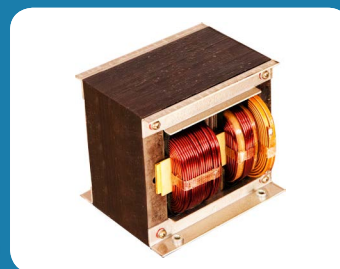


Power

for your cable and telecommunications systems...

Solutions



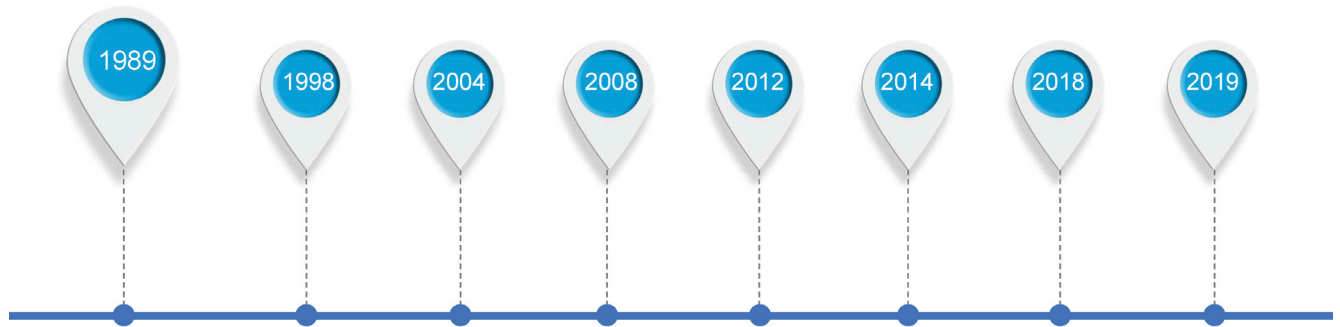
Cable Power Supply · Outdoor Enclosure
Status Monitoring · Transformer



About Fangyuan

Who we are?

Fangyuan Electric Apparatus Co., Ltd is the leading manufacturer of power supplies for cable and broadband networks in China. Since initial establishment in 1980's, Fangyuan have been serving the industry for over 3 decades.

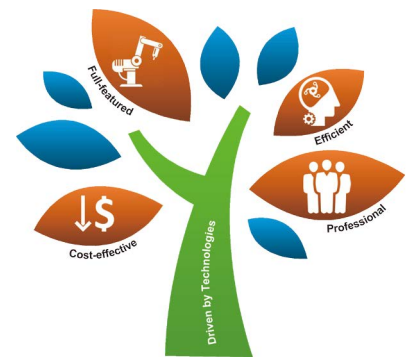


What we do?

Fangyuan specializes in R&D, manufacturing and marketing of AC and DC power conversion and protection products, offers products and services to customers in the field of cable & broadband, telecom, fabrication, power & energy and environmental protection from almost 30 countries in 6 continents around the world.

Where we are?

In northern China, Fangyuan is located at Fudong Industrial Park, where is 160KM west of Qingdao (one of the world's busiest seaports) and 600KM south of Beijing (the capital of China). Here Fangyuan owns a full-featured production facility, covering about 24000m2 (about 258334 sq. ft), providing metal fabrication, surface treatment and electrical assembly.



What's our vision?

Focus on and listen to customers, continue living on innovation and technology, dedicate all energy and creativity to customers' achievements.



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Non-standby Power Supply & Management

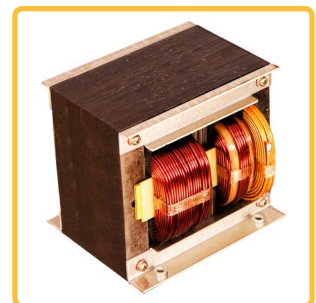
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MD Series UPS

Ferro-resonant Outdoor UPS for Cable / Broadband



- ✓ Industry-proven uninterruptible power supply
- ✓ Well reputed reliability and cost-effectiveness
- ✓ MCU-controlled line-interactive ferro-resonant technology
- ✓ Clear and regulated quasi-square wave AC output
- ✓ Friendly and interactive 3.2" color touchscreen display
- ✓ Intelligent battery management system
- ✓ Lightning arrester integrated
- ✓ Reliable protections against input, output and short-circuit
- ✓ Easily accessible front panel connections and hot swappable inverter modules
- ✓ Low Voltage Directory (LVD) and EMC directory compliant
- ✓ Optional DOCSIS / EuroDOCSIS transponders for status monitoring

Electrical

Input Voltage Range: 20% ~ +15%
 Input Frequency Range: $\pm 3\%$
 Power Factor: >0.90

Output Waveform: quasi-square
 Output Voltage Regulation: $\pm 5\%$
 Short Circuit Current: 150% of max. current rating
 Efficiency: $\geq 90\%$
 Transfer Characteristics: 4ms

Mechanical

Status Display: LED & color touchscreen display
 Input Interface: IEC320/C20
 Output Interface: 5/8" F Type & Anderson connectors
 Finish: powder coated
 Dimensions (WHD): 368 x 210 x 298mm
 14.5" x 8.3" x 11.8"

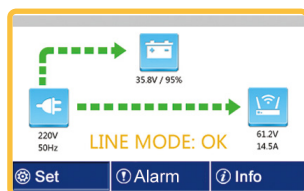
Battery & Charger

Battery Type: VRLA SMF Battery
 Battery Voltage: 36VDC
 Cut-off Voltage: 31.5VDC (programmable)
 Charger current: 10A max.
 Battery Runtime: depends on number & capacity of battery string
 Temperature Compensation: programmable (0 to 5mV/cell/°C)

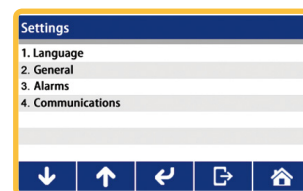
Environmental

Storage Temperature: -40°C ~ 70°C
 Operating Temperature: -40°C ~ 55°C
 Humidity: 0 to 95%, non-condensing (relative)

Model	Input Voltage (VAC) ¹	Frequency (Hz) ¹	Output Voltage (VAC)	Output Current (A)	Output Power (VA, max.)	Weight (kg/lb)
MD-6015-W	220	50	60	15	900	29/64
MD-6022-W	220	50	60	22	1350	33/73
MD-6915-W	220	50	60/90	15/10	900	29/64
MD-6922-W	220	50	60/90	22/15	1350	33/73
MD-6915-L120	120	60	60/90	15/10	900	29/64
MD-6922-L120	120	60	60/90	22/15	1350	33/73
MD-6015-L	220	60	60	15	900	29/64



INPUT	BATTERY	LOADING
223VAC 50Hz ---	60% 1:20 26°C	60VAC 14A 93%
LINE MODE		



Notes:

- Other configurations may be available. Both input and output can be customized. Please contact us for further information.
- Images in the orange square frame are for illustrative purpose only. They may not match your installations.

MD-300 Series UPS

300W Sine-wave Outdoor UPS



- ✓ Compact, lightweight and ideal for RFoG & MDU applications
- ✓ Line interactive technology
- ✓ One single battery configuration reducing costs of ownership and maintenance
- ✓ Micro-processor regulated AC output
- ✓ Friendly and interactive 3.2" color touchscreen display
- ✓ Intelligent battery management system
- ✓ Lightning arrester integrated
- ✓ Reliable protections against input, output and short-circuit
- ✓ Easily accessible front panel connections and hot swappable inverter modules
- ✓ Optional DOCSIS / EuroDOCSIS transponders for status monitoring

Electrical

Input Voltage Range: $\pm 15\%$
 Input Frequency Range: $\pm 3\%$
 Power Factor: >0.90

Output Waveform: sine wave
 Output Voltage Regulation: $\pm 5\%$
 Short Circuit Current: 150% of max. current rating
 Efficiency: $\geq 90\%$
 Transfer Characteristics: 4ms

Mechanical

Status Display: LED & color touchscreen display
 Input Interface: IEC320/C20
 Output Interface: 5/8" F Type & Anderson connectors
 Finish: powder coated
 Dimensions (WHD): 273x210x306mm / 10.8"x8.3"x12"

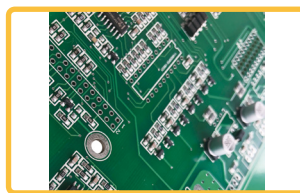
Battery & Charger

Battery Type: VRLA SMF Battery
 Battery Voltage: 12VDC
 Cut-off Voltage: 10.5VDC (programmable)
 Charger current: 10A max.
 Battery Runtime: depends on number & capacity of battery string
 Temperature Compensation: programmable (0 to 5mV/cell/ $^{\circ}\text{C}$)

Environmental

Storage Temperature: $-40^{\circ}\text{C} \sim 70^{\circ}\text{C}$
 Operating Temperature: $-40^{\circ}\text{C} \sim 55^{\circ}\text{C}$
 Humidity: 0 to 95%, non-condensing (relative)

Model	Input Voltage (VAC) ¹	Frequency (Hz) ¹	Output Voltage (VAC)	Output Current (A)	Output Power (VA, max.)	Weight (kg/lb)
MD-300-W	220	50	60	5	300	12/26.5
MD-300-L	220	60	60	5	300	12/26.5
MD-300-L120	120	50	60/90	5/3.3	300	12/26.5



Notes:

1. Other configurations may be available. Both input and output can be customized. Please contact us for further information.
2. Images in the orange square frame are for illustrative purpose only. They may not match your installations.

DHT Series Status Monitor

DOCSIS® / EuroDOCSIS® 2.0 HMS Transponder

- ✓ Proven technology with millions of DOCSIS® and EuroDOCSIS® chips deployed
- ✓ DOCSIS® 2.0 / EuroDOCSIS® 2.0 compliant
- ✓ Easily upgraded to monitor network and VoIP with optional firmware
- ✓ Downloadable VoIP testing functions
- ✓ Craft port for local diagnostic
- ✓ Integrated web server for status viewing
- ✓ Surge protection as per IEEE
- ✓ Wider operating temperature range



Model		DHT-PS-FY-03	DHT-PS-FY-07
Compliance		DOCSIS® 2.0	EuroDOCSIS® 2.0
Power supplies supported		MD, MD-300	
Devices monitored		Power supplies, battery, outdoor enclosure	
Upstream (Transmitter)			
Frequency Band		5 to 42 MHz	5 to 65 MHz
Level Range		TDMA +8 to +54 dBmV (32QAM, 64QAM) +8 to +55 dBmV (8QAM, 16QAM) +8 to +58 dBmV (QPSK) S-CDMA +8 to +53 dBmV (all modulations)	TDMA +68 to +114 dBuV (32QAM, 64QAM) +68 to +115 dBuV (8QAM, 16QAM) +68 to +118 dBuV (QPSK) S-CDMA +68 to +113 dBuV (all modulations)
Modulation Type		QPSK, 8QAM, 16QAM, 32QAM, 64QAM and 128QAM	
Modulation Rate (nominal)		TDMA: 160, 320, 640, 1280, 2560 and 5120 KHz S-CDMA: 1280, 2560 and 5120 KHz	
Bandwidth		TDMA: 200, 400, 800, 1600, 3200 and 6400 KHz S-CDMA: 1600, 3200 and 6400 KHz	
Output Impedance / Return Loss		75Ω / ≥6dB	
Downstream (Receiver)			
Center Frequency		91 to 857 MHz ± 30 KHz	112 to 858 MHz ± 30 KHz
Level Range (one channel)		-15dBmV to +15dBmV	43 to 73 dBuV for 64QAM 47 to 77 dBuV for 256QAM
Modulation Type		64QAM and 256QAM	
Symbol rate (Nominal)		5.0569Msym/s (64QAM); 5.361Msym/s (256QAM)	6.952Msym/s (64QAM & 256QAM)
Bandwidth		6 MHz	8 MHz
Total Input Power (40 to 900 MHz)		< 30 dBmV	
Input (load) Impedance / Return Loss		75Ω / ≥6dB	
Communications & Interfaces			
Network Protocols		IP, TCP, DHCP, TP, TFTP, SNMP, HTTP	
MIBs		DOCSIS® MIBs, Power supply (ANSI/SCTE 38-4)	
Interfaces		USB (craft), Coaxial “F”-type per ISO 169-24 (HFC)	
LED Display		Monitor, Power, Cable, OK	
Status Monitored	Power Supply	Input voltage & frequency, output voltage,output current, output power, total battery voltage and individual battery voltage, status of inverter, tamper switch status	
	Cable Modem	Upstream & Downstream Channels, Transmitter & Receiver Power	
Environmental			
Operating/Storage Temperature		-40°C to +85°C (-40°F to 185°F)	
Humidity		0 to 90%, non-condensing	

DHT3 Series Status Monitor

DOCSIS® / EuroDOCSIS® 3.0 HMS Transponder



- ✓ DOCSIS® 3.0 / EuroDOCSIS® 3.0 compliant
- ✓ More than just a transponder - it's a Spectrum Analyzer
- ✓ Temperature Hardened
- ✓ Integrated web server for status viewing
- ✓ Embedded or external applications
- ✓ SCTE - HMS compliant
- ✓ RS485 for local diagnose
- ✓ FCC / IEEE / RoHS Directive compliant

Model	DHT3D-N-PS-FY-00	DHT3X-N-PS-FY-00	DHT3E-N-PE-FY-00	DHT3X-N-PE-FY-00
Compliance	DOCSIS® 3.0		EuroDOCSIS® 3.0	
Power supplies supported	MD, MD-300			
Devices monitored	Power supplies, battery, outdoor enclosure			
Upstream (Transmitter)				
Frequency Band	5 to 42 MHz	5 to 85MHz	5 to 65 MHz	5 to 85MHz
Level Range (S-CDMA)	All modulations: +17(≤1280KHz) / +20(2560KHz) / +23(5120KHz) to +56dBmV			
Level Range (TDMA)	32QAM & 64QAM: +17(≤1280KHz) / +20(2560KHz) / +23(5120KHz) ~ +57dBmV; 8QAM & 16QAM: +17(≤1280KHz) / +20(2560KHz) / +23(5120KHz) ~ +58dBmV; QPSK: +17(≤1280KHz) / +20(2560KHz) / +23(5120KHz) ~ +61dBmV			
Modulation Type	QPSK, 8QAM, 16QAM, 32QAM, 64QAM and 128QAM			
Modulation Rate (nominal)	TDMA & S-CDMA: 1280, 2560, 5120KHz; Pre-DOCSIS3 Opeartion: TDMA: 160, 320, 640KHz			
Bandwidth	TDMA & S-CDMA: 1600, 3200, 6400KHz; Pre-DOCSIS3 Opeartion: TDMA: 200, 400, 800KHz			
Output Impedance / Return Loss	75Ω / ≥6dB			
Downstream (Receiver)				
Frequency Range	54 to 1002MHz	108 to 1002MHz	85 to 1006MHz	108 to 1006MHz
Level Range (one channel)	-15dBmV to +15dBmV		64QAM: -17dBmV to +13dBmV; 256QAM: -13dBmV to +17dBmV	
Modulation Type	64QAM and 256QAM			
Symbol rate (Nominal)	5.0569Msym/s (64QAM); 5.361Msym/s (256QAM)		6.952Msym/s (64QAM & 256QAM)	
Bandwidth	6 MHz		8 MHz	
Total Input Power	33dBmV			
Input Impedance / Return Loss	75Ω / ≥6dB			
Communications & Interfaces				
Network Protocols	IP, TCP, DHCP, TP, TFTP, SNMP, HTTP			
MIBs	DOCSIS® MIBs, Power supply (ANSI/SCTE 38-4)			
Network Interfaces	F type, RJ-45			
LED Display	Monitor, Power, Cable, OK, RF Level, Ethernet			
Status Monitored				
Power Supply	Input voltage & frequency, output voltage,output current, output power, total battery voltage and individual battery voltage, status of inverter, tamper switch status			
Cable Modem	Upstream & Downstream Channels, Transmitter & Receiver Power			
Environmental				
Operating/Storage Temperature	-40°C to +70°C (-40 to +158°F)			
Humidity	0 to 90%, non-condensing			

EMMS3 Series Status Monitor

DOCSIS® / EuroDOCSIS® HMS Transponder

- ✓ Temperature hardened cable modem
- ✓ Full-Band Capture (FBC) technology
- ✓ Eight bonded downstream channels with >340Mbps data rates
- ✓ Four bonded upstream channels with >120Mbps data rates
- ✓ Support for BSOD and L2VPN
- ✓ Upstream and Downstream Spectrum Analyzer function
- ✓ 10/100/1000 BASE-T auto sensing / auto-MDIX Ethernet port
- ✓ Very compact and small footprint



Model	EMMS3A-DS	EMMS3A-DX	EMMS3A-ES	EMMS3A-EX
Compliance	DOCSIS® 3.0		EuroDOCSIS® 3.0	
Power supplies supported	CPT, PBE, MD and MD-300			
Devices monitored	Power supplies			
Upstream (Transmitter)				
Frequency Band	5 to 42 MHz	5 to 85MHz	5 to 65 MHz	5 to 85MHz
Level Range (S-CDMA)	All modulations: +17(≤1280KHz) / +20(2560KHz) / +23(5120KHz) to +56dBmV			
Level Range (TDMA)	32QAM & 64QAM: +17(≤1280KHz) / +20(2560KHz) / +23(5120KHz) ~ +57dBmV; 8QAM & 16QAM: +17(≤1280KHz) / +20(2560KHz) / +23(5120KHz) ~ +58dBmV; QPSK: +17(≤1280KHz) / +20(2560KHz) / +23(5120KHz) ~ +61dBmV			
Modulation Type	QPSK, 8QAM, 16QAM, 32QAM, 64QAM and 128QAM			
Modulation Rate (nominal)	TDMA & S-CDMA: 1280, 2560, 5120KHz; Pre-DOCSIS3 Opeartion: TDMA: 160, 320, 640KHz			
Bandwidth	TDMA & S-CDMA: 1600, 3200, 6400KHz; Pre-DOCSIS3 Opeartion: TDMA: 200, 400, 800KHz			
Output Impedance / Return Loss	75Ω / ≥6dB			
Downstream (Receiver)				
Frequency Range	54 to 1002MHz	108 to 1002MHz	85 to 1006MHz	108 to 1006MHz
Level Range (one channel)	-15dBmV to +15dBmV		64QAM: -17dBmV to +13dBmV; 256QAM: -13dBmV to +17dBmV	
Modulation Type	64QAM and 256QAM			
Symbol rate (Nominal)	5.0569Msym/s (64QAM); 5.361Msym/s (256QAM)		6.952Msym/s (64QAM & 256QAM)	
Bandwidth	6 MHz		8 MHz	
Total Input Power	33dBmV			
Input Impedance / Return Loss	75Ω / ≥6dB			
Communications & Interfaces				
Network Protocols	IP, TCP, DHCP, TP, TFTP, SNMP, HTTP			
MIBs	DOCSIS® MIBs, Power supply (ANSI/SCTE 38-4)			
Network Interfaces	F type, RJ-45			
LED Display	Monitor, Power, Cable, OK, RF Level, Ethernet			
Status Monitored				
Power Supply	Input voltage & frequency, output voltage,output current, output power, PoE parameters (optional)			
Cable Modem	Upstream & Downstream Channels, Transmitter & Receiver Power			
Environmental				
Operating/Storage Temperature	-40°C to +85°C (-40 to +185°F)			
Humidity	0 to 90%, non-condensing			

PME Series Outdoor Enclosure

Pole / Wall / Ground Mount



- ✓ Designed for cable/broadband outdoor powering applications
- ✓ Durable powder coated aluminum, welded construction
- ✓ Removable heavy-duty slide battery tray(s)
- ✓ Security Lock & Tamper Switch available as standard features
- ✓ External breaker box available
- ✓ Easily accessible service receptacle
- ✓ Pole & wall mounting installations
- ✓ Optional ground mounting installation kits

Mechanical

Status Display: LED lambs

Battery Dock Inner Size:

PME-1: 418 x 276 x 346 mm (WHD, w/o tray)

PME-3, PME-6, PME-9: 557 x 252 x 346 mm (WHD)

PME-4, PME-8: 702 x 252 x 362 mm (WHD)

Material: aluminum (steel for brackets)

Finish: powder coated

Color: light gray

Power Inserter

Bandwidth: 1000MHz

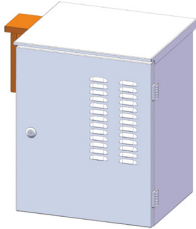
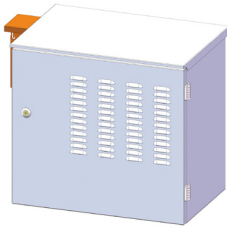
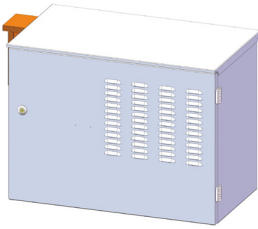
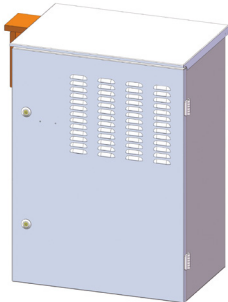
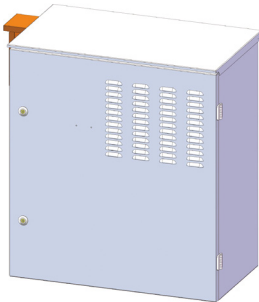
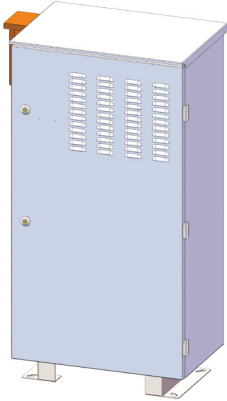
Flatness: ± 0.5 dB

Return Loss: 14dB

Insertion Loss: 1.5dB

Input Connectors: Anderson type & 5/8" female

Output Connectors: 5/8" female

PME-1 Dimensions: 466 x 576 x 412mm	PME-3 Dimensions: 625 x 576 x 435mm	PME-4 Dimensions: 771 x 576 x 450mm
		
PME-6 Dimensions: 625 x 856 x 435mm	PME-8 Dimensions: 771 x 856 x 450mm	PME-9 Dimensions: 625 x 1143 x 435mm
		

Notes:

1. Dimensions are width x height x depth.
2. Customized products are available.

GD-CPT Series Power Supply

Non-standby Power Supply + PoE + Cable Modem



- ✓ Ferro-resonant transformer provides fully regulated, clean and reliable AC output
- ✓ Current-limited output and short-circuit protection
- ✓ MCU-controlled intelligent overload protection
- ✓ Quasi-square wave AC output
- ✓ Power over Ethernet (PoE) module as standard feature
- ✓ Powder coated aluminum housing for outdoor applications
- ✓ Service receptacle (NEMA 5-15R or customized)
- ✓ Optional DOCSIS/EuroDOCSIS 3.0 Transponder / Cable Modem as backhaul

Electrical

Input Voltage Range: 20% ~ +15%
 Input Frequency Range: $\pm 3\%$
 Power Factor: >0.90

Output Waveform: quasi-square
 Output Voltage Regulation: $\pm 5\%$
 Short Circuit Current: programmable
 Efficiency: $\geq 90\%$

Mechanical

LED Display: power supply status, transponder status
 Input Interface: 3-P terminal block
 Output Interface: 5/8" F Type
 Service Receptacle: NEMA 5-15R (or customized)
 Material: powder coated aluminum
 Dimensions (WHD): 216 x 394 x 188mm
 8.5" x 15.5" x 7.4"

Power-over-Ethernet (PoE)

Input Voltage Range: 85 to 265VAC
 Input Frequency: 50/60Hz
 Power Factor: >0.97

Output Voltage: 50VDC @ 1A
 Ripple: 1%
 Line Regulation: 2%
 Switching Frequency: 75KHz
 Efficiency: >85%
 LAN Activity Indicator: No
 Gigabit LAN Port: Yes
 Remote Reset: No
 Reset Button: No
 Data In / PoE Interface: RJ45

Environmental

Storage Temperature: $-40^{\circ}\text{C} \sim 70^{\circ}\text{C}$
 Operating Temperature: $-40^{\circ}\text{C} \sim 55^{\circ}\text{C}$
 Humidity: 0 to 95%, non-condensing (relative)

Model	Input Voltage (VAC) ¹	Frequency (Hz) ¹	Output Voltage (VAC)	Output Current (A)	Output Power (VA, max.)	Weight (kg/lb)
GD-CPT900-L120	120	60	60/90	15/10	900	17/37.5
GD-CPT900-W	220	50	60/90	15/10	900	17/37.5
GD-CPT1350-L120	120	60	60/90	22/15	1350	20/44.1
GD-CPT1350-W	220	50	60/90	22/15	1350	20/44.1

Notes: other configurations may be available. Both input and output can be customized. Please contact us for further information.

GD-PBE Series Power Booster

330W Inline Power Booster



- ✓ Providing 110V or 220V AC power derived from 60V or 90V on the existing infrastructure in the field
- ✓ 330W max. output power
- ✓ Ideal for small cell, gateway and CCTV applications
- ✓ Wide availability from 50V to 90V
- ✓ 5/8" female interface for AC input
- ✓ Compact design and powder coated housing
- ✓ Pole & wall mounting installations
- ✓ Optional DOCSIS / EuroDOCSIS transponders / Cable Modem as backhaul

Electrical

Input Voltage: 50/65/75/90V, field-selectable
Input Frequency: 50 / 60Hz
Power Factor: >0.90

AC Output: 110V or 220V
DC Output: 15VDC (for transponder only)
Max. Output power: 330W
Output Waveform: depends on input
Output Protection: programmable

Mechanical

Status Display: LED
Input Interface: 5/8" female
Output Interface: 3P terminal block & receptacle
Finish: powder coated
Dimensions (WHD): 186x249x173mm / 7.3"x9.8"x6.8"

Environmental

Operating Temperature: -40°C ~ 55°C
Humidity: 0 to 95%, non-condensing (relative)

Model	Input Voltage (VAC) ¹	Frequency (Hz) ¹	Output Voltage (VAC)	Output Current (A)	Output Power (VA, max.)	Weight (kg/lb)
GD-PBE-330A	50/65/75/90	50/60	110	3	330	6/13.2
GD-PBE-330B	50/65/75/90	50/60	220	1.5	330	6/13.2

Notes: other configurations may be available. Both input and output can be customized. Please contact us for further information.

FYGD-C Series Power Supply

Non-standby Power Supply

- ✓ Proved by millions of installations
- ✓ Ferro-resonant transformer provides regulated, clean and reliable AC power
- ✓ Auto-reset upon removal of short-circuit and overloading
- ✓ Durable aluminum powder coated housing
- ✓ Pole & wall mounting installations for both indoor & outdoor



Electrical

Input Voltage Range: -20% ~ +15%
Power Factor: >0.90 at full load
Input Protection: fuse

Output Waveform: quasi-square
Output Voltage Regulation: $\pm 5\%$
Short Circuit Current: 150% of max. current rating
Efficiency: $\geq 90\%$

Mechanical

Input Connector: 3P terminal block
Output Connector: 5/8" F Type
Material: powder coated aluminum
Dimensions: 335 x 217 x 190mm / 13.2" x 8.5" x 7.5"

Environmental

Operating Temperature: -40°C to 55°C / -40°F to 131°F

Model	Input Voltage (VAC) ¹	Frequency (Hz) ¹	Output Voltage (VAC)	Output Current (A)	Output Power (VA, max.)	Weight (kg/lb)
FYGD-C60-15A-W	220	50	60	15	900	16/35.3
FYGD-C60-15A-L	220	60	60	15	900	16/35.3
FYGD-C6090-15A-L120	120	60	60/90	15/10	900	16/35.3
FYGD-C9060-15A-L120	120	60	60/90	15/22.5	1350	19/41.9

Note: other configurations are available. Both input and output can be customized. Please contact us for further information.

FYGD-CS Series Power Supply

Non-standby Power Supply

- ✓ Non-metallic housing built of composite plastic reinforced with fiber glass
- ✓ Regulated, clean and reliable AC power from ferro-resonant transformer
- ✓ Auto-reset upon removal of short-circuit and overloading
- ✓ Security lock as standard feature
- ✓ Pole & wall mounting installations for both indoor & outdoor applications



Electrical

Input Voltage Range: -20% ~ +15%
Power Factor: >0.90 at full load
Input Protection: fuse

Output Waveform: quasi-square
Output Voltage Regulation: $\pm 5\%$
Short Circuit Current: 150% of max. current rating
Efficiency: $\geq 90\%$

Mechanical

Input Connector: 3P terminal block
Output Connector: 5/8" F Type
Material: composite plastic with fiber glass
Dimensions: 300 x 240 x 160mm / 11.8"x9.4"x6.3"

Environmental

Operating Temperature: -40°C to 55°C / -40°F to 131°F

Model	Input Voltage (VAC) ¹	Frequency (Hz) ¹	Output Voltage (VAC)	Output Current (A)	Output Power (VA, max.)	Weight (kg/lb)
FYGD-CS60-15A-W	220	50	60	15	900	19/41.9
FYGD-CS60-15A-L	220	60	60	15	900	19/41.9
FYGD-CS6090-15A-W	220	50	60/90	15/10	900	19/41.9
FYGD-CS6090-22A-L120	120	60	60/90	15/10	900	19/41.9

Note: other configurations are available. Both input and output can be customized. Please contact us for further information.

FYGD-CF Series Power Supply

Non-standby Power Supply

- ✓ Ferro-resonant transformer provides regulated, clean and reliable AC power
- ✓ Auto-reset upon removal of short-circuit and overloading
- ✓ Durable aluminum powder coated housing
- ✓ Strand mount installations
- ✓ Excellent ingress protection



Electrical

Input Voltage Range: $\pm 15\%$
Power Factor: >0.90 at full load
Input Protection: fuse

Output Waveform: sine wave
Efficiency: $\geq 80\%$

Mechanical

Input Connector: 3P terminal block
Output Connector: 5/8" F Type
Material: powder coated steel
Dimensions: 335 x 217 x 190mm / 13.2" x 8.5" x 7.5"

Environmental

Operating Temperature: -40°C to 55°C / -40°F to 131°F

Model	Input Voltage (VAC) ¹	Frequency (Hz) ¹	Output Voltage (VAC)	Output Current (A)	Output Power (VA, max.)	Weight (kg/lb)
FYGD-E60-15A-W	220	50	60	15	900	16/35.3
FYGD-E60-15A-L	220	60	60	15	900	16/35.3
FYGD-E6090-15A-L120	120	60	60/90	15/10	900	16/35.3
FYGD-E9060-15A-L120	120	60	60/90	15/22.5	1350	19/41.9

Note: other configurations are available. Both input and output can be customized. Please contact us for further information.

FYGD-E Series Power Supply

Non-standby Power Supply

- ✓ Linear lamination transformer provides quiet operation
- ✓ Durable powder coated enclosure for outdoor applications
- ✓ Pole & wall mounting installations for both indoor & outdoor
- ✓ Cost-effective power solutions



Electrical

Input Voltage Range: $\pm 15\%$
Power Factor: >0.90 at full load
Input Protection: fuse

Output Waveform: sine wave
Efficiency: $\geq 80\%$

Mechanical

Input Connector: 3P terminal block
Output Connector: 5/8" F Type
Material: powder coated steel
Dimensions: 335 x 217 x 190mm / 13.2" x 8.5" x 7.5"

Environmental

Operating Temperature: -40°C to 55°C / -40°F to 131°F

Model	Input Voltage (VAC) ¹	Frequency (Hz) ¹	Output Voltage (VAC)	Output Current (A)	Output Power (VA, max.)	Weight (kg/lb)
FYGD-E60-15A-W	220	50	60	15	900	16/35.3
FYGD-E60-15A-L	220	60	60	15	900	16/35.3
FYGD-E6090-15A-L120	120	60	60/90	15/10	900	16/35.3
FYGD-E9060-15A-L120	120	60	60/90	15/22.5	1350	19/41.9

Note: other configurations are available. Both input and output can be customized. Please contact us for further information.

FYGD-ES Series Power Supply

Non-standby Power Supply

- ✓ Housing built of composite plastic reinforced with fiber glass
- ✓ Security lock ensures safety of the equipment
- ✓ Linear transformer provides quiet operation and cost-effectiveness
- ✓ Optional protection module
- ✓ Pole & wall mounting installations for both indoor & outdoor applications



Electrical

Input Voltage Range: $\pm 15\%$
 Power Factor: >0.90 at full load
 Input Protection: fuse

Output Waveform: sine wave
 Efficiency: $\geq 80\%$

Mechanical

Input Connector: 3P terminal block
 Output Connector: 5/8" F Type
 Material: composite plastic with fiber glass
 Dimensions: 300 x 240 x 160mm / 11.8"x9.4"x6.3"

Environmental

Operating Temperature: -40°C to 55°C / -40°F to 131°F

Model	Input Voltage (VAC) ¹	Frequency (Hz) ¹	Output Voltage (VAC)	Output Current (A)	Output Power (VA, max.)	Weight (kg/lb)
FYGD-ES60-15A-W	220	50	60	15	900	19/41.9
FYGD-ES60-15A-L	220	60	60	15	900	19/41.9
FYGD-ES6090-15A-W	220	50	60/90	15/10	900	19/41.9
FYGD-ES6090-22A-L120	120	60	60/90	15/10	900	19/41.9

Note: other configurations are available. Both input and output can be customized. Please contact us for further information.

FYGD-F Series Power Supply

Non-standby Power Supply

- ✓ High performance toroidal transformer
- ✓ Current limited output and short-circuit protection
- ✓ Embedded Power Insertor (EPI) with bi-directional outputs
- ✓ Durable powder coated aluminum alloy housing for all-weather applications
- ✓ Strand mounting installation



Electrical

Input Voltage Range: $\pm 15\%$
 Power Factor: >0.90 at full load
 Input Protection: fuse

Output Waveform: sine wave
 Efficiency: $\geq 80\%$

EPI

Bandwidth: 1000MHz
 Flatness: $\pm 0.5\text{dB}$
 Return Loss: 14dB
 Insertion Loss: 1.5dB

Environmental

Operating Temperature: -40°C to 55°C / -40°F to 131°F

Model	Input Voltage (VAC) ¹	Frequency (Hz) ¹	Output Voltage (VAC)	Output Current (A)	Output Power (VA, max.)	Weight (kg/lb)
FYGD-F60-6A-W	220	50	60	6	360	5/11
FYGD-F60-8A-W	220	50	60	8	480	6/13.2
FYGD-F60-10A-W	220	50	60	10	600	8/17.6
FYGD-F6090-10A-L120	120	60	60/90	10/6.6	600	8/17.6

Note: other configurations are available. Both input and output can be customized. Please contact us for further information.

SPS Series Power Switch

Dual-line / Multi-line Power Switch

Optical node plays a key role in CATV networks. An optical node usually provides signals for 500 to 2000 subscribers to televue. In most of cases, however, the node is powered by only one power supply unit. In case of power supply failure, signal transmission and the service will be interrupted. Fangyua introduced SPS series power switch helping MSOs solve this problem. SPS-2116 monitors operation of two power supplies connected. In case of failure, SPS-2116 automatically obtains power from another unit and feed the power to loads of the failed, prevents interrupted signal transmission. SPS-5116C provides more connections.



SPS series uses rainproof housing for outdoor application. Built-in power inserter decreases cost of ownership further.

Model	SPS-2116	SPS-5116C
Number of Connection / Type	2, 5/8" THD	5, 5/8" THD
Operating Voltage (VAC)	30 to 90	30 to 90
Operating Bandwidth (MHz)	5 to 1000	5 to 1000
Loading Capacity (A)	15	15
Hum. Modulation (dB)	≥66	≥66
Return Loss (dB)	16 (860 ~ 1000MHz)	16 (860 ~ 1000MHz)
Insert Loss (dB)	1.5 (860 ~ 1000MHz)	1.5 (860 ~ 1000MHz)
Impedance (Ω)	75	75
Dimensions (mm / inch)	141 x 110 x 74 / 5.6 x 4.3 x 2.9	332 x 158 x 89 / 13 x 6.2 x 3.5
Weight (kg/lb)	0.7 / 1.54	3.2 / 7.1

SPS-2X Series Power Switch

Intelligent Power Switch

SPS-2X is a new member of Fangyuan's power switch family, presents the latest technology in remote monitoring and control of power supplies in cable networks. SPS series ensures powering to critical signal processing equipments in a cable / broadband, while SPS-2X enables ordinary power supplies to be interactive and smart.

Microchip that SPS-2X uses provides precise control and measuring, as well as programmable control and protection against overloading of the power supplies. Power-Line Communication (PLC) technology prevents possible "bi-directional feeding" between power supplies. LCD display provides user-friendly interface for settings and operating status monitoring.



- ✓ 100VAC to 260VAC 50/60Hz operating voltage
- ✓ Programmable protections against overloading of power supplies
- ✓ Programmable output voltages of power supplies
- ✓ Fully control and monitoring over power supplies
- ✓ Smart LCD display and durable LED indicators
- ✓ Optional DOCSIS / EuroDOCSIS HMS transponder for remote monitoring

Note: SPS-2X Intelligent Power Switch will be coming soon.

FYGD-MSC Series Power System

Master / Slave Power System



- **Master / Slave Backup Operation**
- **Auto-shift on Failure**

- ✓ Ferro-resonant transformer (CVT) provides clear and regulated AC power
- ✓ Current limited output and short protection
- ✓ Auto-reset on removal of short and/or overloading
- ✓ Weather-resistance powder coated enclosure
- ✓ Pole and wall mounting installations
- ✓ Durable multi-functional LED indicators for “status at a glance”

Compared with traditional non-standby power supply, one of key advantages of FYGD-MSC is Master / Slave Backup Function. Two FYGD-MSC SERIES power supplies form a small powering system and monitor working status of each other. One unit stands by when another unit provides the loads with conditioned power. In the event that the unit in operation fails to operate normally, another unit will switch into operation mode automatically ensuring uninterrupted powering for the loads. Compared with other uninterruptible power solutions, FYGD-MSC is more rugged and more cost-effective.

Electrical

Input Voltage Tolerance: -20% ~ +15%
Power Factor: >0.90 at full load
Input Protection: fuse

Output Waveform: quasi-square
Output Voltage Regulation: $\pm 5\%$
Short Circuit Current: 150% of max. current rating
Efficiency: $\geq 90\%$

Time Delay Relay (TDR)

On-Startup: 10 seconds
Transfer Time: 15 seconds

Battery & Charger

Finish: powder coating
Dimensions: 335 x 217 x 190mm / 13.2" x 8.5" x 7.5"
LED Display: local feed;
remote feed;
alarm

Environmental

Operating Temperature: -40°C ~ 55°C
Humidity: 0 to 95%, non-condensing (relative)

Model	Input Voltage (VAC) ¹	Frequency (Hz) ¹	Output Voltage (VAC)	Output Current (A)	Output Power (VA, max.)	Weight (kg/lb)
FYGD-MSC60-15A-W	220	50	60	15	900	16/35.3
FYGD-MSC60-15A-L	220	60	60	15	900	16/35.3
FYGD-MSC90-15A-L120	120	60	90	15	1350	19/41.9

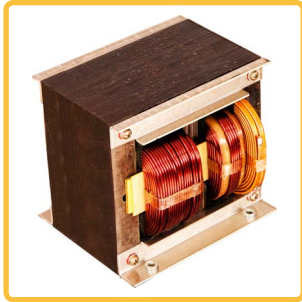
Notes: other configurations may be available. Both input and output can be customized. Please contact us for further information.

Transformers

Ferro-resonant, EI Type, Toroidal, 3-Phase



Transformer is one of Fangyuan's featured products since initial establishment. Dry-type transformers, such as ferro-resonant transformer, toroidal transformer, EI type linear transformer and R Type transformer are all members of Fangyuan's big transformer family, and oil-immersed transformer for various applications as well. Transformers made by Fangyuan now are widely used in power, energy, environment protection, food processing, air processing and telecommunications.



Ferro-resonant Transformer

also known as constant-voltage transformer (CVT), is a special lamination transformer. Benefiting from the features of regulated output, quasi-square waveform and wide input voltage range, ferro-resonant transformer is widely used in voltage regulator, lighting, inverter, battery charger and so on. It can also be designed to deliver sine wave output.

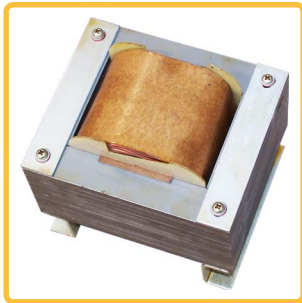
- ✓ Clean and regulated output voltages (fixed or adjustable)
- ✓ Excellent transient and surge suppression
- ✓ Extremely robust, rugged, and reliable
- ✓ Reducing filtering requirements for d-c applications



Toroidal Transformer

are built around a ring-shaped core, which is made from excellent silicon steel. Compared to EI types, advantages of toroidal transformers include smaller size, lower weight, less mechanical hum, lower exterior magnetic field, low off-load losses and greater choice of shapes.

- ✓ Reduced audible noise
- ✓ Low form factor, flat design
- ✓ Single bolt mounting
- ✓ Inherently low magnetic flux leakage



EI Type Linear Transformer

is a large portion of transformers in general use. The transformer can be open-frame or sealed in a small housing.

- ✓ Quiet and reliable operation
- ✓ Small footprint and versatile configurations
- ✓ Reduced costs of ownership
- ✓ Ideal for industrial control, lighting and power supplies



Three-phase Transformer

that Fangyuan provides include both dry-type and oil-immersed transformers. The transformers are built with low-loss grain-oriented silicon sheet, featuring excellent performance and reliable operations.

- ✓ 1KVA to 1000KVA power rating
- ✓ Low-loss grain-oriented silicon sheet
- ✓ High efficiency and loading capacity
- ✓ Customized configurations for specific applications

Notes: other types of transformer may be available. Please contact us for further information.

MS Series Online UPS

Single-phase Global Market AC UPS



- ✓ Sine-wave Pulse Width Modulation (SPWM) technology
- ✓ Dual conversion online IGBT inverter with static bypass topology
- ✓ Zero transfer time presents no-interrupt operation
- ✓ Regulated and clean sine wave output
- ✓ Protection against all power problems
- ✓ Transient Voltage Surge Suppress (TVSS)
- ✓ Input Power Factor Correction (PFC)
- ✓ On-battery start-up, generator supported
- ✓ Optional N+1 Redundant Parallel Operation
- ✓ Optional SNMP adapter for remote status monitoring

Input

Voltage: 220VAC (120VAC or 240VAC optional)
Voltage Range: $\pm 20\%$
Phase: single phase, 2-wire + grounding
Frequency: 50Hz (60Hz optional)
Frequency Range: $\pm 10\%$

Output

Voltage: $\pm 1\%$ of input or customized
Frequency: same as input
Frequency Stability: $\pm 0.05\%$
Load Crest Ratio: 3:1(max)
Waveform: sine wave
THDv On Nominal Power: $<3\%$ linear load;
 $<5\%$ not linear
Power Factor: 0.8
Voltage Stability: $<\pm 5\%$ from 0 to 100% load
Recovery from Dynamic Loads: $<10\text{ms}(\pm 5\%)$
Transfer Time: 0ms

Battery & Charger

Battery Voltage: see table below
 Batteries per String: see table below
 Charging Time: depends on capacity of battery string
 Runtime: depends on capacity of battery string

Mechanical

Efficiency: >90%
Comm. Interface: RS-232 & Intelligent Slot
Status Display: op. mode, I/P & O/P voltage, loading,
error, battery voltage/capacity

Environmental

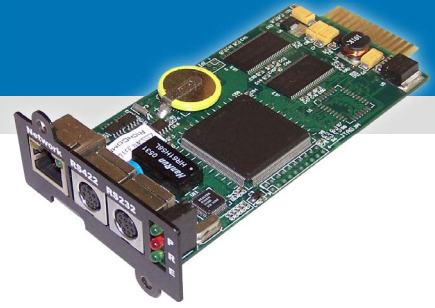
Operating Temperature: 0 to 40°C / 32°F to 104°F
Humidity: 0~90% non-condensing (relative)
Elevation: 1000m / 3280 feet
Noise: <58dB at 1 meter

Model	Rated Power	Battery Voltage	Dimensions	Weight (kgs / lbs)
MS-2KL	2KVA / 1.6KW	72 or 96VDC	560 x 232 x 550mm 22" x 9.1" x 21.7"	40kgs / 88.2lbs
MS-3KL	3KVA / 2.4KW	72 or 96VDC	560 x 232 x 550mm 22" x 9.1" x 21.7"	45kgs / 99.2lbs
MS-6KL	6KVA / 4.8KW	192VDC	560 x 232 x 550mm 22" x 9.1" x 21.7"	55kgs / 121lbs
MS-10KL	10KVA / 8KW	192VDC	670 x 232 x 712mm 26.4" x9.1" x 28"	88kgs / 194lbs

Notes: other configurations may be available. Both input and output can be customized. Please contact us for further information.

Powernet Status Monitor

SNMP Adapter



- ✓ HTTP, DHCP, SNMP supported
- ✓ Telnet and Hyper Terminal supported
- ✓ IP change doesn't require re-start up
- ✓ E-mail notification on emergency
- ✓ Fully programmable instant & scheduled tasks (both ON and OFF), auto-save log data
- ✓ Supports for online configuration, management, control and multiple clients management

Interface

UPS Supported: MC, MG, MG31, MS, MS31, MS33
Network Interface: RJ-45
Ethernet: 10/100Mbps
Serial Interface: RS232, RS422
Installation: plug and play
LED Display: Power, Status, Ready, Link/Active

Operating Voltage: 8VDC to 15VDC
Power consumption: 2.5W

Mechanical

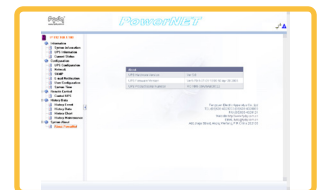
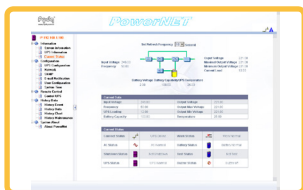
Protocols: TCP/IP, UDP, SNMP, TELNET, SMTP, HTTP,
SMTP, DHCP, DNS, TFTP, ARP, ICMP
MIB: MIB-II (RFC1213, RFC1315, RFC1316)
UPS MIB (RFC1628) , PPC MIB

Parameters Monitored

Input Parameter: voltage, frequency
Output Parameter: voltage, frequency
Battery: voltage, capacity, runtime, replacement log
Alarm: high/low input, line failure, low battery,
over-temperature
UPS Status: operation mode, operating status, RTC
Programmable: instant/scheduled shut-down/restart
Event: programmable shut-down in case of low battery,
low input, line failure, overload, over-temperature.
History Log: date & time, input & output voltage,
frequency, loading, battery voltage,
temperature

Environmental

Operating temperature: 0°C to 60°C / 32°F to 140°F
Humidity: 10 to 85% non-condensing





Leading Manufacturer of Power Supplies for Cable & Broadband

Please visit <http://www.fydq.com.cn/home/> for additional information

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