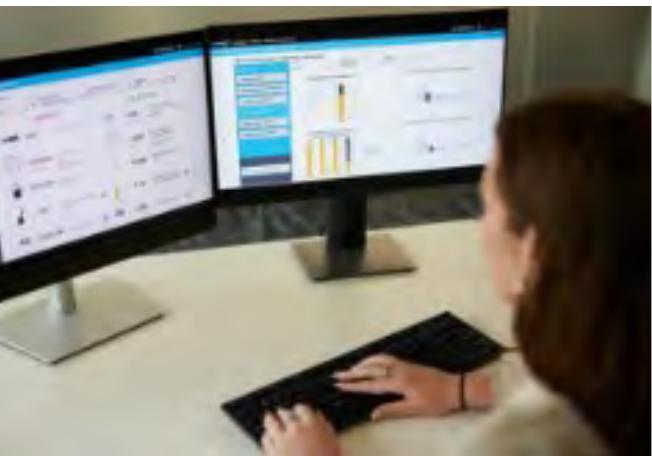
Our telematics solutions connect you to a more reliable and sustainable cold chain – and you get a complimentary 24-month subscription.

Intelligent innovations keep your assets fresh, enable better fleet visibility and maximize load integrity to drive efficient deliveries. Reliable data provides all the critical information your fleet needs to succeed. The benefits include increased uptime, temperature traceability, Food Safety Modernization Act (FSMA) and regulatory compliance, energy efficiency, and asset security. Select the telematics package that works best for your fleet needs, from the complimentary 24-month TracKing telematics subscription that comes standard to the ultimate 24/7 Remote Operating Center (ROC) which provides you with a third-party fleet management team.

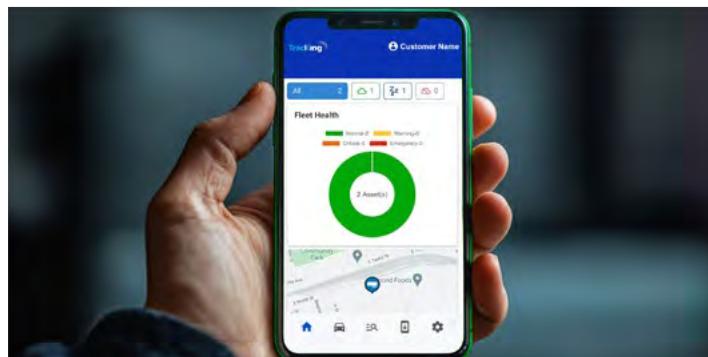
Our flexible telematics solutions help you move your business forward, arming you with decision-making and action-taking insights.

## Data driven for results

The Thermo King ConnectedSuite™ portfolio is designed to deliver all the critical information your fleet needs to succeed and help enhance its operational efficiency. This includes temperature monitoring, security, proof of compliance, and predictive analytics, which monitors your fleet and alerts you to actionable data insights. Bottom line: our telematics solutions will keep your fleet on the road longer, avoiding costly breakdowns.



In North America, Thermo King has more than 90,000 vehicles connected and utilizing the TracKing telematics solution.



## TracKing® Telematics

All new trailer refrigeration units come standard with telematics hardware bundled with a 24-month TracKing telematics service subscription. This core telematics package provides real-time cargo traceability and asset monitoring to maximize uptime, optimize fuel usage, and meet your compliance needs. TracKing telematics includes operational dashboards to make fleet management easier. This includes a fleet overview dashboard, fleet performance dashboard, readiness score dashboard, and both fuel and maintenance reporting, along with full remote control of your refrigerated fleet.

## TracKing® Pro Telematics

Our proprietary and award-winning telematics offering, TracKing Pro telematics, collects data from Thermo King reefers to provide actionable insights that help fleets enhance uptime and optimize energy efficiency. This solution gives you the ability to help reduce cost-per-mile by avoiding unplanned downtime and decreasing energy costs. Bottom line: it helps you increase profitability in a competitive market. Key elements include the energy usage dashboard, benchmark analytics dashboard, predictive alert notifications, and alarm triage insights.

## Remote Operating Center (ROC)

The Remote Operating Center is our top-tier telematics package which includes all the features of the TracKing Pro telematics package plus 24/7 professional triage, smart routing, and warranty coverage for predicted failures. The Remote Operating Center combines advanced technology with our team of experts to diagnose alarms and implement a prescribed action plan.

## TracKing® Smart Trailer Telematics

In an industry where competition is fierce, you need to make smart decisions to maintain an edge. Our TracKing Smart Trailer telematics offers a 360-degree view of your trailers' health through sensor data on tire pressure, wheel hub temperature and vibration, brakes, lights, door position, axle weight and other vital metrics as well as video feeds from cameras strategically placed inside and outside the trailer. When optionally paired with TracKing Pro telematics, you get a holistic view of your trailer, cargo and reefer. This equates to operational efficiency, enhanced safety, increased uptime, regulatory compliance and sustainability.



TracKing telematics hardware bundled with a 24-month TracKing telematics service subscription is now free on new Thermo King trailer units.

# Temperature Control Unit Optimization

Operational efficiency begins with an ecosystem designed for you.

Your fleet, your choices on the options and accessories that will help you run more efficiently. And we are here to guide you. We have a large suite of products and more options than you will find anywhere else. From air chutes, bulkheads and air curtains to door switches, solar panels and sensors, we can help you customize your fleet to fit your needs - all with optimization in mind.



## Air Chutes and Return Bulkheads

Proper airflow from the refrigeration unit in a trailer is critical to ensure that temperature is evenly distributed. The use of air chutes is critical to prevent top-freeze while hauling produce and using a return air bulkhead helps reduce the risk of short-cycling. Chutes, return air bulkheads, and insulated bulkheads can be used to ensure optimal airflow and even temperature distribution. This will reduce hot spots in a trailer that can negatively impact the quality of the product being transported.

## Sensors – Accuracy within $\pm 0.47^{\circ}\text{F}$

Our temperature sensors are calibrated and graded during manufacture. Our Precedent unit was designed with two return air sensors strategically positioned to represent accurate trailer compartment temperatures. The sensors are constantly communicating with each other to ensure accurate readings and as a result, precise temperature in the trailer. We test our sensors and controllers using industry standard tests (mechanical shock, vibration, humidity, etc.) as well as Thermo King proprietary tests to ensure it meets our standards—and yours.

## Solar Panels

Adding solar to your refrigeration unit will provide fuel efficiency from reduced runtime in CYCLE-SENTRY™ mode and engine offloading as a healthier battery demands less from the charging system. Solar panels can also be used to charge batteries on your tractor and liftgate, or pallet jack batteries through our electric pallet jack charger.

## Air Curtains

Developed with innovation and sustainability in mind, BlueSeal air curtains keep hot or cold temperatures inside your refrigerated trailer during door openings with an invisible climate barrier. An alternative to vinyl trailer curtain options, this product is an exclusive offering through Thermo King dealers in the U.S. and Canada.

## OptiSet® Plus

Featured in the single-temperature unit models, OptiSet Plus ensures that temperatures are optimized and personalized with pre-set profiles for your cargo. OptiSet Plus has over 500 cargo profiles.

## Door Switches

It's best practice to turn off the trailer before the doors are opened and cargo is loaded. With door switches, the unit can be configured to automatically turn the unit off when doors are opened. This can save double-digit runtime and help ensure the integrity of your cargo.



# Fuel Efficiency

Improving profitability by operating smarter.

Improving the bottom line. That's the goal of successful fleets, and Thermo King understands why optimal fuel efficiency is foundational.

Adjustments to fan speeds, timers, temperature range settings, driver education, and more are all ways to gain fuel efficiency. To assist, and eliminate driver error, all Precedent units can be customized for efficiency with hundreds of default cargo profiles. Thermo King dealers are trained to provide further customization if needed utilizing OptiSet Plus.

CYCLE-SENTRY was invented by Thermo King in the 1980s to help customers reduce fuel usage and save on operational costs as well. This tool is best used when hauling frozen loads, automatically adjusting the unit settings to cargo temperature needs.

Telematics and the ability to monitor unit operation 24/7 allows greater control of unit performance and ultimately fuel efficiency – either through remote intervention or post trip data for operational learnings and driver education. TracKing Pro telematics even provides recommendations that will reduce fuel costs. In addition, it compares your fuel usage with other fleets so that you can see which are the biggest opportunities.

# Sustainability

Making an impact, committing to positive change.

We know global impact starts with us. As a trusted innovator and partner helping to decarbonize the cold chain, we are a force for positive momentum by helping our customers meet regulatory requirements and sustainability goals.

## **The ground-breaking, and ever-evolving, Precedent® S-Series**

One bold leap that continues to impact the industry today – and demonstrates our commitment to innovating for a more sustainable world, is the Precedent® S-Series of trailer refrigeration units.

### **R-452A as standard since 2022**

We were the first manufacturer to transition to lower global warming potential (GWP) refrigerant as standard in our large truck and trailer transport refrigeration units, helping customers meet sustainability commitments and CARB regulations.

### **30+ years of CYCLE-SENTRY**

We introduced CYCLE-SENTRY in our transport refrigeration units more than 30 years ago to help customers reduce fuel usage and save on operating costs through runtime reduction.

### **ThermoLite® Solar Panels**

Solar panels have been another part of our comprehensive sustainability offerings for more than 10 years. Used in conjunction with our trailer units, they deliver clean, reliable performance in generating supplemental power resulting in longer battery life, lower fuel consumption and reduced emissions.

### **Innovating towards an electrified future**

We continue to innovate to more sustainable technologies as we progress toward a decarbonized cold chain, leading with electrification. All trailer unit models are available with optional SmartPower™ electric standby with choice of standard or high output options. We also have hybrid-electric architecture available with the S-750i and continue to advance towards full electric options that will meet industry needs.



Since the S-Series launched and **150,000** units have been manufactured, customers have avoided more than 2.8 million metric tons of CO<sub>2</sub> emissions (equivalent to the emissions of 280 million gallons of diesel fuel).



The **S-Series** outperforms alternative competitor TRU manufacturer options with 49% less NOx emissions and 16% CO<sub>2</sub>.



Add in available **shore power technology** (integrated into the S-750i hybrid-electric architecture), and you can further reduce emissions while progressing sustainability goals.



Thermo King – by Trane Technologies (NYSE: TT), a global climate innovator – is a worldwide leader in sustainable transport temperature control solutions. Thermo King has been providing transport temperature control solutions for a variety of applications, including trailers, truck bodies, buses, air, shipboard containers and railway cars since 1938. For more information, visit [thermoking.com](http://thermoking.com) or [tranetechnologies.com](http://tranetechnologies.com).

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