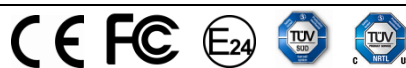


# Data Sheet – EFOY Pro Fuel Cells



<b>Fuel Cells</b>	<b>EFOY Pro 800</b>	<b>EFOY Pro 800 Duo</b>	<b>EFOY Pro 2400</b>	<b>EFOY Pro 2400 Duo</b>
Power output	45 W	45 W	110 W	110 W
Power output <sup>1</sup> after 4.500 hours	25 W	25 W	80 W	80 W
Nominal voltage	12 V DC / 24 V DC			
Charging current at 12 V / 24 V	3.75 A / 1.88 A	3.75 A / 1.88 A	9.17 A / 4.58 A	9.17 A / 4.58 A
Charging current at 12 V / 24 V after 4.500 hours	2.08 A / 1.04 A	2.08 A / 1.04 A	6.67 A / 3.33 A	6.67 A / 3.33 A
Recommended battery capacity <sup>2</sup> (Lead acid, gel, AGM, LiFePO4)	at 12 V 40 to 160 Ah at 24 V 10 to 100 Ah	40 to 160 Ah 10 to 100 Ah	80 to 350 Ah 40 to 175 Ah	80 to 350 Ah 40 to 175 Ah
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
Warranty <sup>3</sup>	24 Month / 4.500 hours	24 Month / 4.500 hours	24 Month / 4.500 hours	24 Month / 4.500 hours
Connectable cartridges (with DCS1)	1 (2)	2 (4)	1 (2)	2 (4)
Length fuel cartridge connector	70 cm / 27.6 in			
Switching threshold for automatic battery charging at 12 V / 24 V <sup>4</sup>	On: <12.3 V / <24.6 V Off: >14.2 V / >28.4 V			
Required start-up voltage at 12 V / 24 V	>9 V / >18.5 V			
Maximum battery voltage at 12 / 24 V	<16 V / <32 V			
Noise level (at 1m / 7m distance)	42 dB(A) / 25 dB(A)			
Nominal consumption <sup>5</sup>	0.9 l/kWh			
Quiescent current draw at 12 V	20 mA			
Operating temperature <sup>6</sup>	-20 °C to +50 °C / -4°F to +122°F			
Start-up temperature	+3 °C to +50 °C / +37.4 °F to +122°F			
Storing temperature	+1 °C to +50 °C / +34°F to +122°F			
Altitude <sup>7</sup>	Standard: 1.500 m / 4.920 ft (up to 2.000m / 6.561 ft)			
Dimensions D x W x H	433 x 188 x 278 mm / 17 x 8 x 11 in			
International Protection (IP-Class)	IP 21			
Inclination along the roll axis	Permanent: max. 35°; temporary (<10 min): max. 45°			
Inclination along the lateral axis	Permanent: max. 20°			
Communication protocols	MODBUS RTU; Clear text protocol (SIO commands)			
User-Interface	At the unit or via Operating Panel OP2 with text display			
Data-Interface	RS232 RJ-45 plug for accessories (e.g. Interface adapter)			
Electrical Interface	MNL-plug 4-pins (e.g. Tyco Electronics Universal Mate-N-Lok – Nr. 350779)			
Certificates				

# Data Sheet – EFOY Pro Fuel Cells

Scope of delivery SET		
SET Equipment	<ul style="list-style-type: none"> <li>• Operating panel OP2 with cable</li> <li>• Mounting plate for EFOY Pro</li> <li>• Charge line for battery connection</li> <li>• Fuel cartridge holder with belt</li> </ul>	<ul style="list-style-type: none"> <li>• Exhaust hose</li> <li>• Off heat duct</li> <li>• Service fluid</li> <li>• User manual</li> </ul>
Basic Equipment	<ul style="list-style-type: none"> <li>• Service fluid</li> </ul>	<ul style="list-style-type: none"> <li>• User manual</li> </ul>

Accessories <sup>8</sup>		
DuoCartSwitch DCS1	Dimensions D x W x H	174 x 119 x 96 mm / 6.9 x 4.7 x 3.8 in
	Weight	0.7 kg / 1.54 lbs
	International Protection (IP-Class)	IP 20
	Quiescent current draw	7.5 mA
GSM modem GSM-3	Dimensions D x W x H	74 x 33 x 65 mm / 2.9 x 1.3 x 2.6 in
	Weight	0.11 kg / 0.2 lbs
	Input Voltage	8 – 30 V DC
	Max. peak current	3.2 A
	Average current draw (Quiescent / SMS / GPRS)	30 / 100 / 100 mA
Fuel cartridge sensor FS1	Dimensions D x W x H	50 x 20 x 5 mm / 19.7 x 7.9 x 2.0 in
Interface adapter IA1	Dimensions D x W x H	60 x 33 x 16 mm / 2.4 x 1.3 x 0.6 in
USB Adapter	Dimensions D x W x H	67 x 35 x 10 mm / 2.6 x 1.4 x 0.4 in
Cluster controller CC1	Dimensions D x W x H	149 x 77 x 270 mm / 58.7 x 30.1 x 106.3 in
	Weight	0.16 kg / 1.3 lbs
M28 adapter	Dimensions D x W x H	70 x 70 x 61 mm / 2.8 x 2.8 x 2.4 in

Fuel Cartridges	M10	M28 (only with M28-Adapter)	MT60
Volume	10 litres / 2.64 gallons	28 litres / 7.4 gallons	60 litres / 15.8 gallons
Weight	8.4 kg / 18.5 lbs	23.4 kg / 51.6 lbs	55.0 kg / 121.0 lbs
Nominal capacity	11.1 kWh	31.1 kWh	66.0 kWh
Autonomy @ 50 W	222 h	622 h	1320 h
Dimensions D x W x H	230 x 193 x 318 mm / 9.1 x 7.6 x 12.5 in	370 x 285 x 395 mm / 14.6 x 11.2 x 15.6 in with M28 Adapter: 370 x 285 x 425 mm / 14.6 x 11.2 x 16.7 in	340 x 390 x 670 mm / 13.4 x 15.4 x 26.4 in

<sup>1</sup> Power output varies by ±10 %, decreases with the operation hours. Specification valid within warranty period.

<sup>2</sup> Depends on battery type and application - bigger batteries possible, if additional energy source available (e.g. solar)

<sup>3</sup> Regional warranty conditions for EFOY Pro fuel cells apply.

<sup>4</sup> Factory Setting - can be modified with Interface Adapter and PC or operating panel OP2.

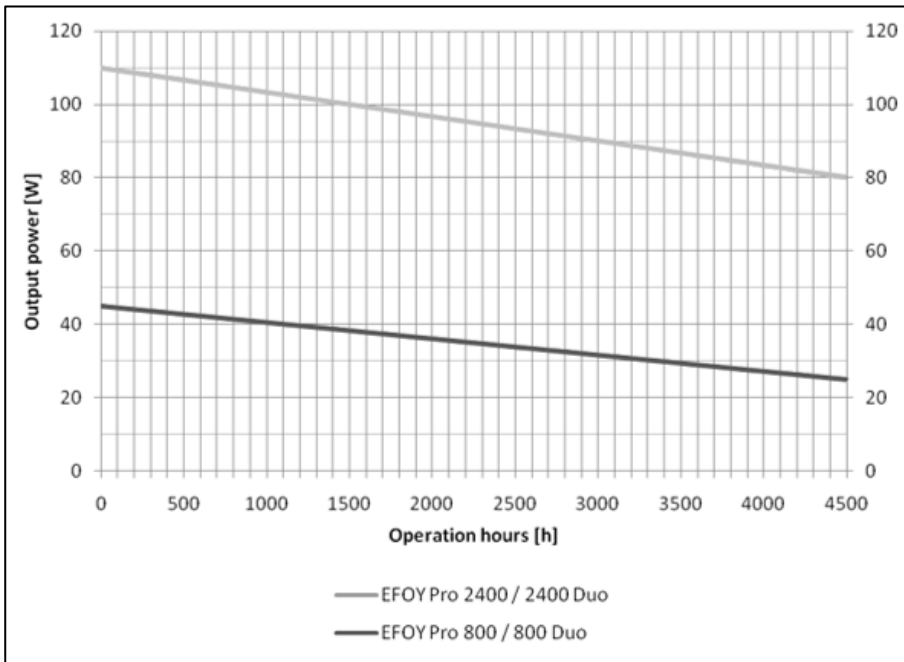
<sup>5</sup> Effective consumption depends on operating conditions.

<sup>6</sup> At temperatures above +40 °C / +102 °F the power output can decrease. Charging Lithium (LiFePO4) batteries is not always possible at temperatures below 0 °C. The instructions from the battery manufacturer must be observed.

<sup>7</sup> During operation above the recommended altitude the power output can decrease.

<sup>8</sup> All EFOY Pro accessories are for operating in following temperature ranges: -20 °C to +50 °C / -4 °F to +122°F

## EFOY Pro Fuel Cells – Power Output



## EFOY Pro Fuel Cells – U-I and U-P characteristic

