



3-Level (ANPC) Topology  
Efficiency Up to 99%



<30 ms Full Load Charging/  
Discharging Transition Time



Off-grid V/f Operation,  
Black Start Modes



Grid Following/Forming  
LVRT/HVRT Compliant



Constant V/I/P Controlled  
Charging/Discharging



4-Quadrant Operation in  
Active/Reactive Power



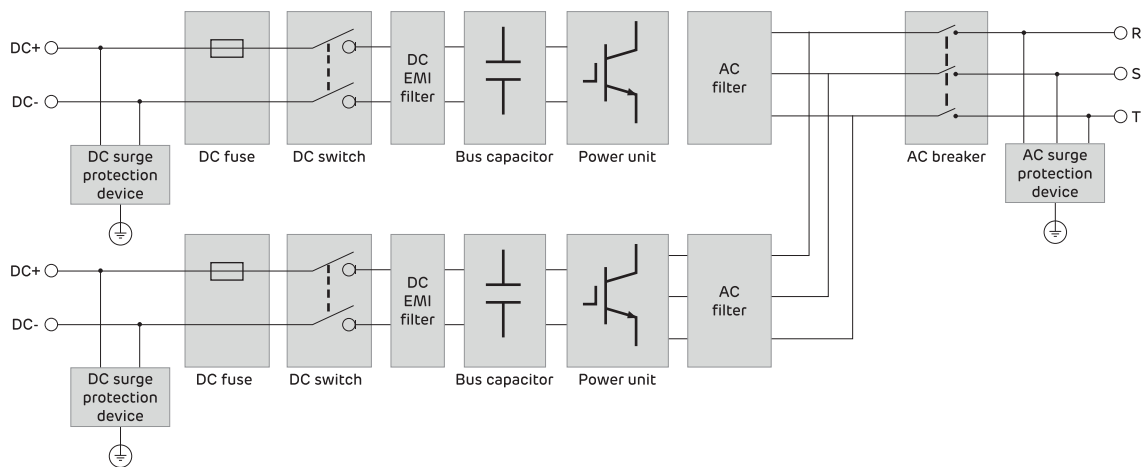
IEC 61850, Modbus and  
CAN Communication



Hybrid Cooling and Advanced  
Thermal Management



## Topology



# Wattox MPC5-2500-D

## Technical Specifications

### DC Side

Maximum DC Voltage	1500 V
Operating DC Voltage Range	1000 – 1500 V
Maximum DC Current	1403 A × 2
Number of DC Input Channels	2

### AC Side (Grid-Connected)

Rated Power	2500 kW @ 50°C
Maximum Output Power	2750 kW @ 40°C
Rated Grid Voltage	690 V
Grid Voltage Range	621 – 759 V (Standard)
Rated Grid Frequency	50 / 60 Hz
Current THD	< %3 (at rated power)
Reactive Power Range	-1.05 (capacitive) ~ +1.05 (inductive)
Power Factor	-1 (leading) ~ +1 (lagging)
AC Connection Type	3-phase, 3-wire

### AC Side (Off-Grid)

Rated AC Voltage	690 V
Rated Output Frequency	50 / 60 Hz
Voltage Variation	< 1% (linearly balanced load)
Voltage THD	< 3% (linear load)

### General

Dimensions (W×D×H)	1200 x 1250 x 2370 mm
Weight	< 1800 kg
Maximum Efficiency	99%
Cooling Method	Air-liquid cooling
Operating Ambient Temperature	-40°C ~ +60°C (derating >45°C)
Relative Humidity	0% – 100% (non-condensing)
Cable Entry Direction	DC Bottom Entry, AC Rear Entry
Max. Operating Altitude	3000 m (derating above 2000 m)
Protection Class	IP65

### Communication

Interfaces	RS485, CAN, Ethernet, DI/DO, HMI
Protocols	Modbus-RTU / CAN 2.0B (Optional: Modbus-TCP, IEC 61850, EtherCAT)

### Standards Compliance

Certificates	EN-55011, IEC-61000-6-2/4, EN-62477-1, EN-50549-2/10
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