EFOY Hydrogen 5.0
Preliminary data sheet

The EFOY Hydrogen 5.0 Fuel Cell & EFOY Hydrogen 5.0 Controller

The EFOY Hydrogen 5.0 Fuel Cell is the heart of your energy solution. This is where the chemical reaction takes place and electrical energy is generated. Depending on the power requirements, you can equip your energy solution with one or up to twelve EFOY Hydrogen 5.0 units. The EFOY Hydrogen 5.0 Controller is the control unit of your fuel cell module. It takes over monitoring and communication with the EFOY Hydrogen 5.0 Fuel Cell and offers interfaces for external signal transmission.

Technical Data	EFOY Hydrogen 5.0 Fuel Cell & EFOY Hydrogen 5.0 Controller
Output power [1]	5.0 kW
Power after 5,000 operating hours [2]	4.5 kW
Nominal voltage	48 V DC
Adjustable Voltage	48 to 55 V DC
Dimensions, Fuel Cell (W x D x H)	485 x 565 x 613 mm
Dimensions, Controller (W x D x H)	485 x 492 x 154 mm
Weight, Fuel Cell	60 kg
Weight, Controller	15 kg
Installation Height (19“ Rack Units), Fuel Cell	14 U
Installation Height (19” Rack Units), Controller	3,5 U
H_2 interface	¼” ISO parallel SAE 60 degree
Fuel	Hydrogen H_2
H_2 purity	3.5 or better
Nominal input pressure at the fuel cell	0.45 bar
H_2 consumption	13.4 NLPM of H_2/kW 0.06 kg H_2/kWh
Operating temperature	+4 °C to +40 °C
Process air temperature[3]	-35 °C to +40 °C
Storage temperature[4]	-40 °C to +45 °C Ideal: +10 °C to +25 °C
Relative Humidity[5]	30 % – 95 % non-condensing

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Protection class	Indoor, Pollution degree 2 / IP20
Data interface	Ethernet, (CAN-Bus on request)
Alarms output	Semi-dry Contacts (shared common output)
Optional alarms	Dry Contacts / SNMP via Eltek Smartpack S
Standby power	32 W (DC) and 61 W (AC &DC) including UltraCap

[1] BOL, peak
[2] EOL - According to IEC 62282-3-200:2015 Stationary fuel cell power systems - Performance test methods.
[3] Installation require the airbox accessory
[4] Only for short storage or during transportation
[5] lower humidity down to 5 % possible during operation
The reference conditions are specified as follows:
- reference temperature T0 = 288.15 K (15°C)
- reference pressure p0 = 101.325 kPa

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The EFOY Hydrogen 5.0 UltraCap

The EFOY Hydrogen 5.0 UltraCap is the short-term energy storage device of your energy solution and contributes to the high reliability of the fuel cell solution. It is designed to ensure instant backup power to the customer load and consists of ultracapacitors and a charger.

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Technical Data	EFOY Hydrogen 5.0 UltraCap
Capacitance	166 F
Maximum voltage	65 V DC
Stand-by power consumption	29 W (AC)
Max. charging power	100 W (AC)
AC power input	110/230 VAC (90-264 VAC) 50/60Hz
Dimensions (W x D x H)	500 x 488 x 247 mm
Weight	30 kg
Installation Height (19“ Rack Units)	6 U
Operating temperature	+ 5 °C to + 40 °C
Storage temperature	-35 °C to +45 °C
Relative Humidity	5 % – 95 % non-condensing
Protection class	Indoor, Pollution degree 2 / IP20

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The EFOY Hydrogen 5.0 MasterController

The EFOY Hydrogen 5.0 MasterController is the control unit of your fuel cell cluster. Recommended if more than one fuel cell is used. With the EFOY Hydrogen 5.0 MasterController it is possible, to cluster up to twelve EFOY Hydrogen 5.0 Fuel Cells to a combined power output of 60 kW.

Technical Data	EFOY Hydrogen 5.0 MasterController
Scalability	Supports up to 12 EFOY Hydrogen 5.0 Fuel Cells in parallel
Power input	From the EFOY Hydrogen 5.0 Fuel Cell via RS485 connection
Standby power consumption	5 W
Weight	3 kg
Operating temperature	+ 5 °C to + 40 °C
Storage temperature	-40 °C to +70 °C
Relative Humidity	5 % - 95 % non-condensing
Dimensions (W x D x H)	446 x 185 x 83 mm
Installation Height (19" Rack Units)	2 U
Protection class	Indoor, Pollution Degree 2 / IP20
Data interface	Ethernet, (CAN-Bus on request)

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