

Reefervan – Econocool

Stationary Refrigeration Cooler – 12v – 115v Operation – HEAT & COOLING

Installation Operation & Service Manual

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1. Econocool Description & Warnings

Reefervan's Econocool refrigeration cooler is a slide in box cooler that comes already pre gassed and is ready to go out of the box. No specialist technician is required to install the Econocool. Easy to install and maintain. Econocool can be installed in a van up to 8ft in length.

This manual is published for information purposes only. Reefervan express no warranties expressed or implied in respect to the information contained in this manual. Should you have any questions contact Reefervan for more information.

Reefervan shall not be liable in contract or tort (inc. negligence and or strict liability whatsoever arising out of any actions by any person that is contrary to this manual or any of the information, recommendations contained herein or the failure for a person to implement described here in, or to follow safety decals located on the cooler.

Caution:

The Econocool comes already pre-charged with high pressure refrigerant which can cause serious injury to a person and even cause death in unventilated areas.

Under no circumstance attempt to repair or service the cooler if you do not have the correct qualifications and authorized by Reefervan. If you require a certified installer to install the cooler or need service. Contact Reefervan for nearest location.

Caution:

The Econocooler is a customized product that contains high (115v) and low (12v) voltage electric circuits.

There is a Danger of high voltage electric shock or death! Do not touch exposed cables! Extreme burns can happen! Make sure before operating that the power cables are dry before plugging in. Do not put any electrical item inside the cooler box area. Make sure the 115v power supply has a earth leakage circuit breaker (GFCI) installed to protect the product, individuals and the main power supply.

Caution:

Keep the cooler dry and protect against rain and moisture. The cooler cannot be used outdoors. Do not put box into direct sunlight. Never immerse the box or cooler in water.

Caution:

Make sure that there is adequate ventilation in the vehicle so heat can dissipate during normal operation. Ensure the ventilation slots are not covered. A roof ventilator may be required in extreme warm climates. Do not expose or operate cooler in direct sunlight.

Caution:

Only use the battery cables provided in the install kit. Vehicle batteries contain acid and handle with caution. Avoid any fluid from encountering skin, wash any fluid off skin immediately.

Caution:

The Econocooler is only designed to maintain the product within the box. The cooler will not cool the product down.

Caution:

Reefervan cannot be held liable for any claim for damage resulting from the following: Misuse, improper installation, abnormal unauthorized service, personal injury and transit damage and incorrect voltage supply outside of operating parameters. This also includes any product loss due to cooler failure.

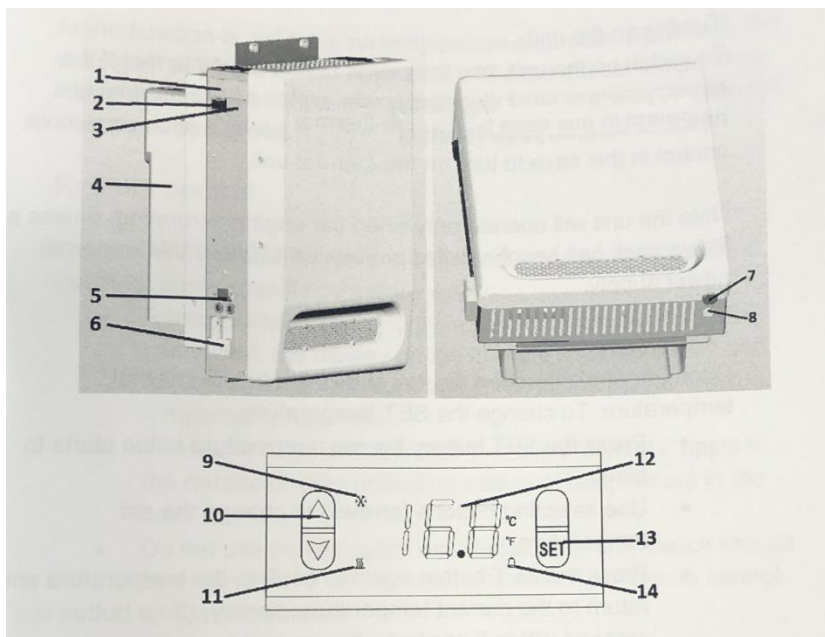
2. Technical Information & Operation

Technical Information	Description	
Temperature Range	34°F to 85°F	
Operating Temp:	0°F to 100°F	
Cooling / Heating Capacity:	1370 BTU Cooling Capacity 1450 BTU Heating Capacity	Temp range 50°F to 0°F
Voltage / AMPS:	115v 60HZ (1 phase) 12v Supply	Max power consumption 7.2A 50A
Defrost Type:	Natural drain	
Dimensions:	L x W x H (Inches)	35" x 16" x 17¾"
Refrigeration Safety Protection Devices:	High pressure	
	Low pressure cut out	
Control:	Electronic control	
Weight:	59.5 LB (27KG)	
Electrical Connection:	15A 3 Pin 110v Socket – UL	Min 15 AMP 115v power supply req.

Controls & Connections:

The thermal controller detects the temperature in the box by means of a temperature sensor. If the temperature exceeds the set values the cooling unit is switched on and the box is cooled or heated. When the set temperature is reached the cooler switches off. The fans will remain rotating to maintain best air flow.

1. Temperature Controller
2. Main Switch
3. High Pressure Warning
4. Evaporator (Inside)
5. 115v Connection
6. 12v Connection
7. Master out Connection
8. Remote connection
9. Cooling Active Indicator
10. Heating Active Indicator
11. Select Button
12. Temperature Display
13. Alarm Signal



Operation Control

Turning on the Cooler - Road Operation:

To switch on the cooler set the power switch (2) to on. **Note:** The cooler will only operate when the vehicle is running.

Turning on the Cooler – Electric 115v Stationary Operation:

For 115v Stationary Operation – Turn vehicle off and plug power cable into the side of the cooler, then turn on power switch (2).

Setting Temperature:

The temperature display, during normal operation will show the internal box temperature. To change the SET temperature, press the SET button, the set temperature will start to blink. Use the scroll buttons to change the set temperature. Then press SET again to enter / confirm setting.

Indicators:

- Cooling Active – Indicated by symbol (9)
- Heating Active – Indicated by symbol (10)
- Temperature achieved – Neither (9) or (10) is lit
- Delay in operation mode – Blinking of symbol (9)



Controller Parameters Settings:

- Press set buttons for 6 seconds and parameter E1 will flash
- Press the SET button again and scroll through parameters.
- Press selection buttons to see and change the set value
- If no button is pressed for 6 seconds the display returns to the current temperature display

Parameter	Function	Range
E1	Lowest Set Point	-4°F
E2	Highest Set Point	104°F
E3	Temperature Diff. cut in /cut out	0.2°F / 18°F
E4	Switch-on time delay	0/10 Min
E5	Offset Temperature	(-18°F/18°F)
CF	Unit Temperature	°C/°F
C1	Switching time between Cool and Heat	0/30 Mins
P1	High Alarm Value	Set temp
P2	Low Alarm value	0°F/54°F
P3	Alarm Display	0/90 Mins
P4	Alarm Diff.	32°F/50°F

High Pressure Warning:

The thermal unit is protected against extreme conditions that can cause high pressure, such as extreme high ambient temperature. If high pressure is present the RED control light (3) will light up.

If you notice the warning light, ensure proper ventilation of thermal cooler in the vehicle. If the problem is not solved the heat exchanger maybe dirty or blocked. Contact your dealer for service.

Defrosting:

The thermal unit is not designed for automatic defrosting. If there is excessive ice buildup, turn of the cooler to allow ice to melt.

3. Fault Diagnosis

i Failure to operate the cooler in the correct manner may damage components in the cooler and may void warranty of some parts not covered under warranty. If in doubt about operation contact Reefervan. The cooler must be serviced regularly by trained technician.

Malfunction	Cause	Remedy to Rectify
Cooler will not work	No power supply 12v or 115v	Check power supply – Make sure engine is running
Cooler will not cool properly	Doors open – Heat source in box - Thermostat not set incorrectly - Evaporator is frozen – Refrigerant leak	Close door – Set thermostat lower to start cooler – Turn of the cooler to melt ice from evaporator coil – Call service
The Cooling / Heating is working but fan is stopped	Defective Cooling Fans	Call service
Display error	Display Shows Symbols LL or HH	Defective temperature sensor – Call for service

4. Service & Maintenance

Service	Timeframe	Service Procedure (Technician Required)
General Service	Every 6 months	Check that all the fans are operating in the cargo area and outside of the cooler
		Clean any dirt from the vents. Do not wash with water, use compressed air to blow the vents out.
Yearly Service	Every 12 months	Check battery cables and connections for secureness and corrosion. Check fuse assembly for condition.

5. Installation of Econocool to Van

In the installation kit there will be as follows:

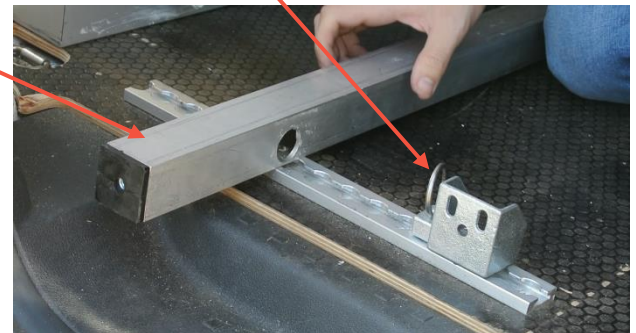
1. Cable Kit – Includes ignition relay cut off
2. Cable Kit Extension
3. Installation Frame



Installation

Unpack the installation frame and install to van floor. Secure with fasteners to the floor and make sure that you do not drill into areas like the fuel tank, wiring or brake lines. Check under neat the van before drilling holes.

Position the box equally between the wheel arches as shown



Attach the load rail where the cooler will be finally positioned.

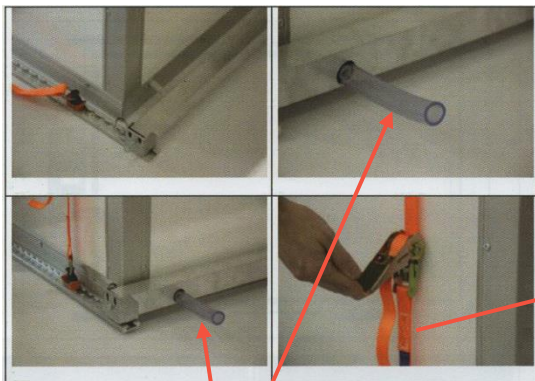
Attach the Cooler to the Bulkhead Wall Screw Fasteners into place



Slide Econocool Box into the Van



Secure Econocool Box to Floor and Frame with Straps Provided

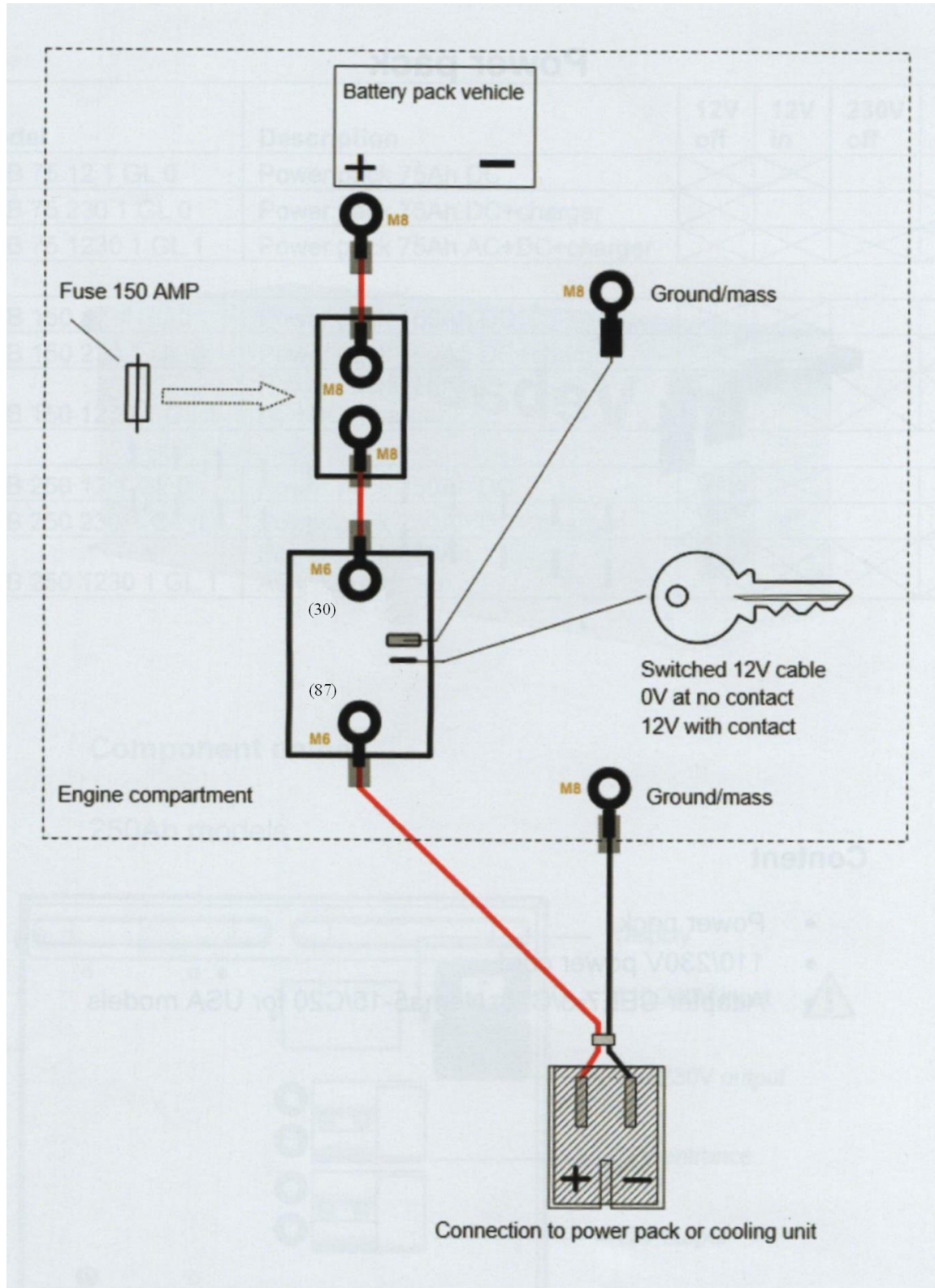


Attach water drainpipe to cooler box outlet and either 1. Put a container to catch any water run off or 2. Drill a $\frac{3}{4}$ " hole in floor of van to allow water to exit.



Installing Battery Cables and Wiring to Vehicle

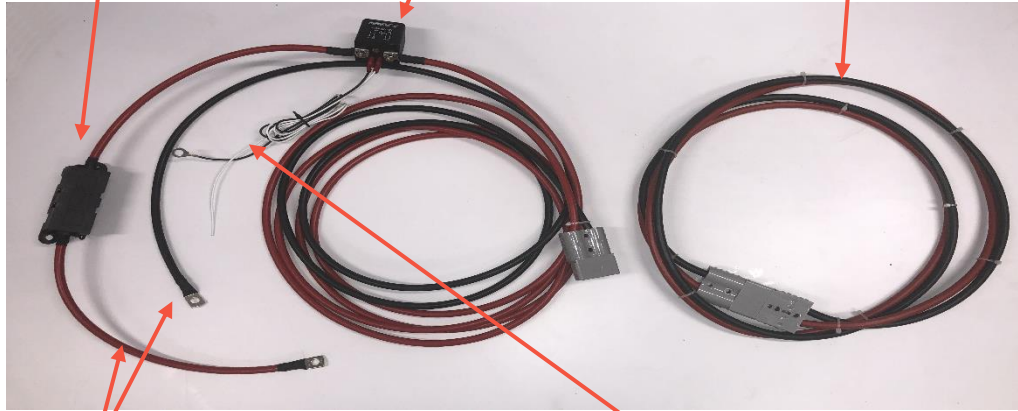
Wiring Diagram



Fuse

Power Relay

Extension Battery Cable



Battery Cables

Attach the Power Relay white wire to the vehicle ignition - 12v power source. Then connect the thin black wire to ground.



Route the Heavy-Duty Cables either inside the van and through the fire wall of the van into the engine area OR drill a hole in the floor and route the cables under neat the van.

Connect the battery cables to the vehicle battery and test the ignition relay operates correctly, turning the cooler on and off.

Plugging Into 115v

The Econocool is equipped with stationary 115V AC operation. To operate, turn the vehicle off and plug-in power cable that is supplied with cooler. Operation is the same as driving the van. Keep extension cords to within 25ft and a suitable ground leakage circuit breaker should be used when operating the cooler.

Roof Vent

In extreme hot climates, ventilation may not be adequate within the van. A roof vent may be required to prevent overheating of the cooler. It is recommended to precool the van with the vehicle air conditioning is recommended before starting the cooler.



6. Warranty Terms & Conditions



- End users of Econocool should register the product for warranty on line at www.reefervan.net or by emailing sales@reefervan.net
- Reefervan warrant Econocool against defects for a period of 12 months for parts and labor. Operational misuse and damages are not covered.
- If the cooler is suspected to be faulty the cooler must be shipped back to Reefervan for repair. If an unauthorized repair is carried out by a third party, warranty will become void immediately.
- The freight cost for a warranty repair is not covered under our warranty terms. Reefervan will provide a quote for freight to the end user. Typically, freight cost will be around \$150 to \$200 USD each way. Freight cost must be paid in advance.
- Factory warranty repairs will be carried out free of charge. Allow one week from point of receipt of cooler for repair and one week to ship the cooler back to your location (2 weeks in total).
- In no event shall Reefervan be liable for any product loss, rental, incidental or consequential damages or personal injury caused by the operation of the cooler. Damage due to incorrect operation can also void warranty.
- Reefervan reserve the right to amend the cooler design and or procedures without prior notice.
- Any warranty claim must be preauthorized by Reefervan ahead of the repair being carried out. Call 1 888 445 4481 for more information

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