

2025 **TECHNICAL** **DOCUMENT**

Output Characteristics Data
of ESA Single Phase 3-10K
Series



AMBIENT TEMPERATURE vs OUTPUT POWER CURVE

Validity

This document is valid for the following product models.

GW6K-EHA-G20 / GW10K-EHA-G20

Power	Ambient temperature(°C)	Load limiting factor (based on rated power)	Power curve at MPPT full load minimum voltage of 210V
6kW	40	1	
	45	1	
	50	0.95	
	55	0.87	
	58	0.81	

Power	Ambient temperature(°C)	Load limiting factor (based on rated power)	Power curve at MPPT full load minimum voltage of 400V
6kW	40	1	
	45	1	
	50	1	
	55	1	
	60	1	

Power	Ambient temperature(°C)	Load limiting factor (based on rated power)	Power curve at MPPT full load minimum voltage of 480V
6kW	40	1	
	45	1	
	50	1	
	55	1	
	60	1	

Power	Ambient temperature(°C)	Load limiting factor (based on rated power)	Power curve of MPPT at full-load minimum voltage of 210V
10kW	30	1	
	35	1	
	40	0.91	
	50	0.77	
	60	0.63	

Power	Ambient temperature(°C)	Load limiting factor (based on rated power)	Power curve of MPPT at full-load minimum voltage of 400V
10kW	30	1	
	35	1	
	40	1	
	50	0.98	
	60	0.8	

Power	Ambient temperature(°C)	Load limiting factor (based on rated power)	Power curve of MPPT at full-load minimum voltage of 680V
10kW	30	1	
	35	1	
	40	1	
	50	1	
	60	0.9	

Note: The ambient temperature vs output power curve is under conditions that PF=1.0, Air speed: 0.5m/s and with the DC input voltage of 165V.

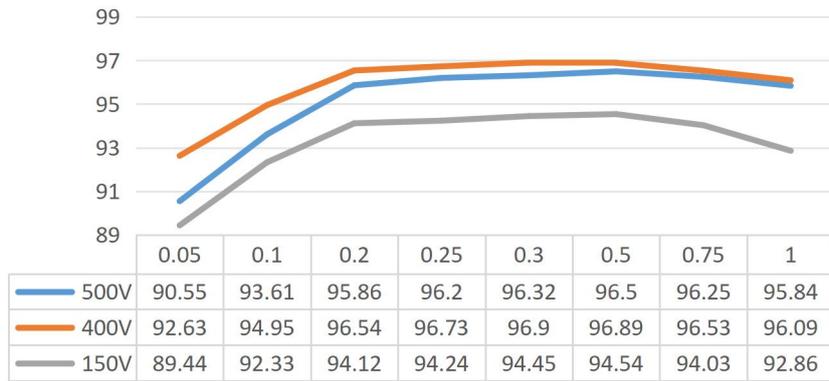
EFFICIENCY CURVE

Validity

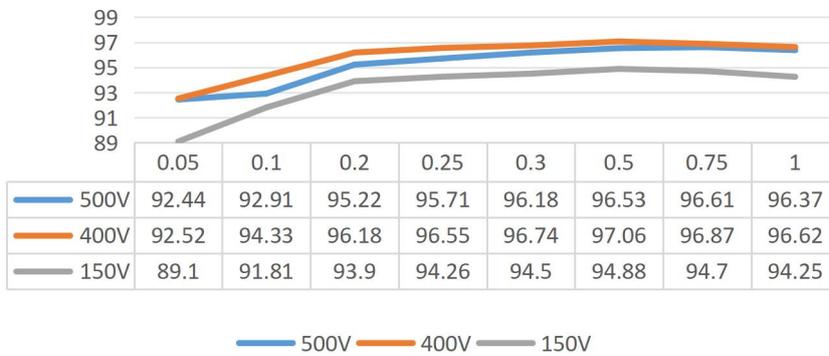
This document is valid for the following product models.

GW3K-EHA-G20 / GW3.6K-EHA-G20 / GW5K-EHA-G20 / GW6K-EHA-G20 / GW8K-EHA-G20 / GW9.999K-EHA-G20 / GW10K-EHA-G20

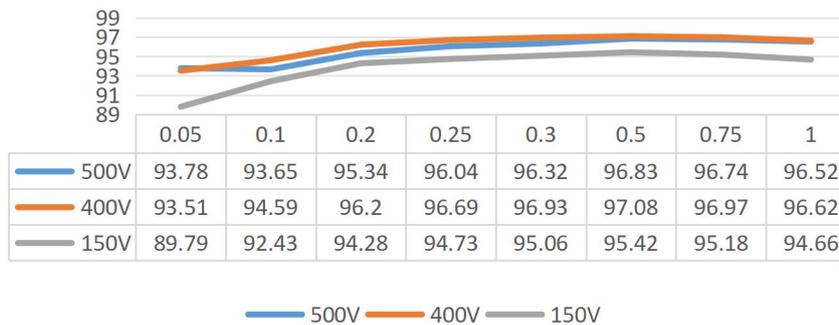
9.999/10KW efficiency



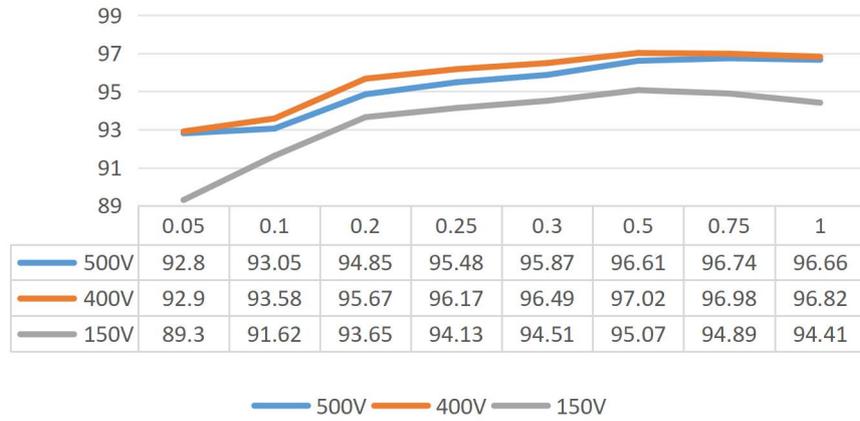
8KW efficiency



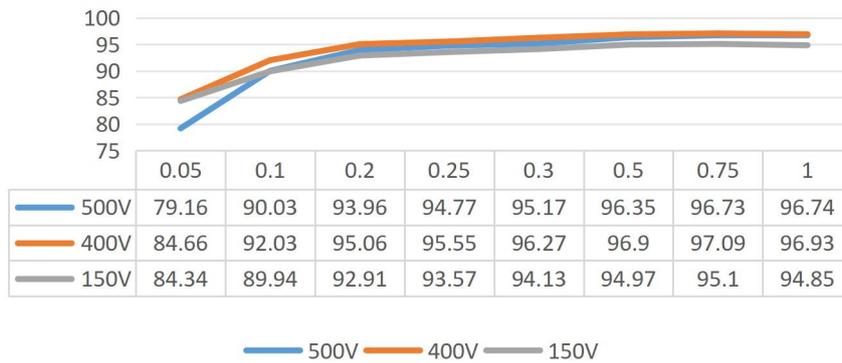
6KW efficiency



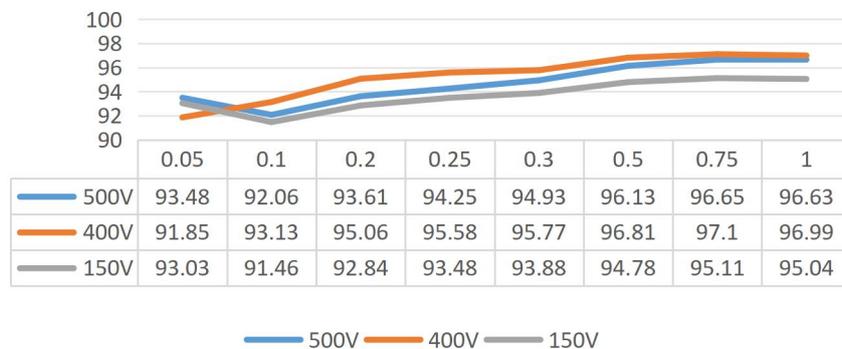
5KW efficiency



3.6KW efficiency



3KW efficiency



Note: the ambient temperature is 25 °C

PV High-voltage load reduction curve

Validity

This document is valid for all ESA 3-10K series.

Power	PV voltage (V)	Power percentage (%)	PV High-voltage load reduction curve
3~10KW	0	100	
	500	100	
	550	50	
	560	50	
	570	0	

DC Voltage Curve with Altitude

Validity

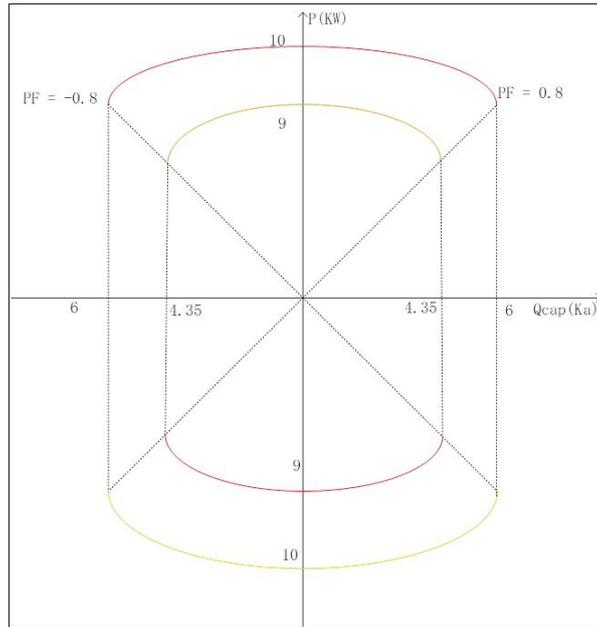
ESA does not derating at or below the nominal altitude

PQ CURVE

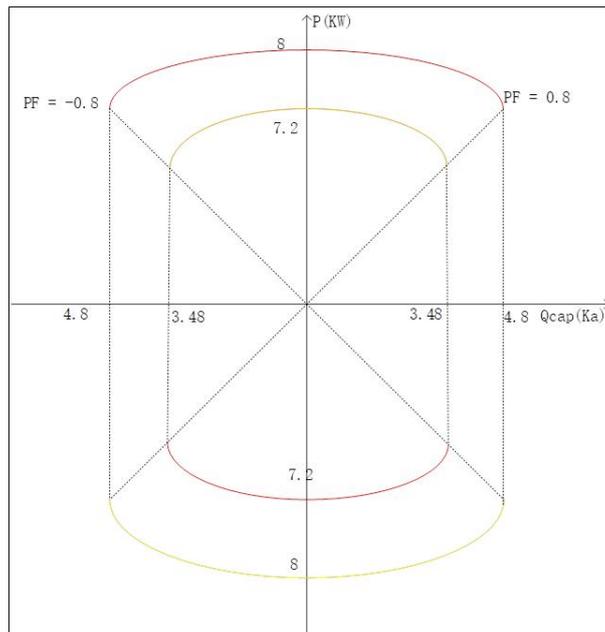
Note:

where the inverter operates at grid voltage 1.0Pu, the output power can reach 10KW (where pf = 1.0) or 10KVA
 where the inverter operates at grid voltage 0.9Pu, the output power can reach 9KW (where pf = 0.9) or 9KVA

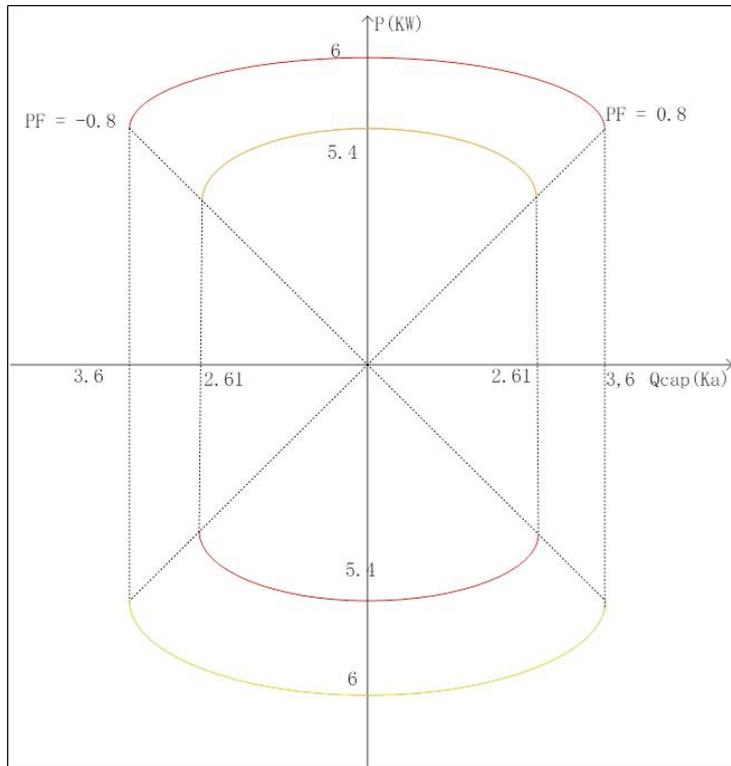
GW10K-EHA-G20



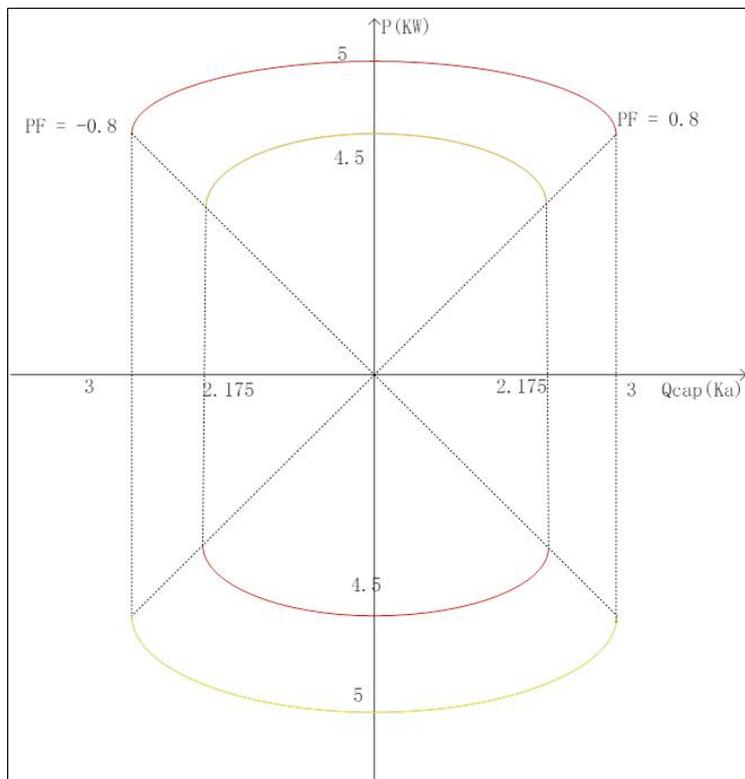
GW8K-EHA-G20



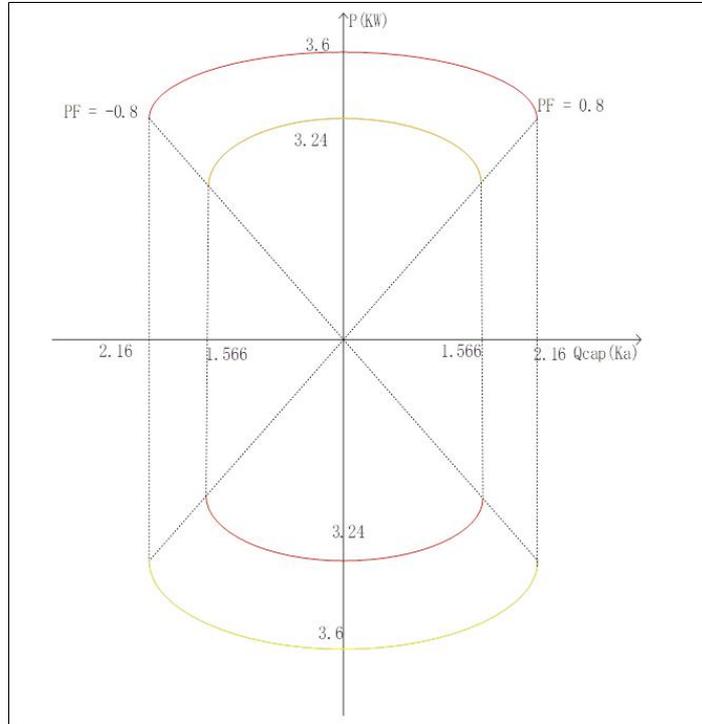
GW6K-EHA-G20



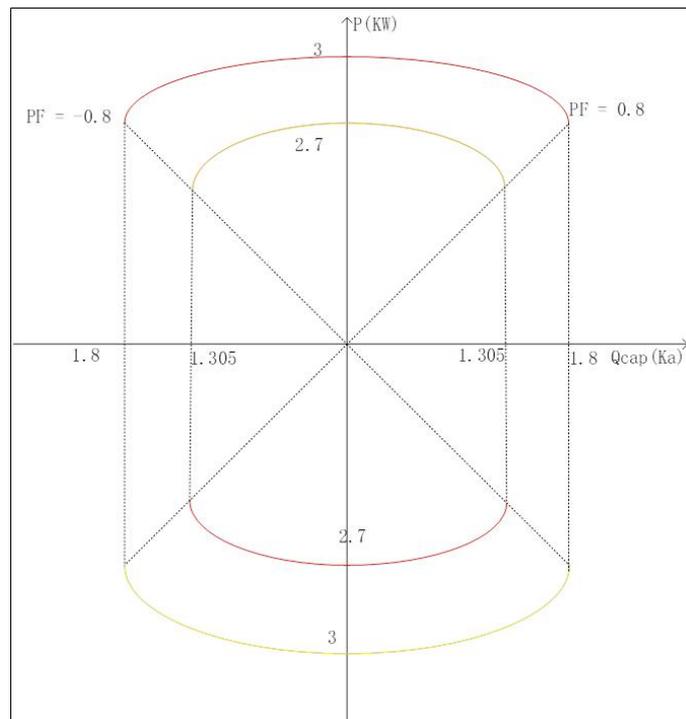
GW5K-EHA-G20



GW3.6K-EHA-G20

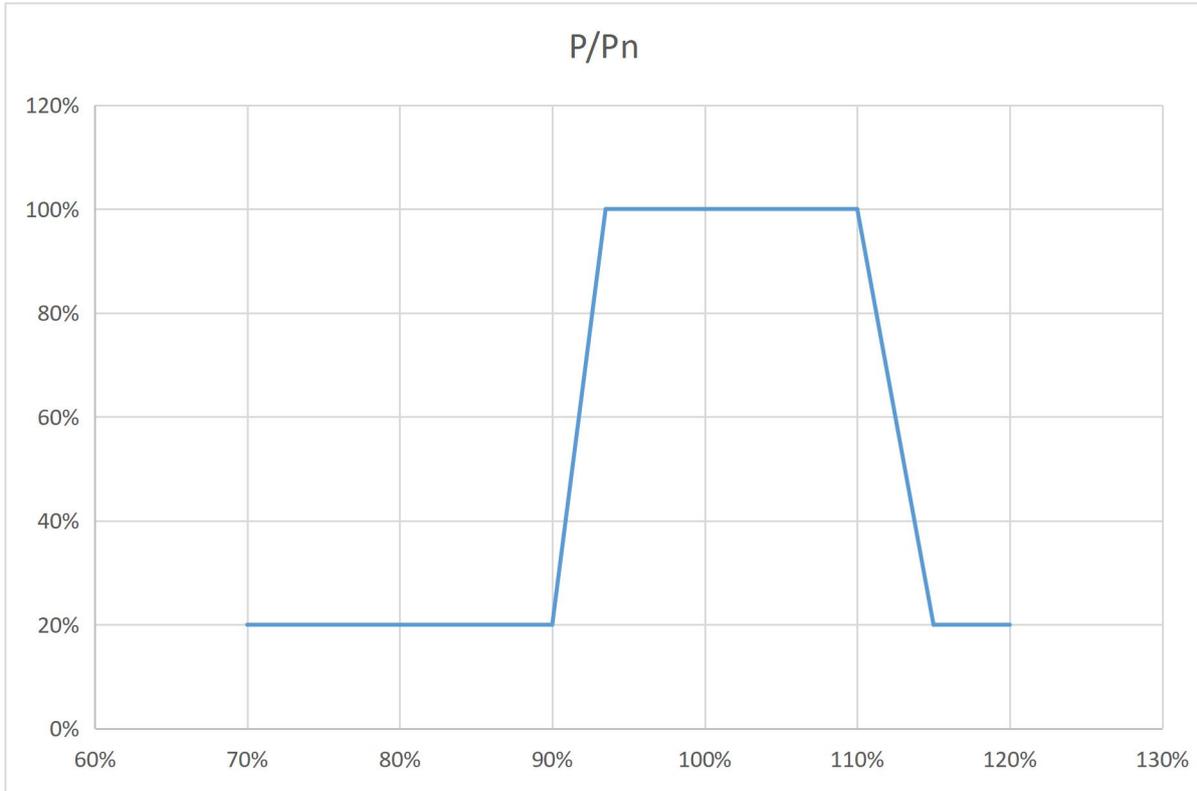


GW3K-EHA-G20



PU Curve

Validity



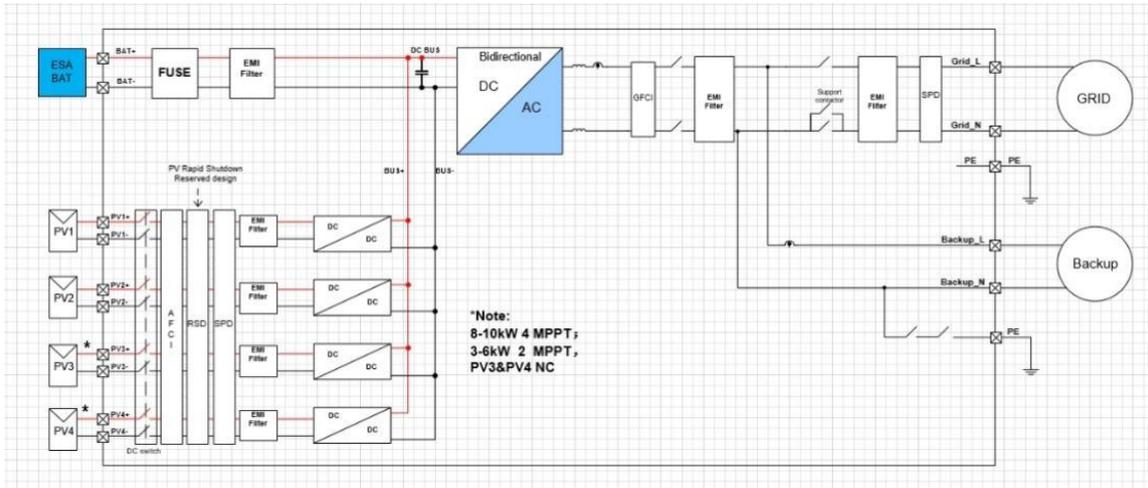
The values of the Winin and NORTON equivalent circuits

There is no such data for this project

Inverter short circuit current and impedance values

Only large-scale energy storage projects in France require it; this project does not

Topography



Power consumption overnight

There is no such data for household storage products

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