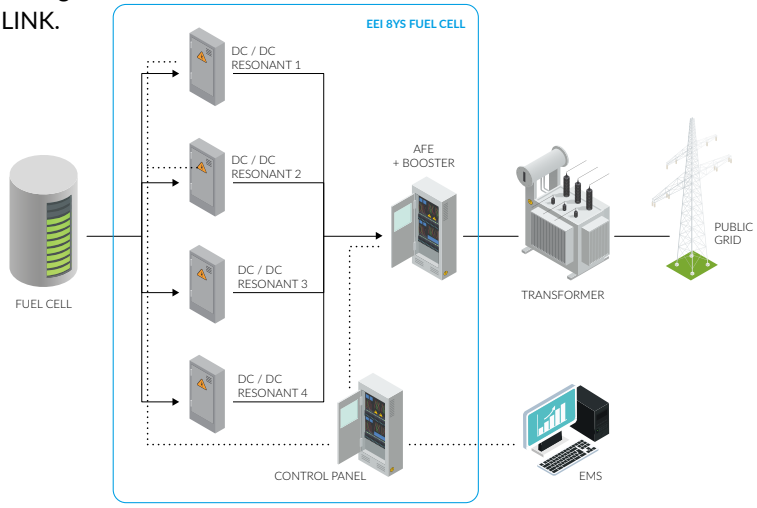
8YS FUEL CELL

The Fuel Cell power converter series is designed to help fuel cells which generally have low DC output voltage to deliver the power to the grid. Typical fuel cell voltage can be ranged from 60VDC to 600VDC. The grid voltage of 400VAC can not be easily converted using typical one stage converter. A two stage approach has proven successful for allow the fuel cell power to be sent to be grid with high flexibility and efficiency and safety.

From the AC input line to the DC line are found in sequence:
- The DC / AC AFE converter;
- The intermediate DC line (DC - LINK);
- Multiple resonant DC / DC converters that exchange energy between the fuel cell input (s) and the DC-LINK.

EEI's resonant DC / DC converter provided great solution to boost the fuel cell voltage to> 300VDC range for DC-Link and provide galvanic isolation between the fuel cell and the DC-link for safety and control reasons. The isolated DC / DC converter is modular design and can be customizable according to different fuel cell power level and input / output voltage ratio.
One example of system is 30kW fuel cell power converter using four DC / DC isolated converter (at 7.5kW each) and one DC / AC AFE inverter to continue boost the fuel cell output at 120VDC to AC grid at 400VAC.



ITALIAN POWER TECHNOLOGY

MODEL	8YC30	8YC100	8YC200	8YC500
AC OUTPUT PARAMETER				
Rated Power	30kVA	100kVA	200kVA	500kVA
Rated Voltage	400 V ±10%	400 V ±10%	400 V ±10%	400 V ±10%
Rated Frequecy	50Hz±5%	50Hz±5%	50Hz±5%	50Hz±5%
Nominal current	45A	145A	290A	720A
THD I	< 3%	< 3%	< 3%	< 3%
Power Factore	Unitary	Unitary	Unitary	Unitary
Breaking power	15kA	36kA	36kA	36kA
DC INPUT				
Minimum Voltage	60V	90V	90V	300V
Maximum Voltage	120V	160V	300V	600V
Maximum Power	32kW	105kW	210kW	525kW
Maximum Current	500A	800A	1200A	1200A
AC AUX				
Nominal Voltage	24V	24V	24V	24V
Nominal Current	20A	20A	20A	20A
GENERAL DATA				
Dimension (W x H x D) mm	600 x 2210 x 600	2920 x 2210 x 800	2920 x 2210 x 800	3800 x 2210 x 800
Operating temperature	5°C ÷ +40 °C			
Storage temperature	-10 °C ÷ +55 °C			
Humidity	90% @ 20°C no condensing			
Altitude	< 1000 m a.s.l.			
Environmental category	Indoor			
Cooling type	Forced Air	Forced Air	Forced Air	Forced Air or Water
Protection degree	IP 31	IP 31	IP 31	IP 31 / IP 51
PROTECTIONS				
Input protection	Fuse on both positive and negative			
Output protection	SPD			

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