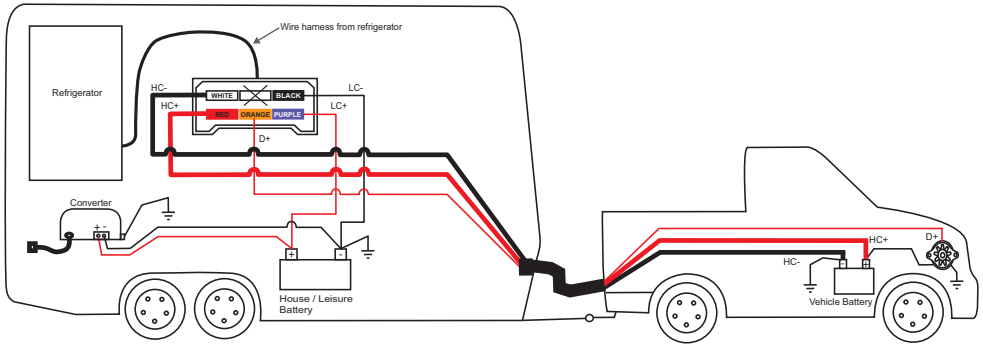
Recommended Trailer Wiring - Thetford N3000 Series Refrigerators

WIRING SCHEME 1

*Recommended trailer and tow vehicle wiring. It **does let** the refrigerator operate in all three modes.*



The tow vehicle **is** wired to provide HC+, HC-, and D+ inputs to the trailer and the trailer **is** wired to accept HC+, HC-, and D+ inputs from the tow vehicle.

D+ is an "engine run" signal that is only present while the engine of the tow vehicle is running.

Tow Vehicle Wiring

HC+	a fused wire from the vehicle battery (positive)
HC-	a wire from vehicle battery (negative)
D+	a wire from D+ of alternator (+12V when engine is running)

Trailer Wiring

White	out to HC-
Red	out to HC+
Orange	out to engine run (D+)
Purple (LC+)	to house / leisure battery (positive)
Black (LC-)	to house / leisure battery (negative)

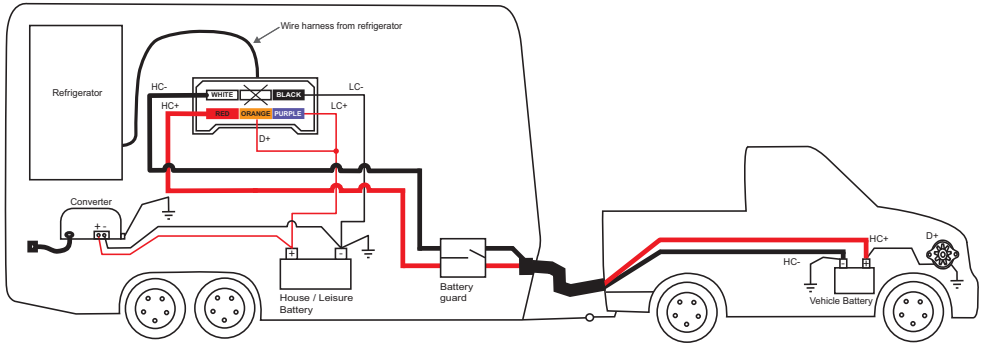
Refrigerator theory of operation

At any time, while the engine of the tow vehicle is running, the refrigerator will operate in Auto DC mode.
If the engine of the tow vehicle stops running, the refrigerator will automatically change to the Auto Gas mode.
If the trailer is connected to shore power, the refrigerator will operate in Auto AC mode.

When the engine of the tow vehicle stops running (the D+ signal is no longer available) the refrigerator gas valve and igniter outputs cease for 15 minutes. After 15 minutes, the refrigerator gas valve and igniter outputs resume.

WIRING SCHEME 2

Bridged D+ with LC+ trailer wiring with battery guard. No Auto Gas available as long as the tow vehicle is connected to the trailer.



The tow vehicle **is** wired to provide HC+, HC- inputs to the trailer and the trailer **is** wired to accept HC+, HC-, inputs from the tow vehicle and D+ via the house / leisure battery.

D+ is an "engine run" signal that is only present while the engine of the tow vehicle is running.

Tow Vehicle Wiring

HC+	a fused wire from the vehicle battery (positive)
HC-	a wire from vehicle battery (negative)

Trailer Wiring

White	out to HC-
Red	out to HC+
Orange	out to LC+ (D+)
Purple (LC+)	to house / leisure battery (positive)
Black (LC-)	to house / leisure battery (negative)

Refrigerator theory of operation

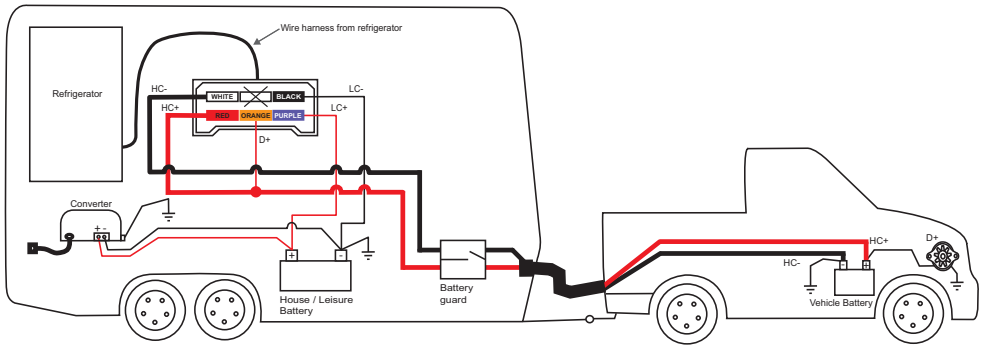
At any time, while the engine of the tow vehicle is running, the refrigerator will operate in Auto DC mode.
If the engine of the tow vehicle stops running and the 12V-HC power supply is switched, the refrigerator will automatically change to the Auto Gas mode.
If the trailer is connected to shore power, the refrigerator will operate in Auto AC mode.

This wiring scheme will not provide a gas fuel station safety. The refrigerator gas valve and igniter outputs wil NOT cease for 15 minutes.

Installation without a battery guard
When tow vehicle is not running and 12V-HC is constant available there is a risk of draining the tow vehicle's battery.

WIRING SCHEME 3

Bridged D+ with HC+ trailer wiring with battery guard. Only possible if earthing of tow vehicle and trailer are connected, with respect to 12V-LC and 12V-HC circuit.



The tow vehicle **is** wired to provide HC+, HC- inputs to the trailer and the trailer **is** wired to accept HC+, HC-, inputs from the tow vehicle and D+ via the house / leisure battery.

D+ is an "engine run" signal that is only present while the engine of the tow vehicle is running.

Tow Vehicle Wiring

HC+	a fused wire from the vehicle battery (positive)
HC-	a wire from vehicle battery (negative)

Trailer Wiring

White	out to HC-
Red	out to HC+
Orange	out to HC+ (D+)
Purple (LC+)	to house / leisure battery (positive)
Black (LC-)	to house / leisure battery (negative)

Refrigerator theory of operation

At any time, while the engine of the tow vehicle is running, the refrigerator will operate in Auto DC mode.
If the engine of the tow vehicle stops running and the 12V-HC power supply is switched, the refrigerator will automatically change to the Auto Gas mode.
If the trailer is connected to shore power, the refrigerator will operate in Auto AC mode.

In case of a switched 12V-HC power supply, the refrigerator gas valve and igniter outputs cease for 15 minutes. After 15 minutes, the refrigerator gas valve and igniter outputs resume.

Installation without a battery guard
When the tow vehicle is switched off and HC+ from the tow vehicle is still available, the tow vehicle's battery will be drained.