

## REMOTE 250 and REMOTE 500 Propane Fuel Cell Power Generators

- Worldwide proven since 2013
- High efficiency, low emissions
- Standard Propane and BioLPG
- < 20 % fuel cost versus Methanol
- Up to 10,000 h autonomy
- free of water and lubricants
- Maintenance free up to 2 years
- Suitable for hybrid with photovoltaics



The development of NEW ENERDAY high-temperature fuel cells dates back to the early 2000s, with the official product launch of the REMOTE series taking place in 2013. This was the first time that ceramic based solid oxide fuel cells (SOFC) fuelled by Propane or natural gas were commercially available for off-grid power supply in Europe. Since then, hundreds of REMOTE fuel cell power generators have been manufactured and delivered to customers worldwide for their professional applications.

The new REMOTE 250 and REMOTE 500 fuel cell generators cover the load range between 50 and 450 W of average power. Peaks loads beyond that can be covered by the battery. Higher power requirements up to 2 kW or redundancy for maximum reliability can be met by parallelising the Propane fuel cell generators.

The new product generation is characterized by optimized efficiency, reduced fuel consumption, lower weight, longer autonomy and faster start-up.

By using commercially and commonly available Propane and achieving unmatched efficiency in this product segment, low total costs (TCO) can be achieved. By combining with photovoltaics for the summer months, fuel cell operation is reduced to 2,000-4,000 operating hours or less in the winter season. This is the most cost-effective solution in many cases. NEW ENERDAY REMOTE fuel cells start automatically when needed, can be controlled remotely, and can adapt their output to the energy demand of the customer's load.



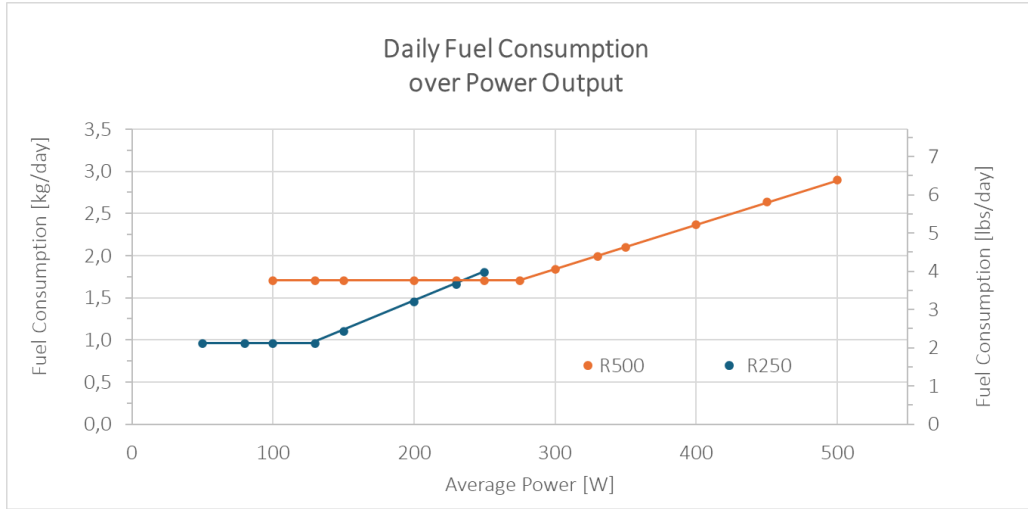
## REMOTE 250 & 500 Propane Fuel Cell Generators

Technical Data	REMOTE 250	REMOTE 500
Nominal Power <sup>1)</sup>	250 W	500 W
Power Range <sup>1)</sup>	60...250 W	100...500 W
Recommended Load Range	60...220 W	100...450 W
Max. Daily Output <sup>1)</sup>	6 kWh/day	12 kWh/day
Voltage / Battery Technologies	24 V, VRLA (AGM/Gel Deep cycle), LFP 25.6 V on request	
Heat-up time to generation @ 20 °C	<3 hours	3 hours
Fuel	Propane / BioLPG (DIN 51622/HD-5) Natural gas / CNG / LNG for REMOTE 500 optional	
Fuel connection	8 mm / 0.039 inches compression fitting	
Fuel pressure	20 ... 50 mbar / 0.29 ... 0.73 psi	
Daily Fuel Consumption	1.0...1.8 kg / 2.2...4 lbs	1.7...2.9 kg / 3.6...6.4 lbs
Noise Emissions in 7 m/21 ft distance	< 49 dB(A) during generation < 55 dB(A) at heat-up	
Weight	39 kg / 86 lbs	45 kg / 99 lbs
Dimensions (LxWxH)	500 x 466 x 358 mm 19.7 x 18.3 x 14.1 inches	
Ambient Conditions	-20...+55 °C / -4...131 °F, IP50 lower temperatures possible with proper integration	
Elevation	Standard: up to 1.500 meter / 5,000 ft, Extended: max. 3.000 meters / 10,000 ft with 15% power reduction	
Regular Maintenance (Autonomy is fuel tank depending)	every 2 years or after 7,500 opHrs	every 2 years or after 5,000 opHrs optional 10,000 opHrs
Typical Stack Life (continuous winter operation plus PV; refurbishment afterwards)	15,000 operating hours at low on/off cycles – refer to manual = 4...6 years in photovoltaic hybrid systems with 3...4,000 opHrs per year	
Essential accessories for operation	Battery VRLA (LFP on request), fuel pressure regulator, high temperature exhaust hose	
Electrical and data connections	Battery (+/-), Web GUI and API via TCP/IP Ethernet	
Recommended minimum battery size	VRLA / AGM: 200 Ah LFP: 130 Ah	VRLA / AGM: 300 Ah LFP: 180 Ah
Qualifications	CE certification for Europe; NRTL certification for US and Canada ongoing ISO 9001:2015 production facilities and quality management system	

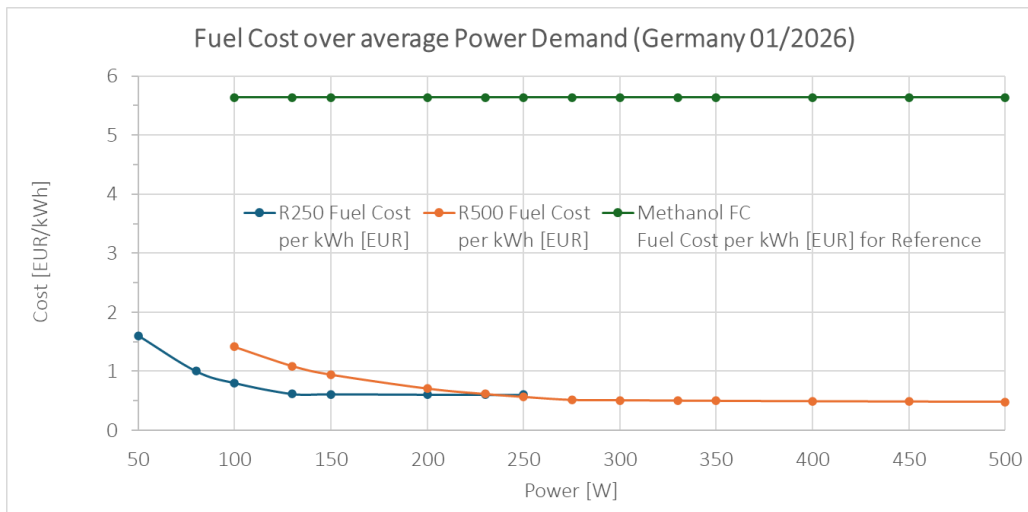
<sup>1)</sup> The output power and energy may vary by +/- 10% and decreases with the operating hours, depending on the installation situation and the operating conditions



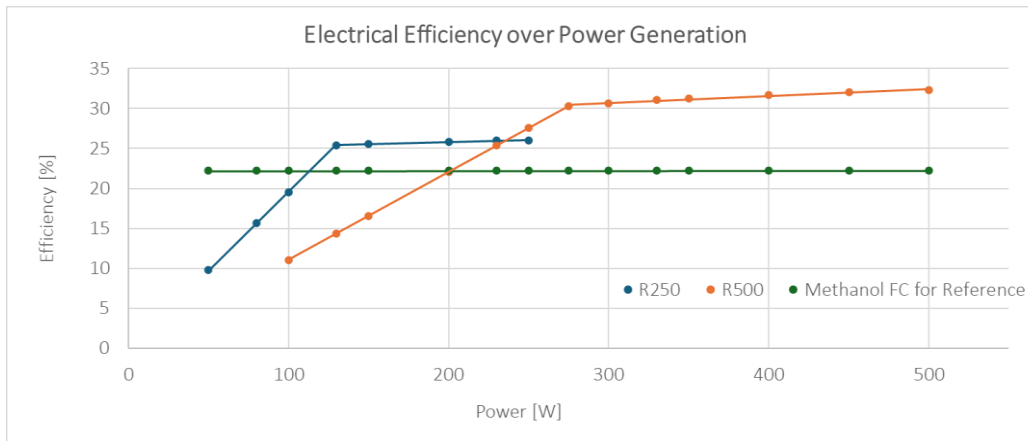
## Fuel Consumption



## Fuel Cost



## Efficiency



## Selected References

Telecommunication: AT&T Alaska & Government Radio Kanada



Surveillance und Security: German Railway DB, Drone Ports in Canada, Aviation Obstruction Lights



Oil & Gas: Petronas Malaysia, Gas Utilities in Taiwan und Eastern Europe



Meteorological Sensors / Lidar: Hokkaido-Japan and Northern Canada



Please contact us, we will be happy to advise and assist you regarding integration design.

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