Huawei Embedded Power System

HUAWEI TECHNOLOGIES CO., LTD.

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Embedded DC Power System

ETP4830-A1

Introduction

ETP4830-A1 can convert from 220V or dual-wire of 110V input to stabilized -48V DC output. It can also be configured with 48V/15A rectifiers and provide 30A output. All the function units have standard sized design with 1U. ETP4830-A1 can be embedded in 19-inch rack or cabinet or other scenarios. The system can provide excellent performance such as intelligent battery management, remote monitoring, etc.

Features

- Wide range of AC input voltage from 85V to 300V
- Wide operation temperature range of rectifier from -40℃ to 75℃
- Online-swappable rectifier provides easy installation and maintenance
- Standard installation structure design, adapting to various scenarios
- Compact design, saving space and installation cost
- High rectifier efficiency over 96% helps to save energy
- Excellent rectifier dormancy function helps to increase system efficiency
- Intelligent battery management and protection helps to prolong battery lifespan
- Support environment monitoring and remote management through dry contact, serial interface or Ethernet interface

Application Scenarios

- Access network
- Transmission network
- Communication network of enterprise

ETP4830-A1

15A rectifier

Monitor unit
SMU01C

Specifications

Product		ETP4830-A1	
System	Dimension	442mm(W)×255mm(D)×43.6mm(1U,H)	
	Weight	≤8kg(fully loaded)	
	Cooling mode	Natural cooling	
	Installation mode	Installed on 19-inch rack or cabinet	
	Cabling mode	Front inlet and front outlet	
	Maintenance mode	Front access, support module grade change	
	Protection level	IP20	
AC Distribution	Input mode	220VAC single phase or 110VAC dual-live wire	
	Input frequency	45~66Hz, rated value: 50Hz/60Hz	
	SPD	5kA/10kA, 8/20μs	
DC Distribution	Output voltage	42~58VDC, rated value: 53.5VDC	
	Maximum capacity	2kW	
	Battery breakers	1×20A(fuse)	
	Load breakers	2×20A(fuse)	
Environment	Operating temperature	-40℃~+65℃	
	Storage temperature	-40℃~+70℃	
	Operating humidity	5%~95%(non-condensing)	
	Altitude	0~4000m (If the altitude is within the range of 2000m to 4000m, the maximum operating temperature decreases by 1℃ as the altitude increases by 200m.)	
Rectifier	Rated power	870W(176~300VAC)	1000W(176~300VAC)
	Input voltage	85VAC~300 VAC, rated 220VAC	
	Working temperature	-40℃~+75℃ (derated output above 65℃)	-40℃~+75℃ (derated output above 55℃)
	Dimension	95.5mm(W)×208mm(D)×40.8mm(1U, H)	
	Weight	≤1.5kg	≤1.1kg
	Cooling mode	Forced cooling	
	Power factor	≥0.99	
	THD	≤5%	
Controller	Type	SMU01C	
	Signal input	2 digital input	
	Alarm output	4 dry contact	
	Communication port	RS232/485	
	Display mode	LCD	

Remark: Optional rectifiers with power efficiency >92% are available for this system.

Embedded DC Power System

ETP4890-A2

Introduction

ETP4890-A2 embedded DC power system can convert from AC input to stabilized -48V DC output. It can be compatible with 15A and 30A rectifiers and provide 90A output with 2U in height. ETP4890-A2 can be embedded in 19-inch rack or cabinet or other scenarios. The system can provide excellent performance such as intelligent battery management, remote management, etc.

Features

- Wide range of AC input voltage from 85V to 300V
- Wide operation temperature range of rectifier from -40℃ to 75℃
- Online-swappable rectifier provides easy installation and maintenance
- Standard installation structure design, adapting to various scenarios
- Compact design, saving space and installation cost
- High rectifier efficiency over 96% helps to save energy
- Excellent rectifier dormancy function helps to increase system efficiency
- Intelligent battery management and protection helps to prolong battery lifespan
- Support environment monitoring and remote management through dry contact, serial interface or Ethernet interface

Application Scenarios

- Access network
- Transmission network
- Communication network of enterprise

ETP4890-A2

15A rectifier

30A rectifier

Monitoring unit SMU01C

Specifications

Product		ETP4890-A2		
System	Dimension	442mm(W)×255mm(D)×86.1mm(2U,H)		
	Weight	≤10kg(fully loaded)		
	Cooling mode	Natural cooling		
	Installation mode	Installed on 19-inch rack or cabinet		
	Cabling mode	Front inlet and front outlet		
	Maintenance mode	Front access, support module grade alteration		
	Protection level	IP20		
AC Distribution	Input mode	220/380VAC 3-phase or 220VAC Single phase or 110VAC dual-live wire		
	Input frequency	45~66Hz, rated value: 50Hz/60Hz		
	SPD	5kA/10kA, 8/20μs		
DC Distribution	Output voltage	42~58VDC, rated value: 53.5VDC		
	Maximum capacity	4.8kW		
	Battery breakers	1×80A		
	Load breakers	1×10A, 1×30A, 2×40A		
Environment	Operating temperature	-40℃~+65℃		
	Storage temperature	-40℃~+70℃		
	Operating humidity	5%~95%(non-condensing)		
	Altitude	0~4000m (If the altitude is within the range of 2000m to 4000m, the maximum operating temperature decreases by 1℃ as the altitude increases by 200m.)		
Rectifier	Rated power	870W (176~300VAC)	1000W (176~300VAC)	1600W (176~300VAC)
	Input voltage	85VAC~300 VAC, rated 220VAC		
	Working temperature	-40℃~+75℃ (derated output above 65℃)	-40℃~+75℃ (derated output above 55℃)	-40℃~+75℃ (derated output above 55℃)
	Dimension	95.5mm(W)×208mm(D)×40.8mm(H)		
	Weight	≤1.5kg	≤1.1kg	<1.6kg
	Cooling mode	Forced cooling		
	Power factor	≥0.99		
	THD	≤5%		
Controller	Type	SMU01C		
	Signal input	2 digital input		
	Alarm output	4 dry contact		
	Communication port	RS232/485		
	Display mode	LCD		

Remark: Optional rectifiers with power efficiency >92% are available for this system.

Embedded DC Power System

ETP48150-A3

Introduction

ETP48150-A3 embedded DC power system can convert AC input to stabilized -48V DC output. It can be compatible with 15A and 30A rectifiers. ETP48150 can be embedded in 19-inch rack or cabinet or other scenarios. The system can adapt wide range of AC input voltage and provide excellent performance such as intelligent battery management, remote management, etc.

Features

- Wide range of AC input voltage from 85V to 300V
- Wide operation temperature range of rectifier from -40ºC to 75ºC
- Online-swappable rectifier provides easy installation and maintenance
- Standard installation structure design, adapting to various scenarios
- Compact design, saving space and installation cost
- High rectifier efficiency over 96% helps to save energy
- Excellent rectifier dormancy function helps to increase system efficiency
- Intelligent battery management and protection helps to prolong battery lifespan
- Support site environment monitoring and remote management through dry contact, serial interface or Ethernet interface

Application Scenarios

- Access network
- Transmission network
- Communication network of enterprise

ETP48150-A3

15A rectifier

30A rectifier

Monitoring unit SMU01C

Specifications

Product		ETP48150-A3		
System	Dimension	442mm(W)×255mm(D)×130.5mm (3U, H)		
	Weight	≤20kg (fully loaded)		
	Cooling mode	Natural cooling		
	Installation mode	Installed on 19-inch rack or cabinet		
	Cabling mode	Front inlet and front outlet		
	Maintenance mode	Front access, support module grade alteration		
	Protection level	IP20		
AC Distribution	Input mode	220/380VAC 3-phase or 220VAC single phase or 110V dual-live wire		
	Input frequency	45~66Hz, rated value: 50Hz/60Hz		
	SPD	5kA/10kA, 8/20μs		
DC Distribution	Output voltage	42~58VDC, rated value: 53.5VDC		
	Maximum capacity	8kW		
	Battery breakers	1x100A(HCB*)		
	Load breakers	2x12A(HCB), 2x20A(HCB), 4x40A(HCB)		
Environment	Operating temperature	-40ºC~+70ºC		
	Storage temperature	-40ºC~+70ºC		
	Operating humidity	5%~95%(non-condensing)		
	Altitude	0~4000m(If the altitude is within the range of 2000m to 4000m, the maximum operating temperature decreases by 1ºC as the altitude increases by 200m.)		
Rectifier	Rated power	870W (176~300VAC)	1000W 176~300(VAC)	1600W (176~300VAC)
	Input voltage	85VAC~300 VAC, rated 220VAC		
	Working temperature	-40ºC~+75ºC (derated output above 65ºC)	-40ºC~+75ºC (derated output above 55ºC)	-40ºC~+75ºC (derated output above 55ºC)
	Dimension	95.5mm(W)×208mm(D)×40.8mm(H)		
	Weight	≤1.5kg	≤1.1kg	≤1.6kg
	Cooling mode	Forced cooling		
	Power factor	≥0.99		
	THD	≤5%		
Controller	Type	SMU01C		
	Signal input	2 digital input		
	Alarm output	4 dry contact output		
	Communication port	RS232/485		
	Display mode	LCD		

Remark: Optional rectifiers with power efficiency >92% are available for this system.

Embedded DC Power System

ETP48200-C5A1

Introduction

ETP48200-C5A1 and ETP48200-C5A3 are AC/DC embedded power system with excellent performance such as high power efficiency, intelligent battery management, remote monitoring, wide range of AC input voltage, etc. The system configures 50A of 1U height rectifier modules, and provides up to 200A output current. ETP48200-C5A1 and ETP48200-C5A3 can be embedded in 19-inch rack or cabinet.

Features

- Wide range of AC input voltage from 85V to 300V
- Wide operation temperature range of rectifier from -40℃ to 75℃
- Online-swappable rectifier provides easy installation and maintenance
- Standard installation structure design, adapting to various scenarios
- Compact design, saving space and installation cost
- High rectifier efficiency over 96% helps to save energy
- Excellent rectifier dormancy function helps to increase system efficiency
- Intelligent battery management and protection helps to prolong battery lifespan
- Support environment monitoring and remote management through dry contact, serial interface or Ethernet interface

Application Scenarios

- Wireless base station
- Transmission network
- Communication network of enterprise

ETP48200-C5A1

50A rectifier

Monitor unit

Specifications

Product		ETP48200-C5A1
System	Dimension	482.6mm(W)×330mm(D)×219.5mm(5U, H)
	Weight	≤20kg (without rectifiers)
	Cooling mode	Natural cooling
	Installation mode	Installed on 19-inch rack, or embedded in cabinet
	Cabling mode	Front, top inlet and top outlet
	Maintenance mode	Front maintenance, support module grade alteration
	Protection level	IP20
AC Distribution	Input mode	220/380VAC 3-phase or 220VAC Single phase
	Input voltage	380VAC/220VAC
	Input capacity	1×63A/3P
	Frequency	45~66Hz, rated value: 50Hz/60Hz
	SPD	30kA/60kA, 8/20μs
DC Distribution	Output voltage	42~58VDC, rated value: 53.5VDC
	Maximum capacity	12kW
	Battery breakers	2×125A/1P
	Load breakers	LLVD: 1×100A/1P, 1×63A/1P, 4×32A/1P BLVD: 2×10A/1P, 4×16A/1P
	SPD	10kA/20kA, 8/20μs
Rectifier	Input voltage	85VAC~300VAC, rated value: 220VAC
	Efficiency	>96%
	Rated power	3000W(176~300VAC)
	Working temperature	-40℃~+75℃(derated output above 55℃)
	Dimension	105mm(W)×281mm(D)×40.8mm(1U, H)
	Weight	≤2kg
	Cooling mode	Forced cooling
	Power factor	≥0.99
	THD	≤5%
Controller	Signal input	6 digital input, 1 door magnetism, 1 water logging, 1 smoke, 2 temperature, 1 battery temperature, 1 environment temperature and humidity
	Alarm output	8 dry contact output
	Communication port	RS232/485, FE
	Display mode	LCD
Environment	Operating temperature	-40℃~+65℃
	Storage temperature	-40℃~+70℃
	Operating humidity	5%~95%(non-condensing)
	Altitude	0~4000m (If the altitude is within the range of 2000m to 4000m, the maximum operating temperature decreases by 1℃ as the altitude increases by 200m.)

Remark: Optional rectifiers with power efficiency >92% are available for this system.

Rectifier Module

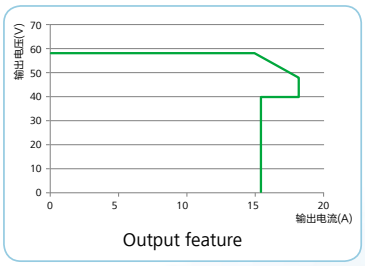
R4815G1

Introduction

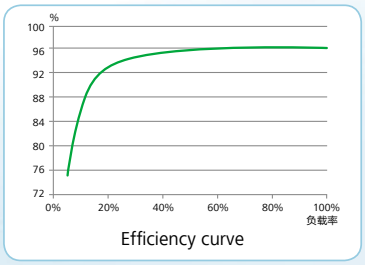
The R4815G1 is a digital rectifier that converts the 85~300VAC input to 53.5 VDC output and possesses the characters of high efficiency, walk-in start, hot-plug, complete protection, and no audible noise. The rectifier adopts the latest power monitoring technology, implements the function of monitoring the states of loads and the rectifier status in real time. The output voltage of the rectifier can be adjusted through the host.

Features

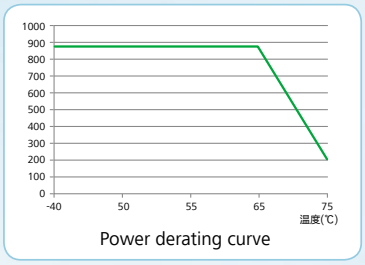
- High efficiency: >96%
- Input voltage range: 85~300VAC
- Operating temperature range: -40~+75℃
- Total harmonic distortion(THD): ≤5%
- Hot-plug
- Digital control
- Intelligent electric meter
- Communication over CAN
- Adjustment of voltage and current
- Meet RoHS requirements
- Passing the TUV, CE, CB, UL certifications



Output feature



Efficiency curve



Power derating curve

Specifications

Product		R4815G1
Basic specifications	Dimension	40.8(H)mm×95.5(W)mm×208(D)mm
	Weight	≤1.5kg
	Cooling	Forced air cooling
Input feature	Input voltage	85~300VAC
	Input mode	220VAC single phase(or 110VAC dual live lines)
	Frequency	45~66Hz, rated: 50Hz/60Hz
	Maximum input current	≤6A
	Power factor	≥0.99
	THD	≤5%
Output feature	Output voltage	42~58VDC, default value: 53.5VDC
	Output power	870W(176~300VAC)
Environmental specifications	Operating temperature	-40℃~+75℃
	Storage temperature	-40℃~+70℃
	Relative humidity	5%~95%(non-condensing)
	Altitude range	≤4000m(If the altitude is within the range of 3000m to 4000m, the maximum operating temperature decreases by 1℃ as the altitude increases by 200m.)
Protection	Input overvoltage protection	Protection point: >300VAC
	Input undervoltage protection	Protection point: <80VAC
	Output overvoltage protection	58.5~60.5VDC(can be set by PMU)
	Output short circuit protection	A long term short circuit is allowed
	Over-temperature protection	Protection point: ≥75℃(167℉)
Reliability	MTBF	>500,000hours
Audible noises	Specification	≤35db(25℃, full load)
Safety/EMC/ Lightening protection	Safety certification	Passes TUV, CE, UL certifications Catch the CB certificate Complies with UL60950-1 IEC60950-1 EN60950-1 CAN/CSA C22.2 No. 60950 -1
	EMC	EN55022 Class B EN55024 EN61000-3-2 EN61000-3-3 ETSI EN300 386 ETSI EN301489 ITU-T K.20
	Lightening protection	YD 5098-2005 5KA

Rectifier Module

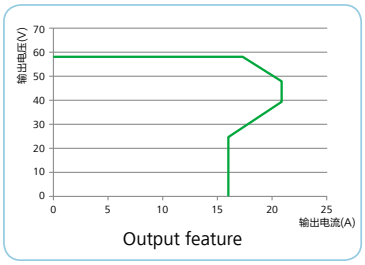
R4815N1

Introduction

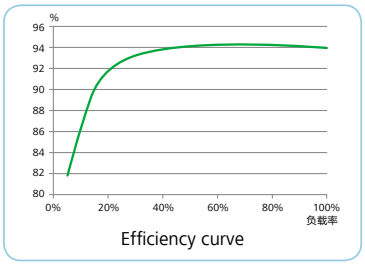
The R4815N1 is a digital rectifier that converts the 85~300VAC input to 53.5 VDC output and possesses the characters of high efficiency, walk-in start, hot-plug, complete protection, and low audible noise. The rectifier adopts the latest power monitoring technology, implements the function of monitoring the states of loads and the rectifier status in real time. The output voltage of the rectifier can be adjusted through the host.

Features

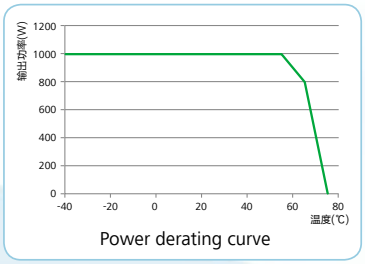
- High efficiency: >94%
- Input voltage range: 85~300VAC
- Operating temperature range: -40~+75°C
- Total harmonic distortion(THD): ≤5%
- Hot-plug
- Digital control
- Intelligent electric meter
- Communication over CAN
- Adjustment of voltage and current
- Meet RoHS requirements
- Passing the TUV, CE, CB, UL certifications



Output feature



Efficiency curve



Power derating curve

Specifications

Product		R4815N1
Basic specifications	Dimension	40.8(H)mm×95.5(W)mm×208(D)mm
	Weight	≤1.1kg
	Cooling	Forced air cooling
Input feature	Input voltage	85~300VAC
	Input mode	220VAC single phase(or 110VAC dual live lines)
	Frequency	45~66Hz, rated: 50Hz/60Hz
	Maximum input current	≤6.4A
	Power factor	≥0.99
	THD	≤5%
Output feature	Output voltage	42~58VDC, default value: 53.5VDC
	Output power	1000W(176~300VAC)
Environmental specifications	Operating temperature	-40°C~+75°C
	Storage temperature	-40°C~+70°C
	Relative humidity	5%~95%(non-condensing)
	Altitude range	≤4000m(If the altitude is within the range of 3000m to 4000m, the maximum operating temperature decreases by 1°C as the altitude increases by 200m.)
Protection	Input overvoltage protection	Protection point: >300VAC
	Input undervoltage protection	Protection point: <80VAC
	Output overvoltage protection	58.5~60.5VDC(can be set by PMU)
	Output short circuit protection	A long term short circuit is allowed
	Over-temperature protection	Protection point: ≥75°C(167°F)
Reliability	MTBF	>500,000hours
Audible noises	Specification	≤40db(25°C, full load)
Safety/EMC/ Lightening protection	Safety certification	Passes TUV, CE, UL certifications Catch the CB certificate Complies with UL60950-1 IEC60950-1 EN60950-1 CAN/CSA C22.2 No. 60950 -1
	EMC	EN55022 Class B EN55024 EN61000-3-2 EN61000-3-3 ETSI EN300 386 ETSI EN301489 ITU-T K.20
	Lightening protection	YD 5098-2005 5KA

Rectifier Module

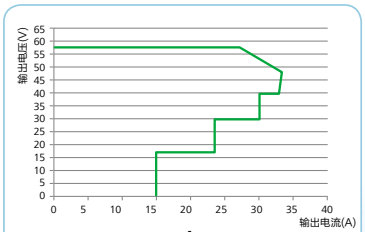
R4830G1

Introduction

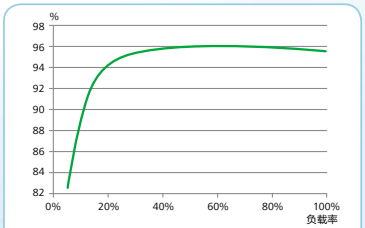
The R4830G1 is a digital rectifier that converts the 85~300VAC to 53.5 VDC and possesses the characters of high efficiency, high power density, walk-in start, hot-plug, complete protection, and low noise. The rectifier adopts the latest power monitoring technology, implements the function of monitoring the states of loads and the rectifier status in real time. The output voltage of the rectifier can be adjusted through the host.

Features

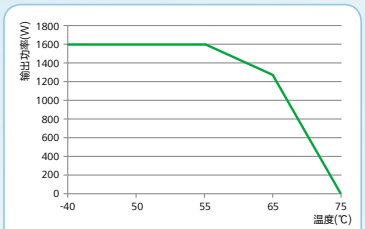
- High efficiency: >96%
- Input voltage range: 85~300VAC
- Operating temperature range: -40ºC~75ºC
- Total harmonic distortion(THD): ≤5%
- Hot-plug
- Digital control
- Intelligent electric meter
- Communication over CAN
- Adjustment of voltage and current
- Meet RoHS requirements
- Passing the TUV, CE, CB, UL certifications



Output feature



Efficiency curve



Power derating curve

Specifications

Product		R4830G1
Basic specifications	Dimension	40.8(H)×95.5(W)×208(D)mm
	Weight	≤1.5kg
	Cooling	Forced air cooling
Input feature	Input voltage	85~300VAC
	Input mode	220VAC single phase(or 110VAC dual live lines)
	Frequency	45~66Hz, rated: 50Hz/60Hz
	Maximum input current	≤13A
	Power factor	≥0.99
	THD	≤5%
Output feature	Output voltage	42~58VDC, default value: 53.5VDC
	Output power	1600W(176~300VAC)
Environmental specifications	Operating temperature	-40ºC~+75ºC(non-derating under 55ºC)
	Storage temperature	-40ºC~+75ºC
	Relative humidity	5%~95%(non-condensing)
	Altitude range	≤4000m(If the altitude is within the range of 2000m to 4000m, the maximum operating temperature decreases by 1ºC as the altitude increases by 200m.)
Protection	Input overvoltage protection	Protection point: >300VAC
	Input undervoltage protection	Protection point: <80VAC
	Output overvoltage protection	58.5~60.5VDC(can be set by PMU)
	Output short circuit protection	A long term short circuit is allowed.
	Over-temperature protection	Protection point: ≥75ºC(167ºF)
Reliability	MTBF	>500,000hours
Audible noises	Specification	≤45dB(25ºC, full load)
Safety/EMC/ Lightening protection	Safety certification	Passes TUV, CE, UL certifications Catch the CB certificate Complies with UL60950-1 IEC60950-1 EN60950-1 CAN/CSA C22.2 No. 60950 -1
	EMC	EN55022 Class B EN55024 EN61000-3-2 EN61000-3-3 ETSI EN300 386 ETSI EN301489 ITU-T K.20
	Lightening protection	YD 5098-2005 5KA

Rectifier Module

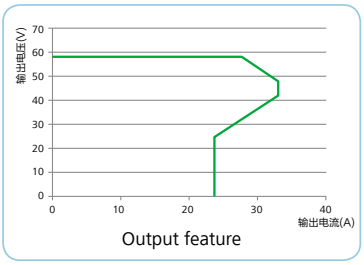
R4830N2

Introduction

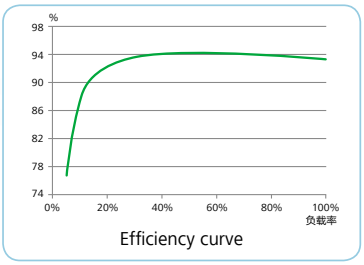
The R4830N2 is a digital rectifier with high efficiency and power density. It converts 85–300 V AC input voltage to 53.5 VDC output voltage. The output voltage can be adjusted by the host. It performs comprehensive protection functions, supports soft start, and produces low noise. With the latest power monitoring technology, states of the rectifier and load are monitored in real time.

Features

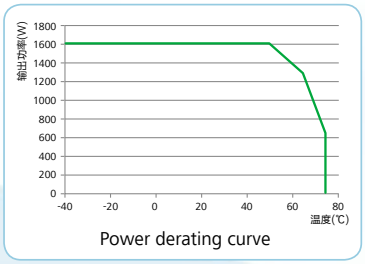
- Efficiency >94%
- Input voltage range: 85~300VAC
- Operating temperature range: -40℃~75℃
- Total harmonic distortion(THD): ≤5%
- Hot-plug
- Digital control
- Intelligent electric meter
- Communication over CAN
- Adjustment of voltage and current
- Meet RoHS requirements
- Passing the TUV, CE, CB, UL certifications



Output feature



Efficiency curve



Power derating curve

Specifications

Product		R4830N2
Basic specifications	Dimension	41(H)×95.5(W)×208(D)mm
	Weight	≤1.3kg
	Cooling	Forced air cooling
Input feature	Input voltage	85~300VAC
	Input mode	220VAC single phase(or 110VAC dual live lines)
	Frequency	45~66Hz, rated: 50Hz/60Hz
	Maximum input current	≤10A
	Power factor	≥0.99(full load)
	THD	≤ 3.5% (full load) ≤5% (load≥50%)
Output feature	Output voltage	42~58VDC, default value: 53.5VDC
	Output power	1605 W (176–300 VAC) 755 W (85–175 VACdecreased linearly)
Environmental specifications	Operating temperature	-40℃~+75℃(non-derating under 55℃)
	Storage temperature	-40℃~+75℃
	Relative humidity	5%~95%(non-condensing)
	Altitude range	≤ 4000m(If the altitude is within the range of 3000m to 4000m, the maximum operating temperature decreases by 1℃ as the altitude increases by 200m.)
Protection	Input overvoltage protection	Protection point: >300VAC
	Input undervoltage protection	Protection point: <80VAC
	Output overvoltage protection	56~60VDC(can be set by PMU)
	Output short circuit protection	A long term short circuit is allowed
	Over-temperature protection	Protection function is available
Reliability	MTBF	>500,000hours
Audible noises	Specification	≤45dB(25℃, full load)
Safety/EMC/ Lightening protection	Safety certification	Passes TUV, CE, UL certifications Catch the CB certificate Complies with UL60950-1 IEC60950-1 EN60950-1 CAN/CSA C22.2 No. 60950 -1
	EMC	EN55022 Class B EN55024 EN61000-3-2 EN61000-3-3 ETSI EN300 386 ETSI EN301489 ITU-T K.20
	Lightening protection	5KA

Rectifier Module

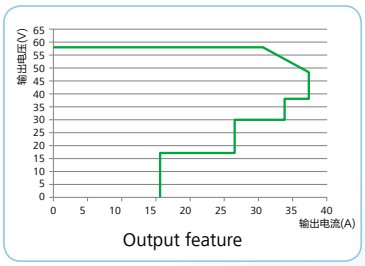
R4830G2

Introduction

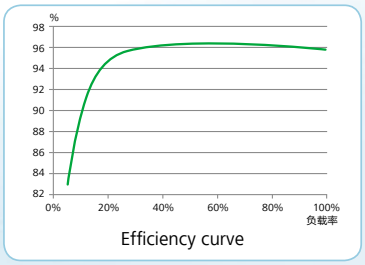
The R4830G2 is a digital rectifier that converts the 80~300VAC to 53.5 VDC and possesses the characters of high efficiency, high power density, walk-in start, hot-plug, complete protection, and low noise. The rectifier adopts the latest power monitoring technology, implements the function of monitoring the states of loads and the rectifier status in real time. The output voltage of the rectifier can be adjusted through the host.

Features

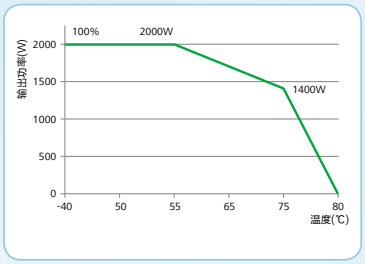
- High efficiency: >96%
- Input voltage range: 80~300VAC
- Operating temperature range: -40℃~75℃
- Total harmonic distortion(THD): ≤5%
- Hot-plug
- Digital control
- Intelligent electric meter
- Communication over CAN
- Adjustment of voltage and current
- Meet RoHS requirements
- Passing the TUV,CE,CB,UL certifications



Output feature



Efficiency curve



Specifications

Product		R4830G2
Basic specifications	Dimension	40.8(H)×105(W)×281(D)mm
	Weight	≤1.8kg
	Cooling	Forced air cooling
Input feature	Input voltage	80~300VAC
	Input mode	220VAC single phase(or 110VAC dual live lines)
	Frequency	45~66Hz, rated: 50Hz/60Hz
	Maximum input current	≤12A
	Power factor	≥0.99(full load)
	THD	≤5%(over 50% load)
Output feature	Output voltage	42~58VDC, default value: 53.5VDC
	Output power	2000W(176~300VAC)
Environmental specifications	Operating temperature	-40℃~+75℃(non-derating under 55℃)
	Storage temperature	-40℃~+75℃
	Relative humidity	5%~95%(non-condensing)
	Altitude range	≤ 4000m(If the altitude is within the range of 2000m to 4000m, the maximum operating temperature decreases by 1℃ as the altitude increases by 200m.)
Protection	Input overvoltage protection	Protection point: >300VAC
	Input undervoltage protection	Protection point: <80VAC
	Output overvoltage protection	56~60VDC(can be set by PMU)
	Output short circuit protection	A long term short circuit is allowed
	Over-temperature protection	Protection function is available
Reliability	MTBF	>500,000hours
Audible noises	Specification	≤45dB(25℃, full load)
Safety/EMC/ Lightening protection	Safety certification	Passes TUV, CE, UL certifications Catch the CB certificate Complies with UL60950-1 IEC60950-1 EN60950-1 CAN/CSA C22.2 No. 60950 -1
	EMC	EN55022 Class B EN55024 EN61000-3-2 EN61000-3-3 ETSI EN300 386 ETSI EN301489 ITU-T K.20
	Lightening protection	YD 5098-2005 5KA

Rectifier Module

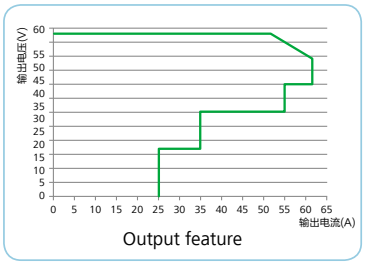
R4850G2

Introduction

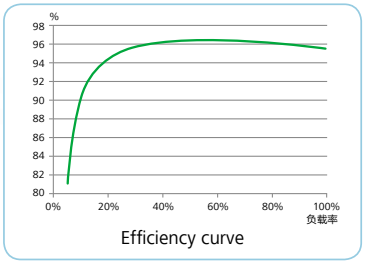
The R4850G2 is a digital rectifier that converts the 85~300VAC to 53.5 VDC and possesses the characters of high efficiency, high power density, walk-in start, hot-plug, complete protection, and low noise. The rectifier adopts the latest power monitoring technology, implements the function of monitoring the states of loads and the rectifier status in real time. The output voltage of the rectifier can be adjusted through the host.

Features

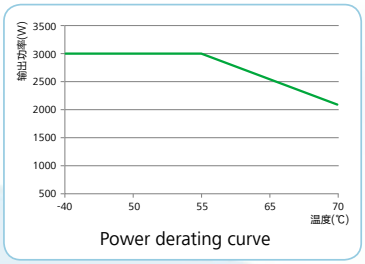
- High efficiency: >96%
- Input voltage range: 85~300VAC
- Operating temperature range: -40℃~75℃
- Total harmonic distortion(THD): ≤5%
- Hot-plug
- Digital control
- Intelligent electric meter
- Communication over CAN
- Adjustment of voltage and current
- Meet RoHS requirements
- Passing the TUV, CE, CB, UL certifications



Output feature



Efficiency curve



Power derating curve

Specifications

Product		R4850G2
Basic specifications	Dimension	40.8(H)×105(W)×281(D)mm
	Weight	≤2kg
	Cooling	Forced air cooling
Input feature	Input voltage	85~300VAC
	Input mode	220VAC single phase(or 110VAC dual live lines)
	Frequency	45~66Hz, rated: 50Hz/60Hz
	Rated input current	<17A
	Power factor	≥0.99
	THD	≤5%
Output feature	Output voltage	42~58VDC, default value: 53.5VDC
	Output power	3000W(176~300VAC)
Environmental specifications	Operating temperature	-40℃~+75℃(non-derating under 55℃)
	Storage temperature	-40℃~+75℃
	Relative humidity	5%~95%(non-condensing)
	Altitude range	≤4000m(If the altitude is within the range of 3000m to 4000m, the maximum operating temperature decreases by 1℃ as the altitude increases by 200m.)
Protection	Input overvoltage protection	Protection point: >300VAC
	Input undervoltage protection	Protection point: <80VAC
	Output overvoltage protection	58.5~60.5VDC(can be set by PMU)
	Output short circuit protection	A long term short circuit is allowed.
	Over-temperature protection	Protection point: ≥75℃(167℉)
Reliability	MTBF	>500,000hours
Audible noises	Specification	≤55dB(40℃, full load)
Safety/EMC/ Lightening protection	Safety certification	Passes TUV, CE, UL certifications Catch the CB certificate Complies with UL60950-1 IEC60950-1 EN60950-1 CAN/CSA C22.2 No. 60950 -1
	EMC	EN55022 Class B EN55024 EN61000-3-2 EN61000-3-3 ETSI EN300 386 ETSI EN301489 ITU-T K.20
	Lightening protection	YD 5098-2005 5KA

Rectifier Module

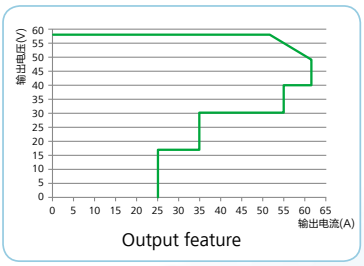
R4850N2

Introduction

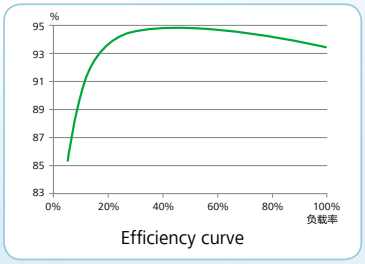
The R4850N2 is a digital rectifier that converts the 85~300VAC to 53.5 VDC and possesses the characters of high efficiency, high power density, walk-in start, hot-plug, complete protection, and low noise. The rectifier adopts the latest power monitoring technology, implements the function of monitoring the states of loads and the rectifier status in real time. The output voltage of the rectifier can be adjusted through the host.

Features

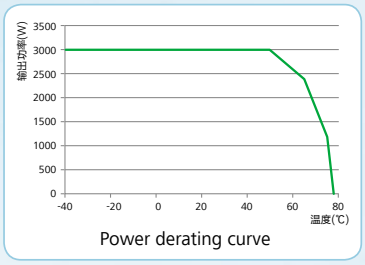
- High efficiency: >94%
- Input voltage range: 85~300VAC
- Operating temperature range: -40℃~75℃
- Total harmonic distortion(THD): ≤5%
- Hot-plug
- Digital control
- Intelligent electric meter
- Supports CAN communication
- Adjustment of voltage and current
- Meet RoHS requirements
- Passing the TUV, CE, CB, UL certifications



Output feature



Efficiency curve



Power derating curve

Specifications

Product		R4850N2
Basic specifications	Dimension	40.8(H)×105(W)×281(D)mm
	Weight	≤2kg
	Cooling	Forced air cooling
Input feature	Input voltage	85~300VAC
	Input mode	220VAC single phase(or 110VAC dual live lines)
	Frequency	45~66Hz, rated: 50Hz/60Hz
	Maximum input current	≤19A
	Power factor	≥0.99
	THD	≤5%
Output feature	Output voltage	42~58VDC, default value: 53.5VDC
	Output power	3000W(176~300VAC)
Environmental specifications	Operating temperature	-40℃~+75℃(non-derating under 50℃)
	Storage temperature	-40℃~+75℃
	Relative humidity	5%~95%(non-condensing)
	Altitude range	≤4000m(If the altitude is within the range of 3000m to 4000m, the maximum operating temperature decreases by 1℃ as the altitude increases by 200m.)
Protection	Input overvoltage protection	Protection point: >300VAC
	Input undervoltage protection	Protection point: <80VAC
	Output overvoltage protection	58.5~60.5VDC(can be set by PMU)
	Output short circuit protection	A long term short circuit is allowed.
	Over-temperature protection	Protection point: ≥75℃(167℉)
Reliability	MTBF	>500,000hours
Audible noises	Specification	≤55dB(40℃, full load)
Safety/EMC/ Lightening protection	Safety certification	Passes TUV, CE, UL certifications Catch the CB certificate Complies with UL60950-1 IEC60950-1 EN60950-1 CAN/CSA C22.2 No. 60950 -1
	EMC	EN55022 Class B EN55024 EN61000-3-2 EN61000-3-3 ETSI EN300 386 ETSI EN301489 ITU-T K.20
	Lightening protection	YD 5098-2005 5KA

Site Monitoring Unit

SMU01C

Introduction

SMU01C is a monitoring unit for site and power. It supports the monitoring management of HUAWEI embedded power systems. It can monitor and manage telecom power system, and provides site monitoring function. LCD screen and keyboard are equipped in the unit to realize man-machine interaction. It has a serial communication port to realize local and remote monitoring. It has sensor ports to monitor the ambient condition.

Features

- Performs comprehensive power management and intelligent battery management
- Provides 4 dry contact outputs
- Provides 2 Boolean value inputs
- Provides ports battery temperature sensor, ambient temperature sensor
- Supports English and Chinese as displayed language
- Supports hot plug

(1) Running indicator
(2) Major alarm indicator
(3) LCD
(4) Four buttons
(5) Locking latch
(6) DIN port
(7) Alarm port
(8) Ambient temperature sensor port
(9) Battery temperature sensor port
(10) RS485/RS232 port
(11) COM port

LCD function

- View active alarms and historical alarms
- View the running status of the system, such as the system voltage, load current, and battery testing records
- Set system parameters, communications parameters, power supply unit(PSU) parameters and battery management parameters
- Control the system status, such as choosing boost charge or floating charge and PSU dormancy charge
- Set parameters quickly, such as the battery string parameters, date, time, and communication addresses

Function

Product	SMU01C
Detection	AC input voltage
	DC output voltage
	Load current
	Battery current
	Battery temperatures
	Ambient temperatures
Battery management	Battery boost charge
	Battery floating charge
	Battery tests
	Battery current limiting
	Battery temperature compensation
	Battery overtemperature protection
	Battery low voltage disconnection(BLVD) protection
	Battery imbalance detection
	Battery capacity detection
Energy saving management	Intelligent rectifier module hibernation
Rectifier management	Rectifier operating information
	Rectifier power-on/off control
	Rectifier output voltage limiting
	Rectifier output current limiting
Alarm	Main AC input fault/over-voltage/under-voltage
	DC output over-voltage/under-voltage
	Battery over-temperature/under-temperature
	Ambient over-temperature/under-temperature
	Ambient over-humidity/under-humidity
	Water inrush/smoke alarm
	Battery discharge
	Battery charge over-current
	Load fuse trip
	Battery loop trip
	Rectifier fault
	Battery disconnection
	Load disconnection

Site Monitoring Unit

SMU02B

Introduction

SMU02B is a type of high-end monitoring unit for site and power. It can monitor and manage telecom power system, and provides site monitoring function. LCD screen and keyboard are equipped in the unit to realize man-machine interaction. It has a serial communication port and an Ethernet port to realize local and remote monitoring.SMU02B supports the monitoring management of HUAWEI's power system series, including embedded power, indoor power and outdoor power system.

Features

- Performs comprehensive power management and battery management
- Grid quality detection
- Intelligent temperature control
- Support time, voltage, capacity disconnecting protection and LLVD1, LLVD2, BLVD
- Supports CAN communication
- Supports north monitoring ports CAN and FE. FE interface supports SNMP and allows safe access to WEB
- Supports electronic label function
- Supports remote software upgrade
- Supports downloading historical logs and statistics
- Provides five analog inputs(AI), twelve dry contact outputs(DO) and nine Boolean value inputs(DI)
- Provides ports to connect to the smoke sensor, door status sensor, water sensor, battery temperature sensor, ambient temperature and humidity sensor
- Supports multiple languages, such as English, Chinese, Turkish, Spanish, Portuguese and German
- Supports hot plug

(1) Running indicator (2) Minor alarm indicator
(3) Major alarm indicator (4) LCD
(5) Locking latch (6) Button
(7) USB port(reserved) (8) RS485/RS232 serial port (9) FE port

LCD function

- View active alarms and historical alarms
- View the running status of the system, such as the system voltage, load current, and battery testing records
- Set system parameters, communications parameters, power supply unit(PSU) parameters and battery management parameters
- Control the system status, such as choosing boost charge or floating charge and PSU dormancy charge
- Set parameters quickly, such as the battery string parameters, date, time, and communication addresses

Function

Product	SMU02B
Detection	AC input voltage
	AC input current
	AC frequency
	DC output voltage
	Total load current
	Total battery current
	Current of the nth battery(VRLA battery)
	Battery temperature
	Ambient temperature & humidity
Energy conservation management	Intelligent rectifier hibernation
	Peak clipping power consumption
Rectifier management	Rectifier operation information
	Rectifier power-on/off control
	Rectifier output voltage limit
	Rectifier output current limit
	Rectifier overvoltage protection
	Sequential rectifier startup
Battery management	Battery manual or automatic control
	Battery charging
	Battery test
	Battery current limiting
	Battery temperature compensation
	Battery high temperature protection
	Multi-mode and multi-level disconnecting protection
	Battery imbalance detection
	Battery capacity calculation/backup time calculation
Alarm	Internal fault
	AC phase failure
	AC/DC overvoltage/undervoltage
	Load/battery fuse break
	Battery discharging
	Load low voltage disconnection (LLVD1, LLVD2)
	Battery low voltage disconnection (BLVD)
	Battery temperature high/very high/low/very low
	Rectifier failure
	No response for rectifier

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HUAWEI TECHNOLOGIES CO., LTD.

Huawei Industrial Base
Bantian Longgang
Shenzhen 518129, P.R. China
Tel: +86-755-28780808

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www.huawei.com