



### Features

- Additional EFOY fuel cell for charging batteries during long periods of low solar insolation
- Available as an option with new ex-factory Tritons, or can be retrofitted to Tritons already in the field
- Primarily intended for use with Tritons installed in areas with short hours of daylight during the winter season, locations at extreme latitudes, and locations with prolonged periods of extensive cloud cover
- Charge regulator will shut down the system when the voltage reaches a pre-set minimum level

Triton Cold Weather Package is an auxiliary power system using proven methanol fuel cells to keep Triton powered-up at sites with low solar insolation. It utilizes the reliable, stand-by power of the EFOY fuel cell to charge the batteries when solar charging is not available or is insufficient.

During the winters in extreme northern and southern latitudes, the availability of the sun can be reduced so that the solar panels no longer supply the Triton batteries with enough energy to maintain the appropriate charge. Triton Cold Weather Package utilizes the reliable, stand-by power of the EFOY fuel cell to charge the batteries when solar charging is not available or is insufficient. The EFOY fuel cell system turns off automatically when the battery is fully charged or solar power alone is sufficient to charge the battery, delivering 100 % operational uptime at the darkest sites in the winter. Installed in an external,

insulated chamber from Ensol (North America) or Hydrocell (Europe), the EFOY Pro 800 Duo can operate reliably in extreme cold and darkness.

### Introduction to the EFOY Pro 800 Fuel Cell

Triton Cold Weather Package uses a commercial Direct Methanol Fuel Cell (DMFC) manufactured by SFC of Germany ([www.sfc.com](http://www.sfc.com)). Their EFOY Pro 800 Duo model, equipped with either dual 10 or 28 liter methanol cartridges, has the capability to power a Triton system for approximately 60 ... 168 days

unattended operation with no solar charging events. The EFOY is a fully proven, commercial fuel cell with more than 20 000 systems delivered to customers worldwide.

### Installation and Fueling

Any Triton can be shipped with the EFOY Pro 800 Duo fuel cell and enclosure. In addition, Tritons in the field can be retrofitted with the EFOY Pro 800 Duo and chamber. The cartridges can be replaced during operation within seconds to keep the Triton continually powered.

# Technical Data

## Operating Environment

Ambient temperature	-40 ... +45 °C (-40 ... +113 °F) <sup>1)</sup>
Warranty	Vaisala honors all manufacturer warranties; all other CWP components covered under standard Triton agreement

<sup>1)</sup> Ambient temperature limits are those of an EFOY placed in either an Ensol or Hydrocell insulated chamber.

## Inputs and Outputs

EFOY power output	45 W
Triton power consumption	7 W

## Mechanical Specifications

EFOY dimensions (H × W × L)	278 × 188 × 433 mm (10.94 × 7.40 × 17.05 in)
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EFOY weight	7.8 kg (17.20 lb)
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Ensol weight (fully loaded)	130 kg (285 lb)
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Ensol dimensions (H × W × L)	660 × 690 × 960 mm (26 × 27 × 37.75 in)
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Hydrocell weight	15 kg (33 lb)
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Hydrocell dimensions (H × W × L)	410 × 600 × 800 mm (16.1 × 23.6 × 31.5 in)
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### Fuel

Fuel consumption	0,3 l/day <sup>1)</sup>
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Methanol fuel cartridges	2 × 10 l for approx. 60 days operation <sup>1)</sup> or 2 × 28 l for approx. 168 days operation
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Environmentally friendly fuel in recyclable container

Fuel safety	Safe, low-cost, ultra-pure methanol is used to power EFOY fuel cells. Methanol is a high energy density liquid sold in safe, convenient fuel cartridges.
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### Remote Access and Control

Fuel consumption monitoring

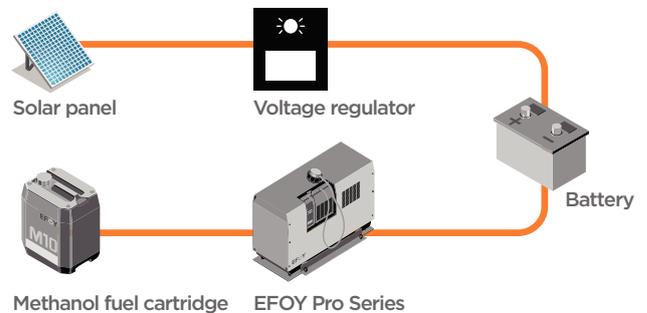
Lifetime operating hours monitoring

Seasonal efficiency algorithms to maximize lifetime

<sup>1)</sup> Estimate based on manufacturer consumption specification of 0.9 L/kWh at 67 % charge efficiency with no solar power.

## Compliance

TUV testing (fuel cell)	CE, UL, CSA, IEC
Transportation (fuel cartridges)	TUV GS mark of safety UN certified for air transport



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