FRIGOBLOCK

Operator's Manual

SLX-Hybrid System

Focused on Frigoblock Power Electronics Kit

THERMO KING | FRIGOBLOCK

Revision A

June 2020

TK 61569-2-OP-EN

TRANE TECHNOLOGIES

Introduction

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.

Thermo King's warranty shall not apply to any equipment which has been "so installed, maintained, repaired or altered as, in the manufacturer's judgment, to affect its integrity."

Manufacturer shall have no liability to any person or entity for any personal injury, property damage or any other direct, indirect, special, or consequential damages whatsoever, arising out of the use of this manual or any information, recommendations or descriptions contained herein. The procedures described herein should only be undertaken by suitably qualified personnel. Failure to implement these procedures correctly may cause damage to the Thermo King unit or other property or personal injury.

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 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 four very important reasons:

- They are equipped with the factory recommended tools to perform all service functions.
- They have factory trained and certified technicians.
- They have genuine Thermo King replacement parts.
- 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.

Machine Information Policy

Use of this product serves as acceptance of the Thermo King Machine Information Policy available at: www.europe.thermoking.com. This product

includes a standard feature that collects and shares Machine Information with Thermo King. Separate terms may apply when a customer has entered into an agreement with Thermo King. Customers that would like to opt-out of sharing Machine Information with Thermo King should forward such inquiries to the email address Opt-Out@ThermoKing.com.

Software License

The product includes software that is licensed under a non-exclusive, non-sublicensable, terminable and limited license to use the software as installed on the product for its intended purpose. Any removal, reproduction, reverse engineering, or other unauthorized use of the software is strictly prohibited. Hacking the product or installing unapproved software may void the warranty. The owner or operator shall not reverse engineer, decompile, or disassemble the software, except and only to the extent that such activity is expressly permitted by applicable law notwithstanding this limitation. The product may include third party software separately licensed as specified in any documentation accompanying the product or in an about screen on a mobile application or website that interfaces with the product. You are obliged to complete the declaration for "THERMO KING EQUIPMENT SOFTWARE LICENSE AGREEMENT" before you put your unit in operation. This is located in your language at the following location:https://www.emea-user-manuals.thermoking.com

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 Temperature Setting
- Ambient temperature
- 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.

No payment at point of repair for customers with a ThermoKare service contract or with a guaranty of payment from their Thermo King home-dealer

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

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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.

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 Technical Publications EMEA Feedback

Table of Contents

Safety Precautions

Introduction

Installing of the power electronics kit (PEK) can dangerous if not done according to the hereby specified instructions. Personal safety depends upon the strict observance of these instructions.

PEK can only be installed by a qualified technician. The technician is required to read and understand this manual and all additional documents referenced in this manual in order to:

- be familiar with the function and operation of PEK and its individual parts
- be familiar with the technical specifications of the PEK components
- follow the instructions precisely and without omission
- observe all the safety precautions

Additionally the technician is required to observe the different national provisions and legislation.

FRIGOBLOCK GmbH offers training and instruction courses for service and installation partners regularly. We recommend participation in these courses at least every three years or more frequently.

Danger, Warning, Caution, and Notice

Thermo King® recommends that all service be performed by a Thermo King dealer and to be aware of several general safety practices.

Safety advisories appear throughout this manual as required. Your personal safety and the proper operation of this unit depend upon the strict observance of these precautions. The four types of advisories are defined as follows:

⚠ DANGER

Hazard!

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING

Hazard!

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION

Hazard!

Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury and unsafe practices.

NOTICE

Hazard!

Indicates a situation that could result in equipment or property-damage only accidents.

General Safety Practices

⚠ WARNING

Equipment Damage and Risk of Injury!

Do not carry out maintenance and repair work by yourself. It can only be carried out by authorized service technician. Always contact the FRIGOBLOCK service partner.

⚠ DANGER

Risk of Injury!

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

⚠ DANGER

Confined Space Hazards!

Avoid engine operation in confined spaces and areas or circumstances where fumes from the engine could become trapped and cause serious injury or death.

⚠ WARNING

Risk of Injury!

Turn off the Inverter Drive Remote Controller located inside the driver's cab and turn the vehicle's engine off before any installation work or inspecting any part of the system.Turn off the vehicle's engine before going under the vehicle to inspect the engine compartment or before tilting the cab. Make sure that the vehicle's engine may not be started unintentionally.

⚠ WARNING

Hazardous Voltage!

If handled improperly, electric voltage can cause internal and external burns or death. Refrigeration machines in the Mains mode operate at 400 Volts and in the Alternator mode up to 460 Volts.

⚠ CAUTION

Sharp Edges!

Use extreme care when working with exposed coil fins. Contact with fins can cause painful lacerations. Use gloves while handling coils.

⚠ CAUTION

Risk of Injury!

Do not remove or render ineffective any guard or safety device.

NOTICE

Equipment Damage!

All unit mounting bolts must be installed, be the correct length for their application, and torqued to specifications. Missing bolts, incorrect bolt lengths and improper torque specifications can damage equipment and void the warranty.

NOTICE

Equipment Damage!

Do not connect other manufacturer's equipment or accessories to the FRIGOBLOCK system. This could result in severe damage to equipment and void the warranty.

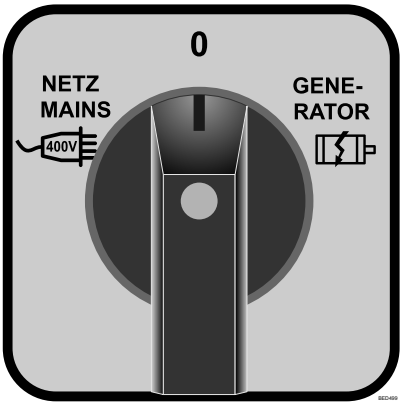
NOTICE

Equipment Damage!

Observe the performance data and limits on the nameplate of the power electronics kit.

Emergency Shutdown

1. Turn the vehicle's engine off.
2. Set M0A switch to position "0"



This isolates the refrigeration unit from the Power Electronics Kit and from the mains power.

First Aid

REFRIGERANT

- **Eyes:** For contact with liquid, immediately flush eyes with large amounts of water and get prompt medical attention.
- **Skin:** Flush area with large amounts of warm water. Do not apply heat. Remove contaminated clothing and shoes. Wrap burns with dry, sterile, bulky dressing to protect from infection. Get prompt medical attention. Wash contaminated clothing before reuse.

- **Inhalation:** Move victim to fresh air and use Cardio Pulmonary Resuscitation (CPR) or mouth-to-mouth resuscitation to restore breathing, if necessary. Stay with victim until emergency personnel arrive.
- **Frost Bite:** In the event of frost bite , the objectives of First Aid are to protect the frozen area from further injury, warm the affected area rapidly, and to maintain respiration.

REFRIGERANT OIL

- **Eyes:** Immediately flush with large amounts of water for at least 15 minutes. 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 use Cardio Pulmonary Resuscitation (CPR) or mouth-to-mouth resuscitation to restore breathing, if necessary. Stay with victim until emergency personnel arrive.
- **Ingestion:** Do not induce vomiting. Immediately contact local poison control center or physician.

ENGINE COOLANT

- **Eyes:** Immediately flush with large amounts of water for at least 15 minutes. Get prompt medical attention.
- **Skin:** Remove contaminated clothing. Wash thoroughly with soap and water. Get medical attention if irritation persists.
- **Ingestion:** Do not induce vomiting. Immediately contact local poison control center or physician.

BATTERY ACID

- **Eyes:** Immediately flush with large amounts of water for at least 15 minutes. Get prompt medical attention. Wash skin with soap and water.
- **Skin:** Immediately remove contaminated clothing. Wash skin with large volumes of water, for at least 15 minutes. Wash skin with soap and water. Do not apply fatty compounds. Seek immediate medical assistance.
- **Inhalation:** Provide fresh air. Rinse mouth and nose with water. Seek immediate medical assistance.
- **Ingestion:** If the injured person is fully conscious: make the person drink extensive amounts of milk. Do not induce vomiting. Take the injured person immediately to a hospital.

ELECTRICAL SHOCK

Take IMMEDIATE action after a person has received an electrical shock. Get quick medical assistance, if possible.

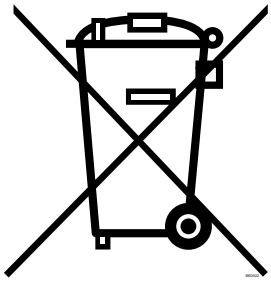
The source of the shock must be quickly stopped, by either shutting off the power or removing the victim. If the power cannot be shut off, the wire should be cut with an non-conductive tool, such as a wood-handle axe or thickly insulated cable cutters. Rescuers should wear insulated gloves and safety glasses, and avoid looking at wires being cut. The ensuing flash can cause burns and blindness.

If the victim must be removed from a live circuit, pull the victim away with a non-conductive material. Use wood, rope, a belt or coat to pull or push the victim away from the current. DO NOT TOUCH the victim. You will receive a shock from current flowing through the victim's body. After separating the victim from power source, immediately check for signs of a pulse and respiration. If no pulse is present, start Cardio Pulmonary Resuscitation (CPR). If a pulse is present, respiration might be restored by using mouth-to-mouth resuscitation. Call for emergency medical assistance.

ASPHYXIATION

Move victim to fresh air and use Cardio Pulmonary Resuscitation (CPR) or mouth-to-mouth resuscitation to restore breathing, if necessary. Stay with victim until emergency personnel arrive.

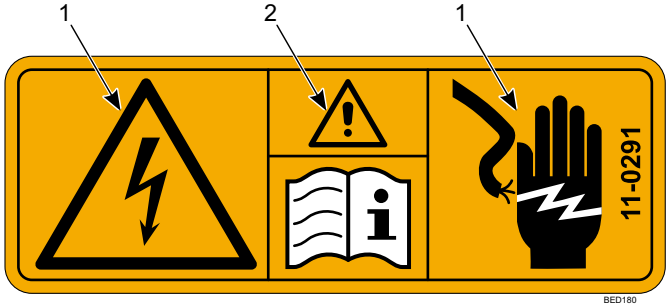
Disposing of the Product



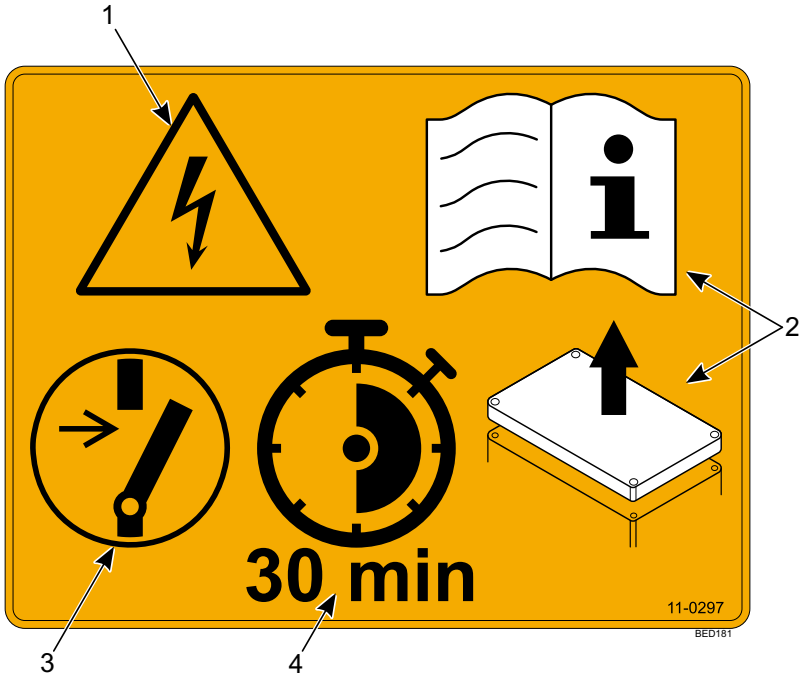
Please dispose of your product according to your national and local regulations at the end of it's life. Contact your service partner for information about disposing of this product in your region of the world.

Safety Decals

The following safety decals are placed on or around the FRIGOBLOCK's Power Electronics Kit components. They combine several safety signs together.



1.	Electrical shock warning.
2.	Warning – Read instructions before handling.



1.	Electrical shock warning.
2.	Read instructions before opening the cover.
3.	Turn off the system before handling.
4.	Wait 30 minutes before opening the cover.

Unit Description

Unit Overview

This is a single and multi-temperature hybrid refrigeration solution for trailers.

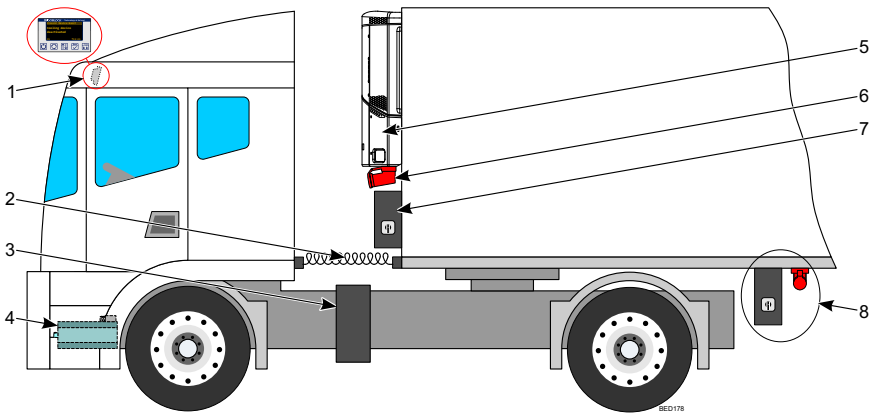
System consists of Thermo King refrigeration unit and FrigoBlock Power Electronics Kit, combining electric and diesel power.

Features

The Hybrid system consists of several key components:

1. The FRIGOBLOCK Power Electronics Kit
    a. Inverter Drive Remote Controller (controller, HMI)
    b. Alternator (also called generator) kit
    c. Inverter-Filter box
    d. Spiral cable (spring coil cable)
    e. Mains-0-Alternator box (M0A)
        i. Mains-0-Alternator switch (M0A switch)
    f. CEE socket (the mains connection)
2. The Thermo King refrigeration unit
    a. Smart Reefer 3 controller (SR-3 controller)

Note: *For instructions on how to operate the Thermo King refrigeration unit please refer to the manual Operator manual available at www.emea-user-manuals.thermoking.com*



1.	Inverter Drive Remote Controller (in cab)	5.	Thermo King Refrigeration unit
2.	Spiral cable	6.	CEE socket
3.	Inverter-Filter	7.	Mains-0-Alternator control box (M0A)
4.	Alternator (connected to the engine belt drive)	8.	Alternative location for the CEE socket and the M0A box

Power Electronics Kit

Intended Use

The purpose of the FRIGOBLOCK Power Electronics Kit is to provide electrical energy for the refrigeration unit.

Proper use includes: compliance with safety, transport, installation, commissioning, operation, maintenance and repair instructions.

Limits of Use

The Power Electronic Kit can only be operated with the genuine FRIGOBLOCK parts and equipment.

The performance specifications and operating limits on the nameplates must always be maintained.

The Power Electronic Kit is only approved for operation in conjunction with the Thermo King refrigeration systems. It must not be used in any other way apart from what is described in this manual.

Photos and Illustrations

Figure 1. The Thermo King SLX Refrigeration Unit

Figure 2. Inverter-Filter

Figure 3. Mains-0–Alternator Box

Figure 4. CEE Socket

Figure 5. Inverter Drive Remote Controller

Figure 6. Alternator Kit

Loading and Inspection Procedures

This chapter describes pre-loading inspections, loading procedures, post-loading procedures, post-loading inspections, and enroute inspections. 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.

Loading and Enroute Inspections

NOTICE

Preventative Maintenance FrigoBlock!

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

Important: *Make sure cargo is pre-cooled to the proper temperature before loading. The Thermo King unit is designed to maintain temperature, not cool an above-temperature load.*

⚠ CAUTION

FrigoBlock PreTrip!

Turn the vehicle's engine off before inspection and set the M0A switch to position "0". Disconnect the mains cable from the CEE socket.

⚠ CAUTION

Risk of Injury!!

Before separating tractor from the trailer make sure to disconnect all the connecting cables (spiral cable etc.).

Make sure to disconnect the spiral cable on both sides, the tractor and the trailer.

⚠ CAUTION

Risk of Injury!!

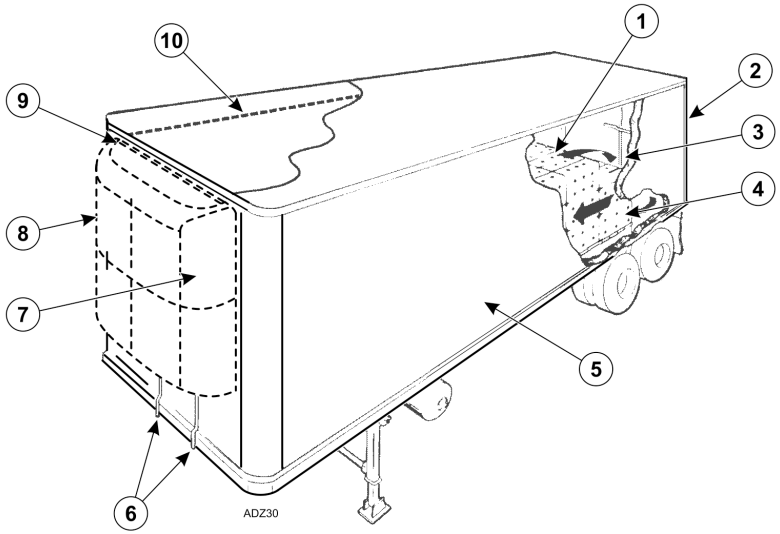
Disconnect the mains power cable before driving the vehicle.

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 cargo must not be restricted.

   Note: *If the warehouse is not refrigerated, operate the unit with the doors closed until cargo is ready to be loaded. Then turn off the unit, open the 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.*

Figure 7. Loading Considerations



1.	Correct load height (trailers without chutes)	6.	Clear defrost drains
2.	Tight doors and seals	7.	Good outside air circulation
3.	Good air circulation around load	8.	Unit inspection
4.	Proper cargo temperature (**prior** to loading)	9.	Tight seals
5.	Interior/exterior walls and insulation in good condition	10.	Maximum load height followed

Post-Loading Inspection

Post-loading inspections verify 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.

   Important: *Cargo must be pre-cooled to 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. Verify they are securely locked.
5. Verify 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 the manual.

Operating Instructions

Inverter Drive Remote Controller

⚠ CAUTION

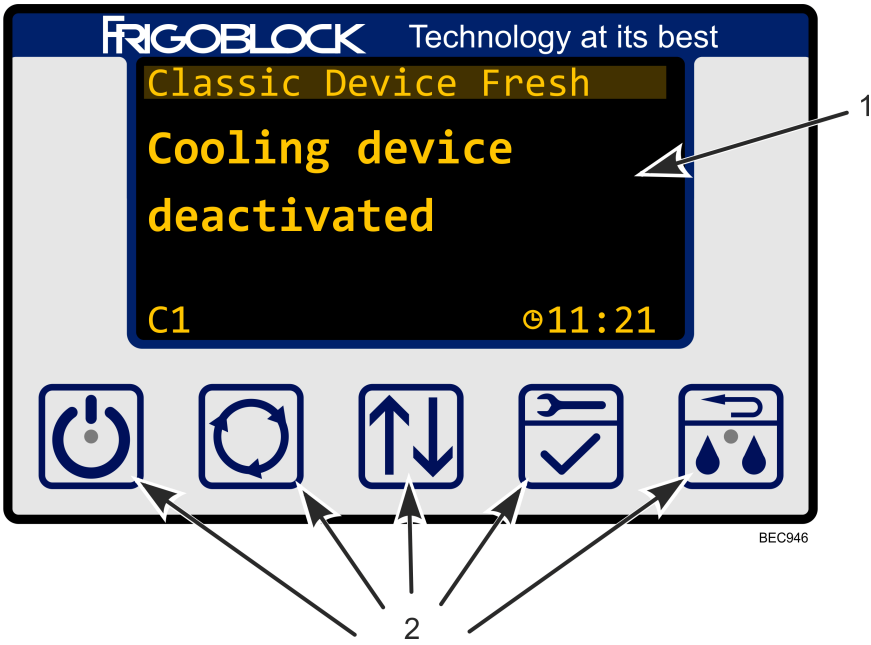
Risk of Injury!

Do not operate the HMI Control Panel until you are completely familiar with its function.

Inverter Drive Remote Controller (controller, HMI) is a device used for controlling and monitoring the Power Electronics Kit. It is located in the driver's cabin.

Learning to operate this controller is not complicated and a few minutes studying the contents of this manual will be time well spent.

Figure 8. Inverter Drive Remote Controller



1.	Controller Display
2.	Function Keys

Controller Display

The control display is capable of showing both text and graphics. It is used to supply information to the operator about the state of the Power Electronics Kit and possible errors in the system.

Note: *The default message "Cooling device deactivated" does not mean the refrigeration unit is not working!*
Inverter Drive Remote Controller is a multipurpose device commonly used to control not only the Power Electronics Kit but also the refrigeration unit.
However, in the case of this Hybrid system, there is no electronic communication between Inverter Drive Remote Controller and the Thermo King refrigeration unit.

Figure 9. Controller Display

1.	Operating Mode *
2.	Status of Refrigeration Unit
3.	Time
4.	Power Output to the refrigeration unit — C1 activated/ C1 deactivated.
* "Classic Device" = refrigeration unit; "Fresh" = chosen cooling mode	

Function Keys Overview

	Press briefly to switch the Power Electronics Kit on/off.
	Function not used in this Hybrid system.
	Press briefly to browse through the menu items.
	• Press and hold to open the main menu (“Main Menu,” p. 38) • Used to confirm a selection in the menu.
	Press briefly to go back in the menu.

MOA Box Overview

Figure 10. MOA Box

1.	MOA Switch

Starting the Inverter Drive Remote Controller

1. Start the Vehicle's engine
2. Press the on/off key on the controller briefly.

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- First the light inside the key will flash on and off and when the power-up sequence is complete the light will stay constantly on.

  Note: *If the controller does not switch on (black screen) or light inside the key does not stop flashing please check the fuses in the driver's cabin. If the fuses are not burned out and the system still does not start, please contact the authorized FRIGOBLOCK service partner.*

Error	Burned Fuse
Controller does not switch on (black screen).	F31 or F33
Light inside the key does not stop flashing.	F32

Operating Modes

The refrigeration unit can be powered from different sources. According to these sources we recognize three operating modes:

1. **Diesel Mode**
   The refrigeration unit receives no power from the external sources (such as the mains or the alternator) and runs only on the diesel engine located inside the unit.
2. **Mains Mode**

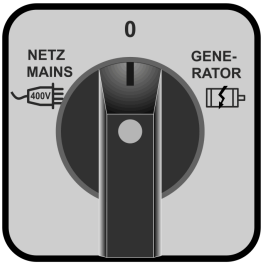
The refrigeration unit receives power from the mains via CEE socket.

3. **Alternator Mode**
   The refrigeration unit receives power from the FRIGOBLOCK Power Electronics Kit (from the alternator mounted on vehicle's engine).

Diesel Mode

In this mode the vehicle's engine does not have to be running.

1. Set M0A switch to position "0".



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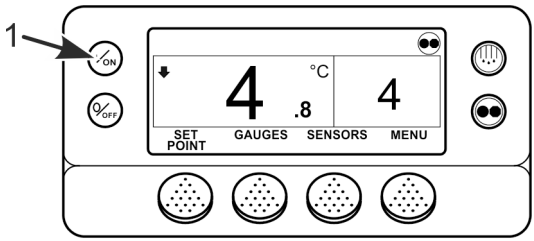
2. Press the ON key on the SR-3 controller located on the refrigeration unit.



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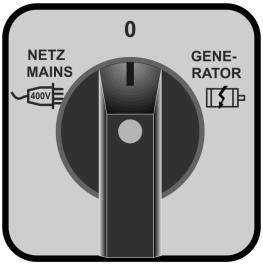
3. Continue according to the instructions described in the Refrigeration Unit Operator manual available at www.emea-user-manuals.thermoking.com.

Note: *If the Refrigeration unit does not receive power from the external source it automatically starts in the diesel mode. As soon as the Refrigeration unit starts receiving it's power from the external source it automatically switches to the electric mode and the internal diesel engine stops.*

Mains Mode

1. Set M0A switch to position "0".



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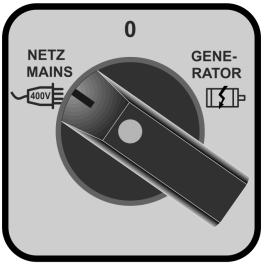
2. Connect the mains cable to the CEE socket.

3. Set M0A switch to position “NETZ MAINS”.



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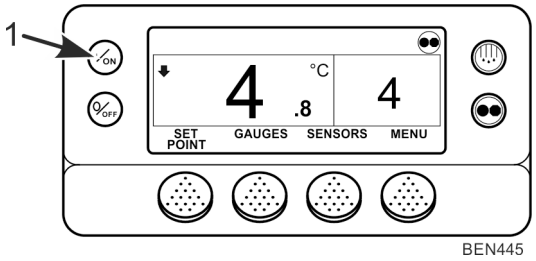
4. Press the ON key on the SR-3 controller located on the refrigeration unit.



5. Continue according to the instructions described in the Refrigeration Unit Operator manual available at www.emea-user-manuals.thermoking.com.

Note: *If the refrigeration unit was already running in the diesel mode when the M0A switch was set to this position the refrigeration unit will automatically switch to the Mains mode and the internal diesel engine stops.*

Disconnecting the Mains Power

⚠ WARNING

Equipment Damage and Risk of Injury!

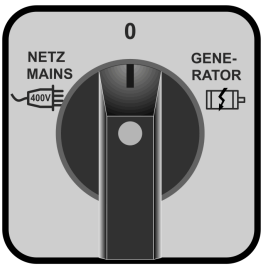
Do not disconnect the mains power cable with the M0A switch in position "NETZ MAINS". Switch it to position "0" first.

⚠ CAUTION

Risk of Injury!!

Disconnect the mains power cable before driving the vehicle.

1. Set M0A switch to position "0".



2. Disconnect the mains cable to the CEE socket.

Alternator Mode

⚠ DANGER

Hazardous Voltage!

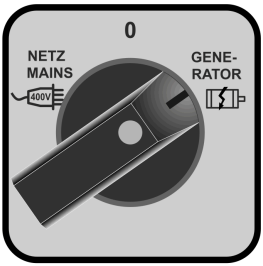
High Voltage is present when engine is running! Do not connect or disconnect electrical cables with the vehicle still running. Turn the engine off first.

⚠ CAUTION

Risk of Injury!!

Be careful when inspecting elevated and not easily accessible areas.

1. Turn the vehicle's Engine Off
2. Set M0A switch to position "GENERATOR".



3. Make sure the spiral cable is connected on both sides.

Figure 11. Tractor Side

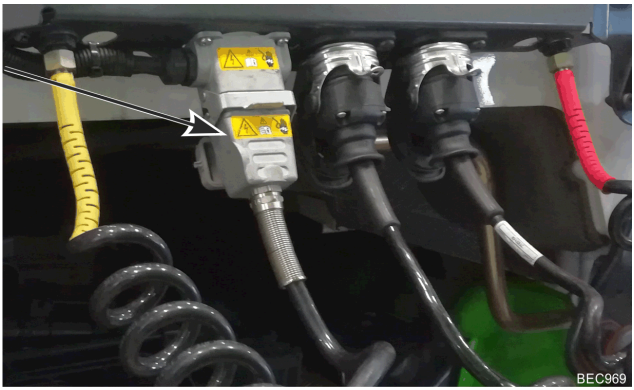
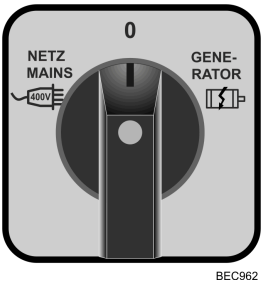


Figure 12. Trailer Side

4. Set M0A switch to position “0”.



5. Start the vehicle’s engine.
6. Press the on/off key on the controller briefly.

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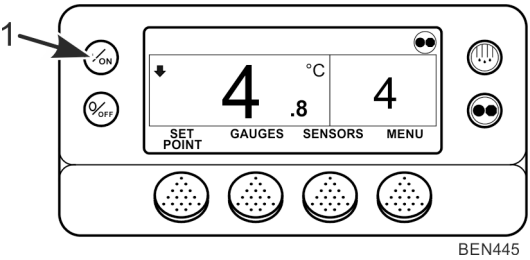
Note: *First the light inside the key will flash on and off and when the power-up sequence is complete the light will stay constantly on.*

7. Press the ON key on the SR-3 controller located on the refrigeration unit.



BEN445

8. Continue according to the instructions described in the Refrigeration Unit Operator manual available at www.emea-user-manuals.thermoking.com.

Note: *If the refrigeration unit was already running in the diesel mode when the M0A switch was set to this position, the refrigeration unit will automatically switch to the Mains mode and the internal diesel engine stops.*

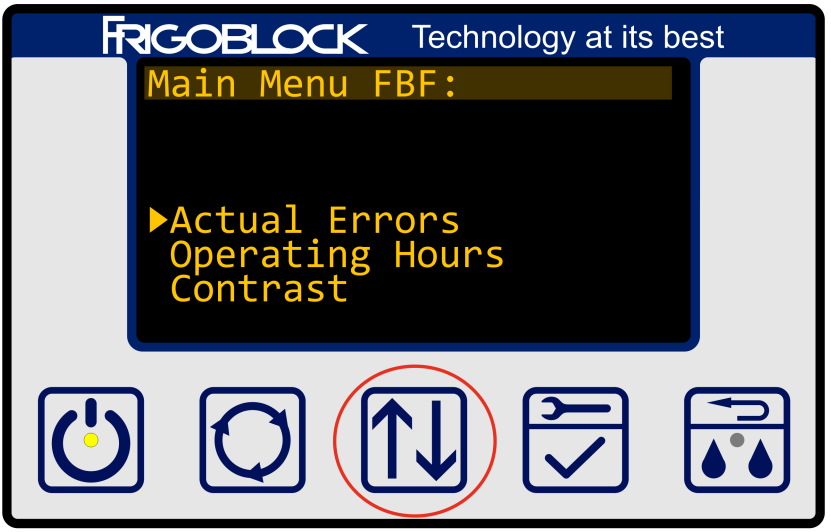
Main Menu

Opening the Main Menu

1. Press and hold this key to open the Main Menu

BEC967

2. To browse through the menu items press this key until you have reached your required selection



BEC975

3. Press the select key again to enter the required menu option.

4. To go back to the Main Menu, press this key

Note: *The menu items "Software Version", Status Information" and "Settings" are relevant only for the service technicians.*

Fault Codes

When the microprocessor inside the Inverter Drive Remote Controller (controller, HMI) senses an abnormal condition, a fault code (error, alarm) is generated and the fault icon appears on the display.

In such case the operator needs to contact the authorized FRIGOBLOCK service partner.

If the controller does not start at all, please follow the Error Note on ("Starting the Inverter Drive Remote Controller," p. 30)

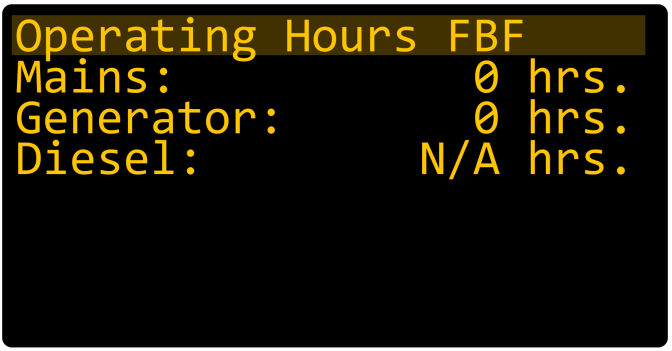
Operating Hours

1. Press and hold this key to open the Main Menu

2. Scroll through the main menu until you reach "Operating Hours" using this key

3. Press the select key again to enter the required menu option.

4. The display now shows the time the individual components have been running.



BEC974

Note: *Use this information to determine if there is time for the next inspection or maintenance. Please refer to your Maintenance inspection schedule ("Maintenance Inspection Schedule," p. 48).*

Contrast Adjustment

1. Press and hold this key to open the Main Menu

2. Scroll through the main menu until you reach "Contrast" using this key

3. Press the select key again to enter the required menu option.

4. The Contrast Display is now shown

BEC976

5. Press and hold the keys below to adjust the display contrast

6. Press the select key again to confirm the change.

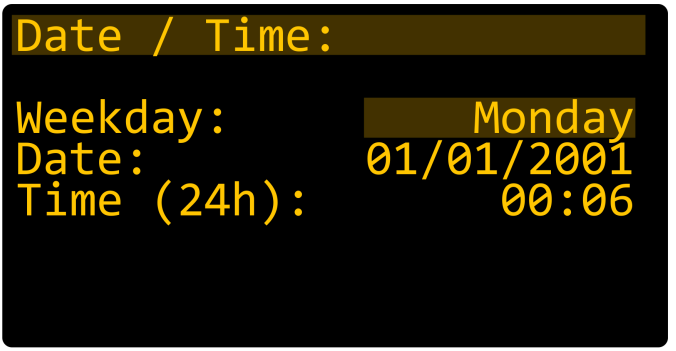
Date and Time Setting

1. Press and hold this key to open the Main Menu

2. Scroll through the main menu until you reach “Date/Time” using this key

3. Press the select key again to enter the required menu option.

4. The “Date/Time” Display is now shown



BEC977

5. Press the up/down key to change the value of a parameter.

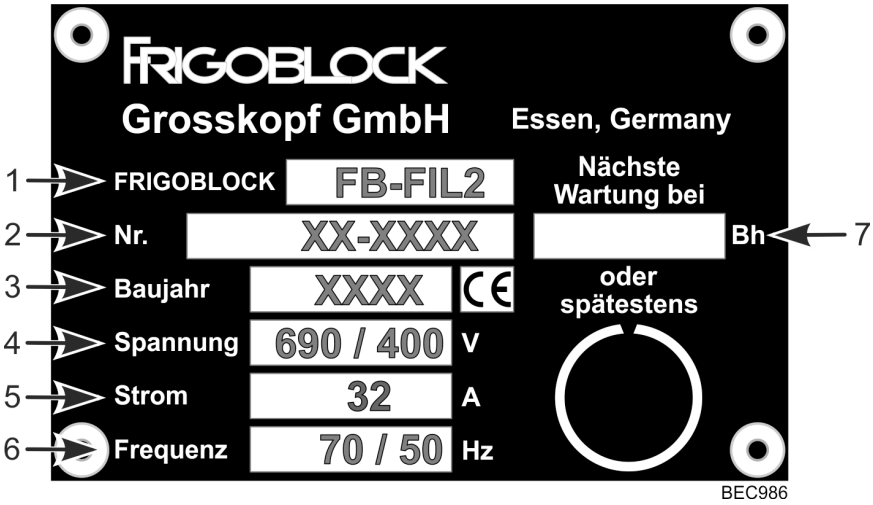
6. Press the key below to move to the next parameter

7. Press the select key again to confirm any changes.

Specifications

For identification of FRIGOBLOCK components the FRIGOBLOCK type and serial number are required. The technical specifications of the FRIGOBLOCK Power Electronics Kit are listed in the customer service book. They are also written on the nameplate that is fixed on the casing of the Inverter-Filter box.

Figure 13. Inverter-Filter Nameplate



1.	FRIGOBLOCK component type
2.	Serial number
3.	Year of manufacture
4.	Electrical voltage
5.	Electrical current
6.	Frequency
7.	Date of the next maintenance

Important: *Observe the performance data and limits on the nameplate of the power electronics kit. Remember the maximum ambient temperature: +50 °C for the Alternator mode and +55 °C for the Mains and Diesel mode.*

Note: *For specification of the Refrigeration Unit, refer to Operator manual available at www.emea-user-manuals.thermoking.com*

Warranty and Liability

FRIGOBLOCK Power Electronics Kit

The agreed warranty period is specified in the order confirmation. FRIGOBLOCK GmbH is not responsible for damage caused by:

- any use that is not intended;
- service and repairs not carried out correctly and in time,
- or undertaken by personnel with insufficient qualifications and experience.

Any liability to third parties is excluded.

Warranty claims will only be accepted if the owner of the refrigeration machine can demonstrate that all maintenance operations prescribed in the maintenance schedule were carried out by our service partners during the warranty period.

No warranty can be claimed if maintenance intervals have not been observed or maintenance work has not been carried out properly.

Changes and/or modifications of the refrigeration machine are not permitted and if made release FRIGOBLOCK GmbH from any warranty obligation. More details on our warranty and liability terms are contained in our General Terms of Delivery and Payment.

Thermo King Refrigeration Unit

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. The following intervals are defined for refrigeration units and alternator:

Interim Inspection	Regular Maintenance
A Service The A maintenance is due with a total mileage of more than 100,000 km of the vehicle or every 3,000 operating hours of the vehicle (whichever comes first). A maintenance is an additional maintenance timed 6 months after the B maintenance.	B Service The B maintenance is due with a total mileage of more than 100,000 km of the vehicle or every 3,000 operating hours of the vehicle (whichever comes first) And **MUST** be carried out every 12 months.

Note: *For the number of operating hours, see "Operating Hours"* *("Operating Hours," p. 40).*

The maintenance intervals specified above were determined under normal operating conditions. If the operating conditions are different the different maintenance intervals may be required. For example, the devices mounted close to the ground should be cleaned more often in winter than in summer.

The FRIGOBLOCK service partners are familiar with the detailed scope of inspection, test and maintenance required for your system.

All FRIGOBLOCK products are in process of constant improvement. Consequently, the scope of maintenance may change.

⚠ WARNING

Equipment Damage and Risk of Injury!

Do not carry out maintenance and repair work by yourself. It can only be carried out by authorized service technician. Always contact the FRIGOBLOCK service partner.

Important: *Each maintenance performed should be recorded in the Service Check Book.*

Note: *For inspection and service intervals of the Refrigeration Unit Operator manual available at www.emea-user-manuals.thermoking.com*

Serial Number Locations

The FRIGOBLOCK Power Electronics Kit serial number plate is located on the Inverter-Filter box.

For location of refrigeration unit serial number plate see Refrigeration Unit Operator manual

Note: *Unit Operator manual available at www.emea-user-manuals.thermoking.com*

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 www.thermoking.com or www.tranetechnologies.com.

TK 61569-2-OP-EN 30 Jun 2020
Supersedes TK 61569-2-OP Rev. 0-EN (March 2018)