



Hybrid Power Solutions for Remote Applications



Reliable operation



Long periods of autonomy,
maintenance-free



Economical, quiet and
environmentally-friendly

Reliable off-grid power is a challenge in any application. The EFOY Pro Hybrid provides a robust, eco-friendly, reliable and maintenance free solution. With a green footprint, minimal fuel consumption, fully autonomous operation and extreme weather capabilities it is the best remote power solution on the market.

Harsh environments such as cold weather, blowing snow and short periods of available sun can reduce efficiency of a solar system causing batteries to discharge to an unacceptable level. This ultimately results in inefficient use of manpower, lost production and even damage to the critical assets. An EFOY Pro Hybrid solution



eliminates these issues by ensuring that your assets always have a reliable power supply protecting your batteries from being deep cycled or frozen and eliminating downtime.

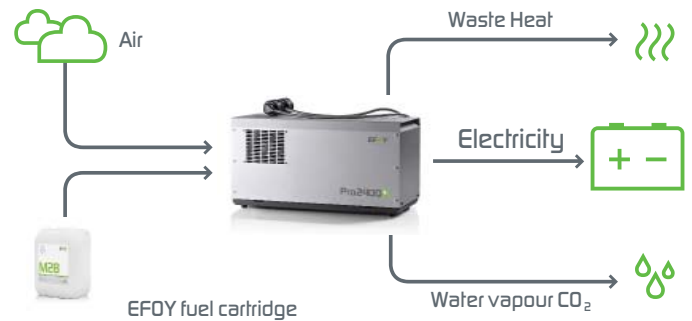
EFOY Pro Fuel Cell systems are designed to provide 12, 24 or 48 VDC electrical power that is environmentally friendly and can operate for long periods of time without the need for refueling or maintenance. We integrate our EFOY Pro Fuel Cells into insulated weatherproof Nema 3R outdoor cabinets, trailer mounted enclosures and IP 43 rated portable pelican case boxes. The EFOY Pro is the solution for your off-grid power needs.

EFOY Pro Fuel Cell Generators - Technology

EFOY fuel cell generators are based on DMFC (Direct Methanol Fuel Cell) technology. They use an eco-friendly catalytic process to convert methanol into electricity in a direct and efficient process without intermediate steps. This makes this technology one of the cleanest ways of generating electricity.

DMFC fuel cell generators are the ideal eco-friendly energy solution for off-grid and mobile applications

SFC fuel cells are smart energy producers that can be used to continuously and fully automatically recharge batteries. To do this, the fuel cell is connected directly to the battery bank supplying power and monitors its state of charge level. Depending on the demand, the fuel cell recharges the battery fully automatically and then switches to stand-by mode without any need for maintenance or intervention on the behalf of the user.



Proven track record: Over 35,000 EFOY fuel cells deployed worldwide



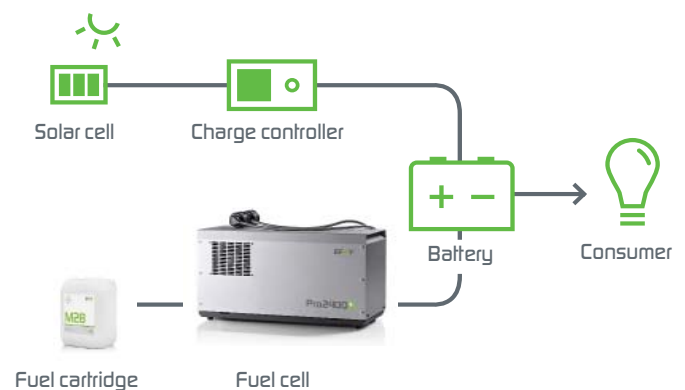
EFOY Pro Fuel Cells compared to other technologies

- ✓ More power than solar and weather independent
- ✓ Substantially longer autonomy than batteries
- ✓ More eco-friendly than conventional generators
- ✓ Reduced operating costs and fuel consumption

EFOY Pro Hybrid Solutions

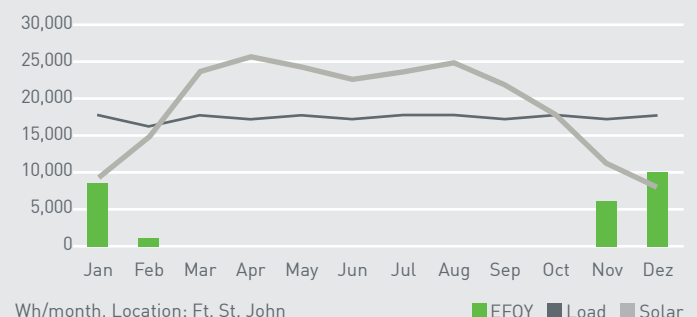
An EFOY Pro fuel cell is the perfect supplement for your existing standalone solar power system

The perfect solution for ensuring 100 % power availability with minimum fuel consumption is the use of an EFOY Pro fuel cell in a hybrid configuration. When a solar system is unable to deliver enough power, the fuel cell automatically switches on and compensates for the shortfall in energy. Large oversized solar systems can be avoided and the reliability of the system can be increased significantly with years of fuel autonomy versus the traditional few days of battery autonomy.



EFOY Pro Hybrid Solutions deliver longterm autonomous power and cover solar shortfall during winter months.

- ✓ EFOY Pro hybrid solutions guarantee power 24 / 7 / 365
- ✓ During summer months, EFOY Pro fuel cells supplement solar through any stretches of bad weather
- ✓ With only two M28 fuel cartridges, a 25 W SCADA load is powered for over 365 days in combination with solar



EFOY Pro Energy Solutions



Off-grid power supply for extreme weather conditions down to - 40 °C (- 40 °F)



EFOY ProCabinet for stationary applications

The EFOY ProCabinet is a standardized drop deployable hybrid power solution fully integrated into a NEMA 3R weatherproof enclosure. The system is available in two different sizes to accommodate customer load and location requirements and includes an EFOY Pro Fuel Cell, Methanol Fuel Cartridges, battery bank, solar panels and charge controller and an optional extended side cabinet for integration of customer equipment.

- ✓ High reliability & low maintenance
- ✓ Competitive price
- ✓ Easy installation

EFOY ProEnergyBox for mobile applications

The EFOY ProEnergyBox has been developed especially for use in extreme weather conditions. The box contains an EFOY Pro 800 or 2400 fuel cell generator, up to three batteries and two M28 fuel cartridges. Thanks to effective temperature regulation, the drop deployable EFOY ProEnergyBox runs reliably in sub-zero temperatures as well as in high ambient temperature environments.

- ✓ Temperature range from -40 to 50°C (- 40 °F to + 122 °F)
- ✓ Long autonomy and portable
- ✓ Solar hybrid compatible



EFOY ProTrailer for mobile applications

The EFOY ProTrailer provides reliable off-grid power for surveillance, communication and other mobile applications. Perfect for short or long term deployments, the EFOY ProTrailer includes a hybrid power solution fully integrated in a NEMA 3R weatherproof enclosure, a vertical mast, and solar mounting. The power supply includes an EFOY Pro 2400 Duo fuel cell, up to four M28 fuel cartridges, solar panels, charge controller and batteries sized based on customer load and location requirements.

EFOY Pro 12000 Duo for higher power applications

The 500 W EFOY Pro Duo 12000 provides 100% reliable off-grid prime and backup power. Its compact design makes it ideal for mounting in a 19 inch rack and allows clustering multiple units to enable even higher output power. Typical applications include supplying prime or back-up power for telecommunication and broadband towers, surveillance, traffic management, environmental sensors and on board use in control vehicles.



Technical Data

EFOY Pro Fuel Cells	800	800 Duo	2400	2400 Duo	12000 Duo
Max. nominal power*	45 W		110 W		500 W
Min. nominal power*	25 W		80 W		400 W
Nominal voltage	12 V / 24 V		12 V / 24 V		24 V / 48 V
Operating temperature	-20 °C to +50 °C / -4 °F to +122 °F lower temperature ranges can be met with EFOY Pro Energy Solutions (see below)				
Nominal consumption	0.9 l / kWh / 0.24 gallons / kWh				
Weight	8.0 kg / 17.6 lbs	8.3 kg / 18.3 lbs	9.0 kg / 19.8 lbs	9.3 kg / 20.5 lbs	32 kg / 70 lbs
Dimensions D x W x H	433 x 188 x 278 mm / 17 x 8 x 11 in				640 x 441 x 310 mm / 25.2 x 17.3 x 12.2 in

*Nominal power decreases with the operation hours. Specification valid within warranty period.

EFOY Pro Energy Solutions	EFOY ProCabinet 4060 / 4120 S or SX	EFOY ProTrailer 4060 / 4120 T	EFOY Pro EnergyBox 4060P
Nominal voltage	12 V / 24 V / 48 V (only with EFOY Pro 12000 Duo)		
Operating temperature	-40 °C to +50 °C / -40 °C to +122 °F		
Housing Color	Grey		
Housing	Metal Enclosure	Metal Enclosure, Base Trailer and optional mast	Pelican Hardigg TM, Box
IP-Protection category	NEMA 3 R Weatherproof	NEMA 3 R Weatherproof	NEMA 3 R / IP43
Configuration possibilities			
Compatible EFOY Pro Fuel Cells	EFOY Pro 800 Duo, 2400 Duo or EFOY Pro 12000 Duo	EFOY Pro 800 Duo, 2400 Duo or EFOY Pro 12000 Duo	EFOY Pro 800 Duo or 2400 Duo
Number of EFOY Fuel Cartridges (w / DCS)	2 (4)	2 (4)	2
Battery capacity @ 12 V / 24V	2 or 4 batteries	2 or 4 batteries	2 or 3 batteries
Solar charge current (max.) @ 12 V / 24 V	20 to 100 A, subject to design		
Additional space for customer equipment	Din rail & optional extended side cabinet (SX) available, please contact Simark Controls for details.		

Extremely high energy density

Fuel cartridges	M28	MT60
Volume	28 l / 7.4 gallons	60 l / 15.8 gallons
Weight	24 kg / 48.5 lbs	55 kg / 121 lbs
Nominal Capacity	31.1 kWh	66 kWh
Size L x W x H	370 x 285 x 395 mm / 14.6 x 11.2 x 15.6 in	340 x 390 x 670 mm 13.4 x 15.4 26.4 in
Autonomy @ 20 W cont.	65 days	138 days



Certified safety



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