



SLXi-Operator's Manual

SLXi-Manuel de l'utilisateur

SLXi-Manuale dell'operatore

SLXi-Betriebshandbuch

SLXi-Manual del operador

SLXi-Podręcznik operatora

SLXi-Bedieningshandleiding

SLXi-Kullanıcı Kılavuzu

SLXi-Manual do operador

SLXi-Brugermanual

SLXi-Driftmanual

SLXi-Руководство оператора

SLXi-100, 200, 300, 400, SLXi-300 Whisper Pro, SLXi Spectrum and SLXi Spectrum Whisper Pro

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Introduction

There is nothing complicated about operating and maintaining your Thermo King unit, but a few minutes studying this manual will be time well spent.

Performing pre-trip checks and enroute inspections on a regular basis will minimize on-the-road operating problems. A regular maintenance program will also help to keep your unit in top operating condition. If factory recommended procedures are followed, you will find that you have purchased the most efficient and dependable temperature control system available.

All service requirements, major and minor, should be handled by a Thermo King Dealer for these very important reasons:

- They have factory trained and certified technicians
- They have genuine Thermo King replacement parts
- They are equipped with the factory recommended tools to perform all service functions
- The warranty on your new unit is valid only when the repair and replacement of component parts is performed by an authorized Thermo King Dealer.

IMPORTANT: This manual is published for informational purposes only and the information furnished herein should not be considered as all-inclusive or meant to cover all contingencies. If more information is required, consult your Thermo King Service Directory for the location and telephone number of the local dealer.

Customer Satisfaction Survey

Let your voice be heard!

Your feedback will help improve our manuals. The survey is accessible through any internet-connected device with a web browser.

Scan the Quick Response (QR) code or click or type the web address to complete the survey:

http://irco.az1.qualtrics.com/SE/?SID=SV_2octfSHoUJxsk6x



Emergency Assistance

Thermo Assistance is a multi-lingual communication tool designed to put you in direct contact with an authorized Thermo King dealer.

Thermo Assistance should only be contacted for breakdown and repair assistance.

To use this system, you need the following information before you call: (phone charges will apply)

- Contact Phone Number
- Type of TK Unit
- Thermostat Setting
- Present Load Temperature
- Probable Cause of Fault
- Warranty Details of the Unit
- Payment Details for the Repair

Leave your name and contact number and a Thermo Assistance Operator will call you back. At this point you can give details of the service required and the repair will be organized.

Please note that Thermo Assistance cannot guarantee payments and the service is designed for the exclusive use of refrigerated transporters with products manufactured by Thermo King Corporation.



BEA261

Belgium	+32 270 01 735
Denmark	+45 38 48 76 94
France	+33 171 23 05 03
Germany	+49 695 00 70 740
Italy	+39 02 69 63 32 13
Spain	+34 914 53 34 65
The Netherlands	+31 202 01 51 09
United Kingdom	+44 845 85 01 101
Kazakhstan	+7 7273458096
Russia	+7 4992718539
Others	+32 270 01 735

General Inquires and Unit Maintenance

For general inquiries please contact your local Thermo King dealer.

Go to www.europe.thermoking.com and select dealer locator for your local Thermo King dealer.

Or refer to the Thermo King Service Directory for contact information.

Safety Precautions

Thermo King recommends that servicing be done only by a Thermo King dealer. However, you should be aware of several safety practices. This chapter gives basic safety precautions for working with Thermo King units and describes the safety stickers on your unit that you should be familiar with.

General Safety Practices



WARNING: *Keep hands and loose clothing clear of fans and belts at all times when the unit is operating with the doors open.*



WARNING: *Exposed coil fins can cause painful lacerations. Service work on the evaporator or condenser coils should be done by a certified Thermo King technician.*



WARNING: *Do not apply heat to a closed cooling system. Before applying heat to a cooling system, drain it. Then flush it with water and drain the water. Antifreeze contains water and ethylene glycol. The ethylene glycol is flammable and can ignite if the antifreeze is heated enough to boil off the water.*

Automatic Start/Stop Operation

This unit is capable of automatic operation and could start at any time without warning.



WARNING: *The unit can start at any time without warning. Press the **OFF** key on the control panel and place the microprocessor On/Off switch in the Off position before inspecting or servicing any part of the unit.*

Battery Installation and Cable Routing



WARNING: Improperly installed battery could result in a fire or explosion. A Thermo King approved battery must be installed and properly secured to the battery tray.



WARNING: Improperly installed battery cables could result in fire or explosion. Battery cables must be installed, routed and secured properly to prevent them from rubbing, chaffing or making contact with hot, sharp or rotating components.



CAUTION: Do not connect other manufacturer's equipment or accessories to the Thermo King unit. This could result in severe damage to equipment and void the warranty.



CAUTION: Set all unit electrical controls to the OFF position before connecting battery cables to the battery to prevent unit from starting unexpectedly and causing personal injury.



CAUTION: Always wear protective clothing, gloves and eye wear when handling and installing batteries. Battery acid can cause serious burns when exposed to eyes or skin. If battery acid contacts skin or clothing, wash immediately with soap and water. If acid enters your eye, immediately flood it with running cold water for at least twenty minutes and get medical attention immediately.



CAUTION: Always cover battery terminals to prevent them from making contact with metal components during battery installation. Battery terminals grounding against metal could cause the battery to explode.

Refrigerant

Although fluorocarbon refrigerants are classified as safe, use caution when working with refrigerants or in areas where they are being used.

NOTE: These warnings refer to servicing of the unit.



DANGER: Fluorocarbon refrigerants can produce toxic gases. In the presence of an open flame or electrical short, these gases are severe respiratory irritants **CAPABLE OF CAUSING DEATH.**



DANGER: Fluorocarbon refrigerants tend to displace air and can cause oxygen depletion which could result in **DEATH BY SUFFOCATION.** Provide adequate ventilation in enclosed or confined areas.



WARNING: Fluorocarbon refrigerants evaporate rapidly, freezing anything they contact if accidentally released into the atmosphere from the liquid state.

Refrigerant Oil

Observe the following precautions when working with or around refrigerant oil:

NOTE: These warnings refer to servicing of the unit.



WARNING: Always wear goggles or safety glasses to protect eyes from refrigerant oil contact.



WARNING: Protect skin and clothing from prolonged or repeated contact with refrigerant oil. Rubber gloves are recommended.



WARNING: Wash thoroughly immediately after handling refrigerant oil to prevent irritation.

First Aid

First Aid–Refrigerant

Eyes: For contact with liquid, immediately flush eyes with large amounts of water. Get prompt medical attention.

Skin: Flush areas with large amounts of warm water. Do not apply heat. Wrap burns with dry, sterile, bulky dressing to protect from infection or injury. Get prompt medical attention.

Inhalation: Move victim to fresh air and restore breathing if necessary. Stay with victim until emergency personnel arrive.

First Aid–Refrigerant Oil

Eyes: Immediately flush eyes with large amounts of water for at least 15 minutes while holding the eyelids open. Get prompt medical attention.

Skin: Remove contaminated clothing. Wash thoroughly with soap and water. Get medical attention if irritation persists.

Inhalation: Move victim to fresh air and restore breathing if necessary. Stay with victim until emergency personnel arrive.

Ingestion: Do not induce vomiting. Immediately contact local poison control center or physician.

Safety Decals and Locations

Operation

The operation decal is located inside the Engine Doors. This decal gives you the information to access/download your unit operator manual, but also the safety icons associated with your unit. These safety icons are directly associated with the information within this chapter. You can see the explanations for these icons starting from “General Safety Practices” on page 8. See “Operation Decal” on page 12

NOTE: *This decal only contains symbols of warning for the operation of the unit.*

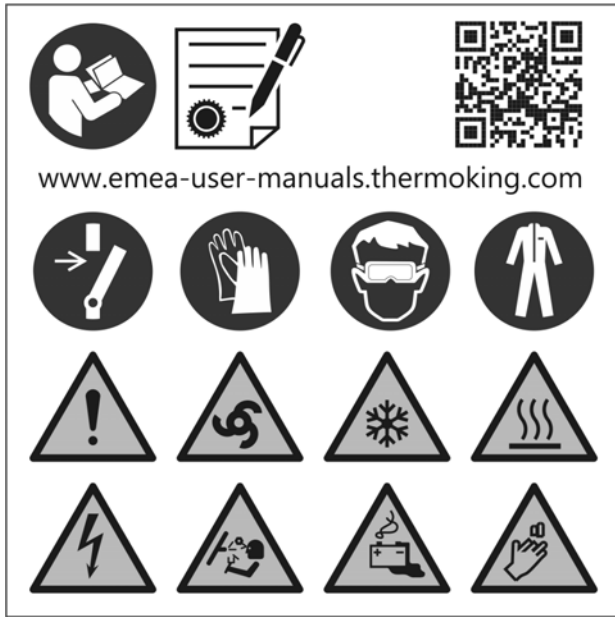


Figure 1: Operation Decal

Condenser and Evaporator Fans

Be aware of the warning nameplates in the following locations (example in Figure 2):

- On bulkhead
- Behind belt panel
- On belt guard
- On rear of evaporator housing



BEN217

Figure 2: Fan Warning

Remote start of the unit

⚠ DANGER: Machinery Starts Automatically.

Decals located behind service door.

NOTE: Only present on units fitted with TK Tracking Telematic's installed.

⚠ WARNING



SATELLITE CONTROLLED UNIT

UNIT MAY START AUTOMATICALLY AT ANY TIME.

CAN CAUSE SERIOUS INJURY.

PLACE THE UNIT ON/OFF SWITCH AND SATELLITE SWITCH TO "OFF" PRIOR TO SERVICING THE UNIT.

BEN181



Remote Controlled Unit

⚠ EN: DANGER, Machinery starts automatically
FR: DANGER, démarrage automatique de la machine
SP: PELIGRO, la maquinaria arranca automáticamente
PT: PERIGO, a maquinaria arranca automáticamente
RU: ОПАСНО! Машина стартует автоматически
IT: DANGER! Macchine startate automaticamente
BE: GEVAAR! Machine start automatisch
DE: GEFAHR! Maschine startet automatisch
ES: PELIGRO, la maquinaria arranca automáticamente
BG: ОПАСНОСТ, машината стартира автоматично
CS: POZOR, stroj se spouští automaticky
DA: FARE, udstørgelse starter automatisk
ET: OHTU! Masin käivitub automaatselt
FI: VAARA, kone käynnistyy automaattisesti
EL: ΚΙΝΔΥΝΟΣ, το πρόγραμμα ξεκινά αυτόματα
HU: VESZÉLY! A gép automatikusan indul!
IT: PERICOLO, il macchinari vengono avviati automaticamente
KK: АВАРТИЙНІЙН АҚПАРАТ: қатынасыз басталуға
LV: BĪDRAUS – iedarība sāk darbu automātiski
LT: PAVOJUS, įranga paleidžiama automatiškai
MT: PERIKOLI, il-maqnarija tiddur awtomatikament
NO: FARE, maskiner starter automatisk
PL: NIEBEZPIECZYSTWO, maszyna uruchamia się automatycznie
RO: PERICOL, unitajii porneste automat
RU: ОПАСНОСТЬ! Оборудование запускается автоматически
SK: POZOR, zařadenie sa spoušťa automaticky
SI: NEVARNOST, naprava začne delovati samodejno
SV: FARA, maskinens startas automatiskt
TR: TEHLIKE, makinaların otomatik olarak çalışması
UK: НЕБЕЗПЕЧНОСТ, обладнання запускається автоматично
UZ: Ehtiyot berilg, uskun avtomatik tarzda ishga tushishi
AR: خطر، یکنیم بیده و تشارش جریک ال جیواک شکاری آوتو!

⚠ EN: Switch off the Cool Unit before beginning the work
FR: Éteindre le groupe frigorifique avant de commencer à travailler
SP: Apague la unidad de refrigeración antes de comenzar el trabajo
PT: Desligar a Unidade de refrigeração antes de iniciar as tarefas
RU: Снять деблокировку перед началом работ
IT: Collegare vor Beginn der Arbeiten ausschalten
BE: Onvoorende ontdoelmatig afzetten vóór het aanvangen van het werk
DE: Auswachen vor Beginn der Arbeiten ausschalten
ES: Desconectar el grupo frigorífico antes de comenzar el trabajo
BG: Препрат за работното поле, изключете изключвателя
CS: Před zahájením práce vypněte chladicí jednotku
DA: Sluk for køleenheden inden arbejdet påbegyndes
ET: Lülitage jahutusüksuse välja enne töötöö alustamist
FI: Suljeta jäädytysyksikkö ennen työn aloittamista
EL: Απενεργοποιήστε το ψυγείο πούλντ πριν ξεκινήσετε την εργασία
HU: A munka megkezdése előtt lekapcsolni a hűtő egységet!
IT: Spegnere l'unità di raffreddamento prima di eseguire qualsiasi attività
KK: Ақпарат: Отырықтан Алдын Алау
LV: Pirms darbu sākuma izslēdziet dzesināšanas ierīci
LT: Prieš pradėjimą darbą, išjunkite aušinimo įtaigą
MT: Ite l-unita tas Tassew spallit f'ideja u vnaqħe
NO: Slå av kjøleenheten før du starter arbeidet
PL: Wyłącz urządzenie chłodnicze przed rozpoczęciem pracy
RO: Opriți unitatea de răcire înainte de a începe lucrul
RU: Выключите компрессорную группу перед началом работы
SK: Vypnite chladiacu jednotku pred zahajením práce
SI: Pred uporabo agencije izključite enoto
SV: Starta av kylenheten innan du börjar arbetet
TR: Çalışmaya başlamadan önce Soğutma Birimini kapatın
UK: Вимкнути агрегат охолодження перед початком роботи
UZ: Ishni boshilardan avval, sovutgich tizimi ni o'chirib av'ing
AR: قبل بدياى تشارش جریک و جیواک التشارش یوگ قبل بده ال جیواک

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10-4432

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13

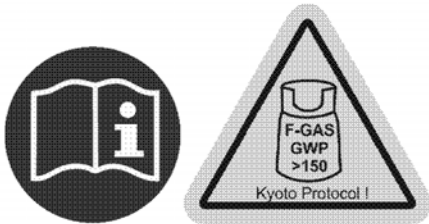
Safety Precautions

Refrigerant

Refrigerant decal located on frame inside door



F Gas decal indicates that this equipment Contains fluorinated greenhouse gases.



Do Not Use Ether Starting Aids

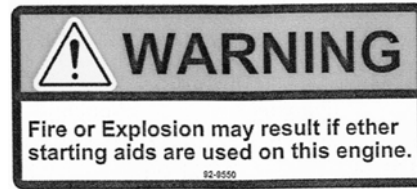


Figure 3: Do Not Use Ether Starting Aids (Near Engine)

Unit Description

General Information

The Thermo King SLXi models are one piece, self-contained, diesel powered cooling/ heating units operating under the control of a Smart Reefer 3 (SR-3) programmable microprocessor controller. The units mount on the front of the trailer with the evaporator extending through an opening in the front wall.

There are models:

- SLXi-100, 200, 300, 400, and 300 Whisper Pro Model 30's: Cooling and heating on diesel engine operation.
- SLXi-100, 200, 300, 400 and 300 Whisper Pro Model 50's: Cooling and heating on diesel engine or electric motor operation.
- SLXi Spectrum and Spectrum Whisper Pro Model 30's: Multiple trailer compartment cooling and heating on diesel engine operation.
- SLXi Spectrum and Spectrum Whisper Pro Model 50's: Multiple trailer compartment cooling and heating on diesel or electric motor operation.



Figure 4: Front View

Diesel Engine

SLXi units use a 4-cylinder, water cooled, direct injection diesel engine. The engine is coupled directly to the compressor on standard units. Belts transmit power to the fans (behind the condenser coil/radiator), water pump, and alternator on all models.

ELC (Extended Life Coolant)

ELC (Extended Life Coolant) is standard equipment. The maintenance interval for ELC is five years or 12,000 hours. A nameplate on the coolant expansion tank identifies units with ELC. The new engine coolant, Chevron Extended Life Coolant, is RED in color instead of the previous GREEN or BLUE-GREEN colored conventional coolants.



CAUTION: Do not add “GREEN” or “BLUE-GREEN” conventional coolant to cooling systems using “RED” Extended Life Coolant, except in an emergency. If conventional coolant is added to Extended Life Coolant, the coolant must be changed after 2 years instead of 5 years.

NOTE: The use of 50/50% pre-mixed ELC is recommended to assure that de-ionized water is being used. If 100% full strength concentrate is used, de-ionized or distilled water is recommended instead of tap water to insure the integrity of the cooling system is maintained.

EMI 3000

EMI 3000 is an extended maintenance interval package. It is standard equipment. The EMI 3000 package consists of the following key components:

- EMI 3000-Hour Cyclonic Air Cleaner Assembly and Air Cleaner Element
- EMI 5-Micron 3000-Hour Fuel Filter
- EMI 3000-Hour Dual Element Oil Filter
- API Rating CI-4 Mineral Oil
- Five Year or 12,000 Hour ELC (Extended Life Coolant)

The EMI package allows standard maintenance intervals to be extended to 3,000 hours, or 2 years, whichever occurs first.

NOTE: Units equipped with the EMI 3000 package do require regular inspection in accordance with Thermo King's maintenance recommendations.

Thermo King Reciprocating Compressor

The SLXi units (except SLXi-100) are equipped with a 4-cylinder 492 cm³ (30.0 cu. in.) displacement Thermo King X430 reciprocating compressor. The SLXi-100 unit is equipped with a 4-cylinder 426 cm³ (25.9 cu. in.) displacement Thermo King X426 reciprocating compressor.

Electronic Throttling Valve

NOTE: *SLXi-100 or SLXi-200 are equipped with a Mechanical Throttling Valve (MTV).*

The ETV provides enhanced control of the refrigeration system as follows:

- Allows the refrigeration system to fully utilize the power capabilities of the engine under varying conditions
- Provides an additional measure of protection against high discharge pressures
- Protects the engine from high coolant temperature shutdowns

- Provides a means of precise temperature control.

SMART REEFER 3 (SR-3) Control System

The SR-3 is a microprocessor control system designed for transport refrigeration. The SR-3 integrates the following functions: changing setpoint and operating mode, viewing gauge, sensor and hourmeter readings, initiating defrost cycles, and viewing and clearing alarms.

The microprocessor components are located inside the control box, which is located inside the lower roadside service door. It is used to operate the unit. The control panel is mounted on the face of the control box. It is clearly visible through an opening in the lower roadside service door.

See “Operating Instructions” for more information about the SR-3 Controller.

Depending on the air temperature in the trailer, as sensed by the microprocessor Base Controller, the unit will typically operate in one of the following modes:

Unit Description

CYCLE-SENTRY Operation

- High Speed Cool
- Low Speed Cool
- Null (Engine Off)
- Low Speed Heat
- High Speed Heat
- Defrost

Continuous Run Operation

In diesel operation the microprocessor will select the operating mode from the following:

- High Speed Cool
- Low Speed Cool
- Low Speed Modulated Cool
- Low Speed Modulated Heat
- Low Speed Heat
- High Speed Heat

- Defrost

CYCLE-SENTRY™ Start-Stop Controls

The CYCLE-SENTRY Start-Stop fuel saving system provides optimum operating economy. When CYCLE-SENTRY Mode is selected the unit will start and stop automatically to maintain setpoint, keep the engine warm and the battery charged. When Continuous Mode is selected, the unit starts automatically and runs continuously to maintain setpoint and provide constant airflow.

Telematics as Standard

TK BlueBox: SLXi units come with TK BlueBox communication device and Bluetooth® as standard.

NOTE: Your unit may not have a standard configuration and therefore may not include this facility. Please contact your Thermo King Dealer for more information.

Unit Description

You can also download from your App store the appropriate App to connect, and manage your unit from your mobile device. Please contact your Thermo King Representative for more information.

NOTE: See *TK BlueBox* on page 58 for Specifications.

Further communication Capabilities

Cable connection: when using a laptop with Wintrac™ software

ServiceWatch™: ServiceWatch is standard equipment. It records operating events, alarm codes, and compartment temperatures as they occur and at preset intervals. This information is typically used to analyze unit performance. Use a USB port to download the ServiceWatch data.

IMPORTANT: *A ServiceWatch download can be helpful when diagnosing a problem in a unit with an SR-3 Controller. Therefore, it is recommended that a ServiceWatch download be performed to help diagnose a problem. A ServiceWatch download must be performed before contacting the Thermo King Service Department for assistance in diagnosing a problem.*

CargoWatch™: CargoWatch data logging requires the installation of optional sensors. Up to six temperature sensor/probes and four door switches can be installed. CargoWatch also logs the setpoint. Use the CargoWatch Port to download the CargoWatch data. If optional temperature sensors are installed, the readings are displayed as Datalogger Sensor (1-6) Temperature in the sensor readings.

Printer Port: This port is used to print trip records from the CargoWatch Data Logger. It is located inside the control box.

USB key: via the USB port provided as standard, eliminating the need for laptops and cables.

GPRS connection: via TracKing™ tool which allows online fleet and temperature management.

Wireless communication: As end customers demand increasing temperature traceability, transporters need a simple and effective means of accessing critical data.

OptiSet Plus

OptiSet Plus is a group of programmable functions that control how the unit will operate with specific setpoints or named products. This assures that when a particular setpoint or named

Unit Description

product is selected, the unit will always operate the same way. This allows an entire fleet to be configured to match the customers' needs. Contact your Thermo King dealer for information about programming OptiSet Plus.

Defrost

Frost gradually builds-up on evaporator coils as a result of normal operation. The unit uses hot refrigerant to defrost the evaporator coil. Hot refrigerant gas passes through the evaporator coil and melts the frost. The water flows through collection drain tubes onto the ground. The methods of defrost initiation are Automatic, and Manual.

Automatic Defrost: The SR-3 automatically initiates timed or demand defrost cycles. The SR-3 microprocessor can be programmed to initiate timed defrost cycles at intervals of 2, 4, 6, 8, or 12 hours. Demand defrost cycles occur if the differences between the return air temperature, discharge air temperature, and coil temperature exceed certain limits. The unit can enter defrost cycles as often as every 30 minutes if required.

Manual Defrost: In Manual Defrost mode, the operator initiates a defrost cycle. See "Initiating a Manual Defrost Cycle."

NOTE: *The unit will not perform a Manual Defrost Cycle unless the unit has been turned on with the **ON** key, the unit is running in Continuous or CYCLE-SENTRY Mode (or shut down in CYCLE-SENTRY Null Mode), and the coil temperature is below 7 C (45 F).*

Engine Compartment

The following maintenance items can be checked visually.



WARNING: *The unit can start at any time without warning. Press the **OFF** key on the control panel and place the microprocessor On/Off switch in the Off position before inspecting any part of the unit.*

Engine Oil Dipstick: Use the engine oil dipstick to check the engine oil level.



CAUTION: *Make sure the engine is turned off before attempting to check the engine oil.*

Unit Protection Devices

Coolant Level Switch: The coolant level switch closes if the coolant level drops below an acceptable level. If it stays closed for a specified time, the microprocessor records alarm code 37.

Engine Coolant Temperature Sensor:

The microprocessor uses the engine coolant temperature sensor to monitor the engine coolant temperature. If the engine

coolant temperature rises above an acceptable level, the microprocessor records alarm code 41 and possibly 18. The microprocessor might also shut the unit down.

High Pressure Cutout Switch: The high pressure cutout switch (HPCO) is located on the compressor discharge manifold. If the compressor discharge pressure becomes excessive, the switch opens the circuit to the run relay to stop the unit. The microprocessor will record Alarm Code 10.

High Pressure Relief Valve: This valve is designed to relieve excessive pressure in the refrigeration system. It is located on the receiver tank. If the high pressure relief valve opens, much of the refrigerant will be lost. Take the unit to a Thermo King dealer if this occurs.

Low Oil Level Switch: The low oil level switch closes if the oil drops below an acceptable level. If it stays closed for a specified time, the microprocessor shuts the unit down and records Alarm Code 66.

Low Oil Pressure Switch: The low oil pressure switch closes if the oil pressure drops below an acceptable level. If it stays closed for a specified time, the microprocessor shuts the unit down and records alarm code 19.

Unit Description

Preheat Buzzer: The preheat buzzer sounds when the base controller energizes the preheat relay. This warns anyone near the unit that the controller is about to start the engine.

Overload Relay—Automatic Reset (Electric Standby): An overload relay protects the standby electric motor. The overload relay opens the circuit to the electric motor if the motor overloads for any reason (e.g., low line voltage or improper power supply) while the unit is on electric standby operation. The microprocessor will record Alarm Code 90.

Smart FETs: Smart FETs in the microprocessor protect some circuits and components from an overcurrent condition.

Fuses: A number of fuses, located on the microprocessor, protect various circuits and components. The microprocessor is located inside the control box.

Fuse	Size	Function
F2	15A	2AB Power
F3	40A	Fuel Solenoid/Starter Circuit
F4	None	No Fuse - Not installed in this particular application.
F5	60A	Preheat Circuit (See NOTE)

Fuse	Size	Function
F6	15A	High Speed Solenoid Circuit
F7	2A	8FP - CAN bus
F8	5A	CAN connector J12
F9	5A	CAN connector J14
F10	10A	8X Power (Install Fuse in Upper Position)
F11	10A	Zone 1 LLS (Spectrum units only)
F12	5A	CAN connector J13
F13	2A	Status Light Circuit
F15	p/s	On/Off Relay
F20	2A	Alternator Sense Circuit
F25	7.5A	High Pressure Cutout Circuit

NOTE: The F5 preheat fuse is a “slow blow” type fuse. It is designed for use with the your particular trailer engine air pre-heater. Always replace the fuse with the TK specified fuse.

Unit Description

Pharma

Single temperature units qualified for pharmaceutical applications under Thermo King protocol are configured with specific Optiset profiles visible on the HMI display as follow:

- PHARMA AMBIENT: for temperature ranges +15°C to 25°C

- PHARMA CHILLED: for temperature ranges +2°C to 8°C
- PHARMA FROZEN: for temperature below -20°C

In case the operator is not using the Optiset profiles, ThermoKing recommends to run the unit with the recommended Setpoints below:

Temperature Range	Recommended Setpoint	Max Deviation Setpoint	Max Deviation Returned Air
Temperature < -20°C	-20°C	+1.5°C of setpoint	+ 1°C of setpoint
Temperature between 2°C and 8°C	+4°C	+/- 2°C of setpoint	+/- 1.5°C of setpoint
Temperature between 15°C and 25°C	+20°C	+/- 2.5°C of setpoint	+/- 2°C of setpoint

Unit Description

For multi-temperatures units qualified for pharmaceutical applications under ThermoKing protocol, ThermoKing recommends to operate the unit with:

- PTC parameter ACTIVATED (ON) [with SLXi this set to default on]

- Zone 1 DAC Kit switch turned ON



- with the recommended Setpoints below :

Temperature Range	Recommended Setpoint	Max Deviation Setpoint	Max Deviation Returned Air
Temperature < -20°C	-25°C	+2°C of setpoint	+ 2°C of setpoint
Temperature between 2°C and 8°C	+6°C	+/- 2°C of setpoint	+/- 2°C of setpoint
Temperature between 15°C and 25°C	+20°C	+/- 4°C of setpoint	+/- 4°C of setpoint

Manual Pretrip Inspection

Before Starting the Unit

Pretrip inspections are an important part of a preventative maintenance program designed to minimize operating problems and breakdowns. Perform this pretrip inspection before every trip involving refrigerated cargo.

NOTE: Please refer to “Pre-Loading Inspection” on page 40 also before commencing your journey.

NOTE: Pretrip inspections are not intended to take the place of regular maintenance inspections.

Fuel: Make sure the diesel fuel supply is adequate to guarantee engine operation to the next check point. Allow for maximum fuel consumption of 3.8 Litres (one gallon) per hour of engine operation.

Engine Oil: Check the engine oil level. It should be at the Full mark when the dipstick is threaded all the way into the oil pan. Do not overfill.



CAUTION: Turn the engine off before checking the engine oil level.

Engine Coolant: The engine coolant must have antifreeze protection to -34 C (-30 F). Add coolant if Alarm Code 37 is active. Check and add coolant to the expansion tank.

NOTE: Please see Specifications chapter and “Engine” on page 53 where it is clearly states which coolant types are allowed to be used in this unit.



WARNING: Do not remove the expansion tank cap while the coolant is hot.

Battery: Make sure the battery terminals are tight and free of corrosion.

NOTE: All truck and trailer units will have a small battery drain when the unit is off. The battery can be drained even quicker if there are Aftermarket options or third party devices connected to the unit which consume battery power.

Manual Pretrip Inspection

This will cause the battery to become discharged over time.

Apart from the obvious inconvenience of having to charge the battery, it is also liable to damage battery cell material and cause the life of the battery to be shorter than acceptable.

Therefore, to ensure the battery remains in optimum condition during periods when the unit is not being used, Thermo King strongly recommends to switch on the unit at least once each week and run for 30 minutes or longer.

If the EON battery is drained after a long idle period, it will need to be recharged using an automatic programmable battery charger (Thermo King does not recommend the use of manual battery chargers on dry cell batteries).

Failure to do so may result in warranty for the battery being rejected.

Alternatively, Thermo King offer a solar panel option from aftermarket which would negate the requirement to switch off the microprocessor switch during long unit idle periods. For more information, please contact your local Thermo King dealership.

Belts: Make sure belts are in good condition and adjusted to the proper tension. For more information about belt tension, see the Specifications chapter.

Electrical: Check the electrical connections to make sure they are securely fastened. Wires and terminals should be free of corrosion, cracks, and moisture.

Structural: Visually inspect the unit for leaks, loose or broken parts, and other damage.

Coils: Ensure condenser and evaporator coils are clean and free of debris.

- Washing with clean water should be sufficient.
- The use of cleaning agents or detergents is strongly discouraged due to the possibility of degradation of the construction.
- If using a power washer, the nozzle pressure should not exceed 600 psi (41 bar). For the best results, spray the coil perpendicular to the face of the coil. The spray nozzle should be kept between 1 inch and 3 inches (25 to 75 millimeters) from the coil surface.

- If necessary to use a chemical cleaner or detergent use a cleaner that does not contain any hydrofluoric acids and is between 7 and 8 on the pH scale. Ensure dilution instructions provided by the detergent supplier are followed. In case of doubt about the compatibility of the detergent with the type of materials listed above, always ask the supplier a written confirmation of the compatibility.
- Should a chemical cleaner be required, it is MANDATORY that all components are thoroughly rinsed with water even if the instructions of the cleaner specify that it is a “no rinse” cleaner.

WARNING: *Failure to comply with above mentioned guidelines will lead to a shortened life of the equipment to an indeterminable degree and also may void your warranty.*

NOTE: *The repeated transportation of meat and fish waste can cause extensive corrosion to the evaporator coils and evaporator section tubing over time due to ammonia formation and can reduce the lifespan of the coils. Appropriate additional measures should be taken to protect the coils against the aggressive corrosion that can result from transportation of such products.*

Cargo Box: Check the interior and exterior of the cargo box for damage. Any damage to the walls or insulation must be repaired.

NOTE: *On trailers equipped with units qualified for pharmaceutical applications - under ThermoKing protocol inspect the integrity of the air chute.*

Cargo Doors: Make sure that the cargo doors and weather seals are in good condition. The doors should latch securely and the weather seals should fit tightly.

Damper Door: The damper door in the evaporator air outlet must move freely with no sticking or binding.

Defrost Drains: Check the defrost drain hoses to make sure they are open.

Remote Evaporators : (SLXi SPECTRUM and SLXi SPECTRUM Whisper Pro)

- Visually inspect Evaporator(s) for damaged, loose, or broken parts.
- Check also for refrigerant leaks.
- Check Defrost initiation and termination (including defrost timer) by activating/initiating a manual defrost.

Manual Pretrip Inspection

TK BlueBox Module:

- Check that the module is turned on and communicating.
- **For Whisper Pro Enabled TK Bluebox**, It is a good idea to check at some stage throughout your journey if the SR-3 unit automatically switches to “High Speed Lock Out” in an area designated for this - i.e. PIEK assigned Zone.

NOTE: For further best practices, please go to www.europe.thermoking.com/best-practices.

Operating Instructions

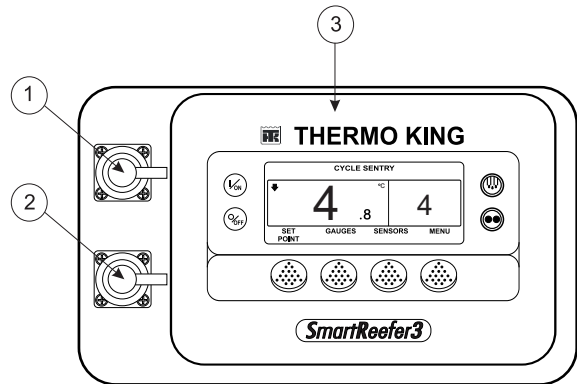
SMART REEFER 3 (SR-3) Controller Overview

Thermo King has applied the latest advances in computer technology to develop a device that controls temperature and unit function, and displays operating information quickly and accurately.

There is nothing complicated about learning to operate the SR-3 Controller, but you will find that a few minutes studying the contents of this manual will be time well spent.

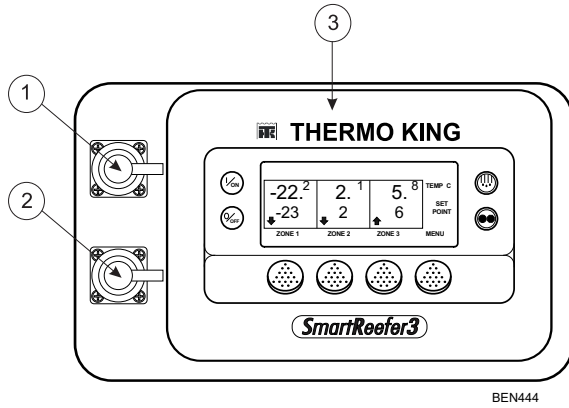


WARNING: Do not operate the unit until you are completely familiar with the location and function of each control.



1.	CargoWatch Download Port
2.	USB Port
3.	HMI Control Panel

Figure 5: SLXi Single-Temperature Controller Display



1.	CargoWatch Download Port
2.	USB Port
3.	HMI Control Panel

Figure 6: SLXi Multi-Temperature Controller Display

Switching “ON” the unit

1. On/Off Master Isolator Switch must be ON.
2. Press the I/ON Microprocessor key for 1 second.
3. Unit is switched “on”.

Microprocessor ON/OFF switch

Microprocessor On/Off Switch is located above engine inside the unit. The switch is normally left in On position.

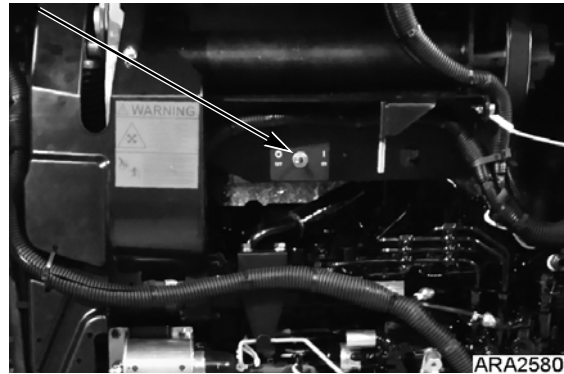
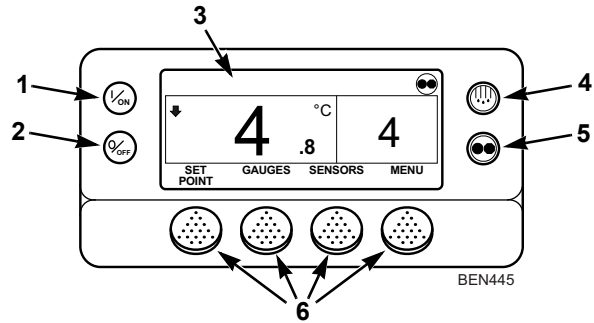


Figure 7: Microprocessor On/Off Switch

HMI Control Panel

The HMI control panel has a display and eight touch sensitive keys. The display is capable of showing both text and graphics. The four keys on the left and right sides of the display are dedicated keys. The four keys under the display are “soft” keys. The function of “soft” keys change depending on the operation being performed. If a soft key is active, its function will be shown in the display directly above the key.



Control Panel Display

The display is used to supply unit information to the operator. This information includes setpoint, current box temperature operating information, unit gauge readings, system temperatures and other information as selected by the operator.

The default display is called the Standard Display. It is shown in Figure 8 and will be described in detail later in this chapter.

1.	On Key (Dedicated Key)
2.	Off Key (Dedicated Key)
3.	Display
4.	Defrost Key (Dedicated Key)
5.	CYCLE-SENTRY/Continuous Mode Key (Dedicated Key)
6.	Soft Keys

Figure 8: Control Panel Display and Keys

Control Panel Keys

The four keys on the left and right sides of the display screen are “dedicated keys” (see Figure 8). Their functions are listed below.



On Key: This key is used to turn the unit on. First the display will briefly show the Thermo King Logo and then the statement "Configuring System - Please Wait". When the power-up sequence is complete the display shows the Standard Display of box temperature and setpoint.



Off Key: This key is used to turn the unit off. First the display will briefly show "System is Powering Down - Please Wait. Press On to Resume" and then "Off" will appear momentarily. When the power-down sequence is complete the display will be blank.



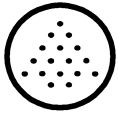
Defrost Key: Press this key to initiate a Manual Defrost cycle.



CYCLE SENTRY/Continuous Mode Key:

Press this key to switch back and forth between the CYCLE-SENTRY mode and the Continuous Run mode. If OptiSet Plus is in use, it may not be possible to change the Mode.

Operating Instructions



The four "soft" keys under the display are multi-purpose keys. Their function changes depending on the operation being performed. If a soft key is active the key function is shown in the display directly above the key. The keys are numbered from left to right, with Key 1 on the far left and Key 4 on the far right.

Typical soft key applications:

- Setpoint
- Gauges
- Sensors
- Menu
- Next/Back
- Yes/No
- +/-
- Select/Exit
- Clear/Help
- Hourmeters

Operating the SR-3 Controller

Please refer to Professor Kool and the “TK Tutor Series” for step by step instructions and training on how to use your SR-3 controller and also “TK Alarm Codes” to help diagnose any alarms. These can be found at the following link:

<http://www.europe.thermoking.com/tools/>

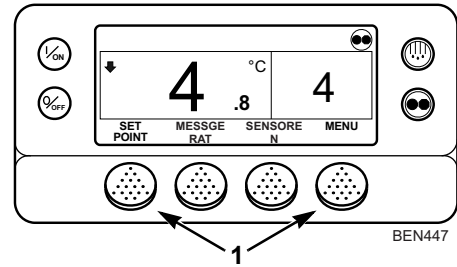
NOTE: *These are App’s for your Mobile device, please contact your Dealer for desktop applications.*

Please also see below a couple of useful items of information.

Return to English at Any Time

IMPORTANT: *If necessary, English and all other languages in the software version may be accessed from the Standard Display.*

When the Standard Display is shown press and hold the first and last soft key for 5 seconds as shown in Figure 9. This example is Deutsch (German).



1. Press These Soft Keys

Figure 9: Standard Display

After 5 seconds the Language Menu will appear in the current language as shown in Figure 10. Press the + or - Keys to select the desired language. When the desired language is shown press the YES Key to confirm the choice.

Operating Instructions

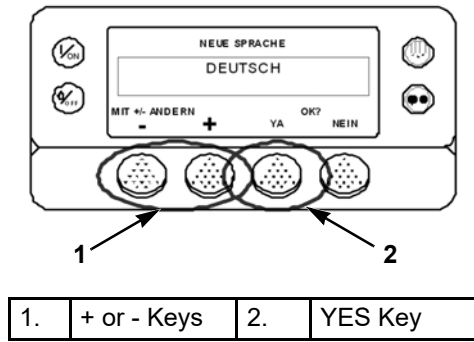


Figure 10: + or - Keys, YES Key

NOTE: All languages in the installed software can be selected using this method.

Printing a Trip Report

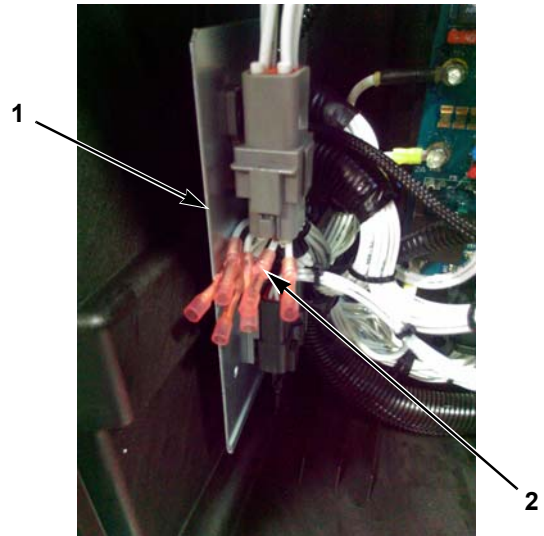
This procedure shows how to connect a TouchPrint Printer, TouchPrint datalogger or equivalent to the SLX unit. The printed record shows things such as the unit and Base Controller identification numbers, dates and times, the setpoint, and the data from the optional sensors connected to the CargoWatch datalogger. If no sensors are connected, the printed record shows the same things without the sensor data.

1. Connect the printer to the 6-spliced wires located inside the control box.

NOTE: Contact your Thermo King dealer about printer connection location options.

2. Please refer to your TK 61009-11-OP TouchPrint Operator Manual (or third party printer manual) for instructions for setup and use.

NOTE: For additional information concerning the TouchPrint Printer or CargoWatch/TouchPrint Datalogger contact your Thermo King dealer.



1.	LVD Bracket
2.	Printer wire splices

Figure 11: Printer Connection Location

Alarm Codes

Introduction

An alarm code is generated when the microprocessor senses an abnormal condition. Alarms direct an operator or service technician to the source of a problem.

Multiple alarms can be present at one time. All generated alarms will be stored in memory until cleared by the operator. Document all alarm occurrences and report them to the service technician.

***NOTE: Please refer to Professor Kool and the “TK Tutor Series” App for step by step instructions and training on Alarm types and how to clear alarms. Please refer to “TK Alarm Codes” App for the most up to date alarms list. These app’s can be found at the following link:
<http://www.europe.thermoking.com/tools/>***

NOTE: Some alarms (3, 4, 74, 203, and 204) cannot be cleared in the Alarms Menu, they must be cleared in the Maintenance Menu or the Guarded Access Menu. Contact your supervisor or a Thermo King dealer about clearing those alarms.

IMPORTANT: Always record any Alarm Codes that occur - in the order that they occur - as well as any other pertinent information. This information is extremely valuable to service personnel.

NOTE: In some cases alarms cannot be cleared, or cannot be cleared after they have occurred a specified number of times. If such is the case, these alarms must be cleared by service personnel. These are all explained in your Alarm Codes App.

Loading and Enroute Inspections

This chapter describes pre-loading, post loading, and enroute inspection procedures. Thermo King refrigeration units are designed to maintain the required product load temperature during transit. Follow these recommended loading and enroute procedures to help minimize temperature related problems.

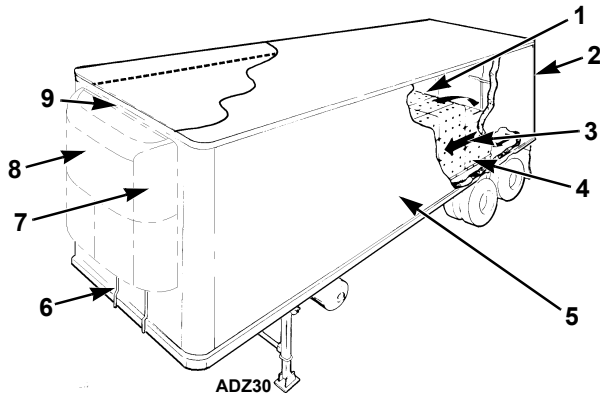
Pre-Loading Inspection

1. Pre-cool products before loading. Note any variances on the manifest.
2. Inspect door seals and vent doors for condition and a tight seal with no air leakage.
3. Inspect the trailer inside and out. Look for:
 - Damaged or loose trailer skin and insulation
 - Damaged walls, air ducts, floor channels or “T” flooring
 - Clogged defrost drain tubes
 - Blocked return air bulkhead

4. Verify that the setpoint temperature is correct for your cargo. Pre-cool the trailer as required.
5. Supervise product loading to ensure sufficient air space around and through the load. Airflow around the cargo must not be restricted.

NOTE: If the warehouse is not refrigerated, operate the unit with doors closed until cargo is ready to be loaded. Then turn off the unit, open cargo doors and load cargo. When cargo is loaded, close trailer doors and restart the unit.

The unit can be operated with the cargo box doors open if the truck is backed into a refrigerated warehouse and the dock door seals fit tightly around the trailer.



1.	Correct load height (trailers without chutes)
2.	Tight doors and gaskets
3.	Good air circulation around load
4.	Proper cargo temperature (prior to loading)
5.	Interior/exterior walls and insulation in good condition
6.	Clear defrost drains
7.	Good outside air circulation
8.	Unit inspection
9.	Tight seals

Figure 12: Loading Considerations

Post-Loading Inspection

Post-loading inspections ensure the cargo has been loaded properly. To perform a post-load inspection:

1. Inspect the evaporator outlets for blockage.
2. Turn the unit off before opening the cargo box doors to maintain efficient operation.

NOTE: *The unit can be operated with the cargo box doors open if the truck is backed into a refrigerated warehouse and the dock door seals fit tightly around the trailer.*

3. Perform a final check of the load temperature. If the load is above or below temperature, make a final notation on the manifest.



CAUTION: *Cargo must be pre-cooled to the proper temperature before loading. The unit is designed to maintain temperature, not cool an above-temperature load.*

4. Close or supervise the closing of the cargo box doors. Make sure they are securely locked.
5. Make sure the setpoint is at the temperature listed on the manifest.
6. If the unit was stopped, restart using the correct starting procedure. See the Operating Instruction chapter in this manual.
7. Start a manual defrost cycle 30 minutes after loading. See the Manual Defrost procedure in this manual.

Enroute Inspections

Complete the following enroute inspection every four hours. This will help minimize temperature related problems.

Inspection Procedure

1. Verify setpoint is correct.
2. Check the return air temperature reading. It should be within the desired temperature range.
3. Initiate a manual defrost cycle after each enroute inspection.

Inspection Troubleshooting

1. If a temperature reading is not within the desired temperature range, refer to the troubleshooting table on the following pages. Correct problem as required.

2. Repeat the Enroute Inspection every 30 minutes until the compartment temperature is within the desired temperature range. Stop the unit if the compartment temperature is not within the desired temperature range on two consecutive 30 minute inspections, especially if the compartment temperature appears to be moving away from the setpoint.
3. Immediately contact the nearest Thermo King Dealer or your company office.
4. Take all necessary steps to protect and maintain proper load temperature.



CAUTION: Stop the unit if the compartment temperature remains higher than the desired temperature range from the setpoint on two consecutive 30 minute inspections. Contact the nearest Thermo King Dealer or your company office immediately. Take all necessary steps to protect and maintain proper load temperature.

Inspection Troubleshooting

Problem	Cause	Remedy
<p>A return air temperature reading is not within desired temperature range of the setpoint.</p>	<p>The unit has not had time to cool down to correct temperature.</p>	<p>Refer to the load log history. Look for above temperature load records, properly pre-cooled cargo compartment, length of time on road, etc. Correct as required. Continue monitoring return air temperature until the reading is within the desired temperature range of the setpoint.</p> <p><i>NOTE: Ensure cargo is properly pre-cooled prior to loading onto trailer. If 'warm cargo' is loaded onto trailer and reefer is used to cool to setpoint this will result in longer time required to cool down to correct temperature and possibly plugging of evaporator with frost due to increased humidity in trailer compartment.</i></p>
	<p>The unit may have a low refrigerant charge.</p>	<p>Check the receiver tank sight glass for refrigerant level. If liquid is not showing in the receiver tank sight glass, the refrigerant charge may be low. A competent refrigeration technician is required to add refrigerant or repair the system. Contact the nearest Thermo King dealer or call the Thermo King Cold Line for referral. Consult the Table of Contents for Cold Line information.</p>
	<p>The unit is in defrost or has just completed a defrost cycle.</p>	<p>Monitor the return air temperature after the defrost cycle is completed to see if the temperature returns to the desired temperature range of the setpoint.</p>
	<p>The evaporator is plugged with frost.</p>	<p>Initiate a manual defrost cycle. The defrost cycle will automatically terminate when complete. Continue monitoring the return air temperature until the reading is within the desired temperature range of the setpoint.</p>

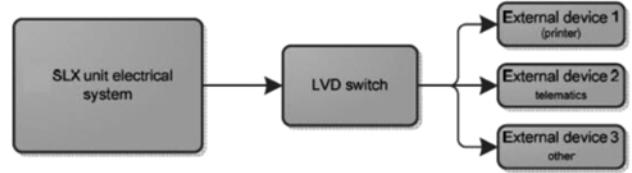
Inspection Troubleshooting

Problem	Cause	Remedy
	Improper air circulation in the cargo compartment.	Inspect the unit and cargo compartment to determine if the evaporator fan(s) are working and properly circulating the air. Poor air circulation may be due to improper loading of the cargo, shifting of the load, or fan belt slippage. Correct as required. Continue monitoring return air temperature until problem is corrected.
	The unit did not start automatically.	Determine the cause for not starting. Correct as required. Continue monitoring the return air temperature until the reading is within the desired temperature range of the setpoint.

Connecting to a Third Party Device

All SLXi trailer units come fitted as standard from factory with a Low Voltage Disconnect (LVD) switch to accommodate for 3rd party device connections. The LVD switch ensures that all SLXi units provide a dedicated device connection point for external devices, while also preventing battery discharge/depletion of the EON battery during unit idle periods.

IMPORTANT: All external device connections must be connected through the LVD switch as per instructions detailed in the SLXi Installation Manual/External Device Connection with LVD (Click in the following location to download - www.emea-user-manuals.thermoking.com). Failure to connect external devices through the LVD switch may result controller and/or battery related failures being rejected by warranty. The LVD switch acts as a protective medium between the SLXi unit electrical system and external device(s).



BEN348

Figure 13: Connecting a third party device

The LVD Switch

The function of the LVD switch is as follows:

- Disconnects power to external devices when battery voltage drops below 12.1V (for longer than 5 minutes).
- Automatically resets when system voltage rises above 13V (for longer than 10 seconds).
- Provides connection point in control box for up to 3 external devices.

- Recommended total maximum current draw from all connected devices combined (At all times, not just when the unit is power down): 2 Amps.
- Excessive current draw due to external devices when unit is powered down will result in the LVD switch disconnecting the output after a short period of time (possibly within hours - depending on total current draw).

Jump Starting

If the battery in a unit is discharged or run down, the unit may be jump started using jumper cables and another battery or vehicle. Consider the following precautions and be careful when jump starting a unit.



WARNING: *A battery can be dangerous. A battery contains a flammable gas that can ignite or explode. A battery stores enough electricity to burn you if it discharges quickly. A battery contains battery acid that can burn you. Always wear goggles or safety glasses and personal protective equipment when working with a battery. If you get battery acid on you, immediately flush it with water and get medical attention.*

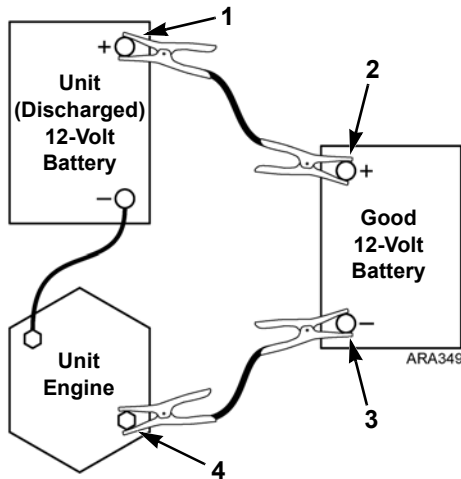


CAUTION: *Unhook the semi tractor from the trailer before using the tractor to jump start the unit on the trailer. The negative ground circuit is complete when the tractor is hooked to the trailer. This can cause dangerous sparks when the positive connection is made at the battery.*

IMPORTANT: *Make sure to use a 12-volt battery to jump start the unit. If you are using a vehicle, make sure it has a 12-volt battery with a negative ground system. DO NOT use a “hot shot” booster device or a 24-volt source.*

Read and understand the following procedure completely before connecting any jumper cables. Use good jumper cables made with #2 gauge (or larger) cables.

1. Make sure the unit is turned off. If you are using a vehicle, make sure its ignition is also turned off.
2. Open the front doors on the unit. The battery is located to the left of the engine.
3. Check the discharged battery to make sure it is not damaged or frozen. Do not jump start a damaged or frozen battery. Check the vent caps to make sure they are tight.
4. Identify the positive (+) and negative (–) battery terminals.
5. Remove the red cover from the positive (+) battery terminal on the unit’s battery.



1.	Positive (+) Terminal on Unit Battery
2.	Positive (+) Terminal on Good Battery
3.	Negative (-) Terminal on Good Battery
4.	Starter Mounting Bolt on Unit Engine

Figure 14: Sequence for Connecting Jumper Cables

6. Connect the red positive (+) jumper cable to the positive (+) battery terminal on the unit's battery. Do not let the other end of the jumper cable touch anything that conducts electricity.



CAUTION: *Allowing the positive (+) jumper cable to short can produce dangerous sparks.*

7. Connect the other end of the red positive (+) jumper cable to the positive (+) battery terminal on the good battery.
8. Connect the black negative (-) jumper cable to the negative (-) battery terminal on the good battery. Do not let the other end of the jumper cable touch anything that conducts electricity.
9. Connect the black negative (-) jumper cable to the lower starter mounting bolt on the unit's engine (lower left of the starter motor).



WARNING: *Ensure that you DO NOT connect to the positive connection on the starter motor, which is location on the Top Right of the starter motor.*

Jump Starting

10. If you are using a vehicle to jump start the unit, start the vehicle and let it run for a few minutes. This will help charge the discharged battery.

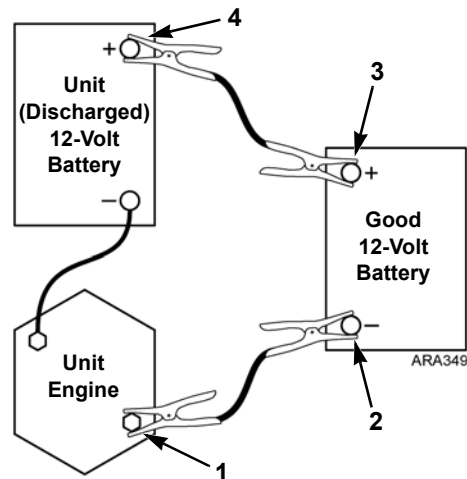


CAUTION: *Be careful around fans and belts. Keep your hands away from moving parts when an engine is running.*

11. Turn the unit on and let it start automatically or start it manually. If the unit will not crank or start, contact a qualified technician.

NOTE: *Some units with microprocessors will show an alarm code and will not try to start until the battery voltage is above 10 volts.*

12. After the unit starts, remove the jumper cables in reverse order: black negative (-) from the unit starter mounting bolt, black negative (-) from the good battery, red positive (+) from the good battery, and red positive (+) from the unit battery (that was discharged).



1.	Starter Mounting Bolt on Unit Engine
2.	Negative (-) Terminal on Good Battery
3.	Positive (+) Terminal on Good Battery
4.	Positive (+) Terminal on Unit Battery

Figure 15: Sequence for Disconnecting Jumper Cables

Specifications

Engine

Model: SLXi	Thermo King TK486V
Fuel Type	Diesel fuel must conform to EN 590.
Oil Capacity	12.3 liters (13 quarts) crankcase and oil filter Fill to full mark on dipstick
Oil Type	Petroleum Multi-grade Oil: API Type CI-4, ACEA Class E3 Synthetic Multi-grade Oil (after first oil change): API Type CI-4, ACEA Class E3

Engine (Continued)

<p>Recommended oil viscosity based on ambient temperature</p>	<p>-10 C to 50 C (14 F to 122 F): SAE 15W-40 (Synthetic) -15 to 40 C (5 to 104 F): SAE 15W-40 -15 to 40 C (5 to 104 F): SAE 10W-30 (Synthetic or Synthetic Blend) -25 to 40 C (-13 to 104 F): SAE 10W-40 -25 to 30 C (-13 to 86 F): SAE 10W-30 -30 to 50 C (-22 to 122 F): SAE 5W-40 (Synthetic) Below -30 C (-22 F): SAE 0W-30 (Synthetic)</p>
<p>Engine RPM</p>	<p>SLXi-100: 1200–1450 RPM SLXi-200: 1200–1450 RPM SLXi-300: 1200–1450 RPM SLXi-300 Whisper Pro : 1250–2000 RPM SLXi-400: 1200–2000 RPM SLXi SPECTRUM, SLXi SPECTRUM Whisper Pro: 1250–2000 RPM</p>

Engine (Continued)

Engine Coolant Type	<p>Conventional Coolant: Conventional coolant (antifreeze) is green or blue-green. GM 6038M or equivalent, low silicate antifreeze mixture, 50/50 antifreeze/water mixture, not to exceed 60/40.</p> <p>CAUTION: Do not mix conventional coolant and ELC. ELC (Extended Life Coolant): ELC is red. Units containing ELC have an ELC nameplate on the expansion tank. Use a 50/50 concentration of any of the following equivalents: Texaco ELC (7997, 7998, 16445, 16447), Havoline Dex-Cool® (7994, 7995), Havoline XLC for Europe (30379, 33013), Shell Dexcool® (94040), Shell Rotella (94041), Saturn/General Motors Dex-Cool®, Caterpillar ELC, Detroit Diesel POWERCOOL® Plus</p>
<i>CAUTION: Do not use high silicate automobile antifreeze</i>	
Coolant System Capacity	6.6 liters (7. 0quarts)
Drive	Direct to compressor; Belts to fans, 12V alternator and water pump
Drive (Model 50)	Clutch and belts from electric motor
Radiator Cap Pressure	0.48 bar (7 psig) (48.3 kPa)

Specifications

Engine (Continued)

Engine Coolant Thermostat	71 C (160 F)
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Filters

Engine Oil Filter - EMI 3000 Hour	P/N 11-9182
Fuel Filter - EMI 3000 Hour	P/N 11-9342
Air Filter - EMI 3000 Hour	P/N 11-9300

Refrigeration System

Contact your Thermo King dealer for refrigeration system service or maintenance.

Electrical Control System

Low Voltage	12.8 Vdc (nominal)
Battery	Thermo King EON (880 CCA) AGM battery as standard.
Fuses	See "Fuses" on page 22.
Battery Charging	Single Temperature as Standard - 12 volt, 37 amp, brush type, Thermo King Alternator Multi Temperature as Standard - 12 volt, 120 amp, brush type, Thermo King Alternator Single Temperature Option - 12 volt, 120 amp, brush type, Thermo King Alternator

Electric Motor (model 50)

Size/Type	Operating Speed	Voltage/Phase/Hertz	Full Load Amps
9.3 kW Induction	1450 RPM	230/400 Volt, 3 phase, 50 hertz	37.4/18.7 amps
10.5 kW Induction	1450/1735 RPM	200 Volt, 3 phase, 50/60 hertz	46.1/43.2 amps

Standby Power Requirements

Voltage	Power Supply Circuit Breaker	Power Cord Size	
		Up to 15 m	Over 15 m
400/3/50	32 amp	6 mm ²	10 mm ²
200-220/3/50	63 amp	10 mm ²	16 mm ²

TK BlueBox

Platform	ARM Cortex-A8, 300MHz, 256MB RAM, 4GB Flash, Linux
GSM/GPRS	3G, Sierra HL8548
GPS	u-blox NEO-7M
Bluetooth	Version 4.0 Bluetooth Classic /Bluetooth Low Energy (BLE)
Serial Ports	2 External Serial Ports for Tracking extensions or Third-Party Connect.
Input Power	12V Nominal
Backup Battery	Single cell Li-Ion 3.7V Nominal, > 2Ah

TK BlueBox

Environmental Storage Temperature	-40 to + 85°C
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Warranty

Terms of the Thermo King Trailer Unit Warranty are available on request from your Thermo King Dealer.

Please also refer to TK 61508-2-WA Thermo King EMEA Trailer Unit Limited Warranty for SLXi Units.

Maintenance Inspection Schedule

Inspection and Service intervals

Inspection and Service intervals are determined by the number of unit operating hours and by the age of the unit. Examples are shown in the table below. Your Dealer will prepare a schedule to suit your specific needs.

Interim Inspection	Complete PM	Full Service
A Service Every 1500 hours or every 12 months (whichever comes first)	B Service Every 3000 hours or every 24 months (whichever comes first)	C Service Every 6000 hours or every 48 months (whichever comes first)

Pretrip	Inspect/Service These Items
	<ul style="list-style-type: none"> Run Pretrip Test (See "Operating the SR-3 Controller" on page 35) Check fuel supply. Check and adjust coolant/engine oil levels. Listen for unusual noises, vibrations, etc. Visually inspect unit for fluid leaks. (fuel, coolant, oil and refrigerant). Visually inspect unit for damaged, loose or broken parts (includes air ducts and bulkheads if so equipped). Visually Inspect Belt

NOTE: For further best practices, please go to www.europe.thermoking.com/best-practices

Maintenance Inspection Schedule

Service Record

Each inspection and service performed should be recorded on your Dealer Service Record.

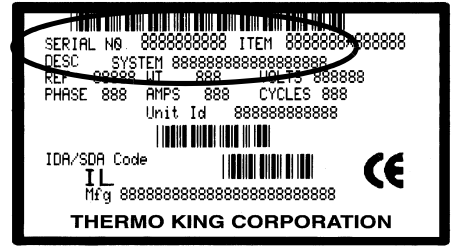
Serial Number Locations



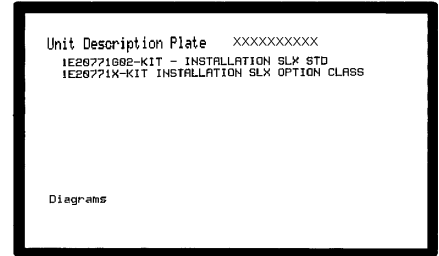
Located on Frame inside Door

BEN496

Serial Number Plate and Locations



ARA901



BEN009

Recover Refrigerant

At Thermo King, we recognize the need to preserve the environment and limit the potential harm to the ozone layer that can result from allowing refrigerant to escape into the atmosphere.

We strictly adhere to a policy that promotes the recovery and limits the loss of refrigerant into the atmosphere.

In addition, service personnel must be aware of Federal regulations concerning the use of refrigerants and the certification of technicians. For additional information on regulations and technician certification programs, contact your local THERMO KING dealer.



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For further information please contact:

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