



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



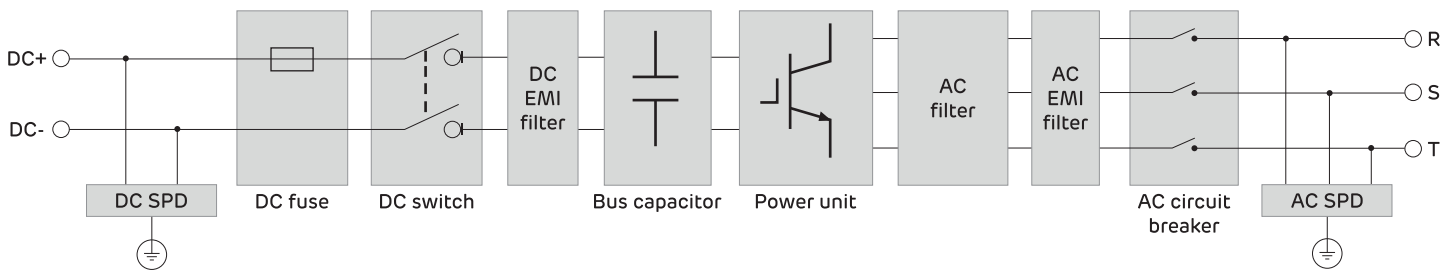
IEC 61850, Modbus and  
IEC 104 Communication



Liquid Cooling and Advanced  
Thermal Management



## Topology



# Wattox MPCS-1250-S

## Technical Specifications

### DC Side

Maximum DC Voltage	1500 V
Operating DC Voltage Range	1000 – 1500 V
Maximum DC Current	1403 A
Number of DC Input Channels	1

### AC Side (Grid-Connected)

Rated Power	1250 kW @ 45°C
Maximum Output Power	1375 kVA @ 30°C
Rated Grid Voltage	690 V
Grid Voltage Range	621–759 V (Standard)
Rated Grid Frequency	50 Hz
Current THD	<3% (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 Hz
Voltage Variation	<1% (linearly balanced load)
Voltage THD	<3% (linear load)

### General

Dimensions (WxDxH)	700 x 1400 x 2300 mm
Weight	<1300 kg
Maximum Efficiency	99%
Cooling Method	Liquid Cooling
Operating Ambient Temperature	-30°C ~ +60°C (derating >45°C)
Relative Humidity	0% – 100% (non-condensing)
Cable Entry Direction	DC cable from the front bottom, AC cable from the front bottom
Max. Operating Altitude	4000 m (derating above 2000 m)
Protection Class	IP65

### Communication

Interfaces	RS485/CAN (BMS Interface), Ethernet (EMS Interface)
Protocols	Modbus-RTU, Modbus-TCP, IEC 61850, IEC 104

### Standards Compliance

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