



Delta UPS Solutions

Uninterruptible Power Supply

About Delta Group

Leading expert in power management and thermal management solutions

Delta, founded in 1971, is a global provider of power and thermal management solutions. Its mission statement, "To provide innovative, clean and energy-efficient solutions for a better tomorrow," focuses on addressing key environmental issues such as global climate change. As an energy-saving solutions provider with core competencies in power electronics and automation, Delta's business categories include Power Electronics, Automation, and Infrastructure.

Delta offers some of the most energy efficient power products in the industry, including switching power supplies with efficiency over 90%, telecom power with up to 98%, and PV inverters with up to 99.2% efficiency. We have also developed the world's first server power supply certified as 80 Plus Titanium.



Worldwide No. 1 supplier of merchant power supplies

The Total Merchant Power Supply Market 2021 Revenue		
Ranking	Company Name	Sales (M/USD)
1	Delta Electronics	\$6,600
2	Schneider Electric	\$3,300-3,700
3	Sungrow Power Supply	\$3,400-3,550

Source: Micro-Tech Consultants, 2021

CSR Honors and Awards

Member of
Dow Jones Sustainability Indices
Powered by the S&P Global CSA

2011 – 2021
DJSI - World Index
2018-2021 Industry Leader

CDP
DISCLOSE OR DIE

2021
Climate Change
Leadership Level

CDP
DISCLOSE OR DIE
A LIST 2021
WATER

2021
Water Security
Leadership Level

Sustainability Award
Gold Class 2021
S&P Global

2021
Sustainability Award
Gold Class

Global Footprint

World's No. 1 in Switching Power Supplies, DC Brushless Fans and Telecom Power Systems.

158 sales offices and **48** manufacturing facilities worldwide.

8.6% of annual sales revenues invested in R&D with over **9,000** engineers in **72** R&D centers worldwide.

Awarded **12,000** patents and received internationally recognized design awards including iF, Reddot, and the Taiwan Excellence awards.



	Asia-Pacific	Americas	EMEA	Total
Sales Offices	100	25	33	158
Plant Sites	40	4	4	48
R&D Centers	48	9	15	72



Delta UPS

Our clients are most concerned about power issues such as power failure, power sag, power surge, under voltage or over voltage, frequency variation, harmonic distortion and line noise. Delta Electronics emphasizes the areas of redundant power supply, voltage regulation, equipment protection and adjustment and has designed and developed four UPS product families - Agilon, Amplon, Ultron and Modulon.

Delta UPS systems feature the following:

- Leading AC-AC efficiency
- Fully redundant design and configuration
- High input and output power factors
- Easy expansion without additional hardware
- Support for seamless operations at a low level of total cost of ownership (TCO)

Delta provides a full range of UPSs



Product Matrix

Series		Topology	Configuration	Form	Battery	Remarks	Page
Agilon Family Under 1.5 kVA, Single-Phase UPS							
	VX Series 0.6-1.5 kVA	Line-interactive	1:1	Tower	Internal		11-12
Amplon Family 1 kVA or higher, Single-Phase UPS							
	MX Series 1.1-3 kVA	Line-interactive	1:1	Rack mountable Tower	Internal		13-14
	N Series 1-3 kVA	On-line	1:1	Tower	Internal External		15-16
	N Series 6-10 kVA	On-line	1:1	Tower	External		17-18
	R Series 1-3 kVA	On-line	1:1	Rack mountable Tower	External		19-20
	RT Series 1-3 kVA	On-line	1:1	Rack mountable Tower	Internal External		21-22
	RT Series 5-20 kVA	On-line	1:1 (5-10 kVA) 3:1, 3:3 (10-20 kVA)	Rack mountable Tower	External		23-24
Ultron Family 10 kVA or higher, Three-Phase UPS							
	HPH Series 20-200 kVA	On-line	3:3	Stand-alone	Internal (BN/B) External		25-30
	NT Series 20-500 kVA	On-line	3:1, 3:3	Stand-alone	External	Isolation transformer	31-32
	DPS Series 300-1200 kVA	On-line	3:3	Stand-alone	External		33-34
	DPM Series 250-1250 kVA	On-line	3:3	Stand-alone	External	480 V, only for project	
Modulon Family 15 kVA or higher, Three-Phase Modular UPS							
	DPH Series 20-200 kVA	On-line	3:3	Modular	Internal (75k) External		35-38
	DPH Series 50-600 kVA	On-line	3:3	Modular	External		39-40

Delta's UPS Systems Demonstrate the Power Behind Competitiveness

An uninterruptible power supply (UPS) is an electrical apparatus designed to furnish emergency power when input sources fail. Different from a standby generator or an auxiliary or emergency power system, in the event of power disruption, a UPS is able to provide near-instantaneous backup power to the mission critical systems, making it an indispensable requirement for many industry applications such as high-value production lines and data centers.

With 50+ years as a global leader in Power Electronics, Automation & Infrastructure industry, Delta's teams have been working unrelentingly on innovative designs and industry-leading technology. We offer strong UPS portfolios

suitable for a variety of industrial applications as well as the most power-efficient solutions in response to net-zero initiatives. Our award-winning UPSs not only provide reliable power backup but also act as the best advanced power managers to safeguard against potential energy issues, including voltage surges and spikes, voltage sags, total power failure, and frequency differences to ensure a stable power supply to your critical loads. During power failure, our solutions prevent customers from potential loss and can keep operations running smoothly while realizing OPEX savings in the long run.

Applications for Delta's UPS Systems



Information Technology

Hyperscale Data Centers
Colocation Facilities
IT Room
Edge Computing



Financial Services

ATMs
Branch Automation
HQ Data Center



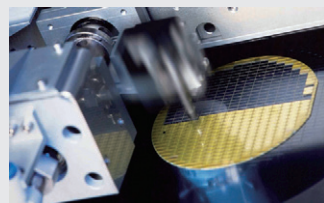
Telecommunication

Base Station
Edge Computing
Data Center



Government

Office Facility
Security System
Education
Military



Industrial

Automation Production
Mission Critical Production Line
Process Control Equipment



SME & Retail

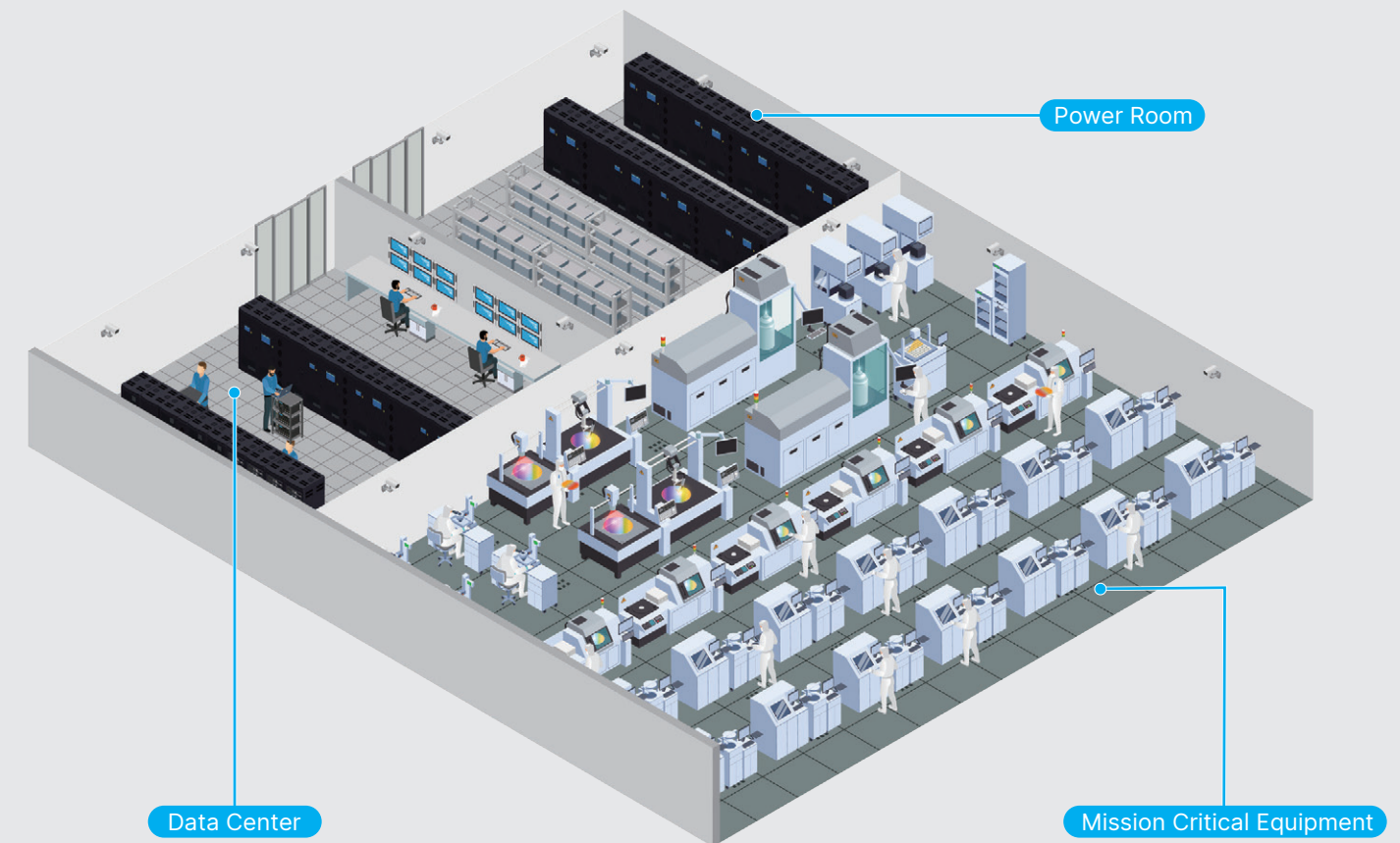
POS
PC and NAS
Camera
VoIP



Transportation

Railways and Metro
Airport
Ticket Booking System & Machine
Traffic Light

Delta's Highly Reliable UPS Safeguards Your Critical Equipment, Production Line and Data Center



Known for Our Quality

Delta's manufacturing across the globe

The Delta Group's operations are global in scale with 48 manufacturing facilities in Taiwan, China, Thailand, India, Mexico, Brazil, Slovakia and more. We also have 72 R&D centers across the globe and 158 sales offices on all 5 continents.

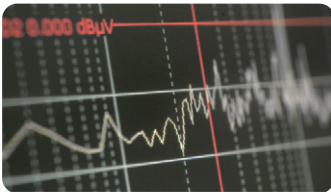


Accredited laboratory

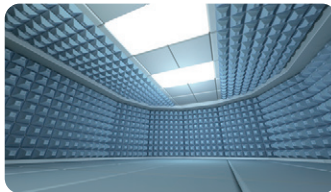
Delta's outstanding product design capability comes from our R&D team and its various precision measurement instruments. Our R&D centers utilize diverse advanced equipment and programs including CAD to facilitate circuit simulation, mechanical design, and PCB layout. Delta has well-equipped laboratories to conduct environment-related substance analysis, precision measurement, failure analysis, soldering techniques, electromagnetic compatibility and interference tests, material chemical analysis, quality engineering, safety tests, and more. In addition, we also have laboratories with controlled temperature and humidity to perform numerous reliability tests.



ORT (Ongoing reliability test)



EMC / EMI (electromagnetic compatibility & interference)



Acoustic test



Pulse lightning discharge

Why Delta UPS?



Quality

- **Mass Production Line with Reliable Quality Control:**
We do things right and deliver the best at one go
- **Pass Tightest Checks & Meet Conformance Requirements from Product Development to Production:**
All manufacturing sites are certified with ISO 9001 and ISO 14001. Laboratories are accredited by China National Accreditation Service for Conformity Assessment (CNAS)



Performance

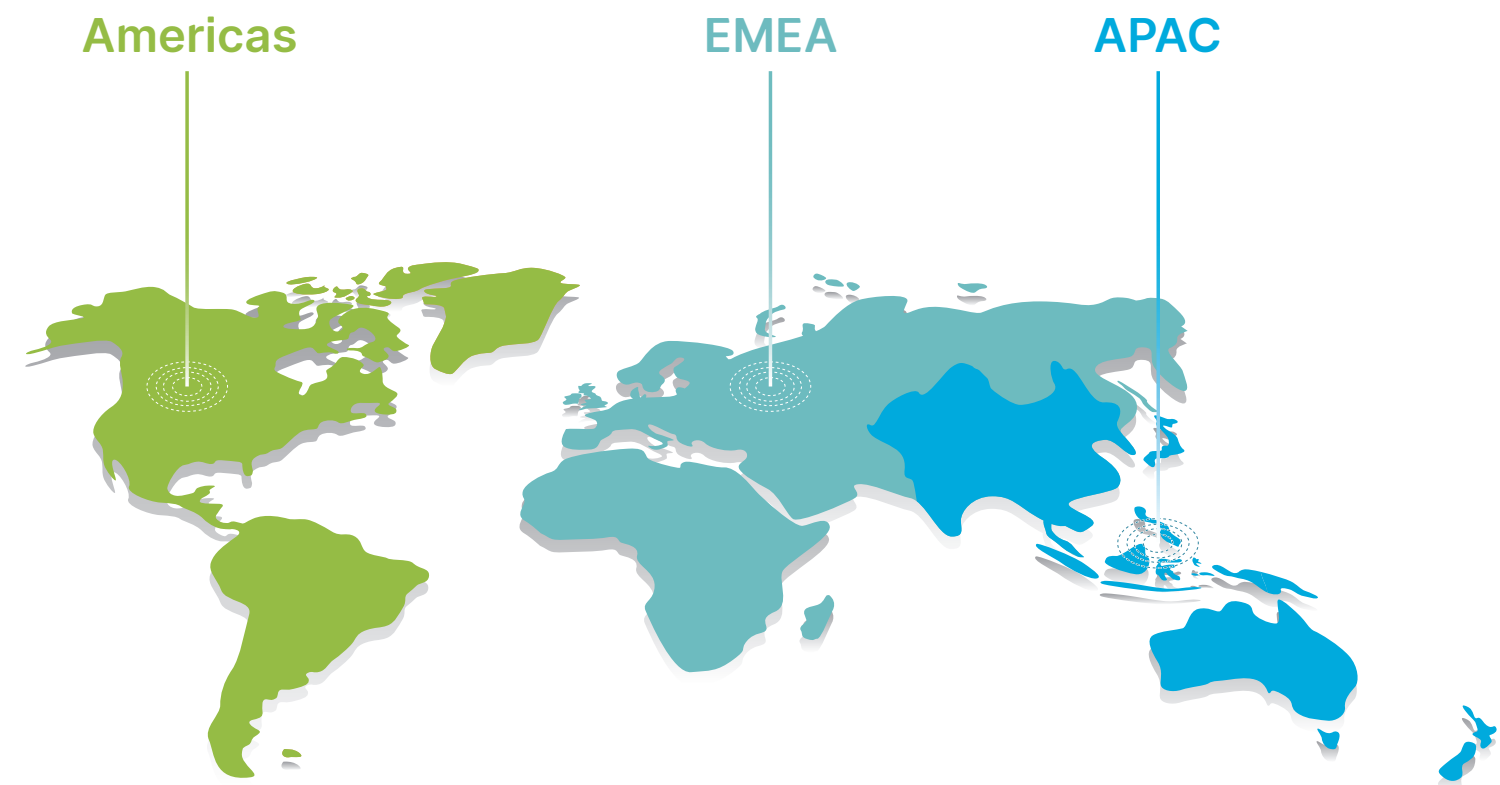
- **Longer Battery Life:**
Wider input voltage range reduces battery use
- **Lower TCO:**
High input/output power factor & efficiency increase utilization of utility power, lower harmonic distortion reduces initial capex
- **Compact/ Modular Design:**
Agile, flexible and saves more space



Service

- **Dedicated Support:**
Professional R&D and FAE teams around the world
- **Highly-Customizable:**
From product-level to solution-level
- **Always Helpful:**
Customer Service Line available

Capability to Deliver Solutions Worldwide



Washington
Data Center 17 MW



Spain
Atos Data Center 200 kW



China
Lin Kong Port Data Center 26 MW
Famous Bank's Data Center 6 MW
Leading Pharmaceuticals Company 3 MW



Vietnam
HTC-ITC Data Center Uptime Tier III
TCCF 750 kW



California
Web Service Data Center 40 MW



Germany
Colo Data Center 10 MW



Taiwan
National Data Center 5.5 MW
Formosa Plastics Data Center 750kW
Semiconductor Assembly Provider 3.5 MW



India
Leading Colo Data Center 28 MW
Telecom Data Center 7 MW
Manufacturing Operations 800 kW



Ohio / Virginia
Web Service Data Center 60 MW



The Netherlands
Bytesnet, Colocation 6 MW



Thailand
Telecom Data Center 5.2 MW



Australia
Prefabricated Modular Data Center
22 MW+

Delta UPS – Agilon Family

VX Series, Line-interactive 600/1000/1500 VA



The Agilon VX series line-interactive UPS designed with microprocessor control offers reliable and cost-effective power protection for PCs, monitors, POS, and other sensitive electronics used in home offices and small businesses. The integrated Automatic Voltage Regulation (AVR) ensures all electronics are receiving stable power while providing higher availability. The Agilon VX series' LCD display, auto-shutdown software and other superior features make these units perfect for your data protection.

Reliability

- The integrated AVR (Automatic Voltage Regulation) stabilizes the output voltage for better power quality
- Excellent microprocessor control enables accurate detection of power frequency for higher reliability
- Wide input voltage range allows the UPS to work in harsh electrical environments and reduces battery discharging time
- Batteries are automatically recharged even when the UPS is in off mode and the UPS can start without mains (Cold-Start)
- UPS is able to restart automatically while utility power is recovering
- Surge protection defends your critical load against damage

Convenience

- Several standard IEC 320 output sockets simplify the connectivity to computer and IT peripherals
- Compact size saves more space for critical equipment

Manageability

- Standard USB communication port enhances monitoring and manageability
- Touch screen LCD for a clear display of UPS information (Only applicable for LCD models)
- Advanced UPS management software provides remote shutdown and control

Applicable Sectors



SME



Retail

Technical Specifications

Model		VX-600VA	VX-1000VA	VX-1500VA
Power Rating	VA	600	1000	1500
	W	360	600	900
Input	Nominal Voltage	230 Vac		
	Voltage Range	170~280 Vac (full load)		
	Frequency	45~65 Hz		
Output	Voltage	230 Vac $\pm$ 10% (Battery mode)		
	Frequency	50/60 Hz $\pm$ 1 Hz		
	Waveform (Batt. Mode)	Simulated Sinewave		
	Receptacle	IEC 320 C13 x 4	IEC 320 C13 x 4	IEC 320 C13 x 4 (SEA model) IEC 320 C13 x 6 (EMEA model)
Indicator		LED (SEA model) LCD (EMEA model)	LCD	
Interfaces	Standard	USB Port x 1		
Conformance	Safety	CE		
Battery	Battery Type & Number	12V/7Ah x 1	12V/7Ah x 2	12V/9Ah x 2
	Recharge Time	6~8 hours to 90%		
	Cold Start	Yes		
Environment	Operating Temperature	0~40°C		
	Altitude	0~1000 m		
	Relative Humidity	0~95% (non-condensing)		
	Audible Noise	< 40 dB		< 45 dB
Physical	Dimensions (W x D x H)	101 x 279 x 142 mm	130 x 320 x 182 mm	130 x 320 x 182 mm
	Weight	4.2 kg (SEA model) 4.4 kg (EMEA model)	8.2 kg	9.7 kg (SEA model) 10.4 kg (EMEA model)

The above specifications are for SEA and EMEA models.

All specifications are subject to change without prior notice.



Delta UPS – Amplon Family



MX Series, Line-interactive 1.1/2/3 kVA

The Amplon MX line-interactive UPS provides pure sine-wave quality compatibility for versatile application to protect devices and prevent small-and-medium businesses from power failure and voltage variations all in a small footprint. The Amplon MX series features enhanced output power factor 0.9, and AVR efficiency up to 96.5%, resulting in a greater power supply for critical loads at significantly less operating cost.

Availability

- Microprocessor-based line interactive design for fast response to power disturbances
- Programmable load bank disconnects non-critical loads when a blackout occurs and reserves more battery power for critical loads
- Automatic voltage regulator (AVR) delivers stable output voltage during brownouts or over-voltages
- Wide input voltage range allows the UPS to work in harsh electrical environments
- Hot-swappable battery design protects equipment during battery replacement

Flexibility

- Supports both rack and tower installation
- Excellent management through a user-friendly graphical and easy-shift LCD display to suit different installation formats
- Supports multiple communication interfaces, including USB port, RS-232, Mini Slot, Surge Protection, REPO for enhanced monitoring and manageability

Low Total Cost of Ownership

- Output power factor is up to 0.9 to provide more real power to critical loads
- High efficiency normal mode reaches 98% and 98.5% for 3 kVA
- Wide input range and protection against over voltage prolongs battery life

Applicable Sectors



Financial



Government



SME



Retail

Technical Specifications

Model		MX-1.1K	MX-2K	MX-3K
Power Rating	kVA	1.1	2	3
	kW	0.99	1.8	2.7
Input	Voltage Range	200 Vac: 150-234 Vac / 208 Vac: 156-243 Vac / 220 Vac: 162-268 Vac 230 Vac: 170-280 Vac / 240 Vac: 177-290 Vac		
	Nominal Frequency	50/60 Hz (Auto-Detection)		
	Connection	IEC C14	IEC C20	
	Phase	Single phase with ground		
Output	Voltage	200/208/220/230/240 Vac		
	Harmonic Distortion	Linear load (full load) ≤ 2%; Non-linear load (full load) ≤ 5%		
	Voltage Regulation	±1.5% (Batt. Mode)		
	Frequency (Battery Mode)	50/60 Hz ± 1 Hz		
	Overload Capability	103~120%: 5 minutes (1 minute @ Battery mode); 120~150%: 10 seconds; > 150%: UPS shutdown immediately		
	Connection	IEC C13 (4+4)	IEC C13 (4+4)	IEC C13 (4+4) IEC C19 (1)
	Current Crest Ratio	3:1		
	Waveform (Battery Mode)	Pure Sinewave		
	Interface	Standard	RS-232 Port x 1, USB Port x 1, MINI Slot x 1, Surge Protection, REPO	
Conformance	Safety	CE, RCM		
Efficiency	Normal Mode	98%		98.5%
	AVR Mode	95.5%	96.5%	
Battery	Battery Type	12V/9Ah Sealed lead-acid battery		
	Numbers	2	4	6
	Recharge Time	4 hours recover to 90% capacity		
Environment	Operating Temperature	0~40°C		
	Relative Humidity	20~90% RH (non-condensing)		
	Noise Level	< 45 dBA	< 45 dBA @ Normal mode, < 55 dBA @ Battery mode	
Physical	Dimensions (W x D x H)	438 x 410 x 88 mm	438 x 510 x 88 mm	438 x 630 x 88 mm
	Weight	14.1 kg	21.3 kg	32.1 kg

All specifications are subject to change without prior notice.



Delta UPS – Amplon Family

N Series, Single Phase 1/2/3 kVA



The Amplon N series is a true online double-conversion UPS that can provide your critical equipment with reliable, stable sine wave power. It features significant advantages, including an output power factor of 0.9 and up to 93% AC-AC efficiency for greater energy savings. The Amplon N series provides a safe power supply guaranteed for mission critical applications such as work stations, POS, ATMs, servers, and more.

Availability

- True online double-conversion topology and zero transfer time to battery ensure high reliability
- Advanced DSP (Digital Signal Processor) controller for fast computation capability and a simplified control circuit for enhanced stability
- Wide input voltage range allows the UPS to work in harsh electrical environments
- Generator compatibility ensures continuous and reliable power

Green with Low TCO

- High input power factor (> 0.99) and low input harmonic distortion (iTHD < 3%) save upstream investment
- Output power factor up to 0.9 presents a stronger load capacity
- AC-AC efficiency up to 93% and high efficiency of 91% at 50% load results in marked energy cost savings
- Compact design saves more space for critical equipment

Intelligent Management

- Excellent local communications through LCD display
- Intelligent battery management maximizes battery performance and sustains battery life
- Mini slot and USB port enhance monitoring and manageability

Applicable Sectors



IT



Telecom



Industrial



Transportation



Financial



Government



SME



Retail

Technical Specifications

Model		N-1K	N-2K	N-3K
Power Rating	kVA	1	2	3
	kW	0.9	1.8	2.7
Input	Nominal Voltage	220/230/240 Vac		
	Voltage Range	175~280 Vac (full load); 80~175 Vac (50~100% load)		
	Current Harmonic Distortion	< 3%		
	Power Factor	> 0.99 (full load)		
	Frequency	50/60 Hz ± 10 Hz		
Output	Voltage	220/230/240 Vac		
	Voltage Harmonic Distortion	< 3% (linear load)		
	Power Factor	0.9		
	Frequency	50/60 Hz ± 0.05 Hz		
	Overload Capability	< 105%: continuous; 105~125%: 1 minute; 125~150%: 30 seconds		
	Receptacle	IEC C13 x 4	IEC C13 x 6, C19 x 1	
	Crest Factor	3:1		
Display	LCD panel			
Interfaces	MINI Slot x 1, USB Port x 1			
Conformance	Safety & EMC	CE, RCM, EN62040-1, EN62040-2 Category C2		
Efficiency	AC-AC	91%	Up to 93%	
Battery	Battery Voltage	24 Vdc	48 Vdc	72 Vdc
	Typical Backup Time	4.5 minutes (full load); 13 minutes (half load)		
	Recharge Time	3 hours to 90%		
	Charge Current	1.5 A		
Environment	Operating Temperature	0~40°C		
	Relative Humidity	0~95% (no condensing)		
	Audible Noise	< 43 dB	< 48 dB	
Physical	Dimensions (Wx Dx H)	145 x 320 x 225 mm	190 x 390 x 325 mm	
	Weight	9 kg	18.6 kg	24.4 kg

The above specifications are for SEA and EMEA models.

All specifications are subject to change without prior notice.



Delta UPS – Amplon Family



N Series, Single Phase 6/10 kVA

The Amplon N series 6-10 kVA UPS is a single-phase on-line UPS with pioneering technology that provides output power factor up to unity and AC-AC efficiency to a maximum 95%. Its remarkably compact dimensions reserve more room for critical equipment such as workstations, POSs, ATMs, office appliances, small server rooms, and production equipment. The Amplon N series superior features include a N+X parallel redundancy function and variable fan speed control to guarantee high system availability and best Total Cost of Ownership (TCO).

The Most Compact Design and Best TCO

- The smallest dimensions in its class saves significant space for more critical equipment
- A pioneer in unity power factor (kVA=kW) to maximize power availability
- The highest AC-AC efficiency up to 95% and efficiency of 98% in ECO mode for exceptional energy cost savings
- Automatic speed regulation function with multi-stage fan speed control to maximize system efficiency, significantly reduce audible noise, and prolong the service life of the fans

High Availability

- True online double-conversion topology and zero transfer time to battery to ensure high reliability
- Parallel configuration for expansion and N+X redundancy up to 4 units
- Advanced DSP (Digital Signal Processor) controller for fast computation capabilities and a simplified control circuit for enhanced stability
- Generator compatibility to ensure continuous and reliable power

Intelligent Management

- Excellent local communications through user-friendly LCD display and LED indicators
- Intelligent battery management to maximize battery performance and extend battery life
- Various types of communication interfaces for monitoring and manageability

Applicable Sectors



IT



Telecom



Industrial



Transportation



Financial



Government



SME



Retail

Technical Specifications

Model		N-6K	N-10K
Power Rating	kVA	6	10
	kW	6	10
Input	Nominal Voltage	200/208/220/230/240 Vac	
	Voltage Range	200/208 (de-rating to 90%): 100~280 Vac* 220/230/240: 100~280 Vac**	
	Current Harmonic Distortion	< 3%	
	Power Factor	> 0.99 (full load)	
	Frequency	40~70 Hz	
Output	Nominal Voltage	200/208/220/230/240 Vac	
	Voltage Harmonic Distortion	< 2% (linear load)	
	Power Factor	1	
	Frequency	50/60 Hz ± 0.05 Hz	
	Overload Capability	< 105%: continuous; 105~125%: 2 minutes; 125~150%: 30 seconds	
	Crest factor	3:1	
Display		LED indicators and LCD display	
Interfaces		REPO x 1, RS-232 Port x1, USB Port x1, Parallel Port x 2, Smart Slot x 1	
Conformance		Safety	
Efficiency	AC-AC	Up to 95%	
	ECO Mode	Up to 98%	
Battery	Battery Voltage	192~264 Vdc adjustable	
	Charge Current	1.5~8 A selectable	
Environment	Operating Altitude	1000 meters (without de-rating)	
	Operating Temperature	0~40°C (at 100% load) 45~55°C (de-rating to 80%)	
	Storage Temperature	-15~50°C	
	Relative Humidity	5~95% (non-condensing)	
	Audible Noise	< 50 dB	
Physical	Dimensions (W x D x H)	190 x 390 x 325 mm	
	Weight	10.1 kg	12.7 kg

* Linear de-rating between 40~90% load at 100~175 Vac.

** Linear de-rating between 40~100% load at 100~194 Vac.

The above specifications are for SEA and EMEA models.

All specifications are subject to change without prior notice.



Delta UPS – Amplon Family



R Series, Single Phase 1/2/3 kVA (Extended Runtime Model)

Delta's Amplon R series is an online double-conversion rack-mountable UPS providing consistent sine-wave power to your critical equipment and reliable protection for IT equipment and data centers. The R series offers an output power factor of 0.9 and a best-in-class AC-AC efficiency of up to 93% for greater energy savings. The Amplon R series leads the industry in combining compact size, availability, flexibility, and low total cost of ownership.

Availability

- True online double-conversion topology provides zero transfer time to ensure maximum protection of the equipment
- Watch-dog design of the DSP (Digital Signal Processor) increases reliability
- Cold-start capability provides temporary battery power when the utility power is out
- Operating temperature tolerance up to 50°C ensures critical loads' continuity
- The Maintenance Bypass Box offers load continuity during battery replacement or other upgrades

Flexibility

- Compact dimensions meet the needs of different rack cabinets
- Convertible rack and tower configuration in 2U size cabinet
- Excellent local communications through rotatable LCD display
- Intelligent management software connectivity via RS232, mini slot or USB port

Low Total Cost of Ownership

- Wide input voltage range reduces the chance of using the battery and extends battery life
- Intelligent battery management sustains battery life and performance
- High output power factor 0.9 provides more real power to critical loads
- High input power factor (pf > 0.99) and low harmonic distortion (iTHD < 3%) save upstream investment
- Up to 93% AC-AC efficiency and 96% efficiency in ECO mode results in marked energy cost savings
- Fan speed control by load level and room temperature optimizes performance

Applicable Sectors



IT



Telecom



Industrial



Transportation



Financial



Government



SME



Retail

Technical Specifications

Model		R-1K	R-2K	R-3K
Power Rating	kVA	1	2	3
	kW	0.9	1.8	2.7
Input	Nominal Voltage	200*/208*/220/230/240 Vac		
	Voltage Range	175~280 Vac (full load); 80~175 Vac (50~100% load)		
	Current Harmonic Distortion	< 3%		
	Power Factor	> 0.99 (full load)		
	Frequency	50/60 Hz ± 10 Hz		
Output	Voltage	200*/208*/220/230/240 Vac		
	Voltage Harmonic Distortion	< 3% (linear load)		
	Voltage Regulation	±1% (linear load)		
	Power Factor	0.9		
	Frequency	50/60 Hz ± 0.05 Hz		
	Overload Capability	< 105%: Continuous; 105~125%: 1 minute; 125~150%: 30 seconds		
	Receptacle	IEC C13 x 4	IEC C13 x 6, IEC C19 x 1	IEC C13 x 6, IEC C19 x 1 (SEA model) IEC C13 x 6, Terminal x 1 (EMEA model)
	Display	LCD display and LED indicators		
Interfaces	Standard	Mini Slot x 1, RS-232 Port x 1, USB Port x 1		
Conformance	Safety	CE, RCM, TISI, EAC		
Efficiency	AC-AC	91%	Up to 93%	
	ECO Mode	95%	Up to 96%	
Battery	Battery Voltage	24 Vdc	48 Vdc	72 Vdc
	Charge Current	4 A (up to 8 A with optional inbuilt charger)		
Environment	Operating Temperature	0~50°C***		
	Relative Humidity	5~95% (non-condensing)		
	Audible Noise**	< 40 dB	< 43 dB	
Physical	Dimensions (Wx Dx H)	440 x 335 x 88 mm	440 x 430 x 88 mm	
	Weight	5.3 kg	9.0 kg	9.1 kg

* When the UPS is de-rated to 90% of its capacity.

** If the UPS is running at < 75% load and in room temperature.

*** When the operating temperature is at 40~50°C, the UPS will be de-rated to 80% of its capacity.

The above specifications are for SEA and EMEA models.

All specifications are subject to change without prior notice.



Delta UPS – Amplon Family



RT Series, Single Phase 1/2/3 kVA

The Amplon RT 1-3 kVA series is an online double-conversion UPS providing consistent sine-wave power to your critical equipment. It supports personal computers, networks, servers, VoIP and telecommunications. RT 1-3 kVA series features an output power factor of 0.9 and best-in-class AC-AC efficiency up to 94% resulting in greater energy savings. Optional external battery pack can be connected for longer backup time to keep your applications safe and running smoothly at all times.

Availability

- True online double-conversion topology and zero transfer time to battery ensure high reliability
- Watch-dog design of DSP (Digital Signal Processor) increases reliability
- Cold-start capability provides temporary battery power when the utility power is out
- Fan failure detection alerts users to failed fans
- Hot swappable batteries ensure continuous operation even when batteries are being replaced
- Optional external battery pack for easy scaling of longer backup time

Green & Low TCO

- High output power factor 0.9 provides more real power to critical loads
- High input power factor (pf > 0.99) and low harmonic distortion (iTHD < 5%) save upstream investment
- Up to 94% AC-AC efficiency and 97% efficiency in ECO mode result in marked energy cost savings
- Wide input voltage range reduces the chance of using the battery and extends battery life
- Intelligent battery management sustains battery life and performance
- Fan speed control by load level maximizes efficiency and reduces audible noise

Flexibility

- Load segment control allows less-critical loads to be disconnected during blackouts and saves battery runtime for important loads
- Convertible rack and tower configuration in 2U size cabinet
- Excellent local communications through rotatable LCD display
- Intelligent management software connectivity via RS232 or USB port

Applicable Sectors



IT



Telecom



Industrial



Transportation



Financial



Government



SME



Retail

Technical Specifications

Model		RT-1K	RT-2K	RT-3K
Power Rating	kVA	1	2	3
	kW	0.9	1.8	2.7
Input	Nominal Voltage	200*/208*/220/230/240 Vac		
	Voltage Range	175~280 Vac (full load); 120~175 Vac (70~100% load)		
	Current Harmonic Distortion	< 5%		
	Power Factor	> 0.99 (full load)		
	Frequency	40~70 Hz		
Output	Voltage	200*/208*/220/230/240 Vac		
	Voltage Harmonic Distortion	< 2% (linear load)		
	Voltage Regulation	±1% (linear load)		
	Power Factor	0.9		
	Frequency	50/60 Hz ± 0.05 Hz		
	Overload Capability	< 105%: continuous; 105~125%: 1 minute; 125~150%: 15 seconds		
	Receptacle	IEC C13 x 6	IEC C13 x 6, IEC C19 x 1	
Display		LCD display and LED indicators		
Interfaces		SMART Slot x 1, RS-232 Port x 1, USB Port x 1, REPO x 1		
Conformance	Safety	CE, RCM, TISI, EAC		
Efficiency	Online Mode	90%	Up to 94%	
	ECO Mode	96%	Up to 97%	
Battery	Battery Voltage	24 Vdc	48 Vdc	72 Vdc
	Typical Backup Time**	6.5 min	7.5 min	
	Charge Current	1.5 A	2 A	
	Recharge Time	3 hours to 90%		
Environment	Operating Temperature	0~50°C***		
	Relative Humidity	5~95% (non-condensing)		
	Audible Noise	< 40 dB	< 43 dB	< 46 dB
Dimensions (W x D x H)	UPS	440 x 335 x 89 mm	440 x 432 x 89 mm	440 x 610 x 89 mm
	External Battery Pack	440 x 335 x 89 mm	440 x 432 x 89 mm	440 x 610 x 89 mm
Weight	UPS	12 kg	18 kg	28 kg
	External Battery Pack	15 kg	27 kg	44 kg

* When the UPS is de-rated to 90% of its capacity.

** When the total load reaches 75%.

*** 40~50°C with 80% de-rating

All specifications are subject to change without prior notice.



Delta UPS – Amplon Family



RT Series

Single Phase, 5/6/8/10 kVA

Three Phase, 10/15/20 kVA

The Amplon RT Series 5-20 kVA is an online double-conversion UPS that provides best-in-class design in a compact 2U size, with high power density, system efficiency, and versatile configurations to fulfill customers' requirements. RT Series 5-20 kVA UPS is the first in the market that offers standard Li-ion external battery cabinets, which deliver better power density and sustainability. Along with the parallel capacity of up to four units, the new series is the ideal small power UPS for mission-critical applications, such as servers, data centers, telecommunications, and manufacturing.

Availability & Flexibility

- True online double-conversion topology and zero transfer time to battery provides 24/7 full-time protection
- Programmable load bank disconnects non-critical loads when a blackout occurs and reserves more battery power for critical loads
- Up to four units parallel capacity allows redundancy and load expansion
- Hot swappable batteries ensure continuous operation even when batteries are being replaced
- VRLA and Li-ion External Battery Cabinet (EBC) are available for scalable runtime
- The Power Distribution Box (PDB) and Maintenance Bypass Breaker (MBB) are optional respectively for easy configuration and easy UPS replacement.
- The rRPP (Rack Remote Power Panel), which can be integrated with standard server racks, simplifies power output distribution and power monitoring
- Common battery configuration is supported in UPS parallel mode to save installation space and additional battery costs

Efficiency & Reliability

- Unity output power factor guarantees no de-rating with loads and provides permanent 100% kW
- Best-in-class AC-AC efficiency of up to 96.5% and 99% in ECO mode lowers energy costs
- Automatic fan speed control maximizes system efficiency and significantly reduces audible noise and prolongs battery life
- Fan failure detection sends early warnings to facilitate predictive maintenance of UPS

Applicable Sectors



IT



Telecom



Industrial



Transportation



Financial



Government



SME



Retail

Technical Specifications

Model		RT-5K	RT-6K	RT-8K	RT-10K	RT-10K3P	RT-15K3P	RT-20K3P
Power Rating	kVA	5	6	8	10	10	15	20
	kW	5	6	8	10	10	15	20
Input	Voltage Range	100~280 Vac (Single phase, 2-wire + G) 100~175 Vac with linear de-rating 50~100%				138~485 Vac (Three phase, 4-wire + G) 138~305 Vac with linear de-rating 40~100%		
	iTHD	< 3%						
	Power Factor	> 0.99 (full load)						
	Frequency	40~70 Hz						
	Input Connection	Input terminal x 1				Input terminal x 1, Bypass Input terminal x 1		
Output	Voltage	200/208/220/230/240 Vac (Single phase)				380/400/415 Vac (Three phase), or 220/230/240 Vac (Single phase)		
	Voltage Harmonic Distortion	≤ 2% (linear load)						
	Power Factor	Unity						
	Frequency	50/60 Hz ± 0.05 Hz						
	Overload Capability	≤ 105%: continuous; 106~125%: 5 minutes; 126~150%: 1 minute; > 150%: 500 ms				≤ 105%: continuous; 106~125%: 2 minutes; 126~150%: 30 seconds; > 150%: 200 ms		
Receptacle	Standard Runtime Model	C13 x 6, C19 x 2, Terminal x 1 Load bank: C19 x 1		C13 x 6, C19 x 4, Terminal x 1 Load bank: C19 x 1		Terminal x 1		
	Extended Runtime Model	Terminal x 1 Load bank: Terminal x 1						
Display		Graphical and multi-lingual LCD						
Interfaces		MINI Slot x 1, Parallel Port** x 2, USB Port x 1, RS232 Port*** x 1, RS485 Port x 1, REPO/ROO Port x 1, Dry Contact x 4						
Conformance	Safety	CE, RCM, TISI, UL/cUL, Energy Star, EAC						
Efficiency	AC-AC	Up to 95.5%				Up to 96%	Up to 96.5%	
	ECO Mode	Up to 99%				99%		
Battery Voltage	Standard Runtime Model	192 Vdc		240 Vdc		144 Vdc*; 192~264 Vdc	±144 Vdc*; ±192~±264 Vdc	
	Extended Runtime Model	144 Vdc*; 192~264 Vdc						
Charger Current	Standard Runtime Model	1 A (default)		1.5 A (default)		Up to 8 A		
	Extended Runtime Model	Up to 8 A						
Typical Backup Time (VRLA Battery)	Standard Runtime Model	75% load	7.5 min	5.5 min	9 min	6 min	Depending on different configurations required by customers	
		Full load	5 min	3 min	5 min	3.5 min		
	Extended Runtime Model	Depending on different configurations required by customers						
Environment	Operating Temperature	0~55°C****						
	Relative Humidity	5~95% (non-condensing)						
	Audible Noise	48 dB		50 dB		54 dB		
Dimensions (W x D x H)	Standard Runtime Model	440 x 665 x 176 mm		440 x 750 x 218 mm		440 x 649 x 88.2 mm	440 x 760 x 88.2 mm	
	Extended Runtime Model	440 x 430 x 88.2 mm		440 x 565 x 88.2 mm				
Weight	Standard Runtime Model	54 kg		85.5 kg		16.6 kg	22 kg	22.5 kg
	Extended Runtime Model	10.9 kg		15.2 kg				

* De-rating to 70% load

** Only applicable to RT 5-10 kVA Extended Runtime Model and RT 15/20 kVA

*** Not applicable to RT 15/20 kVA

**** When the operating temperature is at 40~55°C, the UPS will be de-rated to 75% of its capacity

All specifications are subject to change without prior notice.



Delta UPS – Ultron Family



HPH Series, Three Phase 20-120 kVA

The Ultron HPH is a true online double-conversion UPS offering the best-in-class combination of maximum available power, unbeatable energy efficiency and superior power performance for small data centers and other mission critical applications. With fully rated power (kVA=kW), the Ultron HPH provides maximum available power without de-rating the UPS. Thanks to the three level IGBT topology for both PFC (power factor correction) and inverter, the Ultron HPH features up to 96% AC-AC efficiency. Delta's advanced digital PFC control also contributes low iTHD < 3% and high input power factor > 0.99 resulting in significant TCO (Total Cost of Ownership) savings. Facilitating increased availability and power performance, the Ultron HPH is an ideal solution for protecting your mission critical operations.

Best-in-Class Power Performance and Efficiency

- Fully rated power (kVA=kW) for maximum power availability
- Leading AC-AC efficiency up to 96% saves energy costs
- Low harmonic pollution (iTHD < 3%) and high input power factor (> 0.99) reduce upstream investment costs

Assured Reliability

- Wide input voltage range allows the UPS to operate in harsh electrical environments and extends battery life
- DSP based technology enables reduction in the number of electronic components to lower failure rate
- Redundant auxiliary power and fan design* enhance system reliability

Greater Flexibility

- A wide choice of configurations, such as N+X redundancy and hot stand-by
- Adjustable charging current and charging voltage meet different battery configuration requirements
- Flexible battery configuration optimizes battery investment

Superior Serviceability and Management

- Front-door battery replacement with hot-swappable battery tray design supports easy and quick replacement without turning the unit off (HPH-B / BN)
- Swappable interior architecture and front access servicing enables quick and easy maintenance*
- Multi-connectivity interface supports remote UPS monitoring and management

* Applies to 60-120 kVA models

Technical Specifications

Model		HPH-20K HPH-20K-BN/B	HPH-30K HPH-30K-BN/B	HPH-40K HPH-40K-BN/B	HPH-60K	HPH-80K	HPH-100K	HPH-120K
Power Rating	kVA	20	30	40	60	80	100	120
	kW	20	30	40	60	80	100	120
Input	Nominal Voltage	380/220 Vac; 400/230 Vac; 415/240 Vac (3 phase, 4-wire + G)						
	Voltage Range	300~477 Vac (full load); 228~300 Vac (70~100% load)			332~477 Vac (full load); 228~332 Vac (63~100% load)			
	Current Harmonic Distortion	< 3%						
	Power Factor	> 0.99 (full load)						
	Frequency	40~70 Hz						
Output	Voltage	380/220 Vac; 400/230 Vac; 415/240 Vac (3 phase, 4-wire + G)						
	Voltage Harmonic Distortion	< 1.5% (linear load)			< 2% (linear load)			
	Voltage Regulation	±1%						
	Power Factor	1						
	Frequency	50/60 Hz ± 0.05 Hz						
	Overload Capability	≤ 105%: continuous; 106~≤125%: 10 minutes; 126~≤150%: 1 minute; > 150%: 1 second						
Interfaces		SMART Slot x 1, MINI Slot x 1, Parallel Port x 2, RS232 Port x 1, REPO Port x 1, Charger Detection Port x 1, Input Dry Contact x 2, Output Dry Contact x 6, USB Port x 1*						
Conformance	Safety	CE, RCM						
Efficiency	AC-AC	Up to 96%			> 96% (peak efficiency is tested by TÜV)			
	ECO Mode	Up to 99%						
Battery	Battery Voltage	240 Vdc						
	Type	Support SMF / VRLA / Tubular / Ni-Cd						
	Quantity	32~50 pcs			32~46 pcs***			
	Charge Current (Max.) Built-in	5 A	9 A		10 A	15 A	20 A	
	Additional Charger Board (optional)				20 A		40 A	
	Typical Backup Time**	15 min	10 min	9.5 min	N/A			
	Environment	Operating Temperature	0~40°C					
Relative Humidity		5~95% (non-condensing)						
Audible Noise		< 55 dB	< 60 dB		< 65 dB			
Others	Parallel Redundancy	Up to 4 units						
	Emergency Power Off	Local and remote						
	Maintenance Bypass Switch	Yes						
	Physical	Dimensions (W x D x H)	380 x 800 x 800 mm			520 x 800 x 1175 mm		520 x 800 x 1760 mm
Weight		66.5 kg	86.06 kg	86.5 kg	186.5 kg	191 kg	312 kg	
Physical (BN/B)	Dimensions (W x D x H)	490 x 830 x 1400 mm			N/A			
	Weight (with battery)	365 kg	385 kg		N/A			
	Weight (without battery)	131 kg	162 kg		N/A			

HPH-B: UPS integrated battery model has batteries inside
HPH-BN: UPS integrated battery model has no batteries inside

* Applied for models HPH-60/80/100/120K

** At 70% load with internal battery strings

*** UPS needs de-rating for battery quantity 32-36 pcs. Please contact authorized Delta personnel

All specifications are subject to change without prior notice.



Delta Ultron HPH 40~120 kVA
Efficiency is tested by TÜV

Applicable Sectors



IT



Telecom



Industrial



Transportation



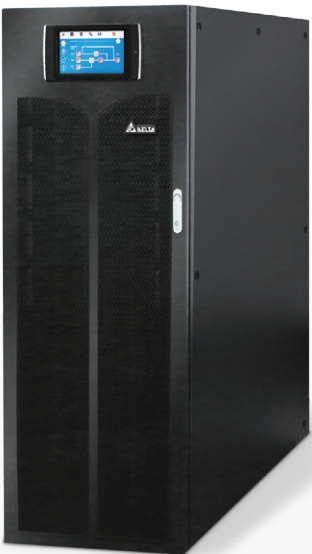
Financial



Government

Delta UPS – Ultron Family

HPH Series, Three Phase 160/200 kVA



The brand-new Ultron HPH series 160-200 kVA is a true online double-conversion UPS offering the best-in-class combination of power performance and efficiency for medium data centers, pan-IT, and other mission critical applications. Thanks to Delta’s R&D expertise and excellent engineering capabilities, the Ultron HPH features up to 96.5% AC-AC efficiency, low iTHD < 3%, and high input power factor > 0.99 resulting in significant total cost of ownership (TCO) savings. Highlights of the highly reliable Ultron HPH series UPS design include key component redundancy and proactive battery health detection. With its combination of superior availability and power performance, the Ultron HPH 160-200 kVA is the top choice for power protection of sustainable medium business operations.

Best-in-class Power Performance and Efficiency

- High AC-AC efficiency of up to 96.5% and ECO mode to 99% for significant energy cost savings
- Low harmonic pollution (iTHD < 3%) and high input power factor (> 0.99) reduce upstream investment costs

Assured Availability

- Optional redundant controller supports dual CAN bus and ring connection for high system availability
- Proactive battery aging detection for high reliability
- Easy event log check via touch panel and firmware upgrade via USB port

Greater Flexibility

- Parallel expansion and redundancy up to 8 units, 1.6 MVA of total power capacity
- Flexible battery configuration 30~46 pieces optimizes battery investment
- Supports either top or bottom cable entry in the single cabinet. The unique fixed symmetric terminal design avoids cable bending issues to enhance cable reliability

Superior Manageability

- User-friendly 10" colored LCD with touch panel enables easy local UPS management
- Environment information such as security, water, fire and temperature can be integrated into the UPS for easy monitoring via the LCD of the UPS
- If the UPS is equipped with Delta’s battery management system, the battery information can be integrated into the UPS and monitored via LCD

Technical Specifications

Model		HPH-160K	HPH-200K
Power Rating	kVA	160*	200
	kW	150	200
Input	Nominal Voltage	220/380 Vac; 230/400 Vac; 240/415 Vac (3-phase, 4-wire + G)	
	Voltage Range	305~478 Vac (full load); 228~478 Vac (70% load)	
	Current Harmonic Distortion	≤ 3%**	
	Frequency	40~70 Hz	
Output	Voltage	220/380 Vac; 230/400 Vac; 240/415 Vac (3-phase, 4-wire + G)	
	Voltage Harmonic Distortion	≤ 0.5% (linear load)	
	Frequency	50/60 Hz	
	Frequency Regulation	±0.05 Hz (battery mode)	
	Overload Capability	≤ 125%: 10 minutes; ≤ 150%: 1 minute	
Display		10" color touch screen	
Interface	Standard	External battery temperature detection x 4, External switch/breaker status dry contact x 4, Output dry contact x 6, Input dry contact x 4, Parallel port x 2, USB Port (Type A x 2; Type B x 1), RS232 Port x 1, Modbus Port x 1, BMS (RJ45) x 1, Ethernet x 1, SNMP Slot x 1, REPO Port x 1	
	Optional	Relay I/O card, Battery cabinet temperature sensor cable	
Conformance	Safety	CE, RCM	
Efficiency	AC-AC	Up to 96.5%	
	ECO Mode	99%	
Battery	Nominal Voltage	±240 Vdc	
	Charge Voltage	±272 Vdc (default, ±180 Vdc to ±276 Vdc configurable)	
	Battery Number Configuration	30~46 pcs (default: 40 pcs)	
Environment	Operating Altitude	1000 meters (without derating)	
	Operating Temperature	0~40°C	
	Audible Noise	< 70 dB	
	Relative Humidity	0~95% (non-condensing)	
Others	Parallel Redundancy and Expansion	Maximum 8 units	
	Remote Emergency Power Off	Yes	
	Battery Start	Yes	
Physical	Dimensions (W x D x H)	600 x 1100 x 1600 mm	
	Weight	339 kg	376 kg

* The power rating is adjustable from default 160 kVA to 150 kVA via touch panel
 ** When input vTHD is less than 1%

All specifications are subject to change without prior notice.



Applicable Sectors



IT



Telecom



Industrial



Transportation



Financial



Government

Delta UPS – Ultron Family

HPH Gen.2 Series, Three Phase 20/30/40 kVA



The latest HPH Gen.2 20-40 kVA UPS offers a best in class footprint and high-level performance. With advanced technology and thermal management, it achieves the world's leading power density and promises 40°C without de-rating. The 0.99 input PF and iTHD < 2% ensure maximum upstream source compatibility. Low total cost of ownership is achieved by > 96% efficiency, energy recycle mode, wider battery quantity configuration and inbuilt 15 A charger. In addition, it provides a user-friendly interface touch panel, manual protection devices and caster wheels for easy deployment, installation and operation. All these features provide the ideal solution for various small and medium-sized data centers and critical power backups.

Easy Deployment and Maintenance with Compact Design

- Inbuilt casters for easy move-in, positioning and maintenance
- Inbuilt input / bypass input / output / maintenance bypass breakers for completed distribution panel
- Slim design and smallest footprint (40 kW in 0.15 m²) to reduce wasted space

Low Total Cost of Ownership

- Wide battery quantity configuration (30-46 pcs) optimizes the battery solution
- High AC-AC efficiency over 96% and ECO mode to 99% provide marked energy cost savings
- Low input harmonic distortion (iTHD < 2%) is highly compatible with upstream of UPS power without additional filter or over sizing generator

High Manageability and Flexibility

- User-friendly 5" color touch screen enables easy local UPS management
- Optional SNMP IPv6 and Modbus communication cards for remote monitoring
- Inbuilt 15 A charger for long backup solution without additional cost
- Optional IP42 kit for harsh environment applications
- Front access and easy battery replacement for inbuilt battery models

Applicable Sectors



IT



Telecom



Industrial



Transportation



Financial



Government

Technical Specifications

Model		HPH-20K/20KB*/20KB-N*	HPH-30K/30KB*/30KB-N*	HPH-40K/40KB*/40KB-N*
Power Rating	kVA	20	30	40
	kW	20	30	40
Input	Nominal Voltage	220/380 Vac; 230/400 Vac; 240/415 Vac (3-phase, 4-wire + G)		
	Voltage Range	305~478 Vac (full load); 228~478 Vac (70% load)		
	Current Harmonic Distortion**	≤ 2.5%	≤ 2%	
	Power Factor	> 0.99		
	Frequency	40~70 Hz		
Output	Voltage	220/380 Vac; 230/400 Vac; 240/415 Vac (3-phase, 4-wire + G)		
	Voltage Harmonic Distortion	≤ 1.5% (linear load); ≤ 4% (non-linear load)		
	Voltage Regulation	±1% (static)		
	Frequency	50/60 Hz		
	Overload Capacity	≤ 105%: continuously; > 105~≤ 110%: 60 minutes; > 110~≤ 125%: 10 minutes; > 125~≤ 150%: 1 minute; > 150%: 1 second		
Display		5” color touch screen		
Interfaces		Standard External battery temperature detection x 1, Output dry contact x 4, Input dry contact x 2, Parallel port x 2, USB Port x 1, RS232 Port x 1, REPO Port x 1, Mini Slot x 2		
Conformance		Safety CE, RCM (IEC62040-1, IEC62040-2 Class C2)		
Efficiency	AC-AC	> 96% (Peak efficiency)		
	ECO Mode	99%		
Battery	Nominal Voltage	±240 Vdc (default, ±180 Vdc to ±276 Vdc configurable)		
	Charge Voltage	±272 Vdc (adjustable from 204 Vdc to 312 Vdc)		
	Maximum Inbuilt Charger Current	15 A		
	Discharge Time***	20 min	14 min	9.5 min
Environment	Operating Temperature	0~40°C		
	Relative Humidity	0~95% (non-condensing)		
	Audible Noise (at one meter)	< 50 dB	< 56 dB	
	IP Protection	IP20 (Standard); IP42 (Optional for long backup model)		
Others	Parallel Redundancy and Expansion	Up to 4 units		
	Battery Start	Yes		
Physical	Dimensions (W x D x H)	240 x 630 x 650 mm		
	Weight	44 kg	50 kg	
Physical (HPH-B/B-N)	Dimensions (W x D x H)	410 x 780 x 1200 mm		
	Weight (B: with battery)	334 kg	340 kg	
	Weight (B-N: without battery)	94 kg	100 kg	

* HPH-B: UPS integrated battery model has batteries inside;

* HPH-B-N: UPS integrated battery model has no batteries inside.

** When input harmonic distortion is less than 1%.

*** UPS at 70% load with internal battery strings.

All specifications are subject to change without prior notice.



Delta UPS – Ultron Family

NT Series, Three Phase 20-500 kVA



The Ultron NT series is a three phase UPS featuring customized I/P-O/P ratings for various applications. With N+X parallel redundancy or expansion, it guarantees high availability and reliability for your critical loads.

The Ultron NT series offers continued seamless protection for your business even under 100% unbalanced loading conditions. Its economy mode improves efficiency and saves operating cost.

Availability

- Available from 20 to 4,000 kVA (8 x 500 kVA in parallel)
- Parallel redundancy without requiring extra hardware to increase reliability
- Optional harmonic filter and 12-pulse rectifier
- Redundant auxiliary power and control circuit ensures higher reliability
- Inbuilt maintenance and static bypass switch

Flexibility

- Multi-language LCD display and LED status indicators
- RS232, RS485 and six programmable dry contact outputs
- Compatible with generator installation and unbalanced loads
- Optional external battery cabinet for longer backup time

Low Total Cost Of Ownership

- Parallel expansion as your business grows and consequently saves initial investment
- Wide input voltage range extends battery lifetime
- Economy mode saves energy and operating cost
- Common battery installation saves initial investment

Applicable Sectors



IT



Telecom



Industrial



Transportation



Financial



Government

Technical Specifications

Model		NT-	20K	30K	40K	50K	60K	80K	100K	120K	160K	200K	260K	320K	400K	500K
Power Rating	kVA		20	30	40	50	60	80	100	120	160	200	260	320	400	500
	kW		16	24	32	40	48	64	80	96	128	160	208	256	320	400
Input	Nominal Voltage	208/120 Vac; 380/220 Vac; 400/230 Vac; 415/240 Vac; 480/277 Vac (3 phase, 4-wire + G)														
	Voltage Range	305~499 Vac														
	Current Harmonic Distortion	< 3% (with optional power filter, full load)														
	Frequency	45~65 Hz														
Output	Voltage	208/120 Vac; 380/220 Vac; 400/230 Vac; 415/240 Vac; 480/277 Vac (3 phase, 4-wire + G) 220/230/240 Vac (1 phase)*														
	Voltage Harmonic Distortion	≤ 3% (linear load)														
	Voltage Regulation	±1% (static)														
	Power Factor	0.8														
	Frequency	50/60 Hz ± 0.01% (internal oscillator); ±1% (synchronized)														
	Overload Capability	≤ 110%: 60 minutes; 110~125%: 10 minutes; 126~150%: 1 minute														
	Standard	RS232 x 1, RS485 x 2, SMART slot x 1, Output dry contact x 6														
Conformance	Safety	CE														
Efficiency	AC-AC	90%	91%	91.5%		92%		92.5%		93%						
	ECO Mode	> 97%	> 97.5%													
Environment	Operating Temperature	0~40°C														
	Relative Humidity	0~95% (non-condensing)														
	IP Protection	IP20														
	Audible Noise (at 1.5 meters)	≤ 60 dB			≤ 65 dB					≤ 68 dB		≤ 72 dB			≤ 77 dB	
	Others	Parallel Redundancy	Up to 8 units													
Emergency Power Off		Local and remote														
Event Log		500 records														
Input Harmonic Improvement		Optional harmonic filter and 12-pulse rectifier														
Physical		Dimensions (W x D x H)	600 x 800 x 1400 mm							800 x 830 x 1700 mm		1200 x 830 x 1700 mm		1600 x 995 x 1950 mm		
	Weight (kg)	365	365	425	460	506	525	700	745	1050	1085	1680	1720	1920	3110**	

* Single phase output voltage: 220/230/240 Vac is only for 20~40 kVA models.

** 500 kVA model is assembled into two cabinets: Inverter (width=1100 mm, 1760 kg) and Rectifier (width=800 mm, 1350 kg).

All specifications are subject to change without prior notice.



Delta UPS – Ultron Family

DPS Series, Three Phase 300-1200 kVA

Delta's superior Ultron DPS series 300-1200 kVA UPS supports unity output power factor to deliver up to 9.6 MW power capacity to meet the demands of large data centers and colocations. The Ultron DPS series guarantees the highest level of system reliability by supporting self-detection of key components with pre-warning function, multi-layered redundancy design, and complete power rating coverage. Along with optional battery management software, the DPS series enables users to achieve predictive maintenance and minimize system downtime, while lowering the total cost of ownership (TCO).

Ultimate Availability

- Supports up to 9.6 MW power capacity with parallel redundancy and expansion up to 8 units
- Redundant components and dual CAN bus ensures system availability
- Proactive detection of key component status for early diagnosis of UPS malfunction
- Intelligent battery health diagnosis enables better battery maintenance and replacement
- Advanced event analysis, including 10,000 event logs, waveform capturing and key parameters recording, to detect UPS abnormality and ensure higher availability

Excellent Performance

- The industry's leading power density and smallest footprint with the design of both top/bottom cable entry* and inbuilt switches
(* For DPS-300K, only top cable entry is available)
- Unity output power factor guarantees no-rating and provides 100% kW
- AC-AC efficiency of up to 96.5% and 99% in ECO mode provide marked energy cost savings
- Supports both VRLA and environment-friendly Li-ion batteries

Sophisticated Manageability and Flexibility

- Environment information, such as security, water, fire, and temperature can be integrated and monitored via the LCD panel of the UPS
- If the UPS is equipped with an external battery management system, the battery information can be integrated and monitored via the LCD panel of the UPS
- Flexible battery quantity of 30-46 pcs achieves optimal battery investment

Technical Specifications

Model		DPS-300K	DPS-400K	DPS-500K	DPS-600K	DPS-800K	DPS-1000K	DPS-1200K
Power Rating	kVA	300	400	500	600	800	1000	1200
	kW	300	400	500	600	800	1000	1200
Input	Nominal Voltage	220/380 Vac; 230/400 Vac; 240/415 Vac (3-phase, 4-wire + G)						
	Voltage Range	176/304~276/478 Vac (full load)						
	Current Harmonic Distortion	< 3% (with Full Linear Load); < 5% (with Full Non-linear Load)						
	Power Factor	> 0.99						
	Frequency Range	40~70 Hz						
Output	Voltage	220/380 Vac, 230/400 Vac, 240/415 Vac (3-phase, 4-wire + G)						
	Voltage Harmonic Distortion	< 1.5% (Linear Load); < 5% (Non-linear Load)						
	Voltage Regulation	±1 (static); ±5 (dynamic)						
	Power Factor	1						
	Frequency	50/60 Hz (Auto-Selectable)						
	Overload Capability	≤ 125%: 10 minutes; ≤ 150%: 1 minute; >150%: 1 second						
Display		10" color touch screen						
Interface	Standard	RS232, Parallel port, USB, Modbus RS485, Input dry contact, Output dry contact, SNMP card inbuilt in touch screen						
	Optional	Relay I/O card, Battery cabinet temperature sensor cable						
Conformance	Safety	CE						
Efficiency	AC-AC	Up to 96.5%						
	ECO Mode	99%						
Battery	Type	VRLA, LiB						
	Charge Current	90 A	120 A	150 A	180 A	240 A	300 A	360 A
	Battery Quantity	30~46 pcs						
Environment	Operating Temperature	0~40°C						
	Relative Humidity	0~95% (non-condensing)						
	Audible Noise	< 80 dB						
	IP Protection	IP20						
Others	Parallel Redundancy and Expansion	Maximum 8 units						
	Emergency Power Off	Remote and local						
Physical	Dimensions (W x D x H)	600*x 900 x 2000 mm	1200*x 900 x 2000 mm			1800 x 900 x 2000 mm	2450 x 900 x 2000 mm	
	Weight	515 kg	700 kg	811 kg	970 kg	1270 kg	1850 kg	2000 kg

* The width is for the cabinet which has four inbuilt switches.

All specifications are subject to change without prior notice.



Applicable Sectors



IT



Telecom



Industrial



Transportation



Financial



Government

Delta UPS – Modulon Family

DPH Series, Three Phase 20 - 80/120 kVA



In this IT intensive world with heavy data traffic driven by cloud, 4G/5G and media streaming applications, IT managers are facing the challenges of increasing rack power density and limited data center space. Delta's innovative modular UPS technologies provide the answer to customers' demands for ultimate availability, excellent performance, and high efficiency. The brand-new Delta Modulon DPH series UPS 80/120 kVA achieves the industry's leading power density of 20 kW per module in a 2U height, offering the smallest footprint and best space utilization. The Modulon DPH Series UPS is the ideal modular power protection for all critical IT applications with its small package, flexibility and seamless integration.

Excellent Power Performance

- The industry's leading power technology offers up to 120 kW within all equipped breakers in 162.8 kW/m³ which supports top/bottom cable entry without an additional cabinet to achieve the best utilization compared with its peers
- High AC-AC efficiency over 96% and ECO mode to 99% provide marked energy cost savings
- Green mode featuring a load aggregation function optimizes system efficiency

Ultimate Availability

- Fully modularized design and hot-swappable key modules ensure Mean Time To Repair (MTTR) is close to zero without downtime risk
- Redundant components and dual CAN bus delivers highest system availability and avoids single point of failure
- Key components aging pre-warning mechanism provides proactive reliability to minimize human error and reduce downtime risk (optional)

High Manageability

- User-friendly 10" color touch screen enables easy local UPS management
- Environment information such as temperature, humidity and transmitting signals from environment sensors can be integrated into the UPS for easy monitoring via the LCD of the UPS
- If the UPS is equipped with an external battery management system, the battery information can be integrated into the UPS and monitored via the LCD of the UPS

Applicable Sectors



IT



Telecom



Industrial



Transportation



Financial



Government

Technical Specifications

Model		DPH-80K	DPH-120K
Power Rating	kVA	20, 40, 60, 80	20, 40, 60, 80, 100, 120
	kW	20, 40, 60, 80	20, 40, 60, 80, 100, 120
	Power Module Rating	20 kW	
	Power Module Quantity	Up to 4 units	Up to 6 units
Input	Nominal Voltage	220/380 Vac; 230/400 Vac; 240/415 Vac (3-phase, 4-wire + G)	
	Voltage Range	305~478 Vac (full load); 228~478 Vac (70% load)	
	Current Harmonic Distortion	≤ 2%*	
	Power Factor	> 0.99	
	Frequency	50/60 Hz	
Output	Voltage	220/380 Vac; 230/400 Vac; 240/415 Vac (3-phase, 4-wire + G)	
	Voltage Harmonic Distortion	≤ 1% (linear load); ≤ 4% (non-linear load)	
	Voltage Regulation	±1% (static)	
	Frequency	50/60 Hz	
	Overload Capability	≤ 125%: 10 minutes; ≤ 150%: 1 minute; >150%: 1 second	
Display		10" color touch screen	
Interface	Standard	External battery temperature detection x 4, External switch/breaker status dry contact x 4, Output dry contact x 6, Input dry contact x 4, Parallel port x 2, USB Port (Type A x 2; Type B x 1), RS232 Port x 1, Modbus Port x 1, BMS (RJ45) x 1, Ethernet x 1, SNMP Slot x 1, REPO Port x 1	
Conformance	Safety	CE	
Efficiency	AC-AC	> 96% (Peak efficiency)	
	ECO Mode	99%	
Battery	Nominal Voltage	±240 Vdc (default, ±180 Vdc to ±276 Vdc configurable)	
	Charge Voltage	±272 Vdc (adjustable from 204 Vdc to 312 Vdc)	
	Protection of Battery Deep Discharge	Yes	
Environment	Operating Temperature	0~40°C	
	Relative Humidity	0~95% (non-condensing)	
	Audible Noise (at one meter)	< 65 dB	
	IP Protection	IP20	
Others	Parallel Redundancy and Expansion	Module and system redundancy ; Maximum 8 units	
	Battery Start	Yes	
Physical	Dimensions (W x D x H)	600 x 850 x 1445 mm	
	Weight: UPS System (without power modules)	150 kg	162 kg
	Weight: 20 kW Power Module	18 kg (optional)	

* When input voltage total harmonic distortion input is less than 1%.

All specifications are subject to change without prior notice.



Delta UPS – Modulon Family



DPH Series, Three Phase 25 - 75/150/200 kVA

The Modulon DPH supports ultimate availability for data center operations and provides the benefit of “pay as you go” without over-sizing the UPS. While achieving ultimate availability, the Modulon DPH does not compromise on power efficiency performance. When availability, efficiency and expanding according to business needs are essential, the Modulon DPH is the ideal UPS system to provide power protection and total cost of ownership (TCO) savings.

Ultimate Availability

- Advanced fault tolerance design achieved by self redundancy guarantees operation continuity
- Self-synchronization of power and control modules for continuous on-line operation even in the event of control module failure avoids downtime caused by single point failure
- Hot-swappable key modules and components ensure Mean Time To Repair (MTTR) close to zero without downtime risk

High Scalability

- Vertical expansion from 25 kW to 75/150/200 kW supporting N+X redundancy in a single rack enclosure reduces footprint
- Parallel expansion up to four units without requiring additional hardware
- Optional Rack-Mount Power Distribution Cabinet (rPDC) (applicable for 75/150 kW models) has flexibility to arrange its UPS's output power feeding according to its connected critical loads
- Optional built-in battery modules (applicable for 75 kW models) at maximum four units (four battery trays each)

Excellent Power Performance and Efficiency

- Full rated power (kVA=kW) maximizes power availability
- High operating efficiency of 95% at 30% load and 96% from 50% load results in marked energy cost savings
- Low harmonic pollution (iTHD < 3%) reduces upstream investment costs and meets demanding power requirements

Easy Maintenance

- Built-in manual bypass features eliminate maintenance-related downtime
- Proactive detection of fan failure and switch fault for early diagnosis of UPS malfunction
- Plug and play modularity simplifies the maintenance process

Applicable Sectors



IT



Telecom



Industrial



Transportation



Financial



Government

Technical Specifications

Model		DPH-75K	DPH-150K	DPH-200K
Power Rating	kVA	25, 50, 75	25, 50, 75, 100, 125, 150	25, 50, 75, 100, 125, 150, 175, 200
	kW	25, 50, 75	25, 50, 75, 100, 125, 150	25, 50, 75, 100, 125, 150, 175, 200
	Power Module Rating	25 kW		
	Power Module Quantity	Up to 3 units	Up to 6 units	Up to 8 units
Input	Nominal Voltage	380/220 Vac; 400/230 Vac; 415/240 Vac (3 phase, 4-wire +G)		
	Voltage Range	305~477 Vac (full load); 242~305 Vac (55~100% load)		
	Current Harmonic Distortion	< 3%*		
	Power Factor	> 0.99		
	Frequency	50/60 Hz**		
Output	Voltage	380/220 Vac; 400/230 Vac; 415/240 Vac (3 phase, 4-wire +G)		
	Voltage Harmonic Distortion	≤ 2% (linear load)		
	Voltage Regulation	±1% (static)		
	Power Factor	1 (kVA=kW)		
	Frequency	50/60 Hz ± 0.05 Hz		
	Overload Capacity	≤ 125%: 10 minutes; ≤ 150%: 1 minute		
Interface	Standard	System communication port x 1, LCM port x 1, Parallel port x 2, Smart slot x 2, Output dry contact x 6, Input dry contact x 2, Battery dry contact x 2, REPO		
	Optional	Battery cabinet temperature sensor, SNMP IPv6 card, ModBus card, Relay I/O card		
Conformance	Safety	CE		
Efficiency	AC-AC	96% (Tested by TÜV)		
	ECO Mode	99%		
Environment	Operating Temperature	0~40°C		
	Relative Humidity	0~95% (non-condensing)		
	Audible Noise (at one meter)	< 62 dB		
	IP Protection	IP20		
Others	Parallel Redundancy and Expansion	Module and system redundancy; Maximum 4 units		
	Emergency Power Off	Local and remote		
	Battery Start	Yes		
	Event Log	3000 records		
Physical	Dimensions (W x D x H)	600 x 1090 x 2000 mm		
	Weight: UPS System	310 kg	320 kg	350 kg
	Weight: 25 kW Power Module	32 kg		
	Weight: Rack-mount Power Distribution Cabinet	32 kg		N/A
	Weight: Battery Module	29.5 kg	N/A	
Maximum Capacity	Rack-mount Power Distribution Cabinet (rPDC)	1	2	N/A
	Breaker Module (for rPDC)	6	12	N/A
	Battery Module	4	N/A	

* When input vTHD is less than 1%.

** Input frequency range can be adjusted up to 40 Hz to 70 Hz. Delta provides configuration service.

All specifications are subject to change without prior notice.



Delta UPS – Modulon Family



DPH Series, Three Phase 50 - 300/500/600 kVA

In this IT intensive world with heavy data traffic driven by cloud, 4G/5G and media streaming applications, IT managers are facing the challenges of increasing rack power density and limited data center space. Delta's innovative modular UPS technologies provide the answer to customers' demands for high power density, high power performance, and ultimate availability. The brand-new Delta Modulon DPH series UPS 50-300/500/600 kVA achieves the industry's leading power density of 50 kW per module, offering the smallest footprint and best space utilization. The Modulon DPH Series UPS is the ideal modular power protection for MW data centers to achieve total cost of ownership (TCO) optimization.

Excellent Power Performance

- The industry's leading power density per module at 50 kW in a 3U space, and the smallest footprint for 500 kVA in a single rack and 600 kVA in two racks, to achieve the best utilization compared with its peers
- High AC-AC efficiency up to 96.5% and ECO mode to 99% provide marked energy cost savings
- Green mode featuring a load aggregation function optimizes system efficiency

Ultimate Availability

- Fully modularized design and hot-swappable key modules ensure Mean Time To Repair (MTTR) close to zero without downtime risk
- Redundant components and dual CAN bus delivers highest system availability and avoids single point of failure
- Modular UPS grows with your business by parallel expansion up to 8 units for 4.8MVA of total power capacity

High Manageability

- User-friendly 10" color touch screen enables easy local UPS management
- Environment information such as security, water, fire, and temperature can be integrated into the UPS for easy monitoring via the LCD of the UPS
- If the UPS is equipped with an external battery management system, the battery information can be integrated into the UPS and monitored via the LCD of the UPS

Applicable Sectors



IT



Telecom



Industrial



Transportation



Financial



Government

Technical Specifications

Model		DPH-300K	DPH-500K	DPH-600K
Power Rating	kVA	50-300	50-500*	50-600
	kW	50-300	50-450	50-600
	Power Module Rating	50 kW		
	Power Module Quantity	Up to 6 units	Up to 9 units	Up to 12 units
Input	Nominal Voltage	220/380 Vac; 230/400 Vac; 240/415 Vac (3-phase, 4-wire + G)		
	Voltage Range	305~478 Vac (full load); 228~478 Vac (70% load)		
	Current Harmonic Distortion	< 3%**		
	Power Factor	> 0.99		
	Frequency Range	40~70 Hz		
Output	Voltage	220/380 Vac; 230/400 Vac; 240/415 Vac (3-phase, 4-wire + G)		
	Voltage Harmonic Distortion	≤ 0.5% (linear load)		
	Voltage Regulation	±1% (static)		
	Frequency	50/60 Hz ± 0.05 Hz		
	Overload Capability	≤ 125%: 10 minutes; ≤ 150%: 1 minute; >150%: 1 second		
Display		10" color touch screen		
Interface	Standard	RS232 x 1, Parallel port x 4, USB type A x 2, USB type B x 1, MODBUS x 1, Smart slot x 1, REPO x 1, EPO x 1, Input dry contact x 4, Output dry contact x 6, External battery temperature detection x 4, External switch/breaker status dry contact x 4, BMS (RJ45) x 1, Ethernet x 1		
	Optional	Relay I/O card, Battery cabinet temperature sensor cable		
Conformance	Safety	CE		
Efficiency	AC-AC	Up to 96.5%		
	ECO Mode	99%		
Battery	Nominal Voltage	±240 Vdc (default, ±180 Vdc to ±276 Vdc configurable)		
	Charge Voltage	±272 Vdc (adjustable from ±204 Vdc to ±312 Vdc)		
	Protection of Battery Deep Discharge	Yes		
Environment	Operating Temperature	0~40°C		
	Relative Humidity	0~90% (non-condensing)		
	Audible Noise (at 1 meter)	< 75 dB	< 80 dB	< 85 dB
	IP Protection	IP20		
Others	Parallel Redundancy and Expansion	Module and system redundancy; Maximum 8 units		
	Emergency Power Off	Remote (default) and local (optional)		
	Battery Start	Yes		
Physical	Dimensions (W x D x H)	600 x 1100 x 2000 mm		1200 x 1100 x 2000 mm
	Weight: UPS System (without power modules)	311 kg	317 kg	605 kg
	Weight: 50 kW Power Module	36 kg (optional)		

* The power module's rating is adjustable to 50 kVA or 55.6 kVA via Modbus. DPH-500K can support 500 kVA / 450kW with nine 55.6 kVA power modules.

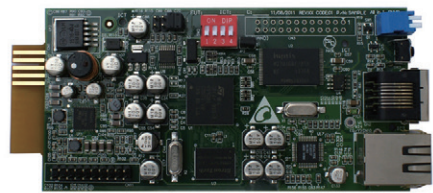
** When input vTHD is less than 1%.

All specifications are subject to change without prior notice.



UPS Management

SNMP IPv6 Card



Technical Specifications	
Network Connection	10/100 M RJ45 Connector
Operation Temperature	0~60°C
Input Power	12 Vdc
Power Consumption	< 2 W
Dimensions	130 x 60 mm
Weight	75 g

Functions and Features

Network	• SNMP SNMPv1, v2c and v3 supported; accepts NMS monitoring as well as actively sends Trap packets to target hosts; support IPv4 and IPv6 TCP/IP protocol • Web Monitor and set up through network browser with built-in web server • Others Telnet, SSH, FTP, SFTP, BOOTP, DHCP, SMTP, SNTP, WOL, RADIUS, Syslog and Modbus TCP. • MIB Supports RFC1628 and Delta proprietary UPSv4 and UPSv5 MIB
Management	• Regular power on and off Can set up UPS power on and off time • Regular testing Battery discharge test ensures the battery is in good condition • Smart shutdown Can send power off signal to connected host actively if the host computer has the ShutdownAgent installed • Probe Optional environment probe can integrate ambient temperature and humidity for total cabinet monitoring
Diagnosis	• Event log Keep date, time, and event sequence in event log file • History records Keep date, time, and UPS parameter data. Can be exported into XLS file for further processing
Reaction to events	• UPS shutdown Define delay time for UPS power off to avoid deep discharge • Email Send email notification to predefined recipients in case of power event
Application	• Integrate the communication requirement of UPS, PDC, STS, Rack STS and cooling with dip switches selection on one single SNMP IPv6 card

Relay I/O Card



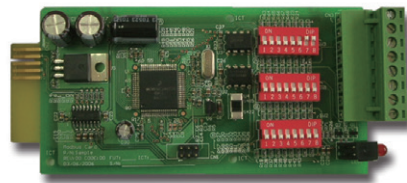
Technical Specifications	
Operation Temperature	0~40°C
Input Power	8~20 Vdc
Power Consumption	< 1.2 W
Dimensions	130 x 60 mm
Weight	200 g

Functions and Features

Output	• Programmable 6 output relays, each of them can be configured to represent one of the 20 UPS events respectively • NC/NO 6 output relays, each of them can be configured to either NC (Normal Close) or NO (Normal Open)
Input	• Programmable The input signal can be configured to turn off the UPS or to issue battery test command

Modbus Card

Converts status and parameter data of your UPS to comply with the standard Modbus protocol



Technical Specifications	
Operation Temperature	0~40°C
Input Power	8~14 Vdc
Power Consumption	< 1.2 W
Dimensions	130 x 60 mm
Weight	150 g

Functions and Features

Communications interface	1 x RS232 port; 1 x RS485 or RS422 port
ID	Device ID can be set to any number between 0~255
Terminating resistor	Terminating resistance of RS485/422 can be set by dip switch
Modbus communications format	Supports RTU format
Baud rate	2400, 4800, 9600 or 19200
Data bit	7 or 8
Parity check	None, even or odd

UPS Management

Mini SNMP IPv6 Card

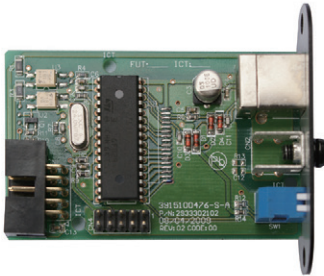


Technical Specifications	
Network Connection	RJ-45 jack connector
Operation Temperature	0~60°C
Input Power	12 Vdc
Power Consumption	2 Watt Maximum
Dimensions	87 x 70 x 30 mm
Weight	75 g

Functions and Features

Network	• SNMP SNMPv1, v2c and v3 supported; accepts NMS monitoring as well as actively sends Trap packets to target hosts; support IPv4 and IPv6 TCP/IP protocol • Web Monitor and set up through network browser with built-in web server • Protocol HTTP, HTTPS, Modbus TCP, Telnet, SSH, FTP, SFTP, DHCP, SMTP, SNTP, Syslog • MIB Supports RFC1628 and Delta proprietary UPSv4 and UPSv5 MIB
Management	• Regular power on and off Can set up UPS power on and off time • Regular testing Battery discharge test ensures the battery is in good condition • Smart shutdown Can send power off signal to connected host actively if the host computer has the ShutdownAgent installed • Probe Optional environment probe can integrate ambient temperature and humidity with 4 additional digital inputs for total cabinet monitoring
Diagnosis	• Event log Keep date, time, and event sequence in event log file • History records Keep date, time, and UPS parameter data. Can be exported into XLS file for further processing
Reaction to events	• UPS shutdown Define delay time for UPS power off to avoid deep discharge • Email Send email notification to predefined recipients in case of power event

Mini USB Card

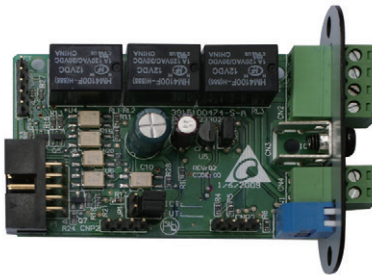


Technical specifications	
Operating Temperature	0~40°C
Input Power	12 Vdc
Power Consumption	0.5 Watts
Dimensions	68 x 43 mm
Weight	30 g

Functions and Features

Communication protocol	SCI: Delta Regular v1.51 USB: Delta HID Protocol v3.4
Supports HID (Human Interface Device) protocol	The UPS can communicate with Windows XP/2003/2008/2012/Win7/Win8 without monitoring software
Compatible with Delta UPS standard software	UPSentry 2012

Mini Dry Contact Card



Technical specifications	
Operating Temperature	0~40°C
Input Power	8~20 Vdc
Power Consumption	0.8 Watts
Dimensions	68 x 43 mm
Weight	35 g

Functions and Features

- UPS status information presented as 3 contact closures
- Configurable input signal as shutdown UPS or battery test
- Programmable output contact monitors status of UPS
- Configurable UPS shutdown delay time
- Protects up to 3 computers
- Unattended graceful shutdown

UPS Management

EnviroProbe

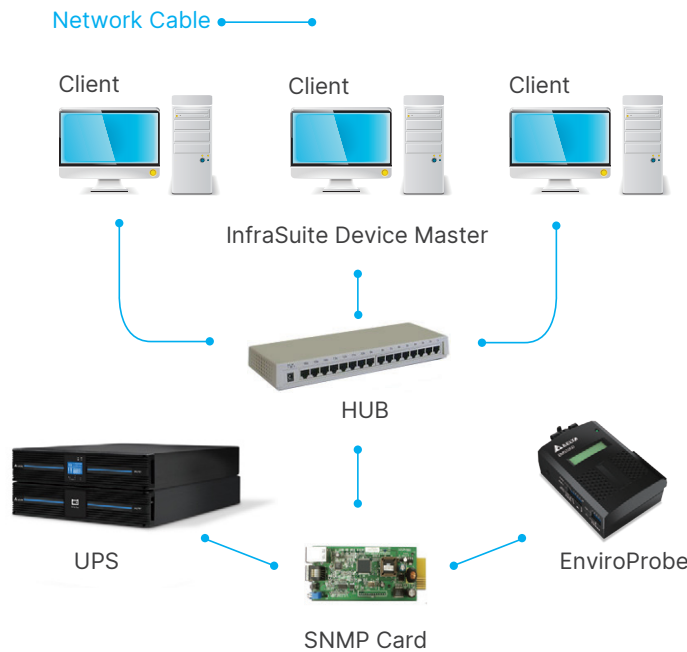


EnviroProbe monitors temperature, humidity in a single cabinet or area and transmits signals from environment sensor devices in the data center (e.g.: door sensors, smoke detectors, fire detectors, water-leakage detectors and others) to management via network.

Technical Specifications			
Model	EMS1000	EMS1100	EMS1200
Input	EMS2000 Delta-BUS or SNMP Card: 12 Vdc (pin 1 & 4) with PDU SNMP card: 5 Vdc (pin 2 & 4)		
Input/Output Contacts	4 inputs (dry/wet)	4 digital outputs	2 analog inputs, 1 analog output and 1 water-leakage detection.
Dimensions (W x D x H)	66 x 33 x 103 mm		
Weight	120 g	130 g	
Operating Temperature	0~60°C		
Storage Temperature	-20~60°C	0~60°C	
Humidity Accuracy	0~80% RH ± 3% RH		
Safety Regulation Compliance	CE, EN55022 Class B, EN55024		

Functions and Features

- LCD display
- Ambient temperature & humidity monitoring and water-leakage detection
- Digital & analog input/output contacts for monitoring and controlling other devices
- Supports Modbus RTU protocol
- InfraSuite Device Master software for remote monitoring and recording



Mini TVSS Card



Technical Specifications	
Operation Temperature	0~40°C
Dimensions	46 x 43 mm
Weight	25 g

Functions and Features

- This connection is optional but highly recommended as network lines often carry dangerous surges and spikes
- Connect the Network Protection Lines
Connect the network line from the wall to the connector marked "IN", then connect the device (Ethernet card) to be protected to the connector marked "OUT"

Delta UPS Management Software

Software		InfraSuite Device Master	UPSentry 2012	ShutdownAgent 2012
Communications Mechanism	RS232	●	●	
	USB		●	
	RS485	●		
	SNMP	●		●
Key Functions	Shutdown OS		●	●
	Centralized management	●		
	Remote control	●	●	
	Virtual machine shutdown	Hyper-v	●	●
		ESXi		●
		XenServer	●	●
		KVM	●	●
Supported Operating System	Windows	●	●	●
	Linux		●	●

UPS Management

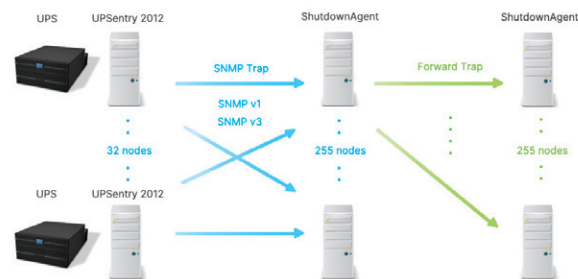
UPSentry 2012

Functions and Features

- Supports RS232 and USB communication
- Provides web interface through HTTP and HTTPS
- Provides batch configuration to deploy settings with the snap of a finger
- Supports SNMP Trap v1, v2c, v3
- Supports SNMPv1, v3 server access for monitoring UPSentry 2012 status and configure shutdown parameters
- Works with ShutdownAgent 2012 to protect a huge number of hosts
- Provides console configuration for basic system parameters setup
- Supports Windows and Linux 32/64 bits software programs

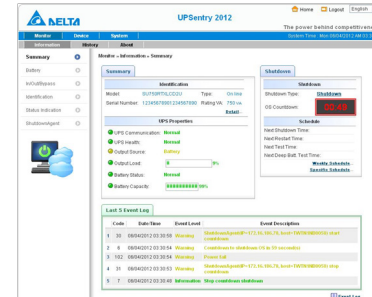
Supported Operating Systems

- Windows 7, 8, 10, 11
- Windows Server 2012, 2016, 2019
- Windows Hyper-V Server Core 2016/2019
- Redhat Linux Enterprise 8.3
- Oracle Linux 7.1
- Linux OpenSUSE 11.4
- Linux ubuntu 10.04, 12.04.5, 16.04, 20.04
- Citrix XenServer 6.0.0
- Linux KVM



Event Tracking

- Supports 10,000 event log entries
- Displays history values by a single date, month and year or a defined period of time
- Exports data in csv. file format
- Clears the history data and event logs on the web interface



Scheduling

- Supports scheduling shutdown, restart and battery test
- System power on/off
- 10 seconds test and deep discharge test

Shutdown Protection

- Input power fail
- Battery low
- Overload
- Bypass
- Schedule shutdown

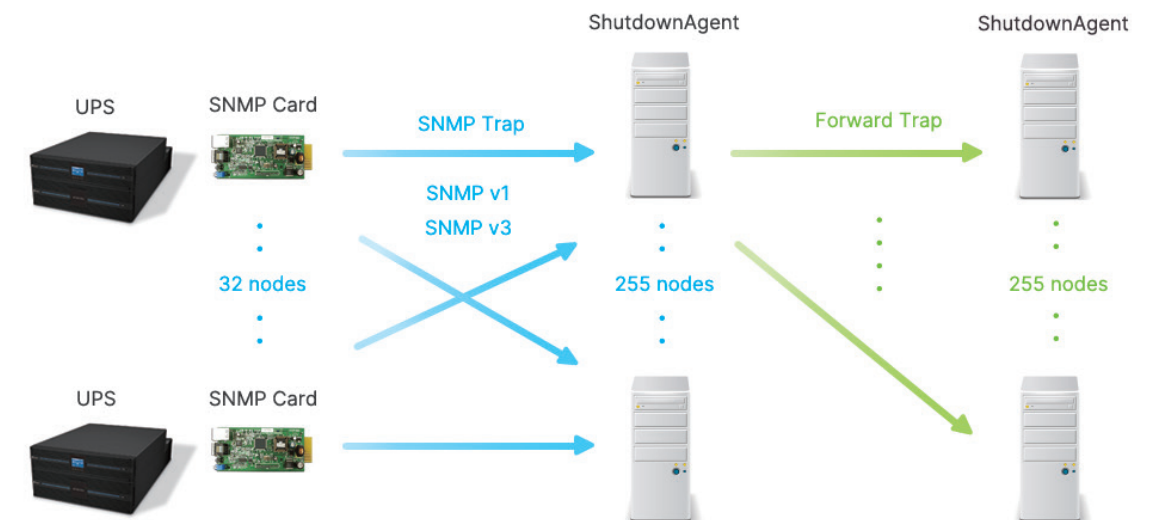
Web Interface

- Monitors UPS status through web interface
- System Summary: UPS identification, shutdown type, scheduling information and last five events log
- Battery: battery status, battery measurement, battery cabinet and replacement date
- In/Out/Bypass: Information on input measurement, bypass measurement and output measurement
- Identification: Information on identification and UPS rating
- Status Indication: Information on immediate UPS status indication
- Power Module: Information on power module bypass and power module ID1/2/3/4
- Shutdown Agent: Collect all of the ShutdownAgent 2012 which you have assigned to work with UPSentry 2012 to protect a group of servers
- Displays event log and history values

Shutdown Agent 2012

Functions and Features

- Supports SNMPv1, v2c, v3 trap
- Provides web interface through HTTP and HTTPS
- Provides batch configuration to deploy settings with the snap of a finger
- Forwards SNMP trap to extend protecting more than 255 servers
- Supports up to 32 input trap sources for redundant (logical OR) and parallel (logical AND) application
- Provides console configuration for basic system parameters setup
- Supports Windows and Linux 32/64 bits setup programs



Supported Operating Systems

- Windows 7, 8, 10, 11
- Windows Server 2008, 2012, 2016, 2019
- Windows Hyper-V Server Core 2016/2019
- Redhat Linux Enterprise 8.3
- Oracle Linux 7.1
- Linux OpenSUSE 11.4
- Linux ubuntu 10.04, 12.04.5, 16.04, 20.04
- Linux Fedora 3.1.9
- VMWare ESXi 4.1, 5, 5.1, 5.5, 6, 7, 7.5 (with essential license after version 5)
- Citrix XenServer 6.0.0
- Linux KVM
- IBM AIX 7.1

UPS Management

Delta InfraSuite Device Master

InfraSuite Device Master provides a rich set of capabilities that simplify and automate critical device monitoring. It allows users to observe the status of all devices, query event logs or history data, and assists users in taking appropriate action. With cost effective deployment, this software solution is scalable to match your business growth.

Free to Download

InfraSuite Device Master is free to download with 5 nodes by default for monitoring your devices. Various infrastructure facilities such as power and cooling in a data center can be monitored.

Real-Time Monitoring

Users can gather the latest status of critical facilities in a data center through the system screens of InfraSuite Device Master. InfraSuite Device Master also lets you view all of a site's device information, query history and events at the same time, even for multiple sites in different countries.

Easy to Deploy

The download file is ready on the Delta Software website. InfraSuite Device Master is easy to install on your server or PC, with software designed for quick installation and implementation.

Migration to InfraSuite Manager (DCIM)

If you are not only looking for device monitoring but also a complete DCIM solution, InfraSuite Device Master is the quickest way of migrating to InfraSuite Manager, which is Delta's full feature DCIM software solution.

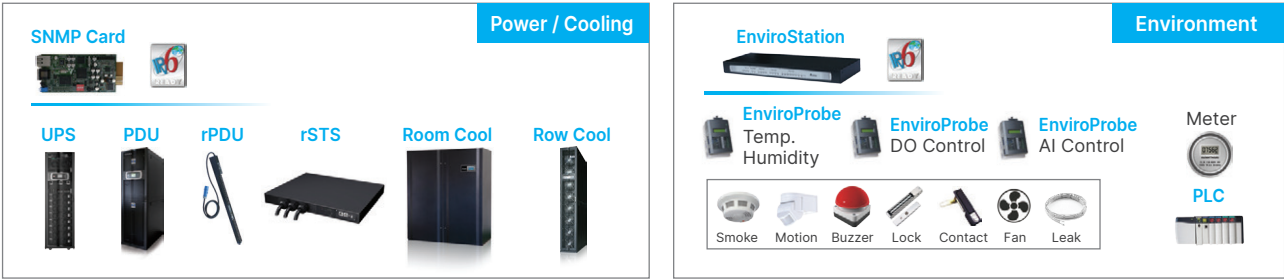
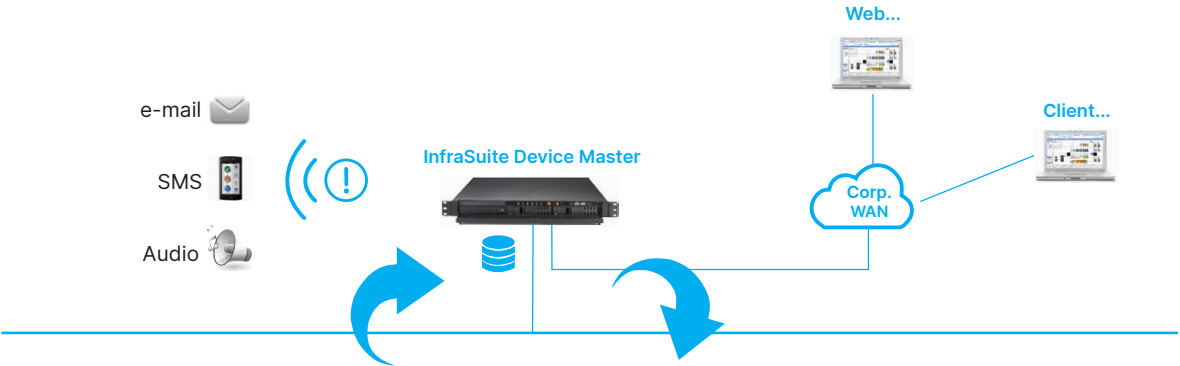


FIGURE 1. Delta InfraSuite Device Master Monitoring Application



To download InfraSuite Device Master, go to:
<https://www.deltaww.com/en-us/products/management-system/data-center-infrasuite-device-master>

Product Features

Navigational Graphics

Navigational graphics of the InfraSuite Device Master are customizable. Users can design a floor layout using the provided components.

Multiple Protocol Support

InfraSuite Device Master supports multiple device protocols, such as Modbus, SNMP and OPC.

Proactive Notification

Proactive notifications provide automated, personalized email, short messages, and audio to users.

User Account Management

Users can be classified into groups based on privilege levels. The job scope of each privilege level is defined by administrators. The jobs include the level of visible access to layout plans, device control and system operation.

Event Management

InfraSuite Device Master has categorized event levels with 16 levels to help users take appropriate action accordingly. Besides, events can be queried by time, type, level and devices. InfraSuite Device Master records the system, operator and device events in its database where the user can review the events' status.

Data Storage and Backup

InfraSuite Device Master stores all history events and data into its database. Users may use this data for analysis. In addition, the database can be backed up automatically according to user preference.

System Requirements

	InfraSuite Device Master (Server)	InfraSuite Device Master (Windows Application UI)	InfraSuite Device Master (Web Monitor UI)
Hardware	CPU: > 2 GHz Memory: ≥ 4 G Free HD Space: ≥ 50 G	CPU: > 2 GHz Memory: ≥ 4 G	CPU: > 2 GHz Memory: ≥ 4 G
Software	Supported OS: Windows 10, Windows Server 2016, 2019, 2022	Supported OS: Windows 10, Windows Server 2016, 2019, 2022	Recommended Browser: Google Chrome, Mozilla Firefox and Microsoft Edge.



FIGURE 2. Navigational Graphics

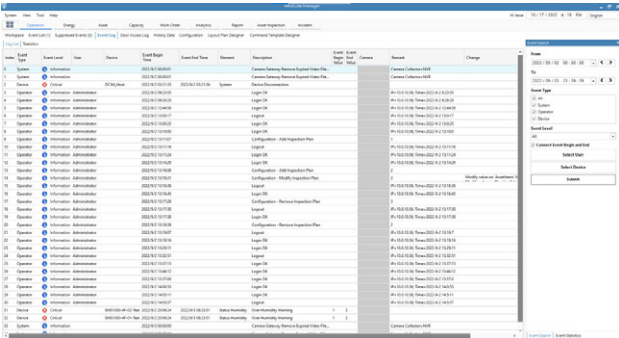


FIGURE 3. Event Log List

Europe

Czech Republic

Delta Energy Systems
T +420 272 019 330
E ups.czech.republic@deltaww.com

Finland

Delta Solutions (Finland) Oy
T +358 9 84966 0
E ups.finland@deltaww.com

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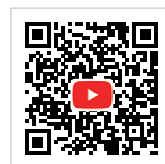
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