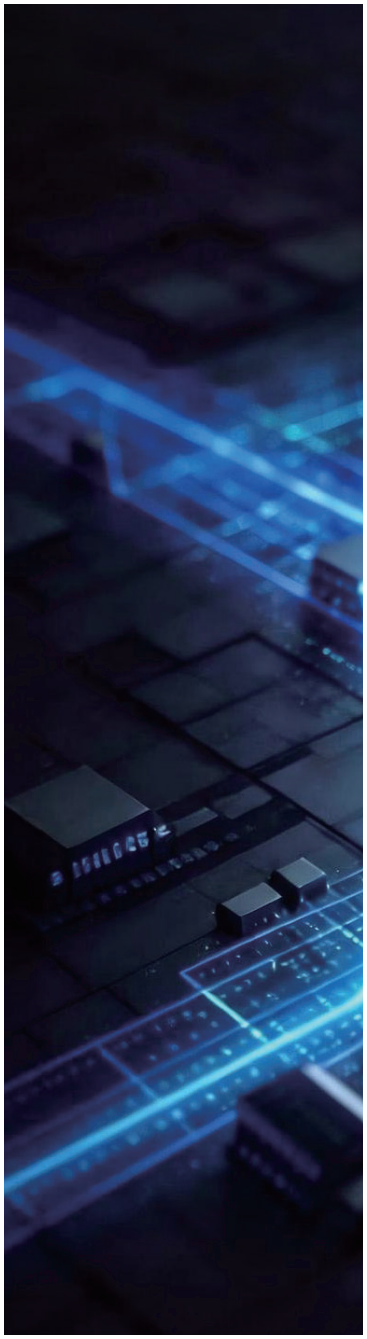
XFUSION

Data Center Power Supply Product Manual



XFUSION INTERNATIONAL PTE. LTD.

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68 mm (2.68 in.) High-Power-Density PSUs

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xFusion Data Center Power Supplies

Empowering AIDC with more power choices

Backed by xFusion's strong sales and service system, FusionWatt power products have achieved cumulative shipments of over 5 million units. With a failure rate below the industry average, peak efficiency of up to 97%, and 80 PLUS certification across the entire portfolio, FusionWatt delivers highly reliable power assurance with optimal energy efficiency for computing equipment such as servers and switches. xFusion's power portfolio includes 68 mm (2.68 in.) high-power-density PSUs, Common Redundant Power Supplies (CRPSs), and Power Shelf. It supports end-to-end power supply solutions from chips and servers to entire racks, with power coverage ranging from kilowatts to megawatts, and is widely used to power IT equipment in AIDCs.

68 mm (2.68 in.) High-Power-Density PSUs	CRPSs	Power Shelf
		

• Broad Compatibility •

Full power range from kW to MW

① Deliver full-range server power supply and distribution products and solutions, covering 900 W, 3000 W, 5500 W, 240 kW, and MW-level applications.

② Provide more than 10 models, including 68 mm (2.68 in.) high-power-density PSUs, CRPSs, Power Shelf, Adapter, and Busbar.

③ Support customization requirements.

• Robust Reliability •

Failure rate below the industry average

① Achieve annual shipments of over 1.5 million units and cumulative shipments of over 5 million units, widely used in rack and rack-scale servers.

② Ensure reliability through 10+ specialized tests and 1000+ test cases.

③ Enable large-scale supply capability with a three-level product preparation mechanism covering materials, semi-finished products, and finished products.

• Optimal Energy Efficiency •

Peak efficiency of up to 97%

① Provide 68 mm (2.68 in.) PSUs featuring an industry-leading power density of 100 W/in3 and peak efficiency of up to 97%.

② Feature intelligent hibernation and active/standby redundancy, significantly reducing standby power consumption.

③ Reduce core power component losses, effectively reducing OPEX.

• Comprehensive Certification •

Compliant with global standards

① Meet the needs of various power supply and distribution scenarios with independent and controllable solutions.

② Hold 80 PLUS Platinum and Titanium certifications, meeting diverse server PSU requirements.

③ Hold certifications including CE, TÜV, CCC, NRTL, and CB, and comply with the PMBus 1.2 protocol, supporting customized project requirements.

68 mm (2.68 in.) High-Power-Density PSU
FusionWatt PAC900S12-B2

Introduction

The FusionWatt PAC900S12-B2 supports 90–264 V AC and 180–300 V DC input voltage ranges. Leveraging industry-leading all-digital control technology, this PSU features optimized energy efficiency, high power density, reliable performance, and digitalization. The hot-swappable PSU holds certifications including CE, TÜV, CCC, NRTL, and CB, and is widely used in IT equipment such as servers, storage devices, and switches.



FusionWatt PAC900S12-B2

Features

- 80 PLUS Platinum certification
- 1+1/2+2 parallel redundancy operation
- PMBus 1.2 with black box
- High-precision input efficiency reporting: 3% @ 50% load
- Hot standby/cold standby/deep sleep (input power less than 1 W)
- Hot swap
- Two input systems: AC and HVDC
- Three output modes: MV12, SV12, and MV6
- Overvoltage, undervoltage, overcurrent, short circuit, overtemperature, and ORing isolation protection
- IEC 62368-1 & EN 62368-1 and GB 4943.1-2022 compliant
- RoHS compliant

Technical Specifications

Product Model	FusionWatt PAC900S12-B2
Dimensions (D x W x H)	183.0 mm x 68.0 mm x 40.0 mm (7.20 in. x 2.68 in. x 1.57 in.)
Weight	< 2 kg (4.41 lb)
AC Input Voltage Range	90 V to 264 V AC with support for dual-live-wire input
AC Input Frequency Range	47 Hz to 63 Hz
DC Operating Voltage Range	180 V to 300 V DC with support for reverse polarity connection
Max. Input Current	10 A
Input Protection	Undervoltage, overvoltage, overcurrent, short circuit, and overtemperature protection
Output Voltage Range	Steady-state accuracy: 11.8 V to 12.6 V; dynamic accuracy: 11.6 V to 12.8 V
Output Power	900 W
Output Ripple	≤ 120 mVp-p
Max. Output Capacitive Load	22,000 uF
Hold-Up Time	80% load: 10 ms; 50% load: 20 ms
Efficiency	80 PLUS Platinum: > 91% at 20% load; > 94% at 50% load; > 91% at 100% load
Output Protection	Undervoltage, overvoltage, overcurrent, short circuit, and overtemperature protection
Parallel Operation	1+1, 2+2, and 2+1 parallel redundancy operation, mixed models without failure, hot swap, and fault isolation
Current Sharing	≤ ±5% (50% to 100% load)
Certification	CE, TÜV, CCC, NRTL, and CB
Service Life	5 years
Annualized Failure Rate (AFR)	< 400 PPM
Heat Dissipation	Automatic fan speed control and fan fault isolation
Operating Temperature and Humidity	Operating temperature: 5°C to 55°C (41°F to 131°F); operating humidity: 5% to 90% (RH)
Storage Temperature and Humidity	Storage temperature: –40°C to +85°C (–40°F to +185°F); storage humidity: 5% to 95% (RH)

68 mm (2.68 in.) High-Power-Density PSU **FusionWatt PAC1500S12-B1**

Introduction

The FusionWatt PAC1500S12-B1 supports 90–264 V AC and 180–300 V DC input voltage ranges. Leveraging industry-leading all-digital control technology, this PSU features optimized energy efficiency, high power density, reliable performance, and digitalization. The hot-swappable PSU holds certifications including CE, TÜV, CCC, NRTL, and CB, and is widely used in IT equipment such as servers, storage devices, and switches.



FusionWatt PAC1500S12-B1

Features

- 880 PLUS Platinum certification
- 1+1/2+2/3+3 parallel redundancy operation
- PMBus 1.2 with black box
- High-precision input efficiency reporting: 3% @ 50% load
- Hot standby/cold standby/deep sleep (input power less than 1 W)
- Hot swap
- Two input systems: AC and HVDC
- Three output modes: MV12, SV12, and MV6
- Overvoltage, undervoltage, overcurrent, short circuit, overtemperature, and ORing isolation protection
- CE, TÜV, CCC, NRTL, and CB certifications
- IEC 62368-1 & EN 62368-1, and GB 4943.1-2022 compliant
- RoHS compliant

Technical Specifications

Product Model	FusionWatt PAC1500S12-B1
Dimensions (D x W x H)	183.0 mm x 68.0 mm x 40.0 mm (7.20 in. x 2.68 in. x 1.57 in.)
Weight	< 2 kg (4.41 lb)
AC Input Voltage Range	90 V to 264 V AC with support for dual-live-wire input
AC Input Frequency Range	47 Hz to 63 Hz
DC Operating Voltage Range	180 V to 300 V DC with support for reverse polarity connection
Max. Input Current	10 A
Input Protection	Undervoltage, overvoltage, overcurrent, short circuit, and overtemperature protection
Output Voltage Range	Steady-state accuracy: 11.8 V to 12.6 V; dynamic accuracy: 11.6 V to 12.8 V
Output Power	1500 W
Output Ripple	≤ 120 mVp-p
Max. Output Capacitive Load	22,000 uF
Hold-Up Time	100% load: 10 ms; 50% load: 20 ms
Efficiency	80 PLUS Platinum: > 91% at 20% load; > 94% at 50% load; > 91% at 100% load
Output Protection	Undervoltage, overvoltage, overcurrent, short circuit, and overtemperature protection
Parallel Operation	1+1, 2+2, and 2+1 parallel redundancy operation, mixed models without failure, hot swap, and fault isolation
Current Sharing	≤ ±5% (50% to 100% load)
Certification	CE, TÜV, CCC, NRTL, and CB
Service Life	5 years
Annualized Failure Rate (AFR)	< 400 PPM
Heat Dissipation	Automatic fan speed control and fan fault isolation
Operating Temperature and Humidity	Operating temperature: 5°C to 50°C (41°F to 122°F); operating humidity: 5% to 90% (RH)
Storage Temperature and Humidity	Storage temperature: –40°C to +85°C (–40°F to +185°F); storage humidity: 5% to 95% (RH)

68 mm (2.68 in.) High-Power-Density PSU **FusionWatt PAC2000S12-B1**

Introduction

The FusionWatt PAC2000S12-B1 supports 90–264 V AC and 180–300 V DC input voltage ranges. Leveraging industry-leading all-digital control technology, this PSU features optimized energy efficiency, high power density, reliable performance, and digitalization. The hot-swappable PSU holds certifications including CE, TÜV, CCC, NRTL, and CB, and is widely used in IT equipment such as servers, storage devices, and switches.



FusionWatt PAC2000S12-B1

Features

- 80 PLUS Platinum certification
- 1+1/2+2/3+3 parallel redundancy operation
- PMBus 1.2 with black box
- High-precision input efficiency reporting: 3% @ 50% load
- Hot standby/cold standby/deep sleep (input power less than 1 W)
- Hot swap
- Three output modes: MV12, SV12, and MV6
- Three output modes: MV12, SV12, and MV6
- Overvoltage, undervoltage, overcurrent, short circuit, overtemperature, and ORing isolation protection
- CE, TÜV, CCC, NRTL, and CB certifications
- IEC 62368-1 & EN 62368-1, and GB 4943.1-2022 compliant
- RoHS compliant

Technical Specifications

Product Model	FusionWatt PAC2000S12-B1
Dimensions (D x W x H)	183.0 mm x 68.0 mm x 40.0 mm (7.20 in. x 2.68 in. x 1.57 in.)
Weight	< 2 kg (4.41 lb)
AC Input Voltage Range	90 V to 264 V AC with support for dual-live-wire input
AC Input Frequency Range	47 Hz to 63 Hz
DC Operating Voltage Range	180 V to 300 V DC with support for reverse polarity connection
Max. Input Current	10 A
Input Protection	Undervoltage, overvoltage, overcurrent, short circuit, and overtemperature protection
Output Voltage Range	Steady-state accuracy: 11.8 V to 12.6 V; dynamic accuracy: 11.6 V to 12.8 V
Output Power	900 W
Output Ripple	≤ 120 mVp-p
Max. Output Capacitive Load	22,000 uF
Hold-Up Time	100% load: 10 ms; 50% load: 20 ms
Efficiency	80 PLUS Platinum: > 91% at 20% load; > 94% at 50% load; > 91% at 100% load
Output Protection	Undervoltage, overvoltage, overcurrent, short circuit, and overtemperature protection
Parallel Operation	1+1, 2+2, and 2+1 parallel redundancy operation, mixed models without failure, hot swap, and fault isolation
Current Sharing	≤ ±5% (50% to 100% load); ≤ ±10% (20% to 50% load)
Certification	CE, TÜV, CCC, NRTL, and CB
Service Life	5 years
Annualized Failure Rate (AFR)	< 400 PPM
Heat Dissipation	Automatic fan speed control and fan fault isolation
Operating Temperature and Humidity	Operating temperature: 5°C to 50°C (41°F to 122°F); operating humidity: 5% to 90% (RH)
Storage Temperature and Humidity	Storage temperature: –40°C to +85°C (–40°F to +185°F); storage humidity: 5% to 95% (RH)

68 mm (2.68 in.) High-Power-Density PSU
FusionWatt PAC900S12-T1

Introduction

The FusionWatt PAC900S12-T1 supports 90–264 V AC and 180–300 V DC input voltage ranges. The PSU provides single output with two modes: MV12 and MV6, delivering a rated output power of 900 W. This hot-swappable PSU supports current sharing, allowing 1+1/2+2 parallel redundancy operations. It provides an I2C communication function for reporting the vendor, model, and version. With the functions of black box and online upgrade, the PSU complies with safety requirements and IT equipment safety standards.



FusionWatt PAC900S12-T1

Features

- 80 PLUS Titanium certification
- 1+1/2+2/3+3 parallel redundancy operation
- PMBus 1.2 with black box
- High-precision input efficiency reporting: 3% @ 50% load
- Hot standby/cold standby/deep sleep (input power less than 0.5 W)
- Hot swap
- Two input systems: AC and HVDC
- Two output modes: MV12 and MV6
- Overvoltage, undervoltage, overcurrent, short circuit, overtemperature, and ORing isolation protection
- CE, TÜV, CCC, NRTL, and CB certifications
- IEC 62368-1 & EN 62368-1, and GB 4943.1-2022 compliant
- RoHS compliant

Technical Specifications

Product Model	FusionWatt PAC900S12-T1
Dimensions (D x W x H)	183.0 mm x 68.0 mm x 40.0 mm (7.20 in. x 2.68 in. x 1.57 in.)
Weight	< 2 kg (4.41 lb)
AC Input Voltage Range	90 V to 264 V AC with support for dual-live-wire input
AC Input Frequency Range	47 Hz to 63 Hz
DC Operating Voltage Range	180 V to 300 V DC with support for reverse polarity connection
Max. Input Current	10 A
Input Protection	Undervoltage, overvoltage, overcurrent, short circuit, and overtemperature protection
Output Voltage Range	Steady-state accuracy: 11.8 V to 12.6 V; dynamic accuracy: 11.6 V to 12.8 V
Output Power	900 W
Output Ripple	≤ 120 mVp-p
Max. Output Capacitive Load	22,000 uF
Hold-Up Time	100% load: 10 ms; 50% load: 20 ms
Efficiency	80 PLUS Titanium: > 94% at 20% load; > 96% at 50% load; > 91% at 100% load
Output Protection	Undervoltage, overvoltage, overcurrent, short circuit, and overtemperature protection
Parallel Operation	1+1, 2+2, and 2+1 parallel redundancy operation, mixed models without failure, hot swap, and fault isolation
Current Sharing	≤ ±5% (50% to 100% load); ≤ ±10% (20% to 50% load)
Certification	CE, TÜV, CCC, NRTL, and CB
Service Life	5 years
Annualized Failure Rate (AFR)	< 400 PPM
Heat Dissipation	Automatic fan speed control and fan fault isolation
Operating Temperature and Humidity	Operating temperature: 5°C to 50°C (41°F to 122°F); operating humidity: 5% to 90% (RH)
Storage Temperature and Humidity	Storage temperature: –40°C to +85°C (–40°F to +185°F); storage humidity: 5% to 95% (RH)

68 mm (2.68 in.) High-Power-Density PSU **FusionWatt PAC2000S12-T1**

Introduction

The FusionWatt PAC2000S12-T1 supports 90–264 V AC and 180–300 V DC input voltage ranges, and can convert AC into DC. The PSU provides single output with three output modes: MV12, SV12, and MV6, delivering a rated output power of 2000 W. This hot-swappable PSU supports current sharing, allowing 1+1/2+2 parallel redundancy operations. It provides an I2C communication function for reporting the vendor, model, and version, and supports black box and online upgrade.



FusionWatt PAC2000S12-T1

Features

- 80 PLUS Titanium certification
- 1+1/2+2 parallel redundancy operation
- PMBus 1.2 with black box
- High-precision input efficiency reporting: 3% @ 50% load
- Hot standby/cold standby/deep sleep (input power less than 1 W)
- Hot swap
- Two input systems: AC and HVDC
- Three output modes: MV12, SV12, and MV6
- Overvoltage, undervoltage, overcurrent, short circuit, overtemperature, and ORing isolation protection
- CE, TÜV, CCC, NRTL, and CB certifications
- IEC 62368-1 & EN 62368-1, and GB 4943.1-2022 compliant
- RoHS compliant

Technical Specifications

Product Model	FusionWatt PAC2000S12-T1
Dimensions (D x W x H)	183.0 mm x 68.0 mm x 40.0 mm (7.20 in. x 2.68 in. x 1.57 in.)
Weight	< 2 kg (4.41 lb)
AC Input Voltage Range	90 V to 264 V AC with support for dual-live-wire input
AC Input Frequency Range	47 Hz to 63 Hz
DC Operating Voltage Range	180 V to 300 V DC with support for reverse polarity connection
Max. Input Current	10 A
Input Protection	Undervoltage, overvoltage, overcurrent, short circuit, and overtemperature protection
Output Voltage Range	Steady-state accuracy: 11.8 V to 12.6 V; dynamic accuracy: 11.6 V to 12.8 V
Output Power	2000 W
Output Ripple	≤ 120 mVp-p
Max. Output Capacitive Load	22,000 uF
Hold-Up Time	100% load: 7 ms; 50% load: 14 ms
Efficiency	80 PLUS Titanium: > 94% at 20% load; > 96% at 50% load; > 92% at 100% load
Output Protection	Undervoltage, overvoltage, overcurrent, short circuit, and overtemperature protection
Parallel Operation	1+1, 2+2, and 2+1 parallel redundancy operation, mixed models without failure, hot swap, and fault isolation
Current Sharing	≤ ±5% (50% to 100% load); ≤ ±10% (30% to 50% load); ≤ ±15% (20% to 30% load)
Certification	CE, TÜV, CCC, NRTL, and CB
Service Life	5 years
Annualized Failure Rate (AFR)	< 400 PPM
Heat Dissipation	Automatic fan speed control and fan fault isolation
Operating Temperature and Humidity	Operating temperature: 5°C to 50°C (41°F to 122°F); operating humidity: 5% to 90% (RH)
Storage Temperature and Humidity	Storage temperature: –40°C to +85°C (–40°F to +185°F); storage humidity: 5% to 95% (RH)

68 mm (2.68 in.) High-Power-Density PSU **FusionWatt XA3000**

Introduction

The FusionWatt XA3000 supports 90–264 V AC and 180–300 V DC input voltage ranges. This PSU provides single output with three output modes: MV12, SV12, and MV6, delivering a rated output power of 3000 W. This hot-swappable PSU supports current sharing, allowing 1+1/2+2 parallel redundancy operations. Leveraging industry-leading all-digital control technology, it features optimized energy efficiency, high power density, reliable performance, and digitalization. The PSU holds certifications including CE, TÜV, CCC, NRTL, and CB, and is widely used in IT equipment such as servers, storage devices, and switches.



FusionWatt XA3000

Features

- 80 PLUS Titanium certification
- 1+1/2+2 parallel redundancy operation
- PMBus 1.2 with black box
- High-precision input efficiency reporting: 3% @ 50% load
- Hot standby/cold standby/deep sleep (input power less than 1 W)
- Hot swap
- Two input systems: AC and HVDC
- Three output modes: MV12, SV12, and MV6
- Overvoltage, undervoltage, overcurrent, short circuit, overtemperature, and ORing isolation protection
- CE, TÜV, CCC, NRTL, and CB certifications
- IEC 62368-1 & EN 62368-1, and GB 4943.1-2022 compliant
- RoHS compliant

Technical Specifications

Product Model	FusionWatt XA3000
Dimensions (D x W x H)	188.0 mm x 68.0 mm x 40.0 mm (7.40 in. x 2.68 in. x 1.57 in.)
Weight	< 2 kg (4.41 lb)
AC Input Voltage Range	90 V to 264 V AC with support for dual-live-wire input
AC Input Frequency Range	47 Hz to 63 Hz
DC Operating Voltage Range	180 V to 300 V DC with support for reverse polarity connection
Max. Input Current	16 A
Input Protection	Undervoltage, overvoltage, overcurrent, short circuit, and overtemperature protection
Output Voltage Range	Steady-state accuracy: 11.8 V to 12.6 V; dynamic accuracy: 11.6 V to 12.8 V
Output Power	3000 W
Output Ripple	≤ 120 mVp-p
Max. Output Capacitive Load	22,000 uF
Hold-Up Time	75% load: 7 ms; 40% load: 14 ms
Efficiency	80 PLUS Titanium: > 94% at 20% load; > 96% at 50% load; > 92% at 100% load
Output Protection	Undervoltage, overvoltage, overcurrent, short circuit, and overtemperature protection
Parallel Operation	1+1, 2+2, and 2+1 parallel redundancy operation, mixed models without failure, hot swap, and fault isolation
Current Sharing	≤ ±5% (50% to 100% load); ≤ ±10% (20% to 50% load)
Certification	CE, TÜV, CCC, NRTL, and CB
Service Life	5 years
Annualized Failure Rate (AFR)	< 400 PPM
Heat Dissipation	Automatic fan speed control and fan fault isolation
Operating Temperature and Humidity	Operating temperature: 5°C to 50°C (41°F to 122°F); operating humidity: 5% to 90% (RH)
Storage Temperature and Humidity	Storage temperature: –40°C to +85°C (–40°F to +185°F); storage humidity: 5% to 95% (RH)

68 mm (2.68 in.) High-Power-Density PSU **FusionWatt PDC1200S12-CF**

Introduction

The FusionWatt PDC1200S12-CF supports a –38.4 V to –72 V DC input voltage range. The PSU provides single output with three output modes: MV12, SV12 and MV6, delivering a rated output power of 1200 W. This hot-swappable PSU supports current sharing, allowing 1+1/2+2/3+3 parallel redundancy operations. It holds certifications including CE, TÜV, CCC, NRTL, and CB, and is widely used in IT equipment such as servers, storage devices, and switches.



FusionWatt PDC1200S12-CF

Features

- Efficiency: 92.5% @ 50% load
- 1+1/2+2/3+3 parallel redundancy operation
- PMBus 1.2 with black box
- High-precision input efficiency reporting: 3% @ 50% load
- Hot standby/cold standby/deep sleep (input power less than 5 W)
- Hot swap
- Input system: –48 V DC
- Three output modes: MV12, SV12, and MV6
- Overvoltage, undervoltage, overcurrent, short circuit, overtemperature, and ORing isolation protection
- CE, TÜV, CCC, NRTL, and CB certifications
- IEC 62368-1 & EN 62368-1, and GB 4943.1-2022 compliant
- RoHS compliant

Technical Specifications

Product Model	FusionWatt PDC1200S12-CF
Dimensions (D x W x H)	183.0 mm x 68.0 mm x 40.0 mm (7.20 in. x 2.68 in. x 1.57 in.)
Weight	< 2 kg (4.41 lb)
Input Voltage Range	–38.4 V to –72 V DC
Max. Input Current	40 A (–38.4 V DC input)
Input Protection	Undervoltage, overvoltage, overcurrent, short circuit, and overtemperature protection
Output Voltage Range	Steady-state accuracy: 11.8 V to 12.6 V; dynamic accuracy: 11.6 V to 12.8 V
Output Power	1200 W
Output Ripple	≤ 120 mVp-p
Max. Output Capacitive Load	22,000 uF
Efficiency	> 89% at 20% load; > 92.5% at 50% load; > 92% at 100% load
Output Protection	Undervoltage, overvoltage, overcurrent, short circuit, and overtemperature protection
Parallel Operation	1+1, 2+2, and 2+1 parallel redundancy operation, mixed models without failure, hot swap, and fault isolation
Current Sharing	≤ ±5% (50% to 100% load)
Certification	CE, TÜV, CCC, NRTL, and CB
Service Life	5 years
Annualized Failure Rate (AFR)	< 400 PPM
Heat Dissipation	Automatic fan speed control and fan fault isolation
Operating Temperature and Humidity	Operating temperature: 5°C to 50°C (41°F to 122°F); operating humidity: 5% to 90% (RH)
Storage Temperature and Humidity	Storage temperature: –40°C to +85°C (–40°F to +185°F); storage humidity: 5% to 95% (RH)

68 mm (2.68 in.) High-Power-Density PSU **FusionWatt PHD1500S12-B2**

Introduction

The FusionWatt PHD1500S12-B2 supports 180–264 V AC and 260–400 V DC input voltage ranges, and can convert AC into DC. The PSU provides single output with three output modes: MV12, SV12, and MV6, delivering a rated output power of 1500 W. This hot-swappable PSU supports current sharing, allowing 1+1/2+2 parallel redundancy operations. It provides an I2C communication function for reporting the vendor, model, and version, as well as support for black box and online upgrade.



FusionWatt PHD1500S12-B2

Features

- 80 PLUS Platinum certification
- 1+1/2+2 parallel redundancy operation
- PMBus 1.2 with black box
- High-precision input efficiency reporting: 3% @ 50% load
- Hot standby/cold standby/deep sleep (input power less than 1 W)
- Hot swap
- Two input systems: AC and HVDC
- Three output modes: MV12, SV12, and MV6
- Overvoltage, undervoltage, overcurrent, short circuit, overtemperature, and ORing isolation protection
- CE, TÜV, CCC, NRTL, and CB certifications
- IEC 62368-1 & EN 62368-1, and GB 4943.1-2022 compliant
- RoHS compliant

Technical Specifications

Product Model	FusionWatt PHD1500S12-B2
Dimensions (D x W x H)	183.0 mm x 68.0 mm x 40.0 mm (7.20 in. x 2.68 in. x 1.57 in.)
Weight	< 2 kg (4.41 lb)
AC Input Voltage Range	180 V to 264 V AC
AC Input Frequency Range	47 Hz to 63 Hz
DC Operating Voltage Range	260 V to 400 V DC
Max. Input Current	10 A
Input Protection	Undervoltage, overvoltage, overcurrent, short circuit, and overtemperature protection
Output Voltage Range	Steady-state accuracy: 11.8 V to 12.6 V; dynamic accuracy: 11.6 V to 12.8 V
Output Power	1500 W
Output Ripple	≤ 120 mVp-p
Max. Output Capacitive Load	22,000 uF
Hold-Up Time	100% load: 10 ms; 50% load: 20 ms
Efficiency	230 V AC input: > 91% at 20% load; > 94% at 50% load; > 91% at 100% load 336 V DC input: > 89% at 20% load; > 92% at 50% load; > 89% at 100% load
Output Protection	Undervoltage, overvoltage, overcurrent, short circuit, and overtemperature protection
Parallel Operation	1+1, 2+2, and 2+1 parallel redundancy operation, mixed models without failure, hot swap, and fault isolation
Current Sharing	≤ ±5% (50% to 100% load)
Certification	CE, TÜV, CCC, NRTL, and CB
Service Life	5 years
Annualized Failure Rate (AFR)	< 400 PPM
Heat Dissipation	Automatic fan speed control and fan fault isolation
Operating Temperature and Humidity	Operating temperature: 5°C to 50°C (41°F to 122°F); operating humidity: 5% to 90% (RH)
Storage Temperature and Humidity	Storage temperature: –40°C to +85°C (–40°F to +185°F); storage humidity: 5% to 95% (RH)

CRPS
FusionWatt CRPS1K3S12-P

Introduction

The FusionWatt CRPS1K3S12-P features high efficiency and reliability with support for redundancy operation and intelligent O&M. It provides stable power for data centers and enterprise applications.



FusionWatt CRPS1K3S12-P

Features

- Refined circuit design: components derated for electrical and thermal stresses, with 100% circuit tolerance simulation
- Systematic testing and verification: 1000+ professional tests, ensuring long-term reliability in 1000 hours of high-temperature aging, 1000 hours of dual-85 (85°C and 85% RH), and 1000 hours of powered temperature cycling tests
- Comprehensive production tests: 100% specification coverage, 100% high-temperature aging, and ORT random inspection
- Reliable fault isolation, ensuring no injury, no smoke, no fire, no diffusion, and no breakdown
- Independent and controllable key power components (such as MCUs, power MOSFETs, power diodes, driver chips, and filter capacitors)
- Independent and controllable signal chains (such as operational amplifiers, comparators, isolators, and signal diodes and bipolar junction transistors)
- High-specification components: component service life of at least 10 years

Technical Specifications

Product Model	FusionWatt CRPS1K3S12-P
Dimensions (D x W x H)	185.0 mm x 73.5 mm x 40.0 mm (7.28 in. x 2.89 in. x 1.57 in.)
Weight	< 2 kg (4.41 lb)
AC Input Voltage Range	90 V to 264 V AC with support for dual-live-wire input
AC Input Frequency Range	47 Hz to 63 Hz
DC Operating Voltage Range	180 V to 320 V DC with support for reverse polarity connection
Max. Input Current	10 A
Input Protection	Undervoltage, overvoltage, overcurrent, and overtemperature protection
Output Voltage Range	Steady-state accuracy: 11.8 V to 12.6 V; dynamic accuracy: 11.6 V to 12.8 V
Output Power	1300 W
Output Ripple	105 mV
Max. Output Capacitive Load	22,000 uF
Hold-Up Time	16 ms (at 100% load); 30 ms (at 50% load); 60 ms (at 20% load)
Efficiency	80 PLUS Platinum: > 94% at 20% load; > 94% at 50% load; > 91% at 100% load
Output Protection	Undervoltage, overvoltage, overcurrent, short circuit, and overtemperature protection
Parallel Operation	1+1, 2+2, and 2+1 parallel redundancy operation, mixed models without failure, hot swap, and fault isolation
Current Sharing	≤ 10% (10% to 20% load); ≤ 5% (20% to 100% load)
Certification	NRTL, TÜV, CB, CE, and CCC
Service Life	5 years
Annualized Failure Rate (AFR)	< 400 PPM
Heat Dissipation	Automatic fan speed control and fan fault isolation
Operating Temperature and Humidity	Operating temperature: 5°C to 55°C (41°F to 131°F); operating humidity: 5% to 90% (RH)
Storage Temperature and Humidity	Storage temperature: –40°C to +85°C (–40°F to +185°F); storage humidity: 5% to 95% (RH)

CRPS
FusionWatt CRPS1K6S12-P

Introduction

The FusionWatt CRPS1K6S12-P features high efficiency and reliability with support for redundancy operation and intelligent O&M. It provides stable power for data centers and enterprise applications.



FusionWatt CRPS1K6S12-P

Features

- Refined circuit design: components derated for electrical and thermal stresses, with 100% circuit tolerance simulation
- Systematic testing and verification: 1000+ professional tests, ensuring long-term reliability in 1000 hours of high-temperature aging, 1000 hours of dual-85 (85°C and 85% RH), and 1000 hours of powered temperature cycling tests
- Comprehensive production tests: 100% specification coverage, 100% high-temperature aging, and ORT random inspection
- Reliable fault isolation, ensuring no injury, no smoke, no fire, no diffusion, and no breakdown
- Chinese-made key power components (such as MCUs, power MOSFETs, power diodes, driver chips, and filter capacitors)
- Chinese-made signal chains (such as operational amplifiers, comparators, isolators, and signal diodes and bipolar junction transistors)
- High-specification components: component service life of at least 10 years

Technical Specifications

Product Model	FusionWatt CRPS1K6S12-P
Dimensions (D x W x H)	185.0 mm x 73.5 mm x 40.0 mm (7.28 in. x 2.89 in. x 1.57 in.)
Weight	< 2 kg (4.41 lb)
AC Input Voltage Range	90 V to 264 V AC with support for dual-live-wire input
AC Input Frequency Range	47 Hz to 63 Hz
DC Operating Voltage Range	180 V to 320 V DC with support for reverse polarity connection
Max. Input Current	10 A
Input Protection	Undervoltage, overvoltage, overcurrent, and overtemperature protection
Output Voltage Range	Steady-state accuracy: 11.8 V to 12.6 V; dynamic accuracy: 11.6 V to 12.8 V
Output Power	1600 W
Output Ripple	105 mV
Max. Output Capacitive Load	30,000 uF
Hold-Up Time	10 ms (at 100% load); 20 ms (at 50% load); 40 ms (at 20% load)
Efficiency	80 PLUS Platinum: > 94% at 20% load; > 94% at 50% load; > 91% at 100% load
Output Protection	Undervoltage, overvoltage, overcurrent, short circuit, and overtemperature protection
Parallel Operation	1+1, 2+2, and 2+1 parallel redundancy operation, mixed models without failure, hot swap, and fault isolation
Current Sharing	≤ 10% (10% to 20% load); ≤ 5% (20% to 100% load)
Certification	NRTL, TÜV, CB, CE, and CCC
Service Life	5 years
Annualized Failure Rate (AFR)	< 400 PPM
Heat Dissipation	Automatic fan speed control and fan fault isolation
Operating Temperature and Humidity	Operating temperature: 5°C to 55°C (41°F to 131°F); operating humidity: 5% to 90% (RH)
Storage Temperature and Humidity	Storage temperature: –40°C to +85°C (–40°F to +185°F); storage humidity: 5% to 95% (RH)

CRPS
FusionWatt CA2000

Introduction

The FusionWatt CA2000 is a dual-output PSU, featuring high efficiency and reliability with support for redundancy operation and intelligent O&M. It provides stable power for data centers and enterprise applications.



FusionWatt CA2000

Features

- Refined circuit design: components derated for electrical and thermal stresses, with 100% circuit tolerance simulation
- Systematic testing and verification: 1000+ professional tests, ensuring long-term reliability in 1000 hours of high-temperature aging, 1000 hours of dual-85 (85°C and 85% RH), and 1000 hours of powered temperature cycling tests
- Comprehensive production tests: 100% specification coverage, 100% high-temperature aging, and ORT random inspection
- Reliable fault isolation, ensuring no injury, no smoke, no fire, no diffusion, and no breakdown
- Chinese-made key power components (such as MCUs, power MOSFETs, power diodes, driver chips, and filter capacitors)
- Chinese-made signal chains (such as operational amplifiers, comparators, isolators, and signal diodes and bipolar junction transistors)
- High-specification components: component service life of at least 10 years

Technical Specifications

Product Model	FusionWatt CA2000
Dimensions (D x W x H)	185.0 mm x 73.5 mm x 40.0 mm (7.28 in. x 2.89 in. x 1.57 in.)
Weight	< 2 kg (4.41 lb)
AC Input Voltage Range	90 V to 264 V AC with support for dual-live-wire input
AC Input Frequency Range	47 Hz to 63 Hz
DC Operating Voltage Range	180 V to 300 V DC with support for reverse polarity connection
Max. Input Current	10 A
Input Protection	Overvoltage, undervoltage, overcurrent, and overtemperature protection
Output Voltage Range	12 V main output: steady-state accuracy: 11.8 V to 12.6 V; dynamic accuracy: 11.6 V to 12.8 V 12 VSB: steady-state accuracy: 11.4 V to 12.6 V; dynamic accuracy: 11.4 V to 12.6 V
Output Power	2000 W
Output Ripple	12 V main output: 105 mV; 12 VSB: 120 mV
Max. Output Capacitive Load	12 V main output: 50,000 uF; 12 VSB: 3100 uF
Hold-Up Time	12 ms (at 100% load); 20 ms (at 50% load); 40 ms (at 20% load)
Efficiency	80 PLUS Platinum: > 94% at 20% load; > 95% at 50% load; > 92% at 100% load
Output Protection	Overvoltage, undervoltage, overcurrent, and short circuit protection
Parallel Operation	1+1, 2+2, and 2+1 parallel redundancy operation, mixed models without failure, hot swap, and fault isolation
Current Sharing	< 10% (10% to 20% load); ≤ 5% (20% to 100% load)
Certification	NRTL, TÜV, CB, CE, and CCC
Service Life	5 years
Annualized Failure Rate (AFR)	< 400 PPM
Heat Dissipation	Automatic fan speed control and fan fault isolation
Operating Temperature and Humidity	Operating temperature: 0°C to 55°C (32°F to 131°F); operating humidity: 5% to 90% (RH)
Storage Temperature and Humidity	Storage temperature: –40°C to +85°C (–40°F to +185°F); storage humidity: 5% to 95% (RH)

Power Shelf
FusionWatt PS350

Introduction

The power shelf consists of the power chassis, PSUs, and management module. It converts the AC power into stable DC power for the cabinet through the AC/DC module. The chassis is compatible with 19-inch and 21-inch racks and supports both HVDC and AC inputs. With a built-in static transfer switch (STS), the PSU ensures dual-input capability and N+1 redundancy.



FusionWatt PS350

Technical Specifications

Product Model	FusionWatt PS350
Dimensions (D x W x H)	133 mm x 536 mm x 750 mm (5.24 in. x 21.10 in. x 29.53 in.)
Number of PSUs	18 in full configuration
Input Voltage System	3L+N+PE
Input Port	Total: 6 Active power: INPUT A1/INPUT A2/INPUT A3 Standby power: INPUT B1/INPUT B2/INPUT B3
Input Voltage	346 V to 415 V AC (three-phase)
Input Current	32 A per phase
Output Voltage	54 V DC
Output Current	990 A
Output Power	Total power of a power shelf: 54 kW (no redundancy) 51 kW (N+1 redundancy)

Power Shelf
FusionWatt PDP3000S54-T1

Introduction

The FusionWatt PDP3000S54-T1 supports 90–264 V AC and 180–300 V DC input voltage ranges. This dual-input PSU provides a single output of 54 V with a rated output power of 3000 W. This hot-swappable PSU supports current sharing, allowing parallel redundancy operation in 1+1, 2+2, 3+3 and N+1 (with N up to 35). Leveraging industry-leading all-digital control technology, it delivers superior overload capabilities to support GPU peak load and integrates energy-saving modes, such as cold standby, hot standby, and deep sleep. The 80 PLUS Titanium certified PSU holds certifications including CE, TÜV, CCC, NRTL, and CB, and is designed for diverse ICT applications such as servers, data centers, and edge computing.



FusionWatt PDP3000S54-T1

Technical Specifications

- 80 PLUS Titanium certification
- Dual-input power supply, enabling auto switching when power failures occurs on any one of the two inputs
- 1+1/2+2/3+3/N+1 parallel redundancy operation
- CAN protocol with black box
- High-precision input efficiency reporting: 3% @ 50% load
- Hot standby/cold standby/deep sleep (input power less than 8 W)
- Hot swap
- 54 V output voltage
- Overvoltage, undervoltage, overcurrent, short circuit, overtemperature, and ORing isolation protection
- NRTL, TÜV, CB, CE, and CCC certifications
- IEC 62368-1 & EN 62368-1, and GB 4943.1-2022 compliant
- RoHS compliant

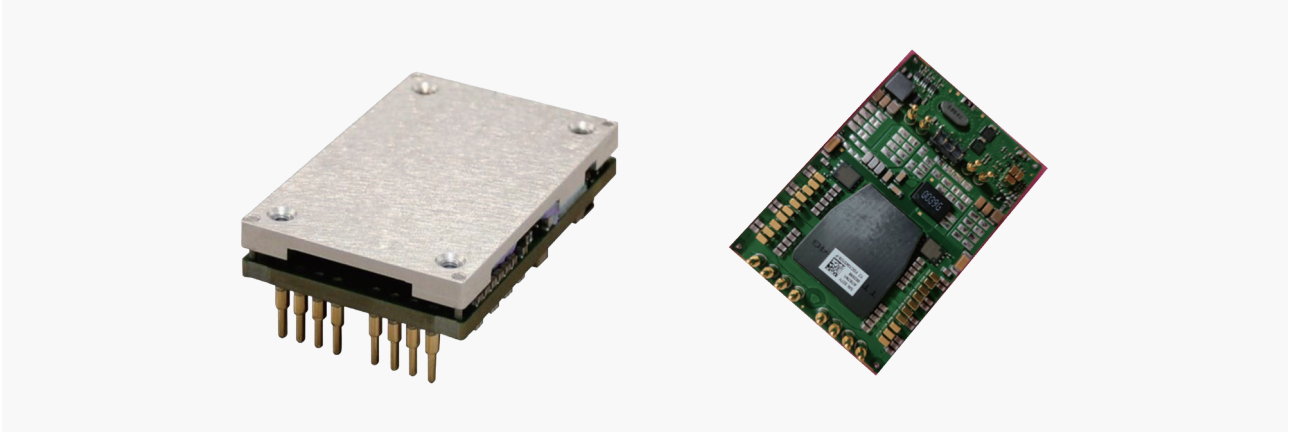
Technical Specifications

Product Model	FusionWatt PDP3000S54-T1
Dimensions (D x W x H)	538.5 mm x 68.0 mm x 40.7 mm (21.20 in. x 2.68 in. x 1.60 in.)
Weight	< 3.5 kg (7.72 lb)
AC Input Voltage Range	90 V to 264 V AC with support for dual-live-wire input
AC Input Frequency Range	47 Hz to 63 Hz
DC Operating Voltage Range	180 V to 320 V DC with support for reverse polarity connection
Max. Input Current	16 A
Input Protection	Undervoltage, overvoltage, overcurrent, short circuit, and overtemperature protection
Output Voltage Range	Steady-state accuracy: 53.8 V to 54.2 V; dynamic accuracy: 51.3 V to 56.7 V
Output Power	3000 W
Output Ripple	≤ 500 mVp-p
Max. Output Capacitive Load	12,000 uF
Hold-Up Time	100% load: 10 ms; 50% load: 20 ms
Efficiency	80 PLUS Titanium: > 94% at 20% load; > 96% at 50% load; > 94% at 100% load
Output Protection	Undervoltage, overvoltage, overcurrent, short circuit, and overtemperature protection
Parallel Operation	1+1, 2+1, 3+1, and N+1 (with N up to 35) parallel redundancy operation, hot swap, and fault isolation
Current Sharing	≤ ±5% (20% to 100% load); ≤ ±10% (10% to 20% load)
Certification	NRTL, TÜV, CB, CE, and CCC
Service Life	5 years
Annualized Failure Rate (AFR)	< 800 PPM
Heat Dissipation	Automatic fan speed control and fan fault isolation
Operating Temperature and Humidity	Operating temperature: 5°C to 50°C (41°F to 122°F); operating humidity: 5% to 90% (RH)
Storage Temperature and Humidity	Storage temperature: –40°C to +85°C (–40°F to +185°F); storage humidity: 5% to 95% (RH)

Board-Mount Power Supply
FusionWatt FDC134S12B-P

Introduction

The FusionWatt FDC134S12B-P is a new-generation isolated DC-DC converter, using the 1.5 times 1/4 brick structure. It delivers optimized efficiency, high power density, and low output ripple and noise, providing an input voltage range of 36 V to 57 V DC, a rated output voltage of 12 V DC, and a maximum output current of 134 A. This PSU also features digitalization and high reliability with PMBus communication supported and UL certified, making it suitable for various applications, such as servers, storage devices, communication equipment, industrial power supplies, instrument monitoring, and test equipment.



FusionWatt FDC134S12B-P

Features

- Efficiency: 96.5% @ 50% load
- 1+1 parallel redundancy operation
- PMBus 1.2
- Remote power-on/off
- RoHS compliant
- Input undervoltage protection, output overcurrent protection (oscillation mode), output short circuit protection (oscillating mode), output overvoltage protection, overtemperature protection (self-recovery), and input overvoltage shutoff
- UL 60950-1, UL 62368-1, and C22.2 No. 60950-1 compliant

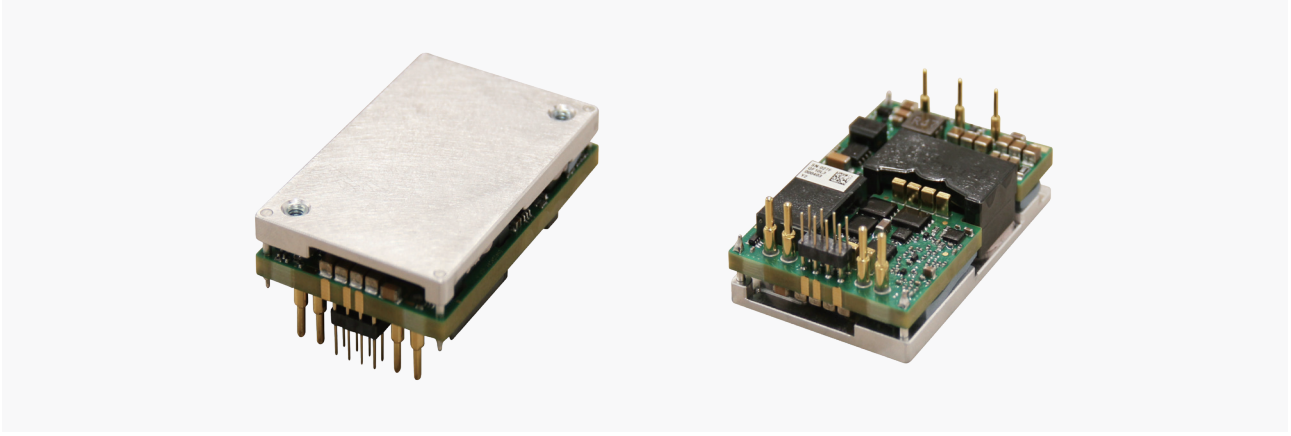
Technical Specifications

Product Model	FusionWatt FDC134S12B-P
Dimensions (D x W x H)	70.0 mm x 45.0 mm x 13.3 mm (2.76 in. x 1.77 in. x 0.52 in.)
Weight	< 0.15 kg (0.33 lb)
DC Operating Voltage Range	36 V to 57 V DC
Max. Input Current	50 A (36 V DC input)
Input Protection	Undervoltage protection, overvoltage shutoff, and overtemperature protection
Output Voltage Range	Steady-state accuracy: 11.8 V to 12.2 V; dynamic accuracy: 11.6 V to 12.8 V
Output Power	1600 W
Output Ripple	≤ 120 mVp-p
Max. Output Capacitive Load	6000 uF
Efficiency	> 95% at 20% load; > 96.5% at 50% load; > 95.5% at 100% load
Output Protection	Overcurrent, short circuit, overvoltage, and overtemperature protection
Parallel Operation	1+1 parallel redundancy operation
Current Sharing	≤ ±10% (50 A ≤ Iout ≤ 250 A with an impedance difference < 0.1 mΩ) ≤ ±15% (50 A ≤ Iout ≤ 250 A with an impedance difference < 0.4 mΩ)
Certification	UL
Service Life	5 years
Annualized Failure Rate (AFR)	< 300 PPM
Heat Dissipation	Built-in heat sink base, supporting heat sink expansion
Operating Temperature and Humidity	Operating temperature: –40°C to +85°C (–40°F to +185°F); operating humidity: 10% to 90% (RH)
Storage Temperature and Humidity	Storage temperature: –55°C to +125°C (–67°F to +257°F); storage humidity: 10% to 95% (RH)

Board-Mount Power Supply
FusionWatt GDQ54S12B-4PA

Introduction

The FusionWatt GDQ54S12B-4PA is a new-generation isolated DC-DC converter, using the standard 1/4 brick structure. It delivers optimized efficiency, high power density, and low output ripple and noise, providing an input voltage range of 36 V to 75 V DC, a rated output voltage of 12 V DC, and a maximum output current of 54 A. This UL-certified PSU supports PMBus communication, making it suitable for various applications, such as servers, storage devices, communication equipment, industrial power supplies, instrument monitoring, and test equipment.



FusionWatt GDQ54S12B-4PA

Features

- Efficiency: 95% @ 50% load
- 1+1 parallel redundancy operation
- PMBus 1.2
- Remote power-on/off
- RoHS compliant
- Input undervoltage protection, output overcurrent protection (recoverable), output short circuit protection (recoverable), output overvoltage protection, overtemperature protection (recoverable), and input overvoltage shutoff
- UL 62368-1, C22.2 No. 60950-1, and UL 60950-1 compliant

Technical Specifications

Product Model	FusionWatt GDQ54S12B-4PA
Dimensions (D x W x H)	57.9 mm x 36.8 mm x 13.4 mm (2.28 in. x 1.45 in. x 0.53 in.)
Weight	< 0.10 kg (0.22 lb)
DC Operating Voltage Range	36 V to 75 V DC
Max. Input Current	35 A (36 V DC input)
Input Protection	Undervoltage protection, overvoltage shutoff, and overtemperature protection
Output Voltage Range	Steady-state accuracy: 11.88 V to 12.12 V; dynamic accuracy: 11.6 V to 12.8 V
Output Power	650 W
Output Ripple	≤ 120 mVp-p
Max. Output Capacitive Load	13,000 uF
Efficiency	> 93% at 20% load; > 95% at 50% load; > 93.5% at 100% load
Output Protection	Overcurrent, short circuit, overvoltage, and overtemperature protection
Parallel Operation	1+1 parallel redundancy operation
Current Sharing	≤ ±5% (Iout ≥ 30 A); ≤ ±10% (15 A ≤ Iout ≤ 30 A)
Certification	UL
Service Life	5 years
Annualized Failure Rate (AFR)	< 300 PPM
Heat Dissipation	Built-in heat sink base, supporting heat sink expansion
Operating Temperature and Humidity	Operating temperature: –40°C to +85°C (–40°F to +185°F); operating humidity: 10% to 90% (RH)
Storage Temperature and Humidity	Storage temperature: –55°C to +125°C (–67°F to +257°F); storage humidity: 10% to 95% (RH)

More Information

For more information about xFusion,
please consult the local xFusion representative office or visit
the xFusion official website at www.xfusion.com.

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