

500 kW Energy Storage PCS

TPCS-500/0.69/3-LM



Product Overview

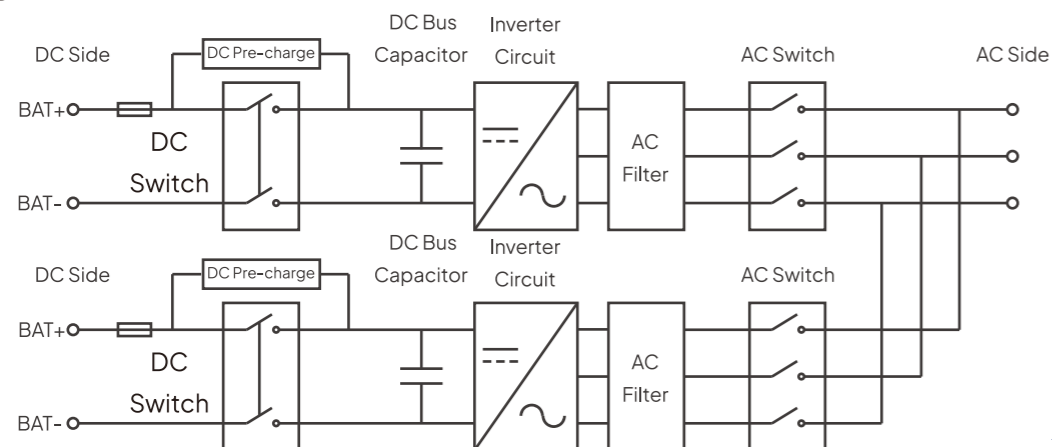
The TPCS-500/0.69/3-LM is a high-performance energy storage inverter featuring a dual-DC-input design, enabling flexible connection of two battery strings and significantly improving system configuration flexibility and battery availability. Its core advantages lie in its industry-leading high power density. Through optimized internal layout and heat dissipation design, the unit integrates high-power conversion modules within the cabinet, effectively reducing equipment footprint and saving installation space.

High-efficiency conversion

- Three-level topology with peak efficiency up to 98.7%
- Wide DC voltage range, enabling full-load operation at 1500 V
- Dual battery cluster interfaces for higher battery availability

Flexible applications

- Four-quadrant operation with advanced battery charge/discharge management
- Supports grid-forming, grid-following, and seamless online switching between the two modes



Model	TPCS-500/0.69/3-LM
DC Side	
DC Voltage Range	1050 ~ 1500V
Maximum DC Power	550kW
Maximum DC Current	262A×2
AC Grid-connected Parameters	
Rated AC Power	500kW
Maximum AC Power	550kW
Rated AC Current	418A
Maximum AC Current	460A
Rated Grid Voltage	690V
Maximum Overload Capacity	110% overload (continuous), 120% overload (1 min)
Allowable Grid Voltage Range	-12% to +10% (adjustable)
Grid Connection Type	3P + PE
Rated Grid Frequency	50Hz / 60Hz
Allowable Grid Frequency Range	45 ~ 50Hz / 60 ~ 65Hz
Adjustable Power Factor Range	-1 ~ +1
Isolation Transformer	Transformerless
THDi at Rated Power	<3% (at rated power)
AC Off-grid Parameters	
Rated AC Power	500kW
Rated Output Voltage	690V
Rated AC Current	418A
Rated Frequency	50Hz / 60Hz
THDv at Rated Power	<3% (at rated power)
System	
Isolation Method	Non-isolated
Maximum Efficiency	98.7%
Operating Ambient Temperature	-40 ~ +60
Cooling Method	Liquid cooling
IP Rating	Ip66
Relative Humidity	0~95% RH (non-condensing)
Maximum Operating Altitude	2000 m (linear derating to 70% from 2000 m to 4000 m)
Installation Method	Rack-mounted / Floor-standing
Dimensions (W x D x H)	790×1500×215mm
Weight	200kg
Communication Interface	RS485/ CAN/Ethernet
Communication Protocol	MODBUS-RTU / MODBUS-TCP / IEC61850(GOOSE, MMS dual-network) / IEC104
Certification	
Standards	UL1741, IEC61850, IEC/EN62477-1, EN50549-1, IEC/EN61000-6-2, IEC/EN61000-6-4, FCC Part 15

