

Vaisala Triton® / Extended Power Option

SECONDWIND
by Vaisala

An auxiliary power system using proven methanol fuel cells to keep Triton powered-up at sites with low solar insolation

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. The Triton Extended Power Option 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.

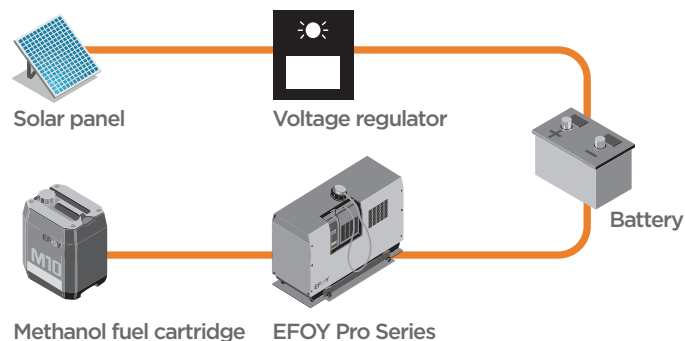
Introduction to the EFOY Pro 600 Fuel Cell

The Triton Extended Power Option uses a commercial Direct Methanol Fuel Cell (DMFC) manufactured by SFC of Germany (www.sfc.com). Their EFOY Pro 600 model equipped with 2x10-liter methanol tanks has the capability to power a Triton system for approximately 60 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 600 fuel cell pre-installed. In addition, Tritons in the field can be retrofitted with the EFOY Pro 600. The cartridges can be replaced during operation within seconds to keep the Triton continually powered.

Fuel Cell + Solar



OPERATION

Ambient Temperature:	-20°C to 45°C (-13°F to 113°F)*
EFOY Power Output:	25W
Triton Power Consumption:	7W
Warranty:	2 year manufacturer's warranty of fuel cell; all other EPO components covered under standard Triton agreement**

*Ambient temperature limits can vary depending upon surface wind-chill factors at site of deployment. SFC specifies this operating range for open-air deployment with minimal insulation. Triton-EPO will have cabin insulation and will likely perform in colder temperatures.

**Fuel cell under warranty for first 2 years or 3000 hours of operation, whichever event occurs first.

PHYSICAL

Weight:	7.8 kg (17.2 lbs)
Dimensions (L x W x H):	433 x 188 x 278 mm (17 x 8 x 11 in)

FUEL

Fuel Consumption:	0.3 liters/day***
Methanol Fuel Cartridges:	2x10L for ~60 days operation***

***Estimate based on manufacturer consumption specification of 0.9L/kWh at 67% charge efficiency w/ no solar power.

REGULATORY

TUV testing / compliance:	Fuel Cell TUV tested and compliant with CE, UL, CSA and IEC ratings
Transportation:	Fuel Cartridges have TUV GS mark of safety, UN certified for air transport.

Environmentally friendly fuel in recyclable container

REMOTE ACCESS AND CONTROL

- Fuel consumption monitoring
- Lifetime operating hours monitoring
- Seasonal efficiency algorithms to maximize lifetime

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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Please contact us at
www.vaisala.com/secondwind



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