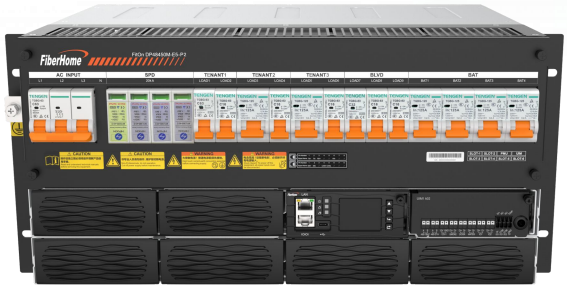
FitOn DP48450M-E5-P2 A01 18kW/24kW Multi tenant Embedded Telecom Power

Product Introduction

FitOn DP48450M-E5-P2 A01 18kW/24kW mains power supply embedded telecom power is used to convert AC input to stable 48Vdc output. The rated output current of the system is 300A/450A, the maximum output power is 18kW/24kW, and the height is 5U. The product has modular design, safe operation, reliable performance. It is clean and beautiful, can adapt to a wide range of AC input, and has intelligent battery management, remote monitoring and other functions.



Application Scenario

It is suitable for communication sites with high power supply reliability requirements.

Product Feature

Reliable

- Super power grid and environmental adaptability
- Module redundancy configuration, high reliability

Efficient

- Configure high-efficiency rectifier module to reduce energy consumption
- Ultra compact design, 5U height
- Rectifier module, monitoring unit and user interface module support hot plugging, and maintenance is fast and convenient

Intelligent

- Northbound interface supports connecting with LAN and RS485 interfaces, 4G module wireless access can be equipped, supports SNMP, MODBUS, YD/T 1363.3, WEB protocols
- Southbound interface supports RS485, CAN, DO, DI, AI and other types, can manage lithium batteries, air conditioners, heat exchangers, temperature sensors and other power environment equipment
- Perfect module intelligent sleep, peak-load shifting, off-peak power use smart energy-saving functions
- Perfect battery charging/discharging management, online detection and battery capacity inspection
- Supports AC input metering, BLVD and LLVD shunt voltage and current metering

Extension

- Support additional PV power supply application (additional configuration with low-voltage PV Unit FitOn DP48100S-B1-P1 or PV power distribution Unit PDP4S63-04J is required)

FitOn DP48450M-E5-P2 A01 18kW/24kW Multi tenant Embedded Telecom Power

Product Specification

Parameter item		Parameter description	
Basic parameter	Maximum output power	18kW/24kW	
	Rated output current	300A/450A	
	Mounting type	19 inches rack-mounted	
	Size	482.6mm (width) × 350mm (depth) × 218.5mm (height)	
	Weight	≤22kg (exclude rectifier module)	
	Power factor	≥99.9%@100% Load	
	Peak-to-peak noise	≤200mV	
Distribution parameter	Input format	Three phase 380Vac (346Vac~503Vac)	
	Input terminal	63A/3P×1 + zero cable connecting terminal	
	Battery terminal	125A/1P×4	
	Primary power-off terminal	TENANT1: 63A/1P×1+16A/1P×1 TENANT2: 125A/1P×1+16A/1P×1 TENANT3: 125A/1P×1+16A/1P×1	
	Secondary power-off terminal	32A/1P×1+16A/1P×2	
Rectifier module parameter	Module model	18kW: FR4850H; 24kW: FR4875S/ FR4875H please refer to the introduction of rectifier module; Sum of two types of modules ≤6	
Monitoring system parameter	Human computer interaction interface	1.8 inches LCD color screen	
	Communication interface	RS485 interface: MODBUS and YD/T 1363.3 protocol; LAN interface: HTTPS, SNMP and YD/T 1363.3 protocol; CAN interface: CAN2.0B protocol	
	Alarm function	Module protection, module failure, AC power failure, SPD failure, low battery voltage, at least 10,000 history alarm storage	
	User interface	UIM1 A01(High configuration, optional)	8-path dry contact input, 2-path dry contact output, 2-path 12V power supply, 8-path RS485 communication port, 3-path temperature sensor, 2-path load fuse detection, 2-path battery fuse detection
		UIM1 A02(Standard configuration, default)	6-path dry contact input, 2-path dry contact output, 1-path 12V power supply, 2-path RS485 communication port, 1-path temperature sensor, 2-path load fuse detection, 2-path battery fuse detection
	Control function	Module power on/off, battery power off, load power off	
	Battery management	Conversion between equalizing and boost charge, temperature compensation, battery test, battery current-limiting protection, battery capacity statistics	
	Energy saving management	Support intelligent sleep, peak-load shifting, off-peak power use	

FitOn DP48 Series Power Component—PMUD42 Monitoring Unit

Product Introduction

PMUD42 A01 monitoring unit is a new generation of monitoring product developed by Fiberhome. The main chip adopts ARM Cortex-A7 processor and Linux operating system, which has powerful management functions such as alarm, load control, battery, communication, energy saving, friendly and easy-to-use user operation interface.

Product Feature

- Provide rich analog and digital test paths
- Provide LAN, RS485, CAN and other communication interfaces
- 1.8-inch LCD color screen, supporting status display and localization settings
- Reasonable control of rectifier module, PV module and AC/DC power distribution
- Optimize battery capacity and prolong service life
- Huge alarm and event storage function
- Support the uploading and downloading of software and data, and remote system access
- Extensible 4G wireless communication function

Product Specification

Parameter item	Parameter description
Communication interface	10M/100M adaptive ethernet, supports HTTPS, YD/T 1363.3 and SNMP protocols; Northbound RS485, YD/T 1363.3 protocol or MODBUS protocol; Southbound RS485; Southbound CAN, support CAN2.0B protocol, communicating with rectifier module and PV module; 8-path expansion RS485, with the user interface module
AC electric quantity	Used with power detection board, can collect AC electric quantity metering
Busbar voltage detection	Measuring range: 0~-72Vdc, with accuracy ≤ ±0.5%
Current detection	6-path current detection interface, with accuracy ≤ ±2% (current > 10A)
Load fuse state detection	8-path load fuse state detection interface, load impedance ≤ 2MΩ
Battery fuse state detection	6-path battery fuse state detection interface
Dry contact input	8-path dry contact input detection interface, used for user interface module
Dry contact output	2-path dry contact output detection interface, used for user interface module

FitOn DP48 Series Power Component—
PMUD42 Monitoring Unit

Product Specification

Parameter item	Parameter description
AC SPD state detection	2-path AC SPD state detection interface, AC SPD contact open circuit alarm
Temperature detection	3-path temperature detection interface, detection range -40℃ ~ +125℃, with accuracy ≤ ±1℃
Load power off	4-path load power off control interface, drive capacity is 12Vdc/0.5A
Battery power off	1-path battery power off control interface, drive capacity is 12Vdc/0.5A
Battery management	Conversion between boost charge and float charge, battery current limiting protection, temperature compensation, battery testing, battery capacity statistics
Energy-saving management	Supports intelligent sleep, peak-load shifting, mains off-peak power use
Alarm and event storage	At least 10,000 historical alarms and 2,000 battery test records
Data log storage	At least 20000 data logs containing AC voltage and current, rectifier module voltage and current, PV module voltage and current, busbar voltage, load current, battery current, etc., with time label
LED indicator	Operation status (green), abnormality alert (yellow), fault alarm (red) indicator lights
Power supply	28~60Vdc, with reverse connection protection and input undervoltage protection functions
Power consumption	≤5W
Life	≥8 years@25℃
MTBF	≥100000h@25℃
Working temperature	-40℃ ~ +65℃
Working humidity	5%RH~95%RH (non-condensing)
Altitude requirement	≤4,000m
Electrostatic discharge noise immunity (ESD)	The shell and communication port meet the requirements of contact discharge 6kV, air discharge 8kV and criterion B.
Electrical fast pulse group noise immunity (EFT)	Communication port 1kV, criterion B
Surge impact noise immunity (SURGE)	The communication port meets the requirements of common mode 1kV, differential mode 0.5kV, waveform 1.2/50μs and criterion B
Conduction noise immunity (CS)	The communication port meets the field strength of 150kHz ~ 80MHz and 10V/m, and the criterion A
Radiation immunity (RS)	The communication port meets the field strength of 80MHz ~ 690MHz and 3V/m, and the criterion A The communication port meets the field strength of 690MHz ~ 1GHz and 10V/m, and the criterion A
Conducted emission	The communication port meets EN55032 standard, the criterion is CLASS A
Radiation emission	Meet EN55032 standard, the criterion is CLASS A
Dimension	106.4mm (width) × 219.3mm (depth) × 42.6mm (height)
Weight	< 1kg

FitOn DP48 Series Power Component—

50A Rectifier Module FR4850H (optional)

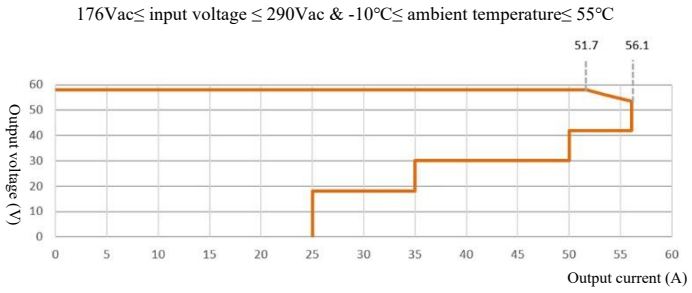
Product Introduction

FR4850H 50A rectifier module is used to convert AC voltage into stable nominal 48Vdc voltage. It is a high-density converter, adopts all-digital DSP control technology and the latest switching technology to achieve high conversion efficiency, and has the advantages of perfect input and output protection and soft start of input and output.

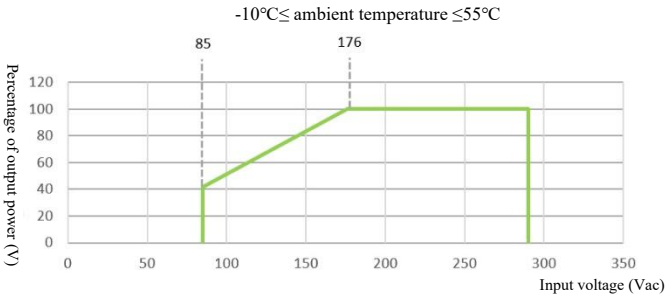
Product Feature

- The highest efficiency is over 96%
- 55℃~75℃ power derating
- 1U height, compact design and high power density
- Wide input voltage range, adapting to harsh power grid environment
- Hot plug design, easy to expand and maintain.

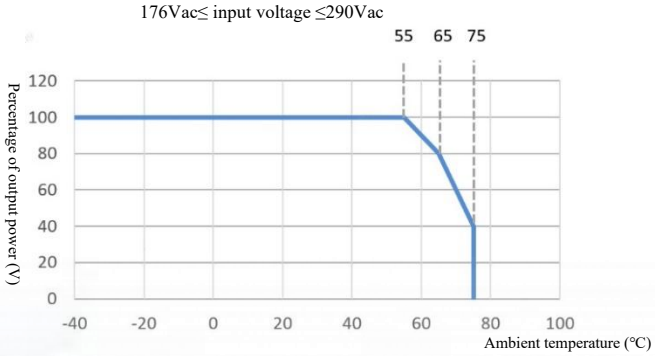
Performance Curve



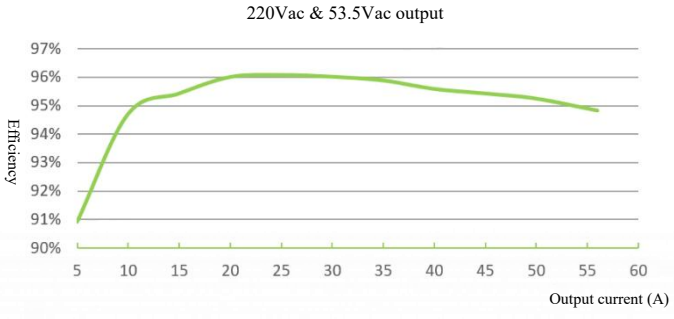
Output external characteristic curve



Input voltage derating curve



Temperature derating curve



Efficiency curve

FitOn DP48 Series Power Component—

50A Rectifier Module FR4850H (optional)

Product Specification

Parameter item	Parameter description
Operating voltage	85Vac ~ 290Vac
Frequency	45Hz ~ 66Hz; rated value is 50Hz/60Hz
Input current	≤18A
Power factor	≥0.99@100%Load
THD	≤5%@50% ~100% Load
Output voltage	42Vdc~58Vdc, rated value is 53.5Vdc
Power reduction of power grid	3,000W（176Vac~290Vac）；3000W~1250W（175Vac~85Vac）
Voltage stabilizing accuracy	≤±0.6%Vo
Ripple	≤200mVp-p (bandwidth ≤20MHz)
Standby power	≤4W
Starting-up time	3s~8s (immediate startup mode)
Output holding time	>10ms
Telephone constant weight noise voltage	≤2mV
Broadband noise voltage	≤50mV (3.4kHz~150kHz); ≤20mV (0.15MHz~30MHz)
EMC	EN 55032 Class B；EN 55035；IEC 61000-3-11；IEC 61000-3-12
Dimension	106.4mm (width) × 291mm (depth) × 41.5mm (height)
Weight	<2.1kg
Cooling mode	Forced air cooling, built-in fan (with linear speed regulation function)
Working temperature	–10℃~+75℃
Storage temperature	–40℃~+75℃
Relative humidity	5%RH~95%RH (non-condensing)
Altitude	≤4,000m (3,000m~4,000m, the temperature will decrease by 1℃ for every 200m elevation).

FitOn DP48 Series Power Component—

75A Rectifier Module FR4875S/FR4875H (optional)

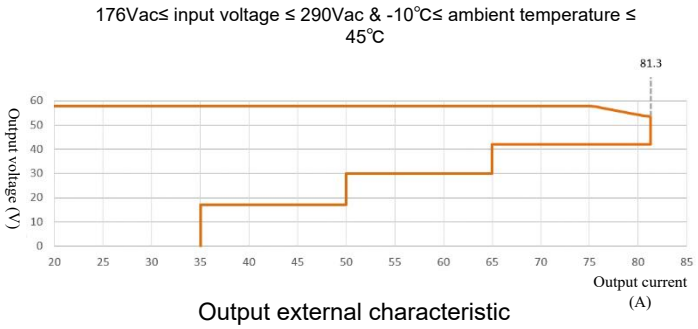
Product Introduction

FR4875S/FR4875H 75A rectifier module is used to convert AC voltage into stable nominal voltage of 48Vdc. It is a high-density converter, adopts all-digital DSP control technology and the latest switching technology to achieve high conversion efficiency, and has the advantages of perfect input and output protection and soft start of input and output.

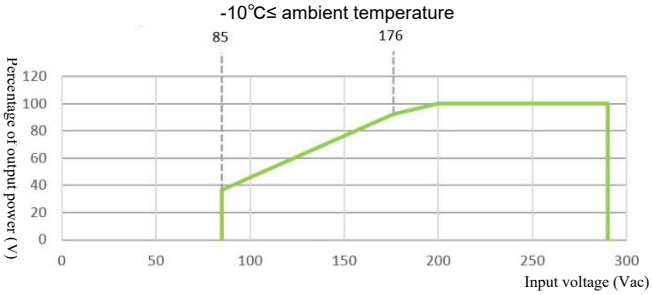
Product Feature

- The highest efficiency is over 97%/96%
- 45℃~75℃ power derating
- 1U height, compact design and high power density
- Wide DC input range, suitable for harsh power grid environment
- Hot plug design, easy to expand and maintain.

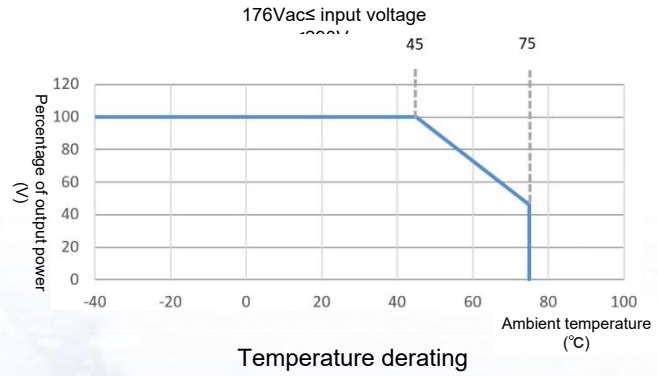
Performance Curve



Output external characteristic curve



Input voltage derating curve



Temperature derating curve

Efficiency curve

FitOn DP48 Series Power Component—

75A Rectifier Module FR4875S/FR4875H (optional)

Product Specification

Parameter item	Parameter description
Operating voltage	85Vac ~ 290Vac
Frequency	45Hz ~ 66Hz, rated value is 50Hz/60Hz.
Input current	≤26A
Power factor	≥0.99@100% load
THD	＜3%@≥50% Load, <8% @≥20% Load
Output voltage	42Vdc~58Vdc, rated value is 53.5Vdc.
Power reduction of power grid	4350W (200Vac~290Vac); 4000W (176Vac~200Vac); 4000W~1600W (175Vac~85Vac)
Voltage stabilizing accuracy	≤±0.6%Vo
Ripple	≤200mVp-p (bandwidth ≤20MHz)
Standby power	≤5W
Starting-up time	3s~8s (immediate startup mode)
Output holding time	>10ms
Telephone constant weight noise voltage	≤2mV
Broadband noise voltage	≤50mV (3.4kHz~150kHz); ≤20mV (0.15MHz~30MHz)
EMC	EN 55032 Class B； EN 55035； IEC 61000-3-11； IEC 61000-3-12
Dimension	106.4mm (width) × 291mm (depth) × 41.5mm (height)
Weight	<2.1kg
Cooling mode	Forced air cooling, built-in fan (with linear speed regulation function)
Working temperature	–10℃~+75℃
Storage temperature	–40℃~+75℃
Relative humidity	5%RH~95%RH (non-condensing)
Altitude	≤4,000m (3,000m~4,000m, the temperature will decrease by 1℃ for every 200m elevation)

FiberHome Telecommunication Technologies Co., Ltd.
No.67, Guanggu Chuangye Jie Wuhan, Hubei, P.R, China
www.fiberhome.com
For any issue, please feel free to email to marketing@fiberhome.com.