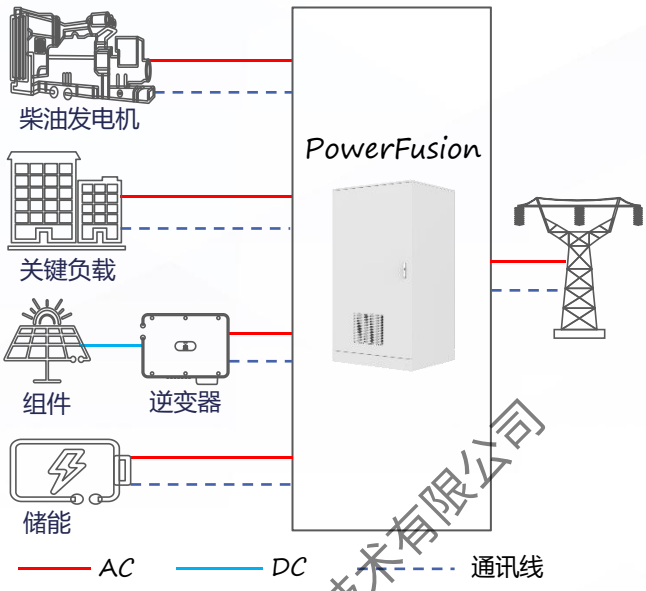
PowerFusion

PowerFusion 是工商业微电网场景使用的集配电与控制功能为一体的核心平台，为工商业微电网内市电、光伏、储能、柴油发电机等分布式电源接入与智能协调控制提供高度预集成的解决方案，可以实现工商业微电网并离网运行模式的快速切换与电能质量自治。

PowerFusion 在工厂预集成电气一次及电气二次设备，有效简化并离网切换柜方案生成、生产、交付过程。



超经济

支持多种光储柴运行模式，实现整网经济性最优

超性能

非计划性并网转离网20ms切换

超省心

All in one 设计，易安装易调测

智能监控，远程查看

超安全

防逆流，保障运行安全

高密闭防护，室外运行无忧

典型配置

		L80 系列	L150 系列	L300 系列
				
	光储网20ms切换（并网转离网）	✓	✓	✓
	光储网无缝切换（离网转并网）	✓	✓	✓
	光储柴并列运行（油机DO信号控制）	✓	✓	✓
	光储柴并列运行（油机RS485信号控制）①	✓	✓	✓
	最大自发自用	✓	✓	✓
	TOU	✓	✓	✓
	Peak shaving	✓	✓	✓
	并离网切换时间	20 ms	20 ms	20 ms
	支持负载容量 ②	80 kW	150 kW	300 kW
	LUNA2000-215/161/107 ③	1*MCCB 250A	2*MCCB 250A	4*MCCB 250A
	SUN2000-50/100/150K	1*MCCB 250A	1*MCCB 630A	1*MCCB 1000A
	并离网切换开关容量	250A	630A	1000 A

备注：

① 需选配EMS以实现该功能。

② 80kW/150kW/300kW为离网运行模式下阻性负载的最大容量，当存在冲击性负载时，带载能力需考虑降额。

③ 当储能柜数量超过4台时，具体方案需要进行定制评估。

关键技术参数

产品系列		PowerFusion-L80		PowerFusion-L150		PowerFusion-L300	
系统参数	负载容量 ①	80 kW		150 kW		300 kW	
	并离网切换时间 ②	20 ms		20 ms		20 ms	
结构参数	外形尺寸 (W×D×H)	800 x 600 x 1800 mm		800 x 1000 x 2100 mm		1150 x 1000 x 2100 mm	
	重量	≤ 0.9 T		≤ 1.1 T		≤ 1.2 T	
	制冷，模式	工业空调	风机	工业空调	风机	工业空调	风机
	密闭性等级	IP55	IP54	IP55	IP54	IP55	IP54
	安装方式	落地安装		落地安装		落地安装	
	开门方式	前开门		前后开门		前后开门	
	进出线方式	底进底出		底进底出		底进底出	
电气参数	供电制式	3ph, 4w, PE 380/400/415V		3ph, 4w, PE 380/400/415V		3ph, 4w, PE 380/400/415V	
	频率	50/60 Hz		50/60 Hz		50/60 Hz	
	市电开关	MCCB 250A		MCCB 630A		MCCB 1000A	
	旁路开关	MCCB 250A		MCCB 630A		MCCB 1000A	
	并离网切换开关	快速开关		快速开关		快速开关	
	逆变器开关 ③	1*MCCB 250A		1*MCCB 630A		1*MCCB 1000A	
	储能开关	1*MCCB 250A		2*MCCB 250A		4*MCCB 250A	
	负载开关	1*MCCB 250A		1*MCCB 400A		1*MCCB 630A	
	防雷器	Type II		Type II		Type II	
监控参数	数据采集器	华为 SmartMGC5000B		华为 SmartMGC5000B		华为 SmartMGC5000B	
	北向协议	Modbus-TCP, IEC 60870-5-104, and GOOSE		Modbus-TCP, IEC 60870-5-104, and GOOSE		Modbus-TCP, IEC 60870-5-104, and GOOSE	
环境	站点	室外		室外		室外	
	海拔	4000 m		4000 m		4000 m	
	运行温度范围	-25~+55 °C	0~+50 °C	-25~+55 °C	0~+50 °C	-25~+55 °C	0~+50 °C
	存储温度范围	-40~+70 °C		-40~+70 °C		-40~+70 °C	
	相对湿度	5%~95% RH		5%~95% RH		5%~95% RH	
	防腐等级	C3		C3		C3	
选配	EMS ④	可选		可选		可选	

备注：

① 该容量为离网运行模式下阻性负载的最大容量，当存在冲击性负载时，带载能力需考虑降额；

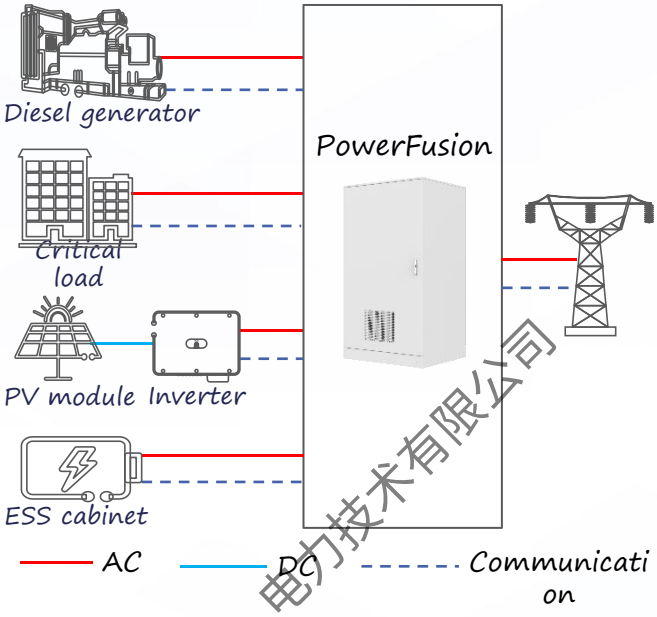
② 本指标包含从市电掉电到并离网开关分闸及灭弧完成的时间，不包含电网正常电压恢复时间；

③ 标准方案只为逆变器预留一个总断路器开关，需要多个开关时按定制方案评估；

④ 涉及多接入点、非华为逆变器、光储柴联合构网等需求时，需选配EMS。

PowerFusion

PowerFusion is a core platform integrating power distribution and control functions for C&I microgrid scenarios. It delivers a highly pre-integrated solution for managing grid power, PV, ESS, diesel generators, and other energy sources in C&I microgrids, enabling fast on/off grid switching and autonomous power quality management. By incorporating both primary and secondary electrical equipment during factory integration, PowerFusion simplify the design, production, and delivery process of on/off grid switching cabinet.



Superior cost effective

Parallel operation of PV, energy storage, and diesel generator. (Customization)

Superior performance

20 ms on-grid to off-grid transition

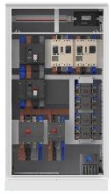
Superior easy

Easy to setup and maintain by all in one design

Superior safety

Anti-Islanding, ensure operational safety

Typical Configuration

		L80 Series	L150 Series	L300 Series
				
	on grid to off grid switching in 20ms between PV-ESS-Grid	✓	✓	✓
	off grid to on grid Seamless switching between PV-ESS-Grid	✓	✓	✓
	Parallel operation between PV, ESS, and diesel systems controlled by DO signal	✓	✓	✓
	Parallel operation between PV, ESS, and diesel systems controlled by RS485 signal ①	✓	✓	✓
	Maximum Self-Consumption	✓	✓	✓
	TOU	✓	✓	✓
	Peak shaving	✓	✓	✓
	On/off switching time	20 ms	20 ms	20 ms
	Backup capacity for load ②	80 kW	150 kW	300 kW
	LUNA2000-215/161/107 ③	1	2	4
	SUN2000-50/100/150K	One 250A breaker	One 630A breaker	One 1000A breaker
	POI breaker	250 A	630 A	1000 A

Remarks:

① An EMS must be configured in the solution to enable this function.

② 80kW/150kW/300kW refers to the maximum capacity of resistive load in off-grid mode. Derating operation must be considered if the system includes loads with inrush currents.

③ The specific solution shall be evaluated based on customization, when more than 4 ESS cabinets are needed.

Technical Specifications

Product Series		PowerFusion-L80 Series		PowerFusion-L150 Series		PowerFusion-L300 Series	
System Function	Load capacity ①	80 kW		150 kW		300 kW	
	On grid to off grid switching time ②	20 ms		20 ms		20 ms	
Overall Parameters	Dimensions (W×D×H)	800 x 600 x 1800 mm		800 x 1000 x 2100 mm		1150 x 1000 x 2100 mm	
	Total weight	≤ 0.9 T		≤ 1.1 T		≤ 1.2 T	
	Cooling mode	Industrial air conditioner	Fan	Industrial air conditioner	Fan	Industrial air conditioner	Fan
	IP rating	IP55	IP54	IP55	IP54	IP55	IP54
	Installation mode	Floor-mounted installation		Floor-mounted installation		Floor-mounted installation	
	Door open direction	Front		Front and Back		Front and Back	
	Cable inlet and outlet	Routed from the bottom		Routed from the bottom		Routed from the bottom	
Electricity Parameters	Power mode	3ph, 4w, PE 380/400/415V		3ph, 4w, PE 380/400/415V		3ph, 4w, PE 380/400/415V	
	Frequency	50/60 Hz		50/60 Hz		50/60 Hz	
	Mains circuit breaker	MCCB 250A		MCCB 630A		MCCB 1000A	
	Bypass breaker	MCCB 250A		MCCB 630A		MCCB 1000A	
	On/off grid switch	Fast switch		Fast switch		Fast switch	
	Breakers for inverter ③	1*MCCB 250A		1*MCCB 630A		1*MCCB 1000A	
	Breakers for ESS	1*MCCB 250A		2*MCCB 250A		4*MCCB 250A	
	Load breaker	1*MCCB 250A		1*MCCB 400A		1*MCCB 630A	
	SPD	Type II		Type II		Type II	
Monitoring System	Data collector	HW SmartMGC5000B		HW SmartMGC5000B		HW SmartMGC5000B	
	Northbound protocol	Modbus-TCP, IEC 60870-5-104, and GOOSE		Modbus-TCP, IEC 60870-5-104, and GOOSE		Modbus-TCP, IEC 60870-5-104, and GOOSE	
Environment	Deployment site	Outdoor		Outdoor		Outdoor	
	MAX altitude	4000 m		4000 m		4000 m	
	Operating temperature	-25~+55 °C	0~+50 °C	-25~+55 °C	0~+50 °C	-25~+55 °C	0~+50 °C
	Storage temperature	-40~+70 °C		-40~+70 °C		-40~+70 °C	
	Relative humidity	5%~95% RH		5%~95% RH		5%~95% RH	
	Environment requirements	C3		C3		C3	
Option	EMS ④	Optional		Optional		Optional	

Remarks:

① The maximum load capacity applies only to the resistive load. Derating operation must be considered if the system includes loads with inrush currents.

② It do not including the voltage recovery time after the POI breaker is closed. The normal voltage recovery time of the grid depends on the ratio of PCS to load capacity and load feature.

③ The standard solution is equipped with only one main breaker for the inverters, and the requirement of multiple breakers of different specifications shall be considered as a customized requirement.

④ The EMS needs to be configured if the microgrid uses non-Huawei inverters or multi-array access points exist.