THERMO KING

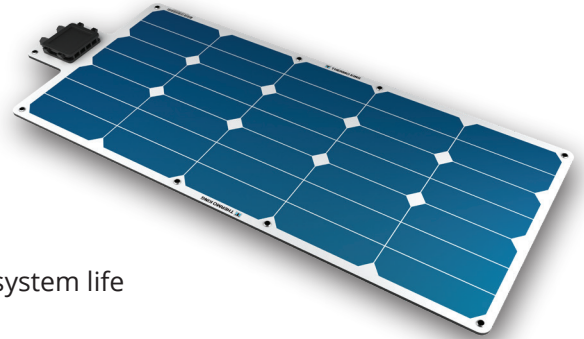## ThermoLite® Solar Panels

Get more uptime with every sunrise

Reduce Costly Downtime and Support Sustainability Plans with a

SOLAR CHARGING SYSTEM.

ThermoLite® solar panels can deliver clean, reliable performance in a wide variety of applications, resulting in longer battery life, decreased waste, lower fuel consumption and reduced emissions. Given these potential benefits, ThermoLite solar panels can be an important part of a comprehensive sustainability program for your business.

ThermoLite Benefits include:

- Optimized to offset controller and telematics loads
- Greatly extends battery life and prevents costly road calls
- High efficiency solar cells use latest technology to produce abundant power, even in low light conditions
- Designed for quick, easy installation in all applications
- Weatherproof panel construction for extreme durability and long system life
  - 20+ year anticipated product life
  - 5 year full product warranty (see dealer for details)
- Can be effectively paired with Thermo King's TracKing® telematics system to provide food safety monitoring, security and asset tracking in both refrigerated and non-refrigerated applications

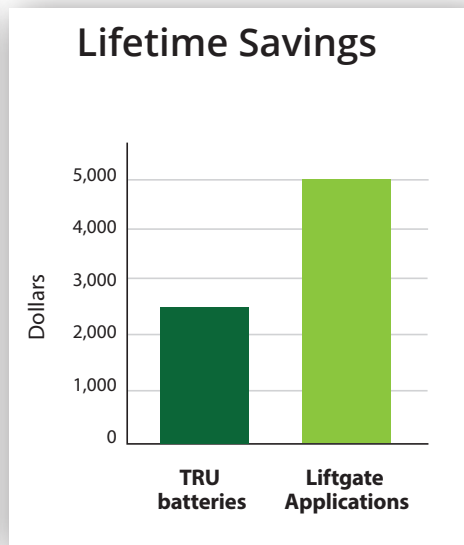# ThermoLite Charge Controller
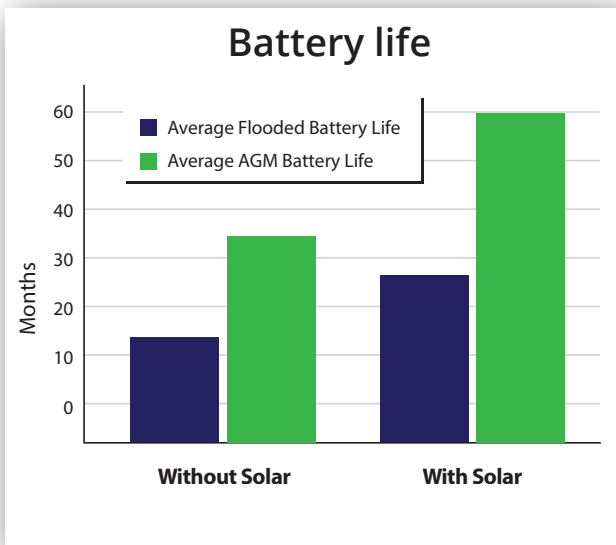
The Brains of the System:

- Critical to proper battery charging and system reliability
- Smart, three-stage charging technology via DC-DC converter
- Completely sealed against the environment
- Rugged automotive-rated circuit design
- Regulates both voltage and current to keep batteries from overcharging
- Designed to support AGM and flooded batteries

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Customer ROI

Solar charging brings value in several key areas:

1. Unit battery life –
   40–200% improvement

2. Asset downtime
   improvement

3. Fuel savings
   - Cycle Sentry charging
   - Alternator and engine offloading

Battery life

Legend:
- Average Flooded Battery Life
- Average AGM Battery Life

Y-axis: Months (0, 10, 20, 30, 40, 50, 60)
X-axis: Without Solar, With Solar

Lifetime Savings

Y-axis: Dollars (0, 1,000, 2,000, 3,000, 4,000, 5,000)
X-axis: TRU batteries, Liftgate Applications

Tax Credit On ThermoLite Systems

The solar investment tax credit (ITC) is a tax credit that can be claimed on federal corporate income taxes for 30% of the cost of a solar photovoltaic (PV) system that is placed in service during the tax year. This 30% tax credit was recently extended by the U.S. government to be available through 2019 and applies to all costs associated with parts and labor to install the product. After 2019, this tax credit rate will range from 10-26% depending on the year in which construction of the property commences and when the property is placed in service. Customers should consult their tax advisor to file for the credit assuming all terms and conditions for the tax credit are met.

A Full Range of Solar Solutions for all Applications

30W Panel

- Effectively offsets telematics
- Supports Thermo King and competitive reefer batteries
- Protects battery charge during extended unit-off situations

40W Panel

- Supports Heat King units and domestic rail containers
- Supports diesel APU and idle equipment
- Flexible panel designed to fit curved surfaces

110 - 330W Panels

- Supports lift gates, pallet jacks and electric APU hotel loads
- Max 330W combined into one system
- Suitable for all truck and trailer applications

30W Panel Specifications

Peak Output Power	30W
Nominal Voltage	12v
Weight	6 lbs.
Panel Size	13" x 22"
Warranty	5 Years

Base Kit	401414
SB Adapter Bracket	401271
SB Intermodal Adapter Bracket	401272
Competitive Adapter Kit	903364

40W Panel Specifications

Peak Output Power	40W
Nominal Voltage	12v
Weight	2 lbs.
Panel Size	13" x 29"
Warranty	5 Years

12V Base Kit	401415
40W Mid Voltage Kit (24/36/48V)	401381
40W Expansion Kit	401416
140" Installation Harness	401293
8' Installation Harness	422405
25' Installation Harness	422406
50' Installation Harness	422407

110 - 330W Panel Specifications

Peak Output Power	110W
Nominal Voltage	12v
Weight	5 lbs.
Panel Size	22" x 45"
Warranty	5 Years

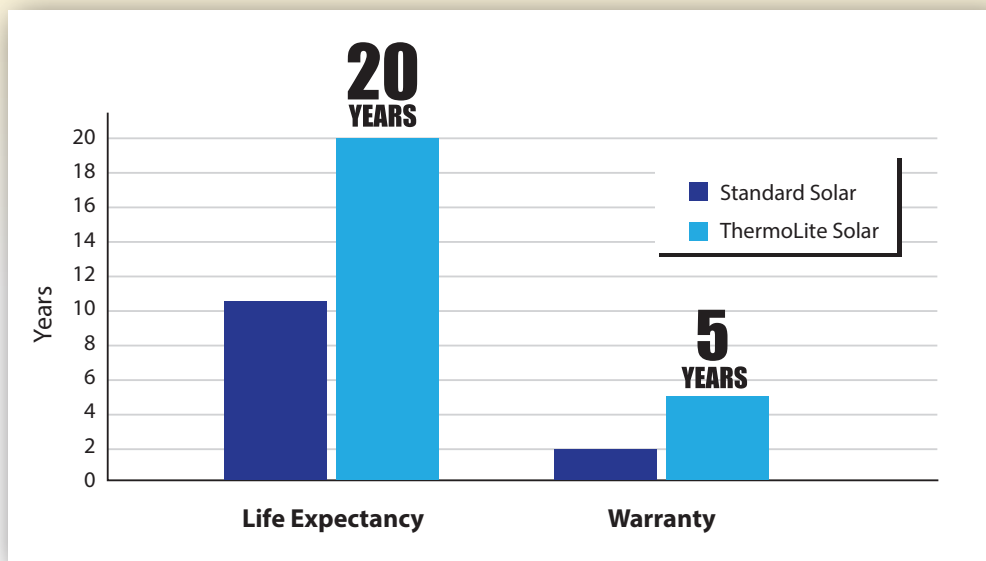|	
12V Base Kit	401417
110W Mid Voltage Kit (24/36/48V)	401382
110W Expansion Kit	401418
140" Installation Harness	401293
8' Installation Harness:	422405
25' Installation Harness	422406
50' Installation Harness	422407

Thermolite Competitive Advantage

Bar chart comparing Standard Solar and ThermoLite Solar across Life Expectancy and Warranty (Years). ThermoLite Solar: 20 YEARS life expectancy, 5 YEARS warranty.
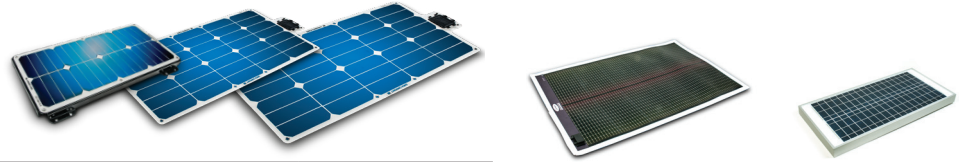
ThermoLite:

- Custom-engineered solution
- Only automotive-rated charge controller on the market
- Estimated 20+ year product life
- Designed to fit Thermo King and competitive units
- High-efficiency PV cells to drive maximum power density in a small space
- Panel constructed of flexible polymer that allows bending and high environmental resistance

Competition:

- Reefer charging panels generally not large enough (need at least 25W)
- Won't mount directly to the unit
  - Dramatically increases install time and complexity
  - Systems are not designed to be short, adding significant height
- NOT rated for automotive environments
  - Charge controller not designed for automotive batteries
  - Glass construction is fragile
  - Uses residential solar connectors (proven to be not rated for automotive environment)

Solar Panel Comparison Guide

	ThermoLite			Competitor's Panel	Generic Panel
	30W	40W	110W		
Size	13" x 22"	13" x 29"	22" x 45"	40.5" x 26.5"	14" x 30"
Weight	6 lbs	2 lbs	5 lbs	4 lbs	10 lbs
Output	30W peak output	40W peak output	110W peak output	28W peak output	30W peak output
Install time	30 minutes	60 minutes	90 minutes	90 minutes	At least 60 minutes
Panel Construction	Flexible polymer	Flexible polymer	Flexible polymer	Amorphous silicon	Polycrystalline (Glass)
Warranty	5 years - Full warranty	5 years - Full warranty	5 years - Full warranty	5 years - Limited warranty	1 year - Limited warranty
Install Conditions	Any	40°F-100°F	40°F-100°F	Must be in shade, dry, and between 40°F-80°F	Any
3-Stage Charge Controlling	●	●	●		
High-Flex, Low Temp Automotive Wiring	●	●	●		
Plug & Play Connectivity	●	●	●	●	
Produces Power In low light	●	●	●	●	
Automotive Rated	●	●	●		
Unit Mountable	●	●			

EXPERT SERVICE AND SUPPORT ARE AS CLOSE AS THIS SIGN.

SUPPORTED BY A NETWORK OF FACTORY-AUTHORIZED SERVICE CENTERS NATIONWIDE!

Choose ThermoLite Solar Panels and enjoy the support of the Thermo King Dealer Network.

THERMO KING

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