



# Off-Grid Power for Security Applications



100 % reliability and operational safety



Long periods of autonomy, maintenance-free



Quiet and emission-free



Security applications - whether stationary or mobile surveillance in vehicles - frequently require off-grid, reliable and non-detectable power.

Semi-stationary and stationary CCTV systems often have to be installed in remote areas, without access to the mains grid.

Governmental vehicles often require power for many days and weeks to supply on-board electronic devices in idle-free mode. Turning on the engine to charge on-board batteries should be avoided in order to increase flexibility of command vehicles and to avoid being detected on a covert investigation.

For both application scenarios, the power source should be small and compact and produce little to no signature.

EFOY Pro fuel cells are the power source of choice that fulfill these requirements for mobile and stationary security applications. They provide reliable power for weeks on end, without requiring maintenance or having to turn on the engine - quietly, emission-free and can be installed covered and vandalism-proof on demand.

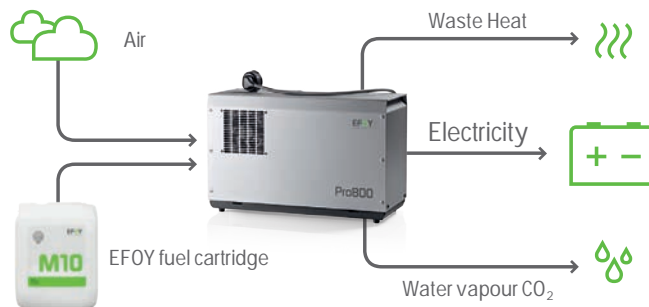
Numerous law enforcement, military organizations and commercial CCTV companies world-wide already trust in power from EFOY Pro fuel cells.

# EFOY Pro Fuel Cell Generators - Technology

All of SFC's fuel cell generators 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 cell generators 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 generator is connected directly to the battery that supplies consumers and monitors its charge level. Depending on the demand, the fuel cell generator recharges the battery fully automatically and then switches to standby - without any need for maintenance or intervention on the behalf of the user.



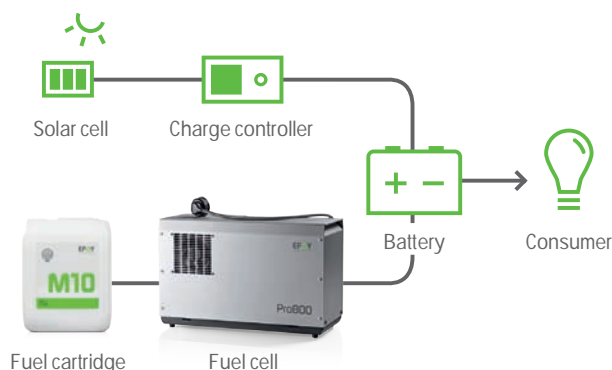
## EFOY Pro Fuel Cells compared to other technologies

- ✓ 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 generator

The perfect solution for ensuring 100% availability with minimum fuel consumption is the use of an EFOY Pro fuel cell generator as a hybrid energy supply or as a back-up for a solar power system. When the solar system is unable to deliver enough power, the fuel cell generator 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
Max. nominal power*	45 W		110 W	
Min. nominal power*	25 W		80 W	
Nominal voltage	12 V / 24 V		12 V / 24 V	
Min. charging current at 12 / 24 V	2.1 A / 1.05 A		6.7 A / 3.3 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)
Connectable fuel cartridges (with DCS 1)	1 (2)	2 (4)	1 (2)	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)			

\*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 generator, 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 generator, fuel cartridge and battery.

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

## 500 W DMFC Module for higher power

SFC Energy is currently working on a high power customized DMFC module to provide 500 W. By clustering the modules even higher output power is available and it can be used continuously or as a backup solution. These 500 W DMFC Modules are very compact and will be ideal to integrate into a cabinet, providing reliable power on- and off-shore.

- ✓ Higher power
- ✓ Compact design
- ✓ Proven technology



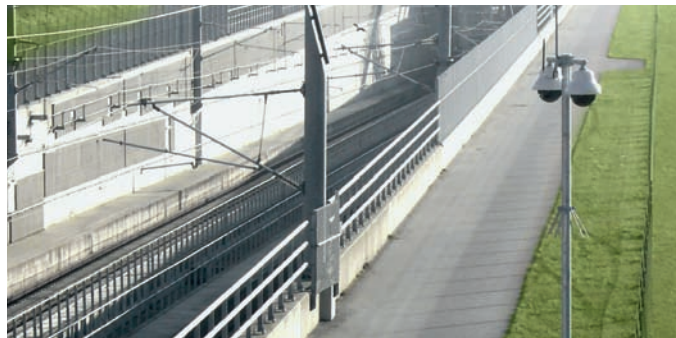


# Proven Track Record 30,000 EFOY Fuel Cells in the Market



## Sample calculation:

Power requirement: 50 – 100 W  
 Energy requirement: 1200 Wh – 2400 Wh  
 An EFOY Pro 2400 is integrated into the vehicle and connected to the on-board or secondary battery. A 10-liter fuel cartridge will give up to 4 weeks of autonomy without a single fuel cartridge change.



## Sample calculation:

Power requirement continuously: 10 – 20 W  
 Energy requirement: 300 – 400 Wh / Tag  
 An EFOY ProCabinet energy solution including an EFOY Pro 800 Duo with four connected M28 fuel cartridges, two DuoCartSwitches and accumulators for high currents. With this energy solution in use, autonomy of up to a year can be achieved without any costly servicing. Solar panels can be connected as an option.

## Reliable on-board power in law enforcement vehicles

Since 2009 over 400 vehicles of the German Federal Office for Goods Transport are equipped with EFOY Pro fuel cells. In idle-free mode, EFOY Pro fuel cells ensure reliable on-board power supply and therefore increase the flexibility of the fleet.

Numerous federal and law enforcement authorities in Europe and the US use EFOY Pro fuel cells as mobile on-board power supply for mobile office equipment and covert surveillance.

## EFOY Pro Advantages

- ✓ Long autonomy
- ✓ 100 % reliable off-grid power
- ✓ Non-detectable

## Power for securing critical infrastructure

Railway surveillance and CCTV at construction sites are only two of many application scenarios, where energy solutions based on EFOY Pro fuel cells are successfully being used to reliably supply power to secure critical infrastructure.

## EFOY Pro Advantages:

- ✓ Easy installation
- ✓ Emission-free
- ✓ Long autonomy, no maintenance

Picture, left bottom: @Xit, Breda, The Netherlands

Subject to change...1409-v1

## SFC Energy and its products are certified



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