



Off-Grid Power for Wind Applications



100 % reliability and operational safety



Long periods of autonomy, maintenance-free



Quiet and emission-free



Within the wind industry, many applications require off-grid, long-term and reliable power, provided by EFOY Pro fuel cell. Wind measurement systems such as LIDAR, SO-DAR and masts have to be powered continuously. That also applies to obstacle lights and pumps, especially during the construction phase and longer maintenance periods.

Conventional generators need servicing on a regular basis, have to be refuelled often and are not recharged. Batteries have to be exchanged every two to three days, solar panels do not always deliver enough energy.

EFOY Pro fuel cells on the other hand provide electrical power, maintenance-free and environmentally-friendly, for several weeks or even months, without a need for refueling. The compact EFOY Pro fuel cell can be integrated into weatherproof outdoor boxes, trailers or cabinets.

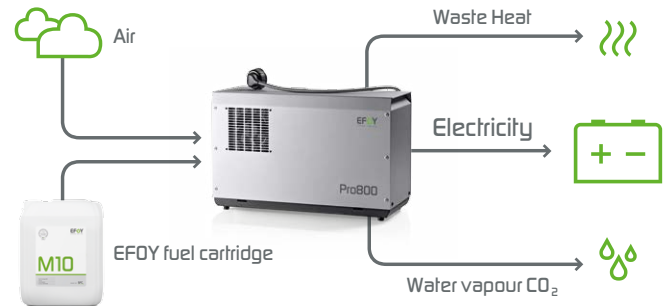
EFOY Energy Solutions from SFC are already supplying electrical energy worldwide, for measurement and early warning stations, defense applications, traffic monitoring systems, motor homes, yachts and much more.

EFOY Pro Fuel Cell - Technology

All of SFC's fuel cells are based on DMFC (Direct Methanol Fuel Cell) technology. They use an eco-friendly catalytic process to convert methanol (methyl alcohol) 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 cells are the ideal energy solution for off-grid and mobile applications.

SFC fuel cell generators 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 that supplies consumers and monitors its charge level. The fuel cell recharges the battery fully automatically and then switches to standby - without any need for maintenance or intervention on the behalf of the user.



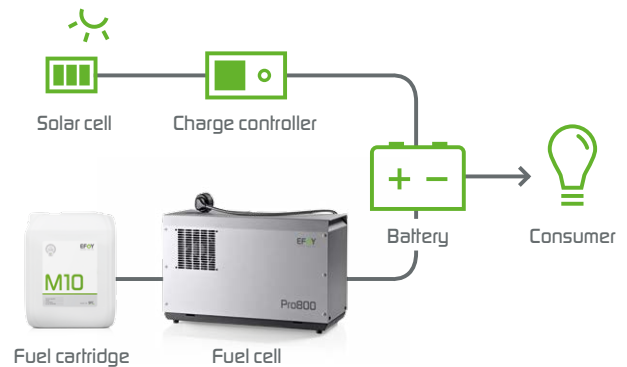
EFOY Pro Fuel Cells compared to other technologies

- More power than solar and weather independent
- Longer autonomy than batteries
- More eco-friendly than conventional generators



Supplement your standalone solar power system with an EFOY Pro fuel cell

The perfect solution for ensuring 100% availability with minimum fuel consumption is the use of an EFOY Pro fuel cell as a hybrid energy supply with a solar power system. When the solar system is unable to deliver enough power, the fuel cell automatically switches on and compensates the shortfall in energy. Therefore, complex designs for large solar power systems can be avoided and the reliability of the system can be increased significantly.



EFOY Pro	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
Min. charging current at 12 / 24 V	2.1 A / 1.05 A		6.7 A / 3.3 A		16.7 A / 8.3 A
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 (72 lbs)
Connectable fuel cartridges (with DCS 1)	1 (2)	2 (4)	1 (2)	2 (4)	2 (4)
Operating temperature	-20 °C to 50 °C (-4 °F to +122 °F) other temperature ranges can be met with special EFOY enclosures				
Nominal consumption	0.9 l/kWh (0.24 gallons/kWh)				
Dimensions L x W x H	422 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 and Higher Power

EFOY ProEnergyBox for extreme weather conditions

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

- Extended temperature range from - 40 to + 50 °C (- 40 °F to + 122 °F)
- Long autonomy
- Solar hybrid compatible



EFOY ProCube Mobile Energy Solution

The EFOY ProCube is a complete mobile, maintenance-free solution for off-grid power supplies - ready for use, anytime and anywhere. The EFOY ProCube is an outdoor box containing the EFOY Pro 800 or 2400 fuel cell, fuel cartridge and battery.

- Solar hybrid compatible
- Mobile plug & play solution
- Suitable for outdoor applications

EFOY Pro 12000 Duo for higher power

The EFOY Pro Duo 12000, our 500 W fuel cell, provides 100% reliable off-grid and backup power. Its compact design makes it ideal for mounting in a 19 inch cabinet. Clustering multiple modules enables even higher output power. By increasing the output power to 500 W, applications with higher power requirements can be easily covered with the EFOY Pro 12000 Duo. Typical applications are backup power supply for wind and telecommunication systems, off-grid power supply for surveillance, traffic management and environmental sensors and on-board use in control vehicles. With the EFOY Pro 12000 Duo SFC Energy provides a reliable energy source for applications with higher energy demands.

- Higher power
- Compact design
- Proven technology



Proven Track Record 33,000 EFOY Fuel Cells in the Field



Reliable and secure operation of wind parks

EFOY Pro Solutions are used to supply uninterrupted power for obstacle lights and pumps on wind towers, during the construction phase and during longer maintenance work.

On- and off-shore wind power plants are already equipped, throughout many countries of the world.

EFOY Pro advantages

- **24/7 power availability**
- **Full remote controlled operation**
- **Reduced installation costs**
- **Reduced service and operation costs**



Reliable and cost optimised energy supply for wind measurement systems

Many customers benefit from the advantages of the EFOY Pro. EFOY Pro Energy Solutions power wind measurement systems world-wide.

Wind measurement systems powered by EFOY Pro Energy Solutions reduce service and operating costs and enable a reliable, exact and covert planning of wind parks.

EFOY Pro advantages:

- **No loss of data**
- **Easy and quick installation**
- **Quiet and emission-free operation**
- **Maintenance-free**

SFC Energy AG and its products are certified:



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