


Data Sheet – EFOY Pro 12000 Duo



	EFOY Pro 12000 Duo
Power output	500 W
Power output ¹ after 3.000 hours	400 W
Nominal voltage	24 V DC / 48 V DC
Charging current at 24 V / 48 V	20.83 A / 10.42 A
Charging current at 24 V / 48 V after 3.000 hours	16.67 A / 8.33 A
Recommended battery capacity ² at 24 V (Lead acid. gel. AGM and LiFePO4) at 48 V	200 Ah to 875 Ah 100 Ah to 450 Ah
Weight	32 kg / 70.6 lbs
Warranty ³	24 Month / 3.000 operating hours
Connectable cartridges (with DCS1)	2 (4)
Length of fuel cartridge connector	73 cm / 28.7 in
Switching threshold for automatic battery charging at 24 V / 48 V ⁴	On: <24.4 V / 48.8 V Off: >28.8 V / 57.6 V
Required start-up voltage at 24 V / 48 V	20 V / 36 V
Maximum battery voltage at 24 V / 48 V	31 V / 62 V (frost protection until 32 V / 63 V)
Noise level (at 1m / 7m distance)	62 dB(A) / 45 dB(A)
Nominal consumption ⁵	0.9 l/kWh
Quiescent current draw at 24 V / 48 V	75 mA / 40 mA
Operating temperature ⁶	-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 ⁷	up to 4,000 m / 13,123 ft
Dimensions L x W x H	With 19" bars: 640 x 483 x 310 mm (7U) / 25.2. x 19.0 x 12.2 in (7U) Without 19" bars: 640 x 441 x 310 mm (7U) / 25.2 x 17.4 x 12.2 (7U)
International protection (IP-Class)	IP 20
Inclination along the roll axis	Permanent: max. 10°; temporary (<10 min): max. 45°
Inclination along the lateral axis	Permanent: max. 10°; temporary (<10 min): max. 45°
User-Interface	At the unit with text display or via external operating panel OP2
Data-Interface RS232	RJ-45 plug
Data-Interface Modbus RTU	2x RJ-45 plug (RS485) and I/O terminals (A, B, GND)
Electrical interface power	Positive (+) and negative (-) terminals: min. 10 mm ²
Electrical interface sense	Positive (+) and negative (-) terminals: min. 2 mm ²
Electrical interface ground	Terminal: min. 2 mm ²
Certificates	

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Scope of Delivery

Quantity	Part Number	Description
1 x	-	EFOY Pro 12000 Duo
1 x	500 903 001	Initial Start Fluid 1.5l
2 x	500 903 002	Recovery Fluid 0.5l
1 x	500 904 001	Isolated exhaust hose 1m EFOY Pro 12000 Duo
1 x	500 901 001	User manual EFOY Pro 12000 Duo
1x	500 078 013	Ferrite for communication cable

Accessories ⁸		
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 Cartridge	M28 (only with M28-Adapter)	MT60
Volume	28 litre / 7.4 US gallons	60 l / 15.85 US gallons
Weight	23.4 kg / 51.6 lbs	55 kg / 121 lbs
Nominal capacity	31.1 kWh	66 kWh
Dimensions D x W x H	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

¹ Power output varies by $\pm 10\%$, decreases with the operation hours. Specification valid within warranty period.

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

³ Regional warranty conditions for EFOY Pro fuel cells apply.

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

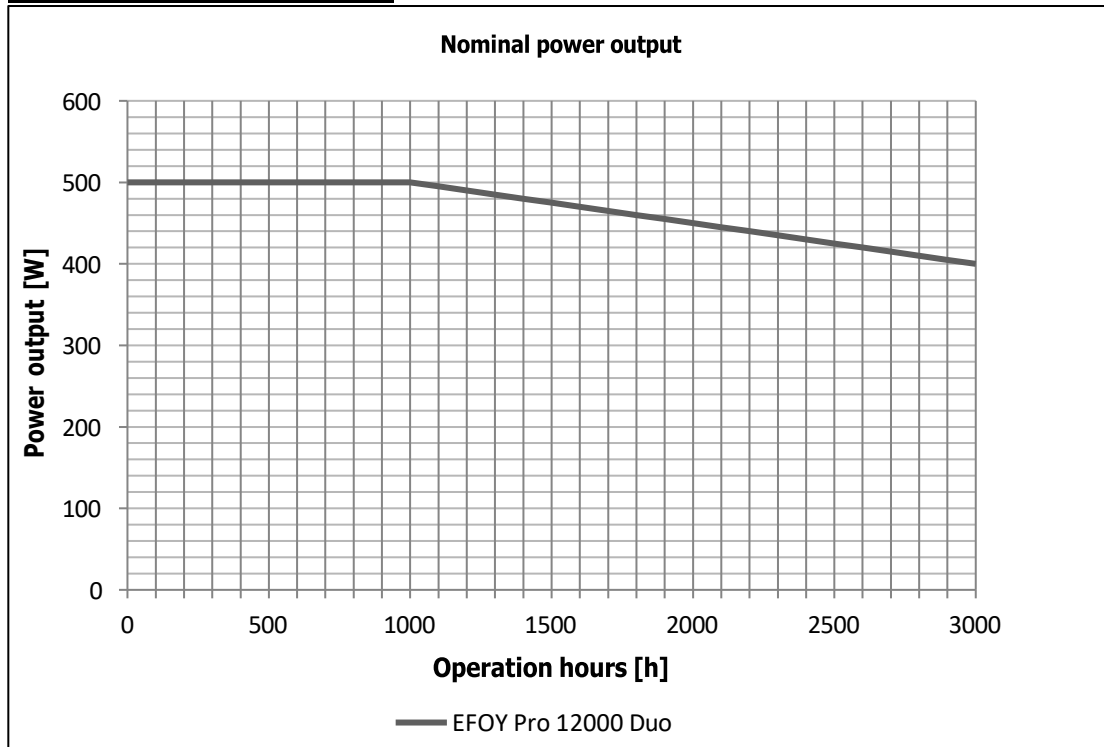
⁵ Effective consumption depends on operating conditions.

⁶ At temperatures above $+40\text{ }^{\circ}\text{C}$ / $+102\text{ }^{\circ}\text{F}$ the power output can decrease. Charging Lithium (LiFePO₄) batteries is not always possible at temperatures below $0\text{ }^{\circ}\text{C}$. The instructions from the battery manufacturer must be observed.

⁷ During operation above the recommended altitude the power output can decrease.

⁸ All EFOY Pro accessories are for operating in following temperature ranges: $-20\text{ }^{\circ}\text{C}$ to $+50\text{ }^{\circ}\text{C}$ / $-4\text{ }^{\circ}\text{F}$ to $+122\text{ }^{\circ}\text{F}$

EFOY Pro 12000 Duo – Power output



EFOY Pro 12000 Duo – U-I and U-P characteristics

