The power behind competitiveness

Delta InfraSuite

Data Center Infrastructure Solutions

www.delta-americas.com
www.deltapowersolutions.com

Smarter. Greener. Together.

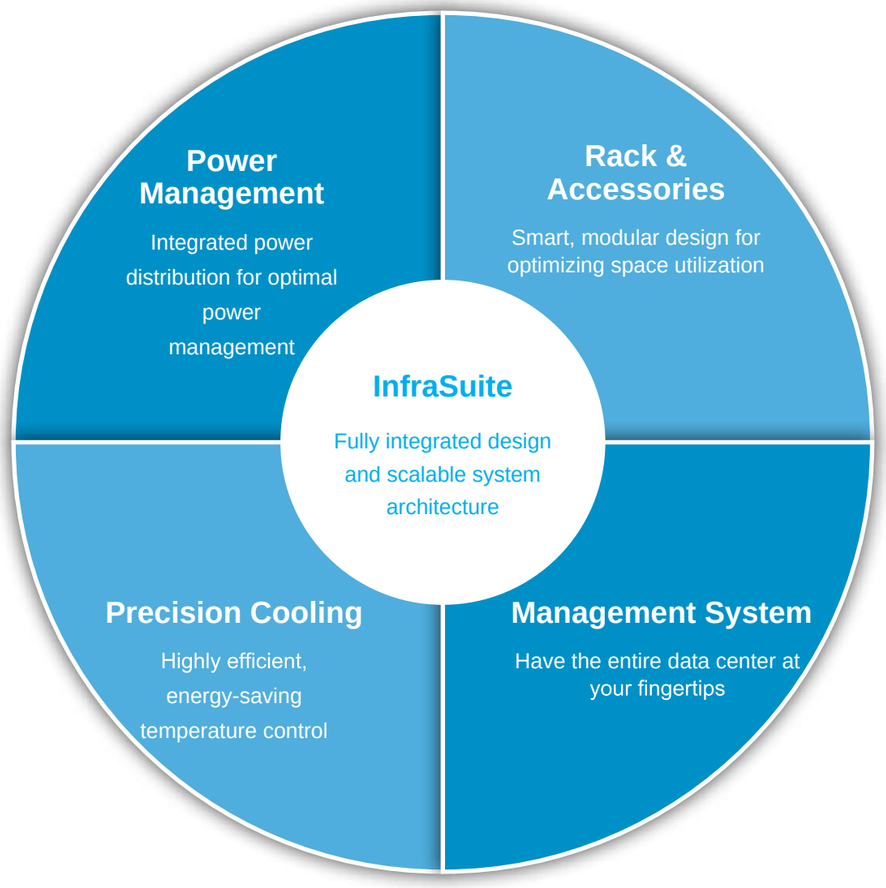
Delta InfraSuite

Data Center Infrastructure Solutions

Today, enterprise growth and IT equipment have become so closely linked that planning and building a high performance data room is one of the critical issues for IT managers.

With 40 years of leadership in the core technologies of power electronics, the expert teams at Delta Electronics have developed a new generation of data center infrastructure solutions: InfraSuite.

Delta InfraSuite includes a power system, rack & accessories, precision cooling and an environment management system.



MEMBER OF Dow Jones Sustainability Indices In Collaboration with RobecoSAM

2011 - 2020
Dow Jones
Sustainability Indexes

CDP A LIST 2020 CLIMATE

2020
Climate Change
Leadership Level

CDP A LIST 2020 WATER

2020
Water Security
Leadership Level

Sustainability Award
Gold Class 2021
S&P Global

2021
Sustainability Award
Gold Class

Delta InfraSuite Products and Services

InfraSuite advantages include:

- Modular design for quick and easy assembly
- Scalability to match data center with enterprise growth
- Optimized installation and operation costs
- High efficiency, energy-saving power components for eco-friendly data rooms
- Easy integration with all data room structures
- A complete environment management system for worry-free operations

Power Management

1. UPS
2. Power Distribution Unit (PDU)
3. Rack-mount Remote Power Panel (rRPP)
4. Rack Power Distribution Unit (rPDU)
5. Static Transfer Switch (STS)

Rack & Accessories

6. Modular Rack
7. Rack Accessories

Management System

8. InfraSuite Manager or Device Master
9. EnviroStation
10. EnviroProbe

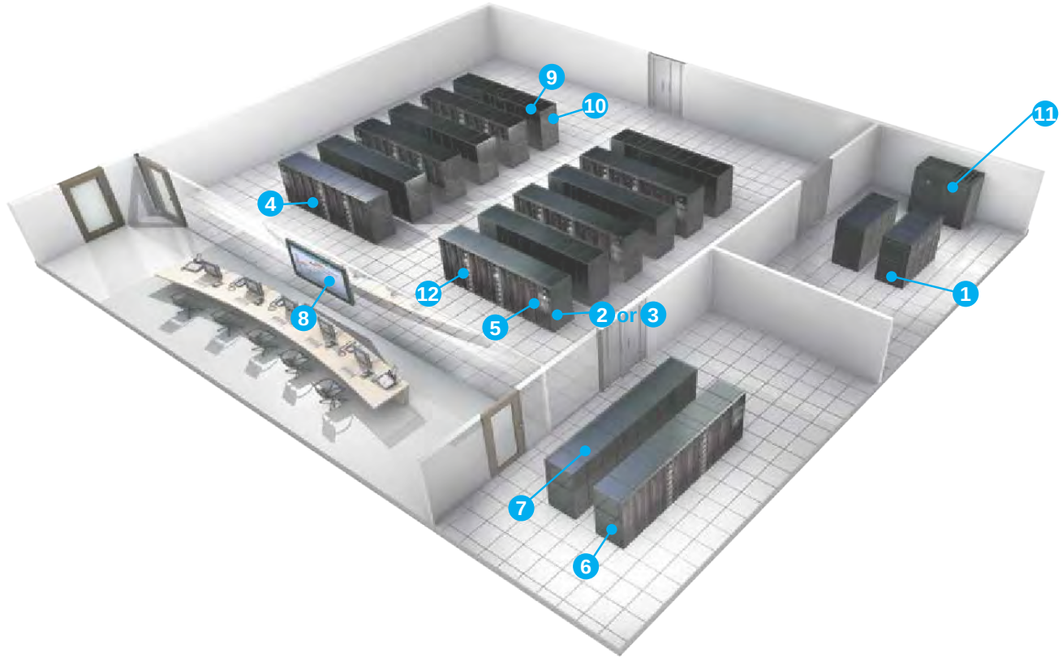
Precision Cooling

11. RoomCool
12. RowCool

Service

System Design and Planning

Rapid and Comprehensive Services



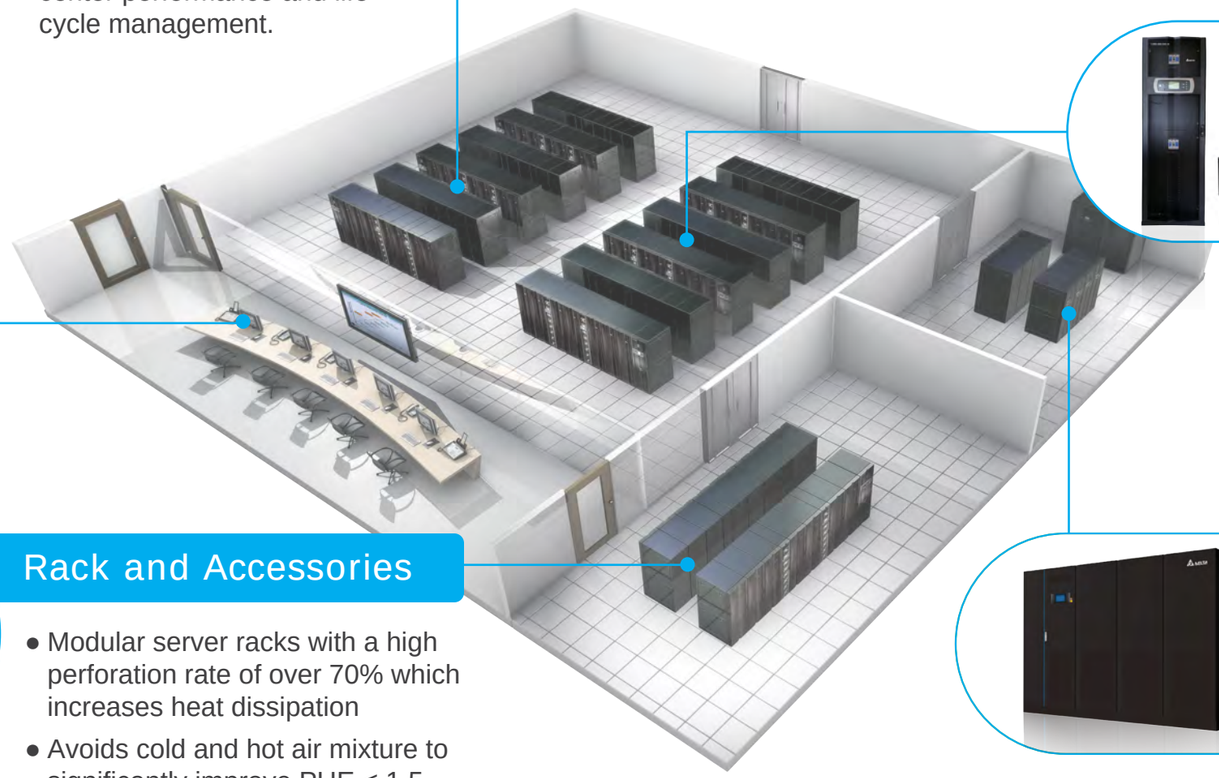
Delta InfraSuite
Data Center Infrastructure Solutions

Micro Data Center | Modular Data Center | Containerized Data Center | Power Container | DCIM | Cooling | AC Power | Converged Power

InfraSuite Manager (DCIM)

Have the entire data center at your fingertips!

- InfraSuite Manager integrates all facilities and IT equipment on one platform.
- InfraSuite Manager is Delta's fully featured DCIM software solution that optimizes data center performance and life cycle management.



Precision Cooling

- Highly-efficient variable fan speed control saves 27% of power if fan speed is reduced by 10%
- Both compressor and fans use DC brushless motors that provide high efficiency and great power-savings.

Power Distribution System

- Power Distribution Unit (PDU): Modular and hot-swappable output breaker with transformer
- Remote Power Panel (RPP): PDU without transformer
- Rack-Mount Remote Power Panel (rRPP): An ideal power distribution solution for small datacenters
- Rack Power Distribution Unit (rPDU): Reliable branch circuit breaker protection

Rack and Accessories

- Modular server racks with a high perforation rate of over 70% which increases heat dissipation
- Avoids cold and hot air mixture to significantly improve PUE < 1.5

UPS System

- Fully modular design. Hot-scalable and hot-swappable.
- Ultra-integrated system with power supply, power distribution and runtime.
- Output PF up to 1
- Leading power efficiency up to 96.5%

Delta UPS

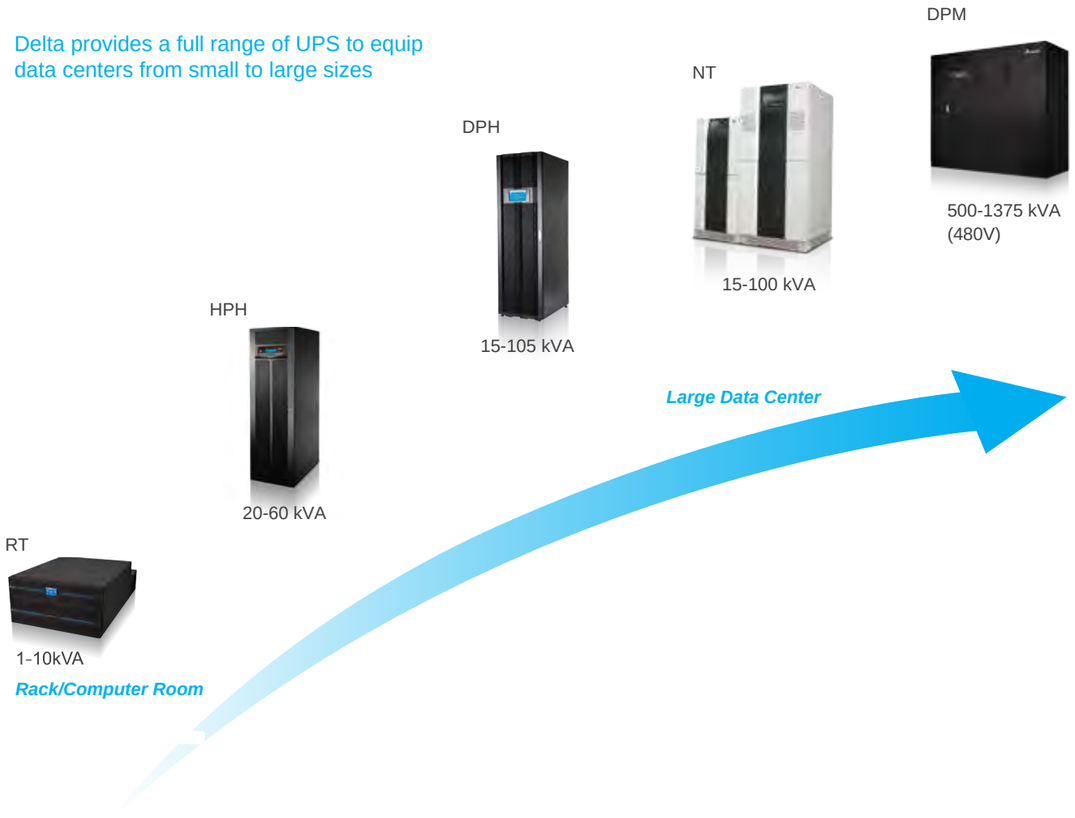
Our clients are most concerned about power issues such as power failure, power sag, power surge, under voltage or over voltage, frequency variation, harmonic distortion and line noise. Delta Electronics emphasizes the areas of redundant power supply, voltage regulation, equipment protection and adjustment and has designed and developed three UPS product families, Amplon, Ultron and Modulon. Their power range, applications and the equipment they protect are listed below:

Product Family	Power	Topology	Applications
Amplon	1kVA or higher	Single-Phase UPS	Servers and Network Equipment
Ultron	20kVA or higher	Three-Phase On-Line UPS	Data Centers and Industrial Equipment
Modulon	15kVA or higher	Three-Phase Modular On-Line UPS	Modular unit expansion and redundant power supply can be achieved within a single rack.

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
- Supports seamless operations at a low level of total cost of ownership (TCO)

Delta provides a full range of UPS to equip data centers from small to large sizes



Product Application Matrix

	Amplon	Ultron				Modulon
	RT Series 1-3 kVA (on-line)	RT Series 5-10 kVA (on-line)	HPH Series 20-60 kVA (on-line)	NT Series 15-100 kVA (on-line)	DPM Series 500-1375 kVA (on-line)	DPH Series 15-105 kVA (on-line)
Configuration 1:1	O	O				
Configuration 3:3			O	O	O	O
Rack mountable	O	O				
Stand-alone	O	O	O	O	O	
Modular						O
Isolation transformer				O		
Battery	I, E	E	I (BN/B), E	E	E	I (75K), E
Home and office *	O					
Small enterprise, IT and medical **	O	O	O	O		O
Medium enterprise, telecom, IT, media ***		O	O	O	O	O
Heavy industry, telecom, IT, Industrial ****			O	O	O	

'I: internal battery, E: external battery

* PCs, laptops, modems, printers, WiFi and audio equipment
** Computers, servers, networking, medical control and diagnostics, education, banking, industrial automation
*** Telecom base stations, data centers, backbone networks, broadcasting, projection systems
**** Telecom centers, data centers, medical equipment at hospitals, government use, automatic control, oil, gas and power utilities, industrial equipment, automation and control

Delta UPS - Amplon Family

RT Series, Single Phase, 120V
1/1.5/2/3 kVA

Reliable power with greater energy-saving features

The Amplon RT 1-3kVA 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. The Amplon RT 1-3kVA series features an output power factor of 0.9 and best-in-class AC-AC efficiency up to 93% 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 & Flexibility

- True online double-conversion topology and zero transfer time to battery provides 24/7 full-time protection
- AC-start function allows the UPS to be switched on without connecting to a battery
- Automatic fan speed control significantly reduces audible noise, and maximizes system efficiency
- Fan failure detection sends early warnings to facilitate predictive maintenance of UPS
- Hot swappable batteries ensure continuous operation even when batteries are being replaced
- External Battery Cabinet (EBC) are optional for scalable runtime
- Programmable load bank disconnects non-critical loads when a blackout occurs and reserves more battery power for critical loads
- The Maintenance Bypass Breaker (MBB) is optional for easy UPS replacement without powering down critical systems
- Compact 2U design with convertible rack and tower configuration for flexbile deployment

Manageability

- Intelligent battery management to extend battery life and maximize battery performance. The battery aging detection monitors battery status for predictive maintenance, and the 3-stage charging mechanism keeps the battery from continuous float charging during the intermission stage to prolong battery life
- Excellent local management through a user-friendly graphical and multi-lingual LCD display
- Various types of communication interfaces, such as REPO/ROO for remote management, and in-built dry contacts for monitoring and notification of system operation conditions

Low Total Cost of Ownership

- Output power factor up to 0.9 to provide more real power to critical loads
- High AC-AC efficiency of up to 93% and 98.5% in ECO mode lowers energy costs
- Wide input voltage range and protection against over voltage prolongs battery life
- Automatic fan speed control maximizes system efficiency, significantly reduces audible noise, and prolongs battery life

Server Telecom Industrial Network

VoIP Storage Medical

Technical Specifications

Model		RT-1K	RT-1.5K	RT-2K	RT-3K
Power Rating		1kVA/0.9kW	1.5kVA/1.35kW	2kVA/1.8kW	3kVA/2.7kW
Input	Voltage Range	110/115/120 Vac: 100 ~ 150 Vac (full load); 55 ~ 100 Vac (50 ~ 100% load) 100 Vac: 90 ~ 150 Vac (full load); 55 ~ 90 Vac (50 ~ 100% load)			
	Frequency	40 ~ 70 Hz			
	Power Factor	> 0.99 (full load)			
	Current Harmonic Distortion	< 5%			
	Input Connection	NEMA 5-15P, power cord length 10ft	NEMA 5-15P, power cord length 10ft	NEMA L5-20P, power cord length 10ft	NEMA L5-30P, power cord length 10ft
Output	Power Factor	0.9			
	Voltage*	100/110/115/120 Vac			
	Voltage Regulation	± 1%			
	Frequency	50/60 Hz ± 0.05 Hz			
	Voltage Harmonic Distortion	< 2% (linear load); ≤ 4% (non-linear load)			
	Overload Capability	<105%: Continuous; 105 ~125%: 2 min.; 125 ~ 150%: 30 sec.; > 150%: 500 ms			
	Receptacle	NEMA 5-15R x 8		NEMA 5-15/20R x 8, L5-20R x 1	NEMA 5-15/20R x 8, L5-30Rx1
Efficiency***	AC-AC	Up to 91.5%	Up to 92.5%	Up to 93%	Up to 93%
	ECO Mode	Up to 98%	Up to 98.5%	Up to 98.5%	Up to 98.5%
Battery	Battery Voltage	24 Vdc	36 Vdc	48 Vdc	72 Vdc
	Typical Backup Time	4 min. (full load); 6.5 min. (75% load)			
Audible Noise		40dB	40dB	45 dB	45 dB
Display		Graphical and multi-lingual LCD			
Conformance		UL 1778, cUL, FCC Part 15 Class B, Energy Star		UL1778, cUL, FCC Part 15 Class A, Energy Star	
Communication Interfaces		Mini Slot x 1, RS-232 Port x 1, USB Port x 1, REPO/ROO, Dry Contact x 4			
Dimensions (W x D x H)		17.3 x 13.2 x 3.5 inch	17.3 x 16.9 x 3.5 inch	17.3 x 16.9 x 3.5 inch	17.3 x 22.2 x 3.5 inch
Weight		27.3 lb	39.0 lb	45.8 lb	66.1 lb
Environment	Operating Temperature	32 ~ 122°F (0 ~ 50°C)****			
	Relative Humidity	5 ~ 95% (non-condensing)			

* On 100/110/115 Vac, to comply with UL, UPS capacity will be de-rated due to power cord's current limitation
** Power loss from the input and output power cords is not included
*** When the operating temperature is at 40 ~ 50° C (104 ~ 122° F), the UPS will be de-rated to 80% of its capacity
All specifications are subject to change without prior notice.

Delta UPS - Amplon Family

RT Series, Single Phase, 208V
5/6/8/10 kVA

A total solution of reliable power with high availability and performance

The Amplon RT Series 5-10kVA is an online double-conversion UPS that provides an output power factor of up to unity to enable the maximum capacity for more critical loads. Outstanding energy savings can be achieved based on an AC-AC efficiency of up to 95.5% and 98.5% in ECO mode. The Amplon RT Series 5-10kVA offers a total solution with the Standard Runtime models including an in-built battery, power distribution box and maintenance bypass breaker. It provides a complete and practical package that can be used on critical loads right away. This series offers advanced performance for various applications such as servers, data centers, network, VoIP and telecommunication. The parallel capacity of up to four units enables higher reliability for mission critical applications.

Availability

- True online double-conversion topology and zero transfer time to battery to provide 24/7 full-time protection
- The unity power factor provides more available power and higher capacity.
- The component life prediction, e.g. fan failure prediction, can monitor the operating conditions before failure and downtime occurs.
- Parallel capacity up to four units is applicable to the Extended Runtime models to allow redundancy and possible load expansion in the future
- VRLA and Li-ion External Battery Cabinet (EBC) are optional to extend availability
- AC-start function allows the UPS to be switched on without connecting to a battery and increases availability
- Programmable load bank disconnects non-critical loads when a blackout occurs and reserves more battery power for critical loads
- The li-ion battery compatibility and flexible battery quantity enable better usability and convenience. The battery aging detection function allows battery life time simulation to avoid insufficient backup.

Manageability

- Event logs are recorded with actual time (RTC) for better management and control
- Excellent local communications through a user-friendly graphical and multi-lingual display
- Various types of communication interface such as dry contacts and REPO/ROO for monitoring and manageability

Low Total Cost of Ownership

- Output power factor up to unity for more real loads
- The Power Distribution Box (PDB) and Manual Bypass Breaker (MBB) which are default to Standard Runtime models enable simple configuration.
- The Maintenance Bypass Breaker (MBB) is available for easy replacement of the UPS without powering down critical systems.
- The high AC-AC efficiency of up to 95.5% and 98.5% in ECO mode lowers energy costs
- Wide input voltage range and protection against over voltage reduces the chance of using the battery and extends battery life
- Automatic speed regulation function with multi-stage fan speed control maximizes system efficiency, significantly reducing audible noise, and prolonging the service life of the fans

Data Center Server Network Banking Security

Technical Specifications

Model		RT-5K	RT-6K	RT-8K	RT-10K
Power Rating	220/230/240V	5kVA/5kW	6kVA/6kW	8kVA/8kW	10kVA/10kW
	200[1]/208V	5kVA/4.5kW	6kVA/6kW	8kVA/8kW	10kVA/10kW
Input	Voltage Range	100 ~ 280V, 100 ~ 175V with linear de-rating 50 ~ 100%			
	Frequency	40 ~ 70 Hz			
	Power Factor	> 0.99 (full load)			
	iTHD	<3%			
Input Connection	Standard Runtime Model	NEMA L6-30P	Terminal		
	Extended Runtime Model	Terminal			
Output	Power Factor	Unity[2]			
	Voltage	200[1]/208/220/230/240 Vac			
	Frequency	50/60 Hz			
	Voltage Harmonic Distortion	≤ 2% (linear load)			
	Overload Capability	≤ 105%: Continuous; 105 ~ 125%, 5mins; 125 ~ 150%, 1min; 150%: 500ms			
Receptacle	Standard Runtime Model	L6-20 x 2, L6-30 x 2, Load bank:L6-30 x 1	L6-20 x 2, L6-30 x 1, Terminal x 1, Load bank: L6-30 x 1	L6-20 x 2, L6-30 x 2, Terminal x 1, Load bank:L6-30 x 1	
	Extended Runtime Model	Terminal x 1, Load bank:Terminal x 1			
Efficiency	AC-AC	Up to 95.5%			
	ECO Mode	Up to 98.5%			
Battery Voltage	Standard Runtime Model	192 Vdc	192 Vdc	240 Vdc	240 Vdc
	Extended Runtime Model	144 Vdc[3], 192 ~ 240 Vdc			
Charger Current	Standard Runtime Model	1A (default), up to 8A		1.5A (default), up to 8A	
	Extended Runtime Model	Up to 8A		Up to 8A	
Discharge Time (Standard Runtime Model)	Full load	5.5 min.	3.5 min.	5 min.	2.5 min.
	75% load	8 min.	5 min.	6.5 min.	5.5 min.
Recharge Time	Standard Runtime Model	3 hrs to 90%			
Audible Noise		48 dB		50 dB	
Display		Graphical and multi-lingual LCD			
Conformance		UL1778, cUL, FCC Part 15 Class A, Energy Star			
Communication Interfaces		Mini Slot x 1, RS-232 Port x 1, RS-485 Port x 1, USB Port x 1, REPO/ROO, Dry Contact			
Dimensions (W x D x H)	Standard Runtime Model	17.3 x 26.2 x 6.9 inch		17.3 x 29.5 x 8.6 inch	
	Extended Runtime Model	17.3 x 16.9 x 3.3 inch		17.3 x 22.2 x 3.3 inch	
	VRLA Battery Pack	17.3 x 22.2 x 3.5 inch		17.3 x 25.6 x 5.1 inch	
	Li-ion Battery Pack	17.3 x 25.4 x 3.5 inch			
Weight	Standard Model	120 lb	118 lb	191 lb	191 lb
Environment	Operating Temperature	32 ~ 122° F (0 ~ 50° C)[4]			
	Relative Humidity	5 ~ 95% (non-condensing)			

All specifications are subject to change without prior notice.
1) Under 200V, de-rating to 90% load
2) Under 200/208V, 5kVA standard runtime model O/P PF = 0.9
3) De-rating to 80% load
4) Full load @ 32 ~ 104°F (0 ~ 40°C), de-rating to 80% @ 104 ~ 122°F (40 ~ 50°C)

User-friendly LCD Panel

Tower Configuration

Rear Panel

Facility Monitoring Software - InfraSuite Device Master

Delta UPS - Ultron Family

HPH Series, Three Phase, 208/120V
20 - 60 kVA

Best-in-class power protection with maximum power and cost efficiency

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 94% 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 94% saves energy costs
- Low harmonic pollution (iTHD<3%) and high input power factor (>0.99) reduce upstream investment costs

Assured Reliability

- Parallel expansion and N+X redundancy up to 4 units
- Redundant auxiliary power and fan design enhance system reliability
- Optional IPX1 level protection

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
- Swappable interior architecture and front access servicing enables quick and easy maintenance
- Multi-connectivity interface supports remote UPS monitoring and management

Data Center Telecom Industrial Network Security

Banking Lab Medical Metro

Technical Specifications

Model		HPH-20K-LV-B HPH-20K-LV-BN	HPH-30K-LV-B HPH-30K-LV-BN	HPH-40K-LV-B HPH-40K-LV-BN	HPH-60K-LV-B HPH-60K-LV-BN
Power Rating		20kVA/20kW	30kVA/30kW	40kVA/40kW	60kVA/60kW
Input	Nominal Voltage	208/120Vac, 220/127Vac (3 phase, 4-wire + G)			
	Voltage Range	125~253Vac(L-L) / 72~146Vac(L-N)*			
	Frequency Range	40~70 Hz			
	Power Factor	> 0.99 (full load)			
	Current Harmonic Distortion	< 3%			
Output	Voltage	208/120Vac, 220/127Vac (3 phase, 4-wire + G)			
	Voltage Regulation	± 1%			
	Voltage Harmonic Distortion	< 3% (linear load)			
	Overload Capability	<105% continuous; 105%~125%: 10minute; 125~150%: 1minute; >150%: 0.5 second			
	Output Power Factor	1			
	Frequency	50/60 Hz ± 0.05 Hz			
Battery	Battery Quantity	Adjustable ± 11~13pcs (default 12 pcs)			
	Type	Support SMF and VRLA			
	Charge Current (Max.)	10A			
	Charge Voltage	Float charge 163 ± 3 Vdc ; Boost charge 168 ± 3 Vdc (default 12 pcs)			
	Backup Time**	9.5 min (9Ah*48pcs)	9.5 min (9Ah*72pcs)	6.5 min (9Ah*72pcs)	5.2 min (9Ah*96pcs)
Communication 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			
Display		LED indicators and Multi-language LCD display			
Conformance		UL1778, cUL, FCC Part 15 Class A			
Other Features	Parallel Redundancy	Up to 4 units			
	Emergency Power Off	Local and remote			
Efficiency	AC-AC Mode	Up to 94%			
	ECO Mode	Up to 98%			
Environment	Operating Temperature	32 ~ 104°F (0 ~ 40°C)			
	Ambient Storage Temperature	-4 ~ 104°F (-20 ~ 40°C)			
	Relative Humidity	0% ~ 95% (non-condensing)			
	Audible Noise	< 65 dBA		< 70 dBA	
Physical	Dimensions (W x D x H)	20.5 x 31.5 x 54.3 inch		20.5 x 31.5 x 69.3 inch	
	Weight (with battery)	749.6 lb	925.9 lb	992.1 lb	1168.5 lb
	Weight (without battery)	432.1 lb	449.7 lb	493.8 ib	553.5 ib

HPH-20K-LV-B: UPS integrated battery model has batteries inside
HPH-20K-LV-BN: UPS integrated battery model has no batteries inside

* When input voltage range is 72~108Vac(L-N) and 125~187Vac(L-L), the sustainable loading is from 63% to 100% of UPS capacity.
** At 70% load with internal battery strings.

All specifications are subject to change without prior notice.

Control and LCD Display Panel

Swappable interior architecture for quick and easy maintenance

Redundant fan design enhances system reliability

Inbuilt battery with front access and hot-swappable design

Delta UPS - Modulon Family

DPH Series, Three Phase, 208V
15 - 105 kVA

Fully integrated power solutions in one 42U cabinet for small data center applications

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, business expansion is the ideal UPS system to provide power protection and total cost of ownership (TCO) savings.

High Integration and Space-Saving

- Fully integrated in one 42U cabinet with power supply, battery runtime, static transfer switch and input/output/bypass breakers

Ultimate Availability

- Fully modularized design and hot-swappable modules for easy deployment and maintenance
- Redundant aux power and controller design
- Dual CAN bus to ensure the inherent reliability on signal level
- Battery module’s LED fuse warning indicators can alert operators in the event of a blown fuse

Excellent Power Performance

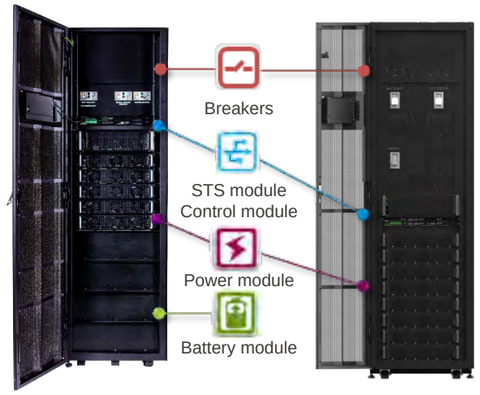
- Industry-leading high power density of power module: 15kVA/kW in 2U height
- AC-AC conversion efficiency 95% and ECO mode efficiency up to 98.5% with ENERGY STAR® 2.0 certified
- Green mode for effective utilization

High Manageability

- Environment Management System integration (optional)
- Power consumption trend calculation
- Built-in Ethernet and RS485 communication interface
- User-friendly 10” touch panel

DPH 208V UPS

Modular battery cabinet



DPH-60K-LV

DPH-105K-LV

Data Center Telecom Industrial Network Banking

Security Lab Medical Metro

Technical Specifications

Model		DPH-60K-LV	DPH-105K-LV
Power Rating	kVA/kW	15, 30, 45, 60	15, 30, 45, 60, 75, 90, 105
Maximum Power Module Q’ty		4+1 redundancy	7+1 redundancy
Maximum Battery Module Q’ty		Inbuilt 16 pcs (4 strings)	Modular battery cabinet
Input	Nominal Voltage	208/120V, 220/127V (3 phase, 4-wire +G)	
	Voltage Range	166~253 Vac (full load)	
	iTHD	<5% (non-linear); <3%(linear)*	
	Power Factor	> 0.99	
	Frequency	50/60 Hz (Auto-Selectable)	
Output	Output Voltage	208/120V, 220/127V (3 phase, 4-wire +G)	
	Voltage Regulation	± 1% (Static); ± 5% (Dynamic)	
	Output Power Factor	Unity	
	THDv	< 2% (Linear); < 5% (Non-linear)	
	Overload Capacity	≦ 125%: 10 minutes ; ≦ 150%: 1 minute ; >150%: 1 second	
Efficiency	AC-AC Efficiency	95%	
	ECO Efficiency	Up to 98.5%	
Battery	Nominal Voltage	+/- 168Vdc (+/-14 pcs)	
	Charge Voltage	+/- 190Vdc (adjustable from 182Vdc to 196Vdc)	
	Charge Current	6A Max. per power module	
Environment	Operating Temperature	32 to 104 °F (0 to 40 °C)	
	Storage Temperature	-13 to 167 °F (-25 to 75 °C)	
	Relative Humidity	5~95% non-condensing	
	Audible Noise	<68 dBA**	
Others	Conformance	UL 1778, FCC Class A, ENERGY START ®	
	Parallel	Maximum 4 units	
	Display	10” Touch Panel	
	Communication Interface	Ethernet, RS485	
Physical	Dimensions (WxDxH)	23.62 x 33.46 x 78.74 inch	
	Weight UPS System	562.2 lb (255 kg)	619.5 lb (281kg)
	Power Module	46.3 lb (21 kg/ 1pc)	
	Battery Module	51.8 lb (23.5kg/ 1pc, 1 battery module=9Ah battery x 7pcs)	
Modular Battery Cabinet	Dimensions (WxDxH)	23.62 x 33.46 x 78.74 inch	
	Weight w/ Full Battery Module	2123.1 lb (963 kg)	
	w/o Battery Module	465.2 lb (211 kg)	
	Maximum number of battery strings	8	
	Maximum number of battery modules	32	

* When input voltage total harmonic distortion input is less than 1%
** Measured by 3.28 ft (1 meter) of the UPS
All specifications are subject to change without prior notice.

Compact design of 15kW power module in 2U height

10” colorful touch panel at-a-glance view for friendly indicator.

Hot-swappable modules for meeting almost zero downtime

All-in-one solution (available for 60kVA system) & Modular battery cabinet with swappable battery modules

Delta UPS - Ultron Family

NT Series, Three Phase, 480V
15 - 100 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.

Features:

- Parallel redundancy without requiring extra hardware to increase reliability
- Built-in isolation transformer protects user equipment
- Redundant auxiliary power and control circuit ensures higher reliability
- Inbuilt maintenance and static bypass switch
- Multi-language LCD display and LED status indicators
- RS232, RS485 and six programmable dry contact outputs
- Compatible with generator installation and unbalanced loads
- Parallel expansion as your business grows and consequently saves initial investment
- Wide input voltage range extends battery lifetime
- Common battery installation saves initial investment
- 12-pulse SCR rectifier and full-bridge Inverter design

Data Center Telecom Industrial Network

Security Lab Medical Metro

Technical Specifications

Model		NT-15K	NT-30K	NT-60K	NT-100K
Power Rating		15kVA/13.5kW	30kVA/27kW	60kVA/54kW	100kVA/90kW
Input	Nominal Voltage	480Vac (3 phase, 4-wire+G)			
	Voltage Range	±20%			
	Nominal Frequency	50 / 60Hz			
	Frequency Range	±5%			
	Nominal Current	25A	50A	97A	160A
Output	Nominal Voltage	208/120Vac, 480/277Vac (3 phase, 4-wire+G)			
	T.H.D.(with linear load)	≤3%			
	Voltage Regulation				
	— Static	±1%			
	— Dynamic	±5%			
	Inverter Overload Capability	110% : 60min ; 125% : 10min ; 150% : 1min			
	Nominal Frequency	50 / 60Hz			
	Frequency Regulation				
	— with Internal Oscillator	±0.01%			
	— with Mains Synchronize	±1%			
	Static Switch Overload Current				
	— 30 Minutes	120%			
	— 30 Milliseconds	1000%			
	Transfer Time	0			
Alarm	Load On Battery	Discontinuous alarm			
	UPS Abnormal	Continuous alarm			
Indication	LED Status Indication	UPS status indication: AC mains normal, reserve source normal, rectifier, inverter, static switch, and battery status indication			
	LCD Display	UPS abnormal status display and self-diagnosis wisely Input, bypass, inverter, output & battery voltage, current and frequency, load level display			
Remote	Monitor	Multi-unit monitor, graphic display, and history data statistics			
	Control	Inverter/horns remote control, password setting, fault information reading, and remote alarm			
Function	Communication Interface	Standard: RS232, RS485, Status Dry Contact Option: SNMP, Ethernet Port			
	Parallel Redundant	Yes (up to 8 UPS)			
	Emergency Power Off	Yes (Local and Remote)			
	Multi-speed Fan Speed Control	Yes			
	SRAM Fault Sequence Memory	Yes			
	Programmable Parameter Setting	Yes			
	Battery Start Function	Yes			
	Input Harmonic Improvement	12-pulse rectifier			
Environment	Ambient Temperature	32~104°F (0~40°C)			
	Relative Humidity	90% (non-condensing)			
	Operating Elevation	0~2000 meters (0~6060 ft)			
Conformance		Safety: UL1778 EMI: FCC Part 15 Class A			
Audible Noise (at 4.92 ft / 1.5 meters)		≤ 60 dB		≤ 65 dB	
Physical	Dimensions				
	— Width	23.6 inch		31.5 inch	37.2 inch
	— Depth	31.5 inch		32.7 inch	32.7 inch
	— Height	31.5 inch		67.0 inch	67.0 inch
	Weight	886.3 lb	1106.7 lb	1679.9 lb	2480.2 lb

All specifications are subject to change without prior notice.

Delta UPS - Ultron Family

DPM Series, Three Phase, 480V
250 - 1250 kVA

Ultimate power protection with intelligent design and superior power performance

The Ultron DPM is a true online double-conversion UPS offering the maximum available power, energy efficiency, and power performance for large data centers requiring high power ratings and highly reliable power protection. Capable of parallel expansion up to 8 units, this product series can fulfill the requirements for the Megawatt power demands of large data centers.

Delta is firmly committed to making data centers as green as possible. The Ultron DPM series UPS is the ecological choice with its AC-AC conversion efficiency of up to 96% in normal operation and 98.5% in Robust ECO mode. This high energy efficiency results in considerable energy savings for large data centers.The self-diagnosis of key components providing proactive maintenance and aging detection effectively minimizes downtime risks. The Ultron DPM series UPS is the most suitable power protection for safeguarding the continuity of large data center businesses.

Superior Power Performance and Efficiency

- AC-AC efficiency up to 96%, efficiency optimization at light loads saves energy costs
- Robust ECO mode up to 98.5% efficiency with higher system reliability
- Low harmonic pollution (iTHD<3%) & high input power factor (>0.99)

Assured Reliability

- Smart modular design with internal redundancy achieves fault isolation for higher reliability
- Advanced technologies including waveform capture, IR scanning and battery aging data analysis provide key component predictive maintenance and minimize downtime risk
- Key component redundancy allows individual faults for higher UPS availability

Greater Flexibility

- Supports both top and bottom cable entry for flexible configurations, and fully front access.
- Up to eight UPS units can be paralleled for redundancy or expansion
- Adjustable battery charging voltage adapts to multiple types of batteries.

Intelligent Management

- Intuitive HMI touchscreen enables easier UPS information access and operation
- Built-in USB port is standard for easy access to over 5000 data logs for event diagnosis
- SNMP card is equipped as standard for remote monitoring and management

Data Center Telecom Industrial Network

Security Lab Medical Metro

Technical Specifications

Model		DPM-250K	DPM-500K	DPM-750K	DPM-1000K	DPM-1250K
Power Rating	kVA	250	500	750	1000	1250
	kW	250	500	750	1000	1250
Input	Nominal Voltage	480 Vac, 3P3W				
	Voltage Range	+10/-15%, 408~552 Vac (full load)				
	Frequency	50/60Hz +/- 5Hz				
	Power Factor	> 0.99 (full load)				
	Current Harmonic Distortion	< 3%				
Output	Voltage	480 Vac, 3P3W				
	Voltage Regulation	±1 %				
	Voltage Harmonic Distortion	< 1.5% (linear load)				
	Overload Capability	105% ~ ≤125%: 10 minutes; 126% ~ ≤150%: 1 minute; >150%: 1 second				
	Frequency	50/60Hz +/- 0.5Hz				
External Battery	Compatible Type	Lithium-ion, VRLA, vented				
	Battery Voltage	480 Vdc				
	Quantity	38 ~ 42 pcs				
	Charge Current	70A	140A	210A	280A	350A
Display	LCD	Touch Screen				
Communication Interfaces		Smart Slot x 1, Parallel Port x 2, REPO Port x 1, Input Dry Contact x 2, Output Dry Contact x 6, Breaker Detection x 4, USB Port x 2, RS-232 x 1, SNMP Card x 1, Battery Temperature Detection x 4				
Parallel Operation	Redundancy and Expansion	Up to 8 units				
Efficiency	Online Mode	Up to 96% (95% at 30% load)				
	Robust ECO Mode	Up to 98.5%				
Environment	Operating Temperature	0 ~ 40 °C (32~104 °F)				
	Relative Humidity	0 ~ 95% (non condensing)				
	Audible Noise	< 75 dBA				
	Protection Level	IP20				
Conformance		Safety: UL1778 EMI: FCC Part 15 Class A				
Physical	Dimensions (W x D x H)	59.6 x 34.4 x 74.8 in.	83.8 x 34.4 x 74.8 in.	108.1 x 34.4 x 74.8 in.	153.9 x 34.4 x 74.8 in.	178.2 x 34.4 x 74.8 in.
	Weight	2136 lb	2866 lb	4409 lb	5952 lb	7496 lb

All specifications are subject to change without prior notice.

Delta InfraSuite Power Management

Power Distribution Unit

Reliable, flexible, easy-to-integrate power distribution

For power distribution requirements of medium to large data centers, Delta's Power Distribution Unit (PDU) is an optimal solution. The space-saving PDC is easy to move and adapt to the future demands of the data center. The PDC offers superior power protection and monitoring, and the flexibility and scalability to match your actual power distribution requirements. Not only does it improve availability, it reduces the cost of your initial investment.

Convenience

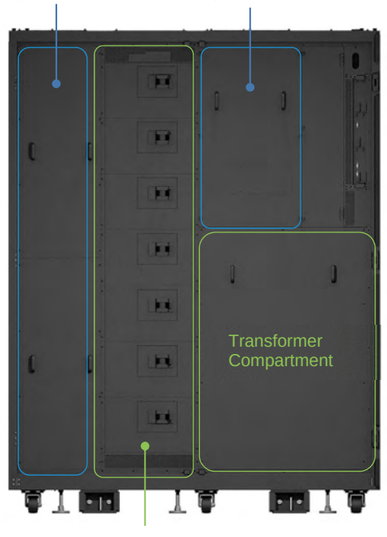
- 10" Touch Panel offers intuitive interface and suppors multiple languages
- Real-time and optional billing grade metering system for actual load to the individual breaker level
- Fully front access is easy for maintenance and space saving
- Records more than 10,000 event logs
- Optional multi tap transformers for voltage adjustment

Reliability and Safety

- Natural convection cooled design avoids fan failure and replacement
- Compartmentalized electrical components to provide easy and safe access
- Redundant aux-power to enhance the reliability and availability
- K-factor isolation transformer enhancs safety and reduces harmonics
- Built-in TVSS and lightning surge protection module
- Built-in IR scan portholes for thermal monitoring

Availability

- Easy to relocate, reducing investment costs
- Highly energy efficient DOE-compliant copper transformers minimize losses and save operating cost
- Almost all electrical components including PCB, circuit breakers and SPD devices and others are pluggable and easy to maintain (lower MTTR)
- A wide range of breaker options to meet various
- Top and bottom cable entry for installation flexibility
- Optional floor stand (can meet seismic) and eases raised floor installations.



Compartments (4B Type 7) for each sub-feed circuit breakers which are pluggable

Technical Specifications

Capacity		225 – 1000 KVA
Input	Rated Voltage	480V (Optional : 600V)
	Connection	3-Phase 3-Wire + Ground
	Frequency	50/60 Hz
	Breaker	Optional
Output	Rated Voltage	415/240V or 208/120V
	Connection	3-Phase 4-Wire + Ground
	Frequency	50/60 Hz
	Neutral Rating	100% (Optional : 200%)
	Sub-Feed Breaker	250 / 400 / 600A
	Mounting Type	Fixed or Plug-in
Transformer	Rating	K-4 (Optional K-9, K-13, K-20)
	Efficiency	DOE 2016 Compliant
Display	System	10" Color Touch Screen
Metered Values	Input	Phase voltage, line voltage, phase current, line current, load(%), iTHD, total kVA, total kW, total kWh, Over voltage/over current alarm, under-voltage/ under current alarm, Over line current alarm, iTHD abnormal alarm
	Total Output	Phase voltage, line voltage, phase current, line current, frequency, neutral current, load(%), kVA, kW, kWh, power factor, VTHD, iTHD, Over voltage/over current alarm, under-voltage/under current alarm, Over line current alarm, iTHD abnormal alarm, VTHD abnormal alarm, power factor abnormal alarm
	Output Shunt Plate	Phase current, kVA, kW, kWh, load (%), iTHD, power factor, line current, over current alarm, under current alarm, Over line current alarm, iTHD abnormal alarm, power factor abnormal alarm
	Output Shunt	Current, load (%), over current alarm, under current alarm
	Temperature	Environment (instant and alarm), transformers (two stage-alarm)
Communication	Protocol	Modbus RTU, Modbus TCP/IP, SNMP, Ethernet
	Dry Contact	Input dry contact * 14, Output dry contact*6
Compliance	Safety	UL891
	FCC	FCC Part 15, Class A
	Seismic	GR63 Zone4
Environment	Storage Temperature	-4 ~ 158°F (-20 ~ 70°C)
	Operating Temperature	32 ~ 104°F (0 ~ 40°C)
	Relative Humidity	0 to 95%, Noncondensing
	Altitude	< 6600 feet (2000m)

Please contact Delta personnel for further information or customized requirements of your application.

10" Touch Panel

Delta InfraSuite Power Management

Rack Power Distribution Units

Integrated power distribution for optimal power management

Delta's rack power distribution units (rPDUs) provide optimal power distribution for devices inside a rack. In addition to easily distributing power to equipment, rPDUs also provide complete power protection. Delta offers a range of basic and metered rPDUs that you can install vertically or horizontally inside a rack. It makes establishing a data center more efficient.

Metered Rack PDU

Availability

- Tool-less installation in Delta's standard rack cabinets
- Brackets included for mounting in other brands' rack cabinets
- Zero-U installation saves valuable rack space
- Single or three phase input voltage available

Safety

- LED current (rms value) display and overload warning indicator
- Branch circuit breaker protection
- International standard cables and power plugs/ receptacle

Management

- Upgradable firmware for maintaining optimal function
- Integrated with the InfraSuite management software
- Optional SNMP card for remote monitoring

The amps and safety alarm indicators automatically adjust according to the position of the rPDU.

Basic Rack PDU

Availability

- Tool-less installation in Delta's standard rack cabinets
- Brackets included for mounting in other brands' rack cabinets
- Vertical or horizontal mounting method, saves valuable rack space
- Single phase or three phase input voltage available

Safety

- Branch circuit breaker protection
- International standard cables and power plugs/ receptacle

Technical Specifications

Metered Rack PDU

Model	Input Voltage (Vac)/Phase	Input current	Plug Type	Output Voltage (Vac)/Phase	Outputs (Number)	Dimensions (WxHxD) (inch)	Weight (lb)
PDU1113	100-120/1	24A	NEMA L5-30P	100-120/1	NEMA 5-15/20R (24)	1.89x49.21x1.97/3.54	11.77
PDU1211B	200-240/1	16A	IEC309-20A-3W	200-240/1	IEC320 C13 (24)	1.89x49.21x1.97/3.54	10.14
PDU1213	200-240/1	24A	NEMA L6-30P	200-240/1	IEC320 C13 (24)	1.89x49.21x1.97/3.54	11.55
PDU1313B	200-240/1	24A	IEC309-30A-3W	200-240/1	IEC320 C19 (4) IEC320 C13 (24)	1.89x49.21x1.97/3.54	11.29
PDU2316B	200-240/1	40A	IEC309-60A-3W	200-240/1	IEC320 C19 (3) IEC320 C13 (36)	1.89x61.41x1.97/3.54	17.50
PDU2525	200-240//3Δ	32A	CS8365C	200-240/1	IEC320 C13 (36)	1.89x61.41x1.97/3.94	17.64
PDUE421B	346-415/3Y	16A	IEC309-20A-5W	200-240/1	IEC320 C19 (3) IEC320 C13 (36)	2.28x68.90x2.36/3.94	15.12
PDUE423B	346-415/3Y	24A	IEC309-30A-5W	200-240/1	IEC320 C19 (18) IEC320 C13 (6)	2.28x68.90x2.36/3.94	18.30
PDUE525	200-240//3Δ	32A	CS8365C	200-240/1	IEC320 C19 (6) IEC320 C13 (30)	1.89x70.08x1.97/3.94	19.84
AD-208/50B-B	200-240/3Δ	35A (28A UL derated)	CS8365C	200-240/1	IEC320 C19 (6) IEC320 C13 (30)	2.17x67.24x2.17	18.08
AD-240/30A-B	200-240/1	30A (24A UL derated)	NEMA L6-30P	200-240/1	IEC320 C19 (6) IEC320 C13 (36)	2.17x67.24x2.17	14.11
PDU5113	100-120/1	24A	NEMA L5-30P	100-120/1	NEMA 5-15/20R (24)	1.89x49.21x1.97/3.54	10.76
PDU5213	200-240/1	24A	NEMA L6-30P	200-240/1	IEC320 C13 (24)	1.89x49.21x1.97/3.54	10.85
PDU7111	100-120/1	16A	NEMA L5-30P	100-120/1	NEMA 5-15/20R (8)	17.32x1.73x2.17	3.48
PDU7211	200-240/1	16A	NEMA L6-30P	200-240/1	IEC320 C13 (12)	17.32x1.73x2.17	3.62
PDUD526	200-240/3Δ	40A	CS8365	200-240/1	IEC320 C13 (12)	2.17x39.37x2.63/3.54	20.94

Interface (Metered Rack PDU)

Interface	Function
RS232-1	Connect to a PC for remote operation or a firmware upgrade
RS232-2	Connect to an SNMP card or to another rPDUs

Environment

Temperature	Operating: 32 ~ 113°F, Storage: -4 ~ 149°F
Relative Humidity	Operating: 5 ~ 95%
Elevation	Operating: 0 ~ 6561.7ft (2000m) / Storage: 0 ~ 49212.6ft (15000m)

All specifications are subject to change without prior notice.

International standard power plugs/receptacle

NEMA L6-30P

NEMA L5-30P

CS8365C

IEC309 1phase

IEC309 3 phase

Delta InfraSuite Power Management

Rack-Mount Static Transfer Switch

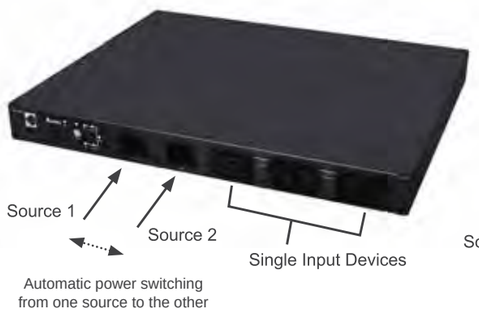
Highly reliable power redundancy for mission critical IT equipment

The Rack-Mount Static Transfer Switch (rSTS) safeguards the uninterrupted operation of mission critical IT equipment. Powered by two independent power sources, the rSTS rapidly switches from one source to the other automatically when the power supply used to power its connected load fails. For datacenter applications the rSTS allows power drop risk to be shared or distributed to each rack to prevent power loss for the whole system. The rSTS offers an efficient and reliable switch that supports the high redundancy requirements of mission critical power systems.

Availability
- Adopts SCR with a relay in parallel as a switching device to increase reliability without sacrificing efficiency
- Supports power redundant configurations for high reliability
- Monitors the health of the power source and performs the transfer automatically

Convenience
- Rack-mounted type with 1U size for easy installation and relocation
- Built-in SNMP for remote management
- LED indicators show power flow
- Self-test function

rSTS 16A



rSTS 24A

▲ Supports power redundant configurations for high reliability

Technical Specifications

Model	STS16002SR	STS30002SR
Rated Current	16A	24A*
Regulatory	CE, CSA/UL 62368	
Nominal Voltage	200/208/220/230/240 Vac	
Display	LED	
Connection	Input : C20 x 2 pcs Output : C13 x 4 + C19 x 1 pcs	Input : L6-30P Output : L6-30R
Communication	SNMP	
Operating Temperature	32 ~ 104°F (0 ~ 40°C)	
Typical Transfer Time	6-10ms	
Storage Temperature	5 ~ 122°F (-15 ~ 50°C)	
Humidity	0% ~ 95% RH (non-condensing)	0% ~ 95% RH (non-condensing)
Audible Noise (at 3.28ft / 1 meter)	< 40 dB	≤ 35 dB
Physical Dimensions (H x W x D)	1.7 x 17.3 x 15.2 in	
Weight	10.7 lb	17 lb

* 30A rSTS input current will be derated to 24A under UL regulation.

All specifications are subject to change without prior notice.

rSTS 16A

rSTS 24A

Delta InfraSuite Power Management

Delta Cast Resin Busway System

With the brand vision “Smarter, Greener, Together,” Delta has utilized its industry-leading power electronics technology to develop the Busway BR and BL Series for diversified applications.

Superior to traditional cables or sandwich type busway solutions, Delta has adopted epoxy cast resin technology to significantly increase IP protection level, safety and reliability. Delta's solution is ideal for use in a variety of industries and climate conditions.

Thanks to the outstanding electrical and mechanical properties of resin, these busways have reduced dimensions, a simplified structure, extended service life, and improved reusability. More importantly, Delta's Busways provide excellent energy-savings to help our customers enjoy substantial savings on their electricity bills.

Delta's Busways vs, Traditional Cable

Delta’s Busways excel over traditional cables in terms of safety, electrical properties, reliability, and scalability, making them the best choice for companies looking at optimum TCO.

	Cast Resin Busway System	Typical Power Distribution by Cables
System flexibility	Easily detaching joints, replaceable, re-usable and highly adaptable to system design changes	Needs re-wiring in case of system changes
Installation and configuration	Quick installation and configuration	Wiring over premises, costly and time-consuming
Space use efficiency	Only 30% of traditional cable wiring, effective in saving installation space	DataCenter power distribution; cable needs PDU or RPP that occupies white space Outdoors: Ducts in addition to wiring, bulky
Appearance	Easy to identify and manage at a glance	Messy power wiring, complicated looks
Fire resistance	High, IEC60331 1382°F 3hrs, BS6387 1742°F 3hrs	None
Resistance to chemical and corrosion	Excellent	Poor
Instantaneous short-circuit strength	High	Low
Overload capacity (+25% 2hrs)	High	Low in heat resistance (up to about 140°F), thus being dangerous when overloaded, leading to accelerated insulating materials aging and reduced service life
Insulation rating	High, resin insulation Class F (311°F)	Low

Customer Benefits

Safe, Reliable, Flexible and Efficient

Safe

The IP protection level provides water resistance and is dustproof. The busway remains highly reliable even in harsh environmental conditions, such as high humidity and dripping water. Delta has considered all aspects of the structure design.

- Installation: Attentive foolproof designs are available for every installation step

Reliable

The busway structure uses an Aluminum housing. The busway adopts epoxy cast technology, which is filled and molded into one piece. Its advantages include:

- Minimizes risk from the stronger structure during lifting and assembly on data center sites
- Shield technology ensures optimum sequencing of the conductor. The integrated composite materials reduce EMC significantly and mitigate the interference to precision devices
- No maintenance is required

Efficient

The product design and installation uses many plug-ins and modular design concepts and is easy-to-use during the installation, operation and expansion phases.

Benefits of the successive plug-in slots and modular design are:

- Unconstrained by space or location, the busway can be designed effectively and installed without professional technicians
- The plug-in unit adopts a modular design that can be expanded simply and quickly
- Customers can save time on waiting for materials if there is any change in design
- Users can save time and costs on installation, expansion, and alteration

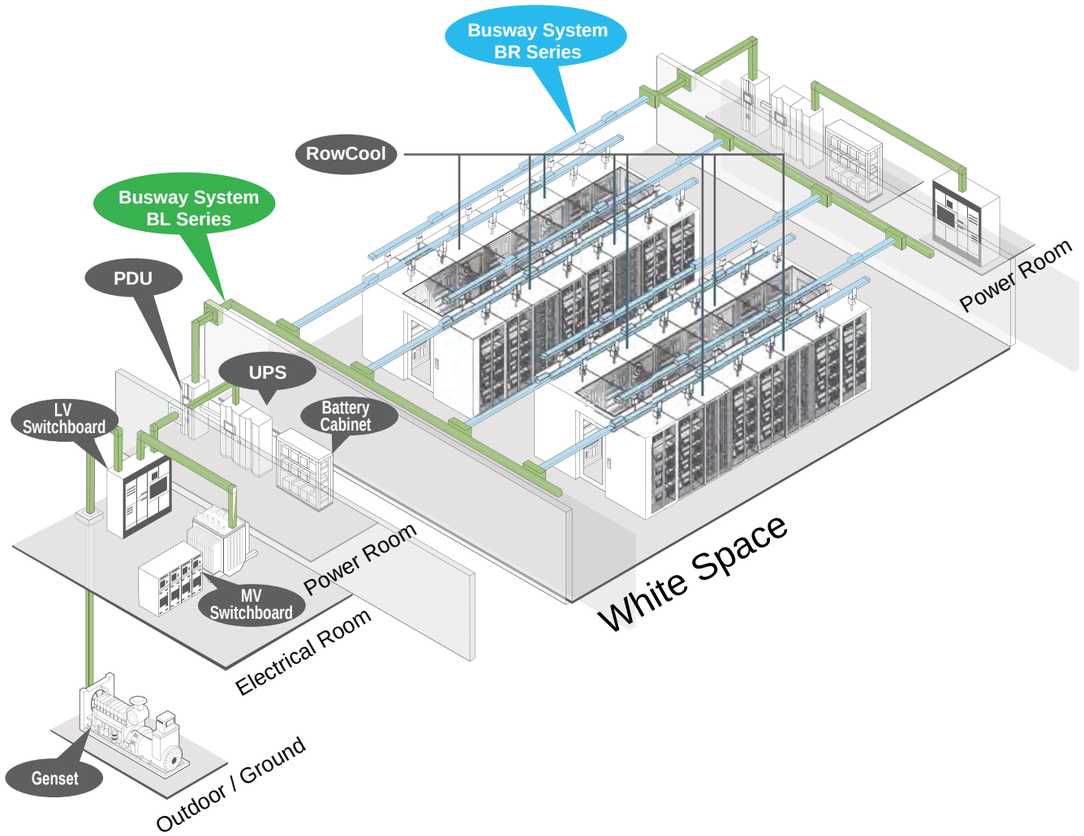
Busway BR Series for Data Center Applications

With the recent wave of Big Data and IoT, data centers are responsible for more computing, communication and storage functions. In addition to the increase of their scope, the power density of a single rack cabinet has gradually increased. Effective space utilization is a great challenge for data center construction.

The Delta Cast Resin Busway System BR Series is exclusive for data center applications. Thanks to the epoxy insulation technology, it has a compact structure and size, as well as low EMC that allows it to overcome space limitations in server rooms. Data center designers can easily do wiring construction close to data cables without fear of an impact on their health due to low electromagnetic radiation.

In addition, the plug-in unit can be customized per customers' requirements. It is flexible for use with different power supply systems of server racks. The plug-in unit also applies the flexible successive plug-in slots and is hot swappable. Therefore, it is not constrained by data center space. Customers can carry out expansion or distribution anywhere, which is very flexible.

Busway Systems in Data Center

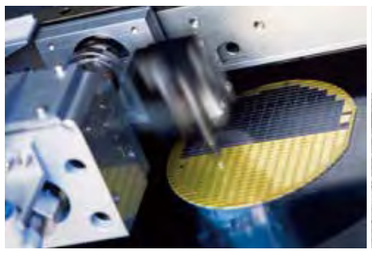


Busway BL Series Applications

With the rapid growth of global IT industry, factories are built to increasingly large scales. This adds to the demand for quality power supply, safe power transfer and efficient systems, as well as greater expandability. As busway development has reached higher levels of reliability, safety and flexibility due to fast delivery and flexible engineering changes, busways are now used extensively in a variety of industries.

In addition to power transmission/distribution, Delta's Busways also feature high protection ratings and are ideal for harsh environmental conditions and mission critical applications requiring high reliability and safety.

	Emergency, outdoor applications	Petro-chemis-try, marine, oil & gas	Critical equip-ment, datacen-ters	Electronics, semiconductor, wafer fabrication	Water treatment	Wind farms
Waterproof, dustproof IP68	●	●	●	●	●	●
Fireproof and burning-proof	●	●			●	●
Explosion-proof	●	●	●	●	●	●
Resistance to chemical corrosion	●	●	●	●	●	●
Shock-proof		●		●	●	●


Busway BR Series Technical Specifications

Copper

Busway Rating		250A	400A	600A	800A	1000A	1250A	1600A
Models		BRC02	BRC04	BRC06	BRC08	BRC10	BRC12	BRC16
Rated Voltage	V	1000	1000	1000	1000	1000	1000	1000
Rated Current	A	250	400	600	800	1000	1250	1600
Frequency	Hz	50/60	50/60	50/60	50/60	50/60	50/60	50/60
Conductor		Copper purity: 99.9% Conductivity: 99.9% IACS						
Conductor Plating		Tin plating (Std)						
Insulation Material		Epoxy cast resin						
Insulation Class		Class F (311°F/155°C)						
Enclosure/ Housing		Epoxy/Aluminum						
Fire Protection		UL94 V0						
Ingress Protection Rating		IP20 / IP55 (optional)						
Mechanical Impact		IK10						
Earthquake Test		GR63 Zone4						
Plug-in Unit								
Contact Design		Plug-in type						
Configuration		Plug-in w/ MCB/ELCB/RCBO Plug-in w/ MCB/RCB + Socket-outlets Plug-in w/ MCB/RCBO + Power Meter						
Max. Rating		400A						
MCCB Brands		ABB, Mitsubishi, Fuji, GE, Schneider (MG), or Customer specified						
Ingress Protection Rating		IP42						
Panel Coating		Powder coated paint						
Color		RAL 7043						
General Data (Copper)								
Standards		UL857						
Ambient Temperature		-4°F/122°F (-20°C/+50°C)						
Altitude		Below 6561.7 ft (2000m) from sea level						

Busway BL Series Technical Specifications

Busway Ratings		400A	600A	800A	1000A	1250A	1500A	1600A	2000A	2500A	3200A	4000A	5000A
Models													
Copper			BLC06	BLC08	BLC10	BLC12		BLC16	BLC20	BLC25	BLC32	BLC40	BLC50
Aluminum		BLA04	BLA06	BLA08	BLA10	BLA12	BLA15	BLA16	BLA20	BLA25	BLA32	BLA40	
Rated Voltage	V	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Rated Current	A	400	600	800	1000	1250	1500	1600	2000	2500	3200	4000	5000
Frequency	Hz	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60
Conductor		Copper purity: 99.9% conductivity: 99.9%IACS Aluminum purity: 98.0% conductivity: 56.0%IACS											
Conductor Plating		Tin plating											
Insulation Material		Epoxy Cast resin											
Insulation Class		Class F (311°F/155°C)											
Fire Resistance		IEC60331 1382°F (750°C) 3hrs; IEC60332 CNS12514 1544°F (840°C) 30mins(Special made-C) BS6387 1742°F (950°C) 3hrs											
Ingress Protection Rating		IP68											
Earthquake Test		GR63 Zone4											
Explosive-symbol		ExmII											
Mechanical Impact		IK10											
Color		RAL7043											
Plug-in Unit													
Type		Plug-in type/Bolt-on type											
Pole		1P/2P/3P/4P											
Max.Rating		Plug-in type 630A Bolt-on type 2000A											
MCCB Brands		ABB, Mitsubishi, Fuji, GE, Schneider (MG), or Customer Specified											
Protection Rating		IP42/IP55 (Optional)											
Panel Coating		Powder coated paint											
Color		RAL7047/RAL7043											
General													
Standards		UL857											
Ambient Temperature		-58°F/122°F (-50°C/+50°C)											
Altitude		Below 6561.7ft (2000m) from sea level											

Delta InfraSuite Rack & Accessories

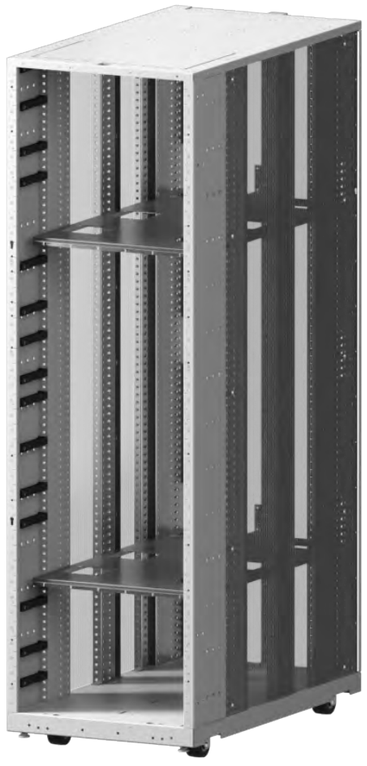
Open Rack (19”)

High Strength Open Rack

The Delta Open Rack series offers several size options that ensure the right dimensions for your equipment. Flexible design allows for various configurations.

- Tool-free installation, easy deployment and maintenance.
- Open Rack with removable cable tray for optimal cable management.
- Compatible with all Open Rack IT systems.
- Contains 4 swivel casters, level feet and anchoring holes, easy to fix with rack under different data center floor conditions.
- High strength protection category up to GR-487-CORE standard.

This rack is designed to be compatible with the Open Computer Project (OCP). The rack design provides ease of system upgrades with greater efficiency and simplifies maintenance to meet the requirements of a new generation of data centers.



Technical Specifications

Model		**RB200**	**RB220**
Material		Steel	Steel
Surface Finish		Powder Paint (Outdoor Grade)	Powder Paint (Outdoor Grade)
Color		RAL 7035	RAL 7035
Installation Height for Components		42.5 RU	48.5 RU
Conformance	Shock Strength	GR-487 (Zone3/ Zone4) (Rack + Anchor + F/R Braces)	N/A
	Rack Standard	EIA-310-D	EIA-310-D
Maximum Load		4500 lb (Zone3) / 2000 lb (Zone4) 2041 kg (Zone3) / 907 kg (Zone4)	4500 lb 2041 kg
Dimensions	W x D x H	24 x 45 x 80 inches 609 x 1139 x 2032 mm	24 x 45 x 90 inch 609 x 1139 x 2299 mm
Net Weight		507.1 lb (230 kg)	575.4 lb (261 kg)
Environment	Temperature	Operating: 32 ~ 104°F (0 ~ 40˚C) Storage: 5 ~ 122°F (-15 ~ 50˚C)	Operating: 32 ~ 104°F (0 ~ 40˚C) Storage: 5 ~ 122°F (-15 ~ 50˚C)
	Relative Humidity	Operating: 0 ~ 95%	Operating: 0 ~ 95%
	Elevation	Operating: 0 ~ 9842.5ft (3000m)	Operating: 0 ~ 9842.5ft (3000m)

All specifications are subject to change without prior notice.

For the modularized rack specification and accessories, please contact us for further information.

Delta InfraSuite Management System

InfraSuite Manager - Data Center Infrastructure Management (DCIM)

"Due to rapid technology advances, enterprises are demanding centralization of management processes and also a consolidation of infrastructure into a centralized location; limited availability of computing resources, power and space has led to an increasing demand for DCIM (Data Center Infrastructure Management) solutions."

- Global Data Center Infrastructure Management Market
Technoavio, 2016

The velocity of its growth, coupled with its real and tangible benefits makes understanding DCIM important not just for facility managers, but also for CIOs and IT managers. Delta InfraSuite Manager is the fully featured DCIM software solution to deliver automation and visibility into the data center and increase the ease of management on a comprehensive platform. InfraSuite Manager optimizes the performance and life cycle management of the data center.

Benefits of InfraSuite Manager

Central View from One Platform
InfraSuite Manager provides users a central view to observe all of the critical information for a data center based on a single real-time platform.

Cost Effective
Organizations with corporate operation of cost efficiency initiatives can also look to DCIM to better manage and optimize resource use across their entire infrastructure, as well as help lower their impact on the environment. PUE (Power Usage Effectiveness) is improved and costs are reduced accordingly.

Increased Availability
By viewing critical information in the data center, the availability of the data center has been increased. InfraSuite Manager offers advanced alert algorithms across the infrastructure. It helps the data center mitigate the risk of downtime.

Sustainability Management
Having insight into the future of the data center's day-to-day operations, and understanding how to optimize the data center's resource allocation is invaluable to a business. InfraSuite Manager not only enhances capacity and asset management but also improves overall productivity, which can extend the data center life cycle.

Empower Your Data Center

For Facilities Managers

- Overall layout of your data center
- Overall environment mapping or profile of your data center
- All equipment status
- Chiller plant status and profile
- Power diagrams
- Alarm notification and reporting

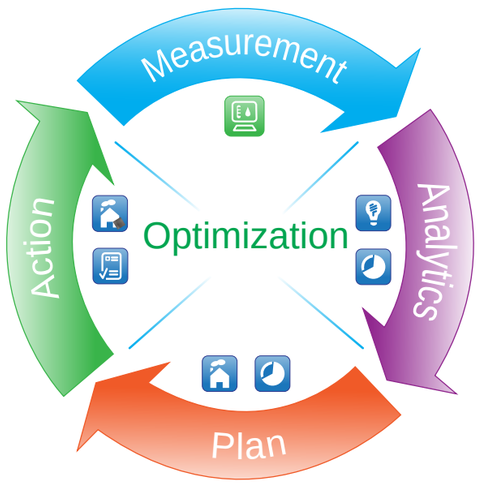
For IT Managers

- Access control and surveillance
- Asset management
- Rack utilization, rack U-space, weight, power load and network port for each rack
- Multiple site management
- Alarm notification, reporting and schedule
- IPMI

For Chief Information Officers CIOs

- Real time and historical PUE
- Electricity cost and billing
- Overall capacity utilization
- Work order progress and approval process
- Alarm notification and reporting

Management Philosophy for Data Center Optimization



Measurement
Measure and monitor the overall data center environment in real-time from a central dashboard

Analytics
Create a virtual model of the infrastructure to digitally map the relationships between all these components

Plan
Manage the data center better based on insightful historical information and trend analysis with well-grounded planning

Action
Define actionable solutions and configurations to execute

Product Features

Base Model (Operation Platform)

The base model of the InfraSuite Manager provides real-time critical information for a data center across floors or locations. It also gives recommendations on how to resolve issues, and offers a built-in report generator tool and template that provide device information and trend charts in the reports. The base model is the fundamental monitoring platform and extensional function modules can be added according to the demands of enterprises or organizations. The communication architecture of InfraSuite Manager uses Master/Slave and Browser/Server architecture for the Windows client and web browser user interface.

FIGURE 1. Overview of Data Center - Temperature

PUE Energy Module

The Energy Module of the InfraSuite Manager contains the functions of energy measurement, PUE calculation, electricity tariff formula, and historical data analysis. In addition, it includes organizational energy classification and a management mechanism. With time and experience operating this system, datacenter managers develop greater agility for managing energy consumption. This module can transform energy consumption data collected from power meters, UPS (Uninterruptible Power Supply), PDU (Power Distribution Unit) and environment detectors into dynamic charts and graphs, including line charts, bar charts, and pie charts based on user preference.

FIGURE 2. Dashboard of PUE

Energy Analysis Module

Energy Analysis is not just for a single site but for the entire organization. The electricity tariff formula can be customized for each department. In terms of detailed energy analysis, Delta offers diverse scenario analyses, including energy usage KPI, comparison, energy combination analysis, abnormal energy usage ranking, and energy usage estimation.

FIGURE 3. The Hierarchy of Energy Analysis

Asset Module

Asset Module offers graphical views of assets in every single rack in the data center. This makes it easy to quickly identify the power path and network topology map. In the case of assets without proper management, it often leads to a higher mean time to repair (MTTR) and lowering the availability of the data center's equipment.

FIGURE 4. Asset Module - Rack Management

Capacity Module

Capacity Module allows data center managers to plan for the future more effectively through the use of detailed data on rack space, weight, network, power and cooling capacity in the data center. For example, Capacity Module helps data center managers evaluate resource consumption, making it easier for them to plan and decide on the future allocation and most suitable installation locations for IT devices.

FIGURE 5. Automatic Availability Calculation

Work Order Module

The Work Order Module provides a highly customizable platform that enables users to design work order templates for different management purposes. Different variables such as names, types, priority, schedule, roles of tasks can then be set by the administrator. This helps users not only simplify and integrate the process of change management, but also extends the life cycle of data center operation.

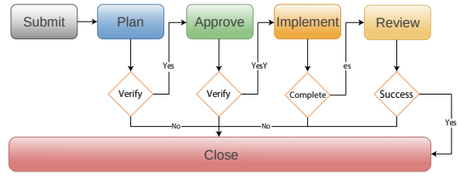


FIGURE 6. The Process of Change Management

Asset Inspection Module

The Asset Inspection Module of the InfraSuite Manager is used with a user-friendly mobile app which makes it smarter and more efficient for the inspector to complete his/her inspection process. Customizable templates can be designed for different types of assets. Users can also upload photos of the inspected assets to InfraSuite Manager. Unique QR codes of each asset can be generated by the system, making the tasks more intuitive.

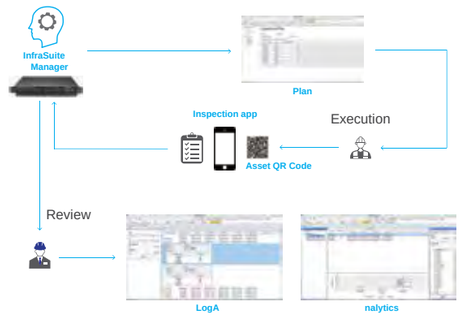


FIGURE 7. The Flow of Inspection Execution and Review

System Requirements

	InfraSuite Manager (Server)	InfraSuite Manager (Windows Application UI)	InfraSuite Manager (Web Monitor UI)
Hardware	CPU: > 2GHz Memory: ≥ 8G Free HD Space: 500G mirrored	CPU: > 2GHz Memory: ≥ 4G	CPU: > 2GHz Memory: ≥ 4G
Software	Support OS: Windows 7, 8, 10, Windows Server 2008, 2012, 2016	Support OS: Windows 7, 8, 10, Windows Server 2008, 2012, 2016	Recommended Web Browser: Microsoft Internet Explorer v11, Google Chrome v30, Mozilla Firefox v23 and Safari v5.

Delta InfraSuite Management System

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.

Benefits of InfraSuite Device Master

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 easiest way of migrating to InfraSuite Manager, which is Delta's fully featured DCIM software solution.

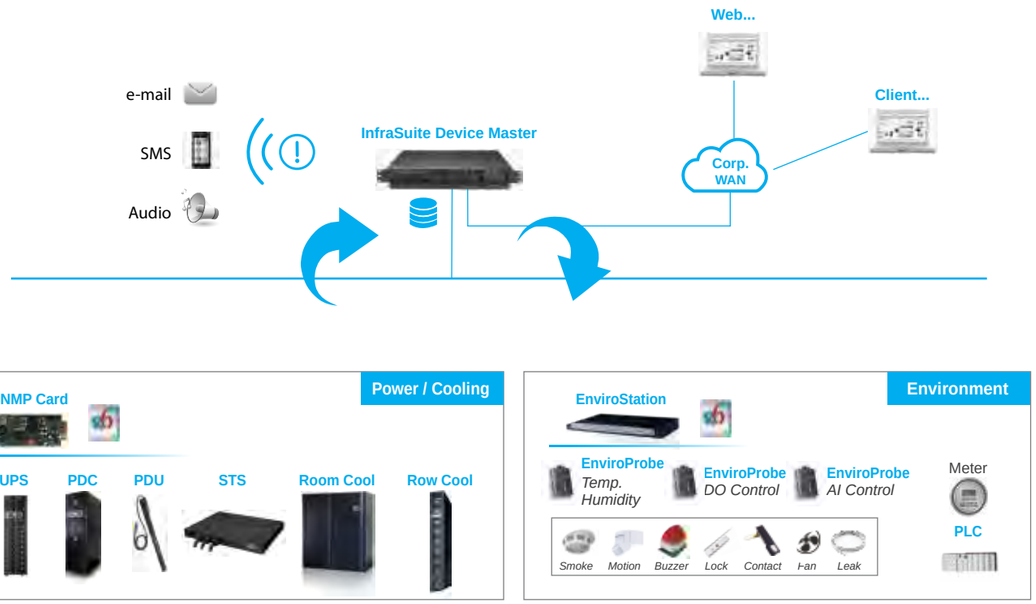


FIGURE 1. Delta InfraSuite Device Master Monitoring Application

Free Download

To try the lite version of DCIM (InfraSuite Device Master), please go to:
http://www.deltapowersolutions.com/en/mcis/data-center-infrasuite-device-master.php

Product Features

Navigational Graphics

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

FIGURE 2. Navigational Graphics

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.

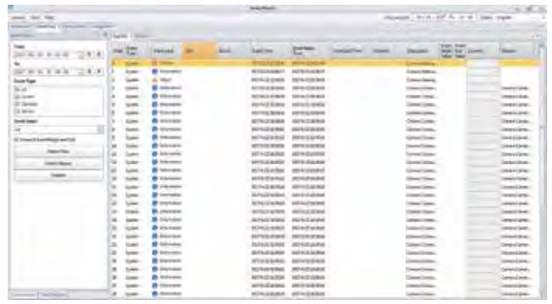


FIGURE 3. Event Log List

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 base on user preference.

System Requirements

	InfraSuite Device Master (Server)	InfraSuite Device Master (Windows Application UI)	InfraSuite Device Master (Web Monitor UI)
Hardware	CPU: > 2GHz Memory: ≥ 4G Free HD Space: ≥ 50 G	CPU: > 2GHz Memory: ≥ 4G	CPU: > 2GHz Memory: ≥ 4G
Software	Support OS: Windows 7, 8, 10, Windows Server 2008, 2012, 2016	Supported OS: Windows 7, 8, 10, Windows Server 2008, 2012, 2016	Recommended Browser: Microsoft Internet Explorer v11, Google Chrome v30, Mozilla Firefox v23 and Safari v5.

Delta InfraSuite Management System

EnviroStation

Delta's Environment Management System (EMS) monitors the environment and conditions in the data center, including temperature, humidity, water leakage, alarms for fire, smoke, and unauthorized entry. The EMS offers IT managers an integrated platform for more convenient monitoring of today's data center.

EnviroStation integrates the monitoring of the data center's environment and other conditions, and sends the data to a central manager via network. User-defined alarms ensure the data center's security.

Easy to Manage

- Assess and collect key data center information for enhanced management
- Real-time notification provides faster management response and more effective operations
- Sets manager password for higher security
- SNMP allows easy integration with any enterprise management system

Convenience

- Monitoring via internet browser
- InfraSuite Manager remote monitoring software provides prompt handling of any data center situation
- Graphical interface and historical data records for more effective management
- Real-time alarm notifications shorten management response time

Flexibility

- Supports SNMP communication protocol
- Setting each alarm value based on actual requirements

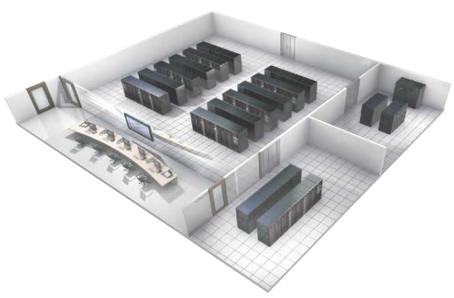
Technical Specifications

Model		EMS2000
Input	Power	100 ~ 240 Vac, 50/60 Hz
	Digital Input	Wet Contact Signal • Alarm Voltage 5 ~ 24 Vdc, 1-9 mA Dry Contact Signal • Normal: Off (open circuit) • Alarm: On (short circuit)
	Analog Input	Voltage: 0 ~ 10Vdc Current: 4 ~ 20 mA
	RTD	Range: 32 ~ 122°F (0 ~ 50°C) Accuracy: ±33.8°F (1°C) with 3-wire PT100
	Resistance Temperature Detection (x1)	Supports 2-wire or 3-wire resistance
	Leakage	Detect Voltage < 1V (alarm signal with S-1FP leak sensor)
Output	Sensor HUB	For connection with sensor devices (such as smoke detectors, fire detectors, or door sensors, etc) and support: + 12V, 0.8A (max) + 24V, 1.0A (max) One port limit 0.6A
	Delta Bus	+ 12V, 0.8A (max)
	Relay Output	26 Vdc (max), 0.8A (max)
Alert	Warning Light (X1)	Included in the package and can connect to EMS2000 via a Sensor Hub converter (through Port 1 or Port 2) to alert for abnormal conditions.
Network Connection	RJ45 (X1) RS485 (X2) Console (X1)	10/100 Base-T Standard ModBus Connect to PC via RJ-45 to DB9 cable (cable is included in the package) A configuration port is available for the console mode.
Environment	Operating Temperature Storage Temperature Operating Humidity	32 ~ 113°F (0 ~ 45°C) -4 ~ 140°F (-20 ~ 60°C) 0 ~ 90% RH (non-condensing)
Dimensions	Product (W x D x H) Package (W x D x H)	17.3 x 6.1 x 1.7 inch 20.0 x 16.1 x 5.9 inch
Weight	Product Package	5.3 lb 11 lb

These specifications are subject to change without notice.

InfraSuite Manager - Data Center Infrastructure Management (DCIM)

Have the entire data center at your fingertips!



Delta InfraSuite Management System

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. EnviroProbe also controls its connected devices when equipped with digital and analog outputs, keeping the IT manager promptly informed of all environmental changes by giving alarms, controlling the activation and deactivation of an external device (e.g. a magnetic lock), or by giving a sound alert using its own built-in buzzer upon detection of a water leakage.

Easy to Manage

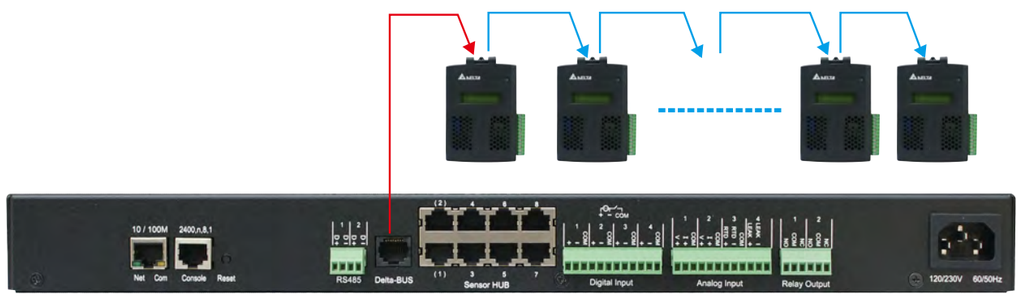
- Monitors temperature and humidity of the environment
- Backlight LCD display
- Digital/analog inputs and outputs

Convenience

- Works with EnviroStation (EMS2000) to monitor via internet browser
- InfraSuite Manager software for remote monitoring and recording

Flexibility

- Works with EnviroStation (EMS2000) to support SNMP communication protocol

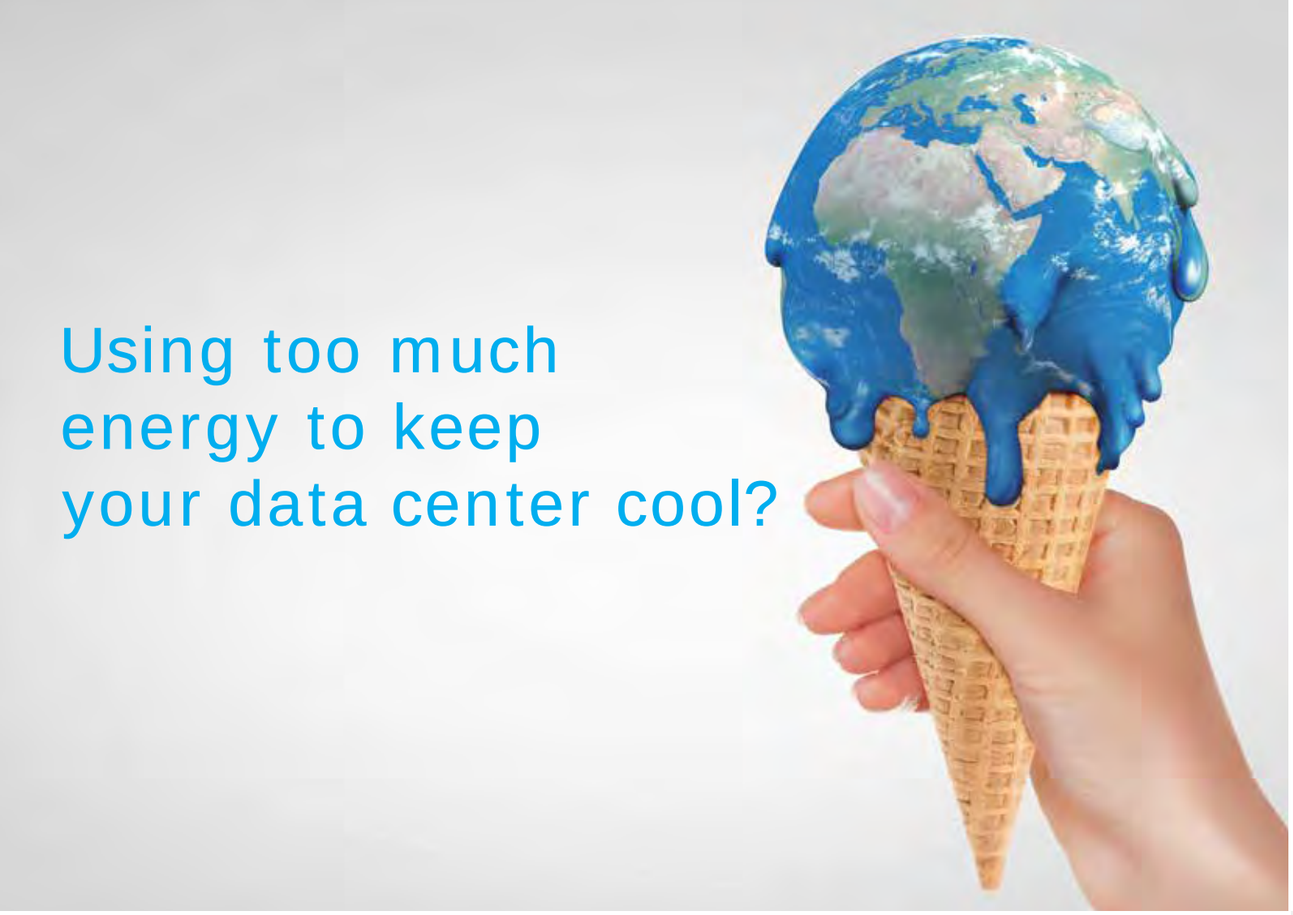


▲ Connecting EnviroProbes with EnviroStation can expand the scope of the monitored area.

Technical Specifications

Model		EMS1000	EMS1100	EMS1200
Input Voltage		EMS2000 Delta-BUS or SNMP Card: 12 Vdc (pin 1 & 4) PDU SNMP card: 5 Vdc (Pin 2 & 4)		
Purpose		To collect data from connected devices (temperature & humidity)	To control connected devices	To collect data from and control connected devices
Input/Output Contacts		4 dry/wet contact inputs	4 digital outputs	2 analog inputs, 1 analog output, 1 water-leakage detection (built-in buzzer)
		Connect to EnviroStation (EMS2000) or SNMP IPv6 card		Connect to EnviroStation (EMS2000)
Input		Wet Contacts:5 ~ 24Vdc, 1~8mA; Dry Contacts: Open/Short Status	N/A	Voltage: 0 ~ 10Vdc (12bit) Current: 0 ~ 20mA (12bit)
Output		N/A	Contact voltage/Contact current/Contact tolerance 60Vdc/1A/60W; 30Vac/2.08A/62.5VA	Voltage: 0 ~ 10Vdc (12bit) Current: 4 ~ 20mA (12bit)
Cascade Number to EMS2000		Up to 16 units	Up to 4 units	Up to 5 units
Dimensions (WxDxH)		Product: 2.5 x 1.2 x 4.0 inch Package: 3.5 x 1.6 x 5.2 inch		
Weight		Net Weight: 0.26lb (120g)	0.27lb (130g)	
		Gross Weight: 0.31lb (140g)	0.33lb (150g)	
Environment	Temperature	Operation: 32 ~ 140°F (0 ~ 60ºC)		
		Storage: -22 ~ 176°F (-30 ~ 80ºC)	Storage: 32 ~ 140°F (0 ~ 60ºC)	
		Accuracy: ±32.7°F & 32 ~ 140°F	N/A	
	Humidity	Operation: 0 ~ 90% RH (no condensation)		
		Storage: 0 ~ 100% RH (no condensation)		
		Accuracy: ±37.4°F & 32 ~ 176°F	N/A	
	Altitude	0~10,000 feet		
Conformance		CE		
		EN55022 (CISPR 22) Class B		
		EN55024 (Level 3 @Air 8 KV/contact 4 KV)		

These specifications are subject to change without notice.



Using too much energy to keep your data center cool?

Delta InfraSuite Precision Cooling

The most reliable and efficient cooling solutions

Power consumption for air conditioning can account for 45% of a data center's total electricity expenses. Delta's InfraSuite Precision Cooling is designed with smart cooling technology to effectively solve thermal issues and reduce the electricity required for cooling. It provides the best cooling solution to meet 24 hours × 365 days of continuous operation requirements for a constant temperature and humidity in a critical equipment environment, such as for:

- Data centers for small to medium enterprise
- Cloud data center
- Colocation data center
- Prefabricated data center
- Medical equipment room
- Research laboratory
- Precision manufacturing equipment room

Delta InfraSuite Precision Cooling

Modern data centers have implemented a high-density model, mainly based on blade servers, to increase space utilization and accommodate the rapid expansion of new IT equipment. This model requires a higher power supply density and creates bigger heat dissipation problems, where increased power consumption for air conditioning can account for 45% of total data center electricity expenses. With this in mind, heat dissipation and electricity expenses are important indices against which operational expenditures of the data center can be measured.

As a leading global manufacturer of fans and a specialist in power management, Delta Electronics was perfectly positioned to develop Delta InfraSuite Precision Cooling solutions in order to provide practical, optimized, and innovative methods for data center cooling. Delta InfraSuite Precision Cooling solutions employ either chilled water or direct expansion types to remove the heat produced by the hardware within the data center. Delta provides various cooling solutions, including RowCool chilled water type, RowCool direct expansion type and L series CRAH, to fulfill customers' diverse requirements. Applicable sectors cover cloud, colocation, telecommunication, semiconductor, precision manufacturing, enterprises, education, and others.

Various design options can also be implemented for optimal solutions. Delta's comprehensive offerings include hot aisle or cold aisle containment, chilled water temperature setting, free cooling technology, and more. These flexible cooling configurations and designs play an important role for data centers to achieve target PUE for more energy savings.

Delta InfraSuite Precision Cooling

RowCool Series 43kW, Chilled Water

Delta's RowCool CW offers outstanding performance in high temperature chilled water applications via the optimized design of its heat exchanger. With industry-leading high cooling capabilities, the RowCool CW increases the overall cooling efficiency of data center precision cooling systems. The RowCool CW provides the best cooling solutions for data centers over hundreds of kW, focusing on both high efficiency and high density.

High Efficiency

- Optimized for high temperature chilled water applications, the heat exchanger design increases the overall efficiency of precision cooling systems.
- The Electronically Commuted (EC) Fans design provides variable fan speed control for optimal speeds in real-time according to load changes, avoiding unnecessary power waste.
- Closely couples to IT heat loads and quickly adapts to load changes for direct and effective heat removal.

High Availability

- Supports dual power feed input and is suitable for any tier level of power reliability architectures.
- Thanks to the inherent redundancy design of the fan system, other fans automatically increase fan speeds to make up for the required airflow if one of the fans malfunctions.
- 1+1 redundant design of the power modules increases reliability.
- Hot-swappable power module and fan design allows replacement without the need of a power shut down while malfunctioning.
- The smart group control function is equipped with rotation, back up, competition free, and soft start functions.
- Comprehensive operation monitoring such as chilled water flow and leakage detection allows full control of machine operations and the ability to take necessary troubleshooting measures in real-time.

High Flexibility

- Top or bottom piping and wiring options are available to satisfy the pipeline design needs for different data center requirements.
- Multiple communication interfaces satisfy the surveillance and communication needs of a variety of data centers.
- High efficiency filter (MERV 8) or washable filters (MERV 1) are available for users to choose according to their needs.
- Equipped with casters for easy movement and positioning during installation without the need for additional handling tools.

Technical Specifications

Model		CW 43 kW
		HCH1870
Power	Input	1-phase 208-230V, 50/60 Hz
Capacity	Total Capacity (*1)	43.4 kW
	Sensible Capacity (*1)	43 kW
	Total Capacity (*2)	59.1 kW
	Sensible Capacity (*2)	59.1 kW
	Total Capacity (*3)	37 kW
	Sensible Capacity (*3)	37 kW
Fan	Type	EC
Piping Connection		Top / Bottom
Conformance		UL
Communication		RS-485 x 1, Input dry contact x 2, Output dry contact x 2, SNMP slot x 1
Dimensions	Width	11.8 inches
	Depth	42.9 inches
	Height	87.7 inches
Weight		412.3 lb

*1. Rating capacity is measured at 105°F (40.6°C) DB / 70.9°F (21.6°C) WB / Inlet water temperature 44.6°F (7°C).
*2. Maximum capacity is measured at 120°F (48.9°C) DB / 23.9°C (75°F) WB / Inlet water temperature 44.6°F (7°C).
*3. High temperature water capacity is measured at 105°F (40.6°C) DB / 70.9°F (21.6°C) WB / Inlet water temperature 53.6°F (12°C) / Outlet water temperature 68°F (20°C).

Delta InfraSuite Precision Cooling

CRAH L series

The Delta CRAH L series is a Packaged Air Handler Unit designed for large data centers, and for meeting the needs of modern server rooms for high reliability and energy efficiency. The CRAH L series uses a double skin that is resistant to salt spray and provides high insulation. The structure is designed to be highly airtight with low deformation. At the same time, it provides a variety of functions for a modern data center, including dual-input ATS, remote monitoring, touch panel, and water leak detection.

Delta is pleased to customize your CRAH L series to provide the optimal CRAH products for your data center.

Optional Items

- Sight glass for access door
- Lighting system
- PICV valve
- Flow meter
- BACNET
- In-built ATS
- In-built backup power
- Leakage detector
- Motorized damper
- Point type smoke detector
- Remote temperature and humidity sensor

Technical Specifications

Input Power		3phase 460VAC 60Hz
Rated Cooling Capacity		320kW**
Rated Air Flow		45026CFM**
Rated Water Flow		165GPM**
Rated Power Consumption		18.5kW
Rated Cooling Capacity		320kW**
Maximum Water Pressure Drop		21FT
Filter		Merv 8 Pleated Type
Fan		EC Centrifugal Fan Quantity: 7
Access Door		Gasket Type
User Interface		10in Colorful Touch Panel SNMP
Dimensions (WxDxH)		232.2 x 63 x 93.6 inch (stand excluded)
Weight		5398.9 lb, stand excluded
Environment	Storage Temperature	5 ~ 122°F (-15 ~ 50°C)
	Humidity	< 95%
Conformance		UL

* All specifications are subject to change without prior notice.
** Conditions for rated capacity: EAT:96°F, LAT:74°F, EWT:65°F, LWT:79°F

Global Success Stories

Germany

Delta InfraSuite ensures the continuous operation for the No.1 online shopping site.

Russia

Delta provides power solutions to support mission critical applications at five football stadiums for the 2018 FIFA World Cup Russia™.

Spain

Atos, a global leader in digital transformation, selected Delta's modular UPS solution to protect their MW data center.

France

Delta provides UPS solutions to the world's largest chain of fast food restaurants to protect its POS and server equipment.

Netherlands

Bytesnet, a Europe-based colocation and network services provider, partnered with Delta to build a tier 3+ data center.

US

Delta's modular UPS is the power behind the advanced "grab and go" shopping technology.

US

The leading cloud service providers select Delta's key solutions for their hyperscale data center.

South Africa

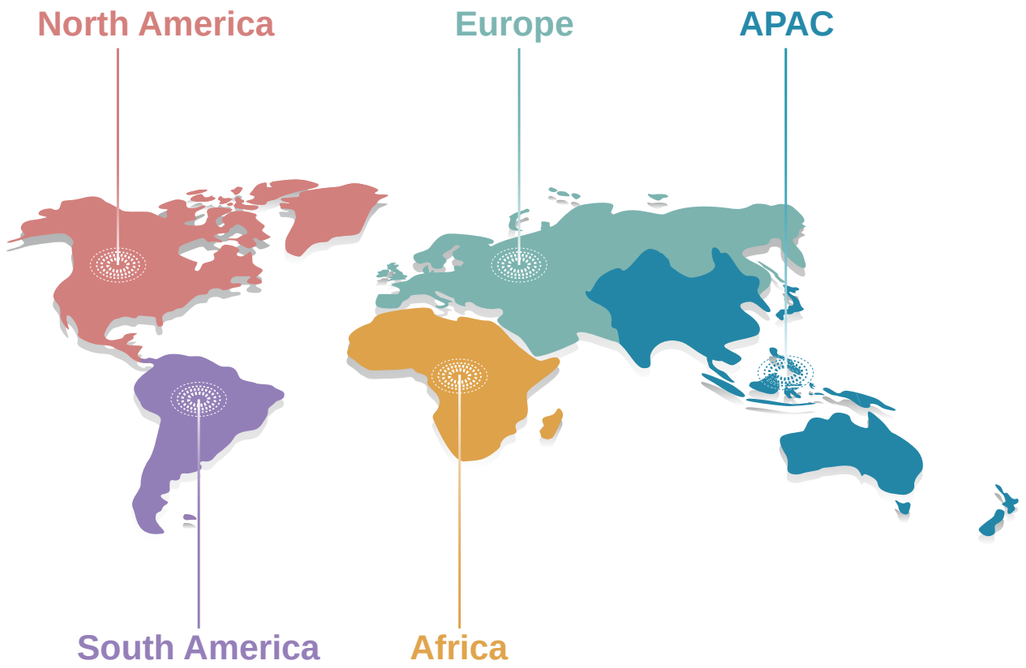
A public research university chose the Delta InfraSuite solution to build a reliable modular data center.

Brazil

The largest private sector bank in Latin America chose Delta to back up its branch office automation.

Peru

Delta helps a worldwide satellite operator maintain its data center operation in Peru.



China

A world-class theme park in Shanghai.

China

Delta provides UPS & InfraSuite solutions for the Wuhan Airport data center to achieve a 5A-level IDC.

China

The leading cloud service provider selected Delta 98.5% efficiency HVDC total solution for their next generation internet data center.

Korea

The largest airport in South Korea chose Delta's modular UPS to safeguard its immigration office data center.

Taiwan

The world's leading semiconductor company and an IC design company adopted Delta InfraSuite for their high power density data centers.

Thailand

A leading global ICT service provider chose Delta's DCIM solution for a financial credit rating company.

Myanmar

Campana, a Singapore-based company, partnered with Delta to build a containerized data center for an international submarine cable landing station.

India

A large government development bank selected Delta's UPS to provide highly reliable power protection for the data center.

APAC

Eltek's Converged Power Solution provides flexibility and scalability while ensuring availability for a telecom core exchange and submarine cable landing stations.

APAC

Delta's power container solution protects MW colocation data centers in the Asia Pacific.

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