

EFOY Hydrogen Fuel Cell 2.5 48V  
EFOY Hydrogen Controller  
Data Sheet



The EFOY Hydrogen Fuel Cell 2.5 48V

The EFOY Hydrogen Fuel Cell is the centre of your energy solution: here the chemical reaction takes place and electrical energy is produced. You can equip your solution with either one or optional up to four fuel cells, according to your power demand and energy solution.

EFOY Hydrogen Fuel Cell 2.5 48V	Technical Data
Power output <sup>1</sup>	2.5 kW
Max. Power output after 5,000 h operation time	2.0 kW
Nominal voltage	48 V DC
Supply voltage	41 – 57 V DC
Weight	28.5 kg
Connection with H <sub>2</sub>	1/4" NPT female connection
Fuel	Hydrogen
Purity of the fuel	3.0 or better
Inlet pressure at the Fuel Cell	0.5 bar
Nominal Consumption	0.06 kg H <sub>2</sub> / kWh
Leakage rate during operation <sup>2</sup>	Approx. 0.35 l H <sub>2</sub> / min.
Oxygen consumption	Approx. 335 l / kWh
Power consumption in standby mode	< 50 W
Operating temperature	+ 3 °C to + 50 °C
Storage temperature	- 40°C to 70°C Recommended: 10°C to 25°C
Altitude	Up to 3,000 m above sea level
Dimensions D x W x H	535 x 483 x 310 [mm]
IP Class	IP 20
Data interface	Internally between Fuel Cell and Controller: CAN BUS

<sup>1</sup> Only achievable with supply air temperatures < 30 C°

<sup>2</sup> The leakage rate increases proportionally with the operation time of the fuel cell

<sup>3</sup> When installed in a suitable cabinet with integrated heating. When used in the minimum ambient temperature, a base load of 1,000 W is required

<sup>4</sup> With increasing altitude there is a reduction in power output

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The EFOY Hydrogen Controller



The EFOY Hydrogen Controller is the control centre of your energy solution: it controls up to four EFOY Hydrogen Fuel Cells and provides interfaces for external signal transmission.

EFOY Hydrogen Controller	Technical Data
Supply voltage	36 – 57 V DC
Current consumption	Max. 2 A @ 48 V
Weight	7.6 kg
Operating temperature	+ 3°C to 50°C
Dimensions D x W x H	446 x 483 x 133 mm
Internal Data Interface	From EFOY Hydrogen Fuel Cell to Controller: CAN Bus 2 x RJ 45 connector on the back side
External Data Interfaces: Connectors / Communication	RJ 45 Connector on the front side with the following interface: <ul style="list-style-type: none"> <li>• Ethernet for Web Interface (Ethernet: Firefox 44.0 and Java SE 8)</li> </ul> 6 pieces Sub D Connector with the following interfaces: <ul style="list-style-type: none"> <li>• MODBUS RTU protocol via RS 485</li> <li>• Alarm contacts</li> <li>• Stop signal</li> <li>• Rectifier voltage reduction</li> <li>• Heating / cooling</li> <li>• 24 V power supply</li> </ul>