



DATACENTRE



E-MEDICAL



INDUSTRY



TRANSPORT



EMERGENCY

CRYSTAL SERIES

UNINTERRUPTIBLE POWER SUPPLY

1-10kVA

1KVA-10KVA



ONLINE



Tower





Since 1991, situated in state of art production plants in Turkey on a total covered area of 10.000m2 with more than 150 employees, DELTA Inc. producing diverse power electronic solutions, and is one of the few companies in the world which could manage to combine quiet different product ranges, in its manufacturing portfolio. Our manufactured products are getting incessantly developed and upgraded, thanks to our highly advanced R&D team skills, studies and works, held in firm cooperation with the Scientific and Technologic Research Council of Turkey. This enables Delta Inc. to clinch its domestic and worldwide leader title in AVRs and get a highly respected position in World UPS market. Also it ensures highest flexibility in our production, to answer different customers requirements from the World, according to different mains and electrical conditions across the globe.

VISION

True uninterrupted clean continuous power. We have over 20 years experience with design, supply, and installing UPS systems, Voltage Stabilisers and Industrial Battery Chargers
DELTA UPS and Voltage Stabilizers Inc. has become World undisputed leader in AVR industry and one of the most reputable manufacturers in European UPS market with over 65 countries direct office and distributor channel/network. We create Technologies to pioneer the World of Energy, adding values to our employees every day.

MISSION

Delta UPS and Voltage Stabilizers Inc. provide reliable solutions as power protection for uninterruptible power supply and AC mains regulation solutions of your mission critical applications for complete back up power systems. Delta Inc. aims efficient pre and after sales service support all over the globe 7/24.
» Critical Power Protection Solutions
» Emergency Power Systems
» Uninterruptible and Regulated Energy/Power

OUR PRODUCTS

Our manufacturing lines consist of following product ranges;
Singlephase AC Servo Voltage Stabilizers 500VA-50kVA
Triphase AC Servo Voltage Stabilizers 3kVA-4000kVA
Singlephase AC Static/Solid state Voltage Stabilizers: 1000VA

Office Address:

Merkez Mah. Ladin Sk. Terziler Sitesi Kat:6 No: 613 – 614 Yenibosna 34197 – İSTANBUL
Factory Address:

Adnan kahveci mah. Davutpaşa cad.no: 15 Beylikdüzü – İSTANBUL

Customer Support Services:

+90 (212) 639 22 73 +90 (212) 639 06 75

+90 (212) 451 46 29 +90 (212) 451 46 11

Fax: +90 (212) 654 90 54

E-mail: info@deltaregulator.com

delta@deltaregulator.com

Website: www.deltaups.com



Medical Imaging



Laboratory Diagnostics

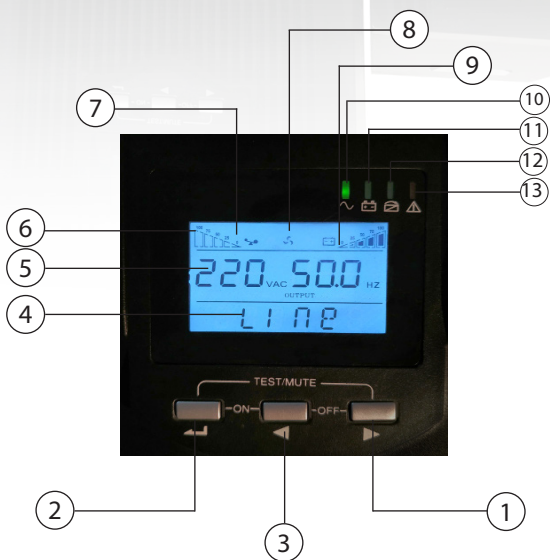


Data Center System

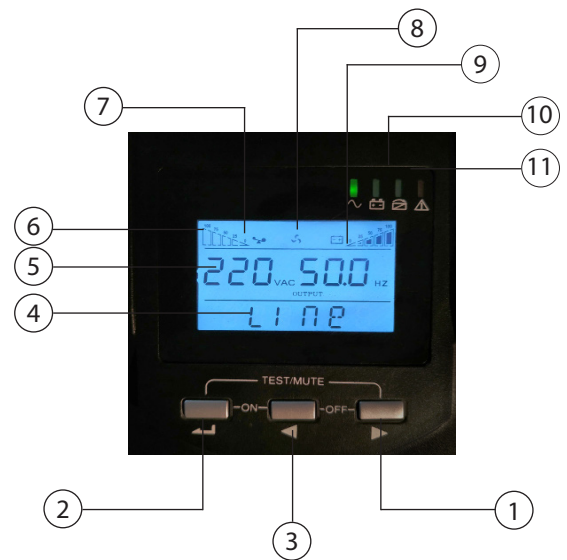
APPLICATION »

UPS Delta Crystal Series is a specialized product line that supplies power to devices such as Medical Imaging, Laboratory Diagnostics, Analytical Instruments, Data center, ATM ...

**DELTA UPS - CRYSTAL FAMILY
SINGLE PHASE - 1/2/3/6/10KVA**



6kva & 10kva



LCD 1kva & 2kva & 3kva

- 1. Navigation Button Right
- 2. Navigation Button Left
- 3. Button Installation
- 4. Operation mode

- 5. Value display and settings area
- 6. Icons display area
- 7. Load icon
- 8. Fan icon

- 9. Battery capacity icon
- 10. Inverter Indicator (Green)
- 11. Battery Indicator (Yellow)
- 12. Bypass indicator (Yellow)
- 13. Alarm indicator (Red)

The new and unique UPS helps revolutionize the concept of energy. Specifically, components of the latest generation, fully automated production, SMT technology all ensure the UPS Delta Crystal Series which is reliable and durable.

Everything started and improved around the sophisticated DSP using logic control to create a digital signal that requires the UPS to operate automatically. It can be connected in parallel with the excess supply units needed to ensure maximum availability of possible energy. UPS Delta Crystal Series alternating current input filtering technology uses rectifier to provide power factor correction.

PFC takes current from standard sine wave AC current.

The monitoring system works to keep the technical features of the UPS Delta product line unchanged. The selection of the latest technology and the latest generation components makes sure that temperature reduction and is limited. All UPS are equipped with all communication interfaces (RS232, USB, SNMP) to connect the Delta UPS with all currently distributed networks and software. A large graphic screen displays extremely clear and complete parameters. Remote control via CAN bus allows for information even in other environments from the installation location.

The structure with the idea of interchangeable elements can help in terms of enabling work to support and maintain by any technical operator.

HIGH UPS RELIABILITY

- Total microprocessor control.
- Interruption free static and manual bypass.
- Specifications guaranteed up to 40°C (the components are designed to work at high temperatures and thus are subject to less stress at normal temperatures).

ADVANCED COMMUNICATION

- Compatible with Delta UPS MEGATEC remote monitoring
- Advanced multiplatform communications for all operating systems and network environments: SMARTUPS monitoring and shutdown software for Windows operating systems 10, 8, 7, Hyper-V, 2016, 2012, and previous versions, Mac OS X, Linux, VMWare ESXi, Citrix XenServer and other Unix operating systems
- RS232 serial port
- Plug and play function
- Slot for installation of communications boards.

OPERATING MODE SELECTION

The operating mode can be programmed via Software or manually via the front display panel.

• **On line:** double conversion Mode: for critical applications

• **Eco Mode:** to increase efficiency (up to 98%), allows for the selection of Line Interactive technology (VI) to power low priority loads from the mains supply.

• **Smart Active:** the UPS automatically decides upon the operating mode (VI or VFI) based on the quality of the mains power supply.

• **Emergency:** the UPS can be selected to function only when the mains power supply fails (emergency only mode).

• **Frequency:** converter operation (50 or 60 Hz).

HIGH QUALITY OUTPUT VOLTAGE

• Even with nonlinear loads (IT loads with a crest factor of up to 3:1).

• High short circuit current on bypass.

• High overload capacity: 150% by inverter (even with mains failure).

• Filtered, stabilised and reliable voltage (double conversion online technology) with filters for the suppression of atmospheric disturbances,

• Power factor correction: UPS input power factor close to 1 and sinusoidal current uptake.

HIGH BATTERY RELIABILITY

• Automatic and manual battery test

Reduced ripple component (detrimental to the batteries) using a low ripple current discharge (LCRD) system

• Unlimited extendible runtime using matching BatteryBoxes

• The batteries do not cut in during mains failures of <40 ms (high hold up time) or when the input supply is between 110 V to 295 V.

LOW IMPACT ON THE MAINS

• Sinusoidal uptake of input current on single phase/ single phase series.

Other features

• Advanced diagnostics: status, measurements and alarms available on custom LCD display

• Low noise (<50 dBA or <55 dBA): can be installed in any environment thanks to its high frequency switching inverter and PWM load dependent digitally controlled fan

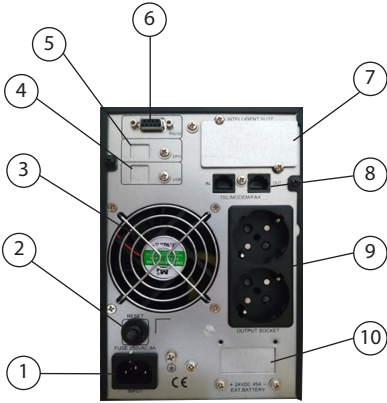
• Auto restart (automatic when mains supply is restored, programmable via software or display panel)

• Emergency function: the UPS can be selected to function only when the mains power supply fails (emergency lights)

• Backfeed protection standard: to prevent energy from being fed back to the network

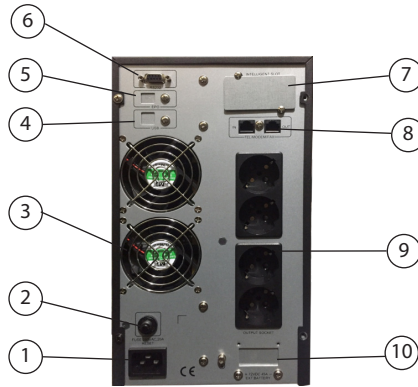


1kva



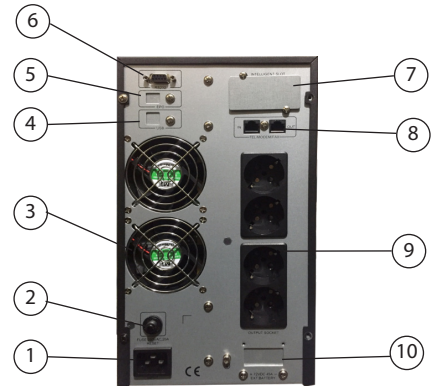
- 1. Input power Terminals
- 2. Over current protector
- 3. Fan
- 4. USB port (optional)
- 5. EPO port (optional)
- 6. RSR 232 Communication interface

2kva



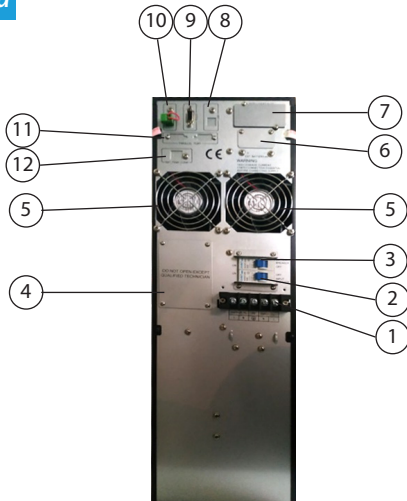
- 7. Intelligent slot (SMNP Slot)
- 8. Surge protection For Network/Fax/ Modem.
- 9. Output Socket
- 10. External battery connector

3kva



Note:
During product development and upgrade, some details may be different.

6kva & 10kva



- 1. Input and output terminal
- 2. Input breaker
- 3. Inbuilt battery breaker
- 4. Maintenance switch (optional)
- 5. Fan
- 6. External battery connector
- 7. Intelligent slot (SNMP/ AS400/ RS485 optional)
- 8. USB port (optional)
- 9. RS 232 port
- 10. EPO
- 11. Parallel port (optional)
- 12. Battery temperature compensation sensor (optional)

APPLICATIONS

- Soho
- Data center
- Medical
- Industry
- Transport
- Emergency



CONNECTION SOFTWARE

Network compatibility (TCP / IP) with all operating systems. Its structure is very simple and makes it easy.

Always act as the center, recognizing all activities on the network and store historical event logs. Status is tracked in real time. Based on the event scheduling feature, the administrator can send messages, start or disable specific programs or determine to turn off custom systems.

SNMP MANAGEMENT

The standard allows you to control and monitor UPS via web browser. The use of a dedicated card helps BL to be controlled from the graphics network



FEATURES OF UPS ONLINE DELTA 1PHASE

- High performance with dual conversion Online technology
- Wide input voltage range
- Advanced PFC technology
- Standard output of sine with THD is less than 3%
- Self-diagnosis when starting UPS
- Advanced battery management (ABM) helps extend battery life.
- Cold start function (from DC source)
- Automatic charging when the UPS is off
- Overload protection, short circuit
- Automatically adjust the fan in accordance with the load capacity
- Optional external battery system
- EMI / RFI filter
- RS232 (SNMP Optional)
- Set calendar off and restart

Model	CL1000VS	CL2000VS	CL3000VS	CL6000VS	CL10000VS
Capacity	1kVA	2kVA	3kVA	6kVA	10kVA
INPUT					
Rated input voltage	220VAC or 120VAC			220VAC	
Rated input frequency	50Hz/60Hz (self-adaption)				
Input voltage Range	110- 295 ± 5VAC (50% load); 140 - 295 ± 5VAC (100% load) or 50/60/70/80 - 150 ± 5VAC (60%/70%/80%/100% load)			110- 295 ± 5VAC (50% load); 140 - 295 ± 5VAC (100% load)	
Input frequency Range	45-55Hz ±0.5% 50Hz; 55-65Hz ± 0.5% 60Hz				
Phase	Single phase+N+GND				
Power factor				>0.98	
Input current (liner full load)	4.0A or 10A	8.1A or 20A	12.1A or 30A	24.2A	40.4A
THD	<6%			<5%	
ByPass voltage range	186VAC-252VAC or 90VAC-140VAC			186VAC-252VAC	
OUTPUT					
Rated voltage	208/220/230/240VAC or 100/110/115/120/127VAC can be set on LCD			208/220/230/240VAC can be set on LCD	
Power factor				0.9	
Voltage distortion				±1%	
DC component voltage				≤200mv	
Output current crest factor				3:1	
RATED FREQUENCY					
AC mode	same as input frequency				
Battery mode	50/60±0.2Hz				
Phase lock speed	≤1Hz/s				
Wave distortion	100% linear load <3%; 100% nonlinear load <5%				
TRANSFER TIME					
From Mains mode to battery mode				0ms	
From battery mode to Mains mode				0ms	
From Mains mode to Bypass mode	<4ms			<0ms	
From Bypass mode to Mains mode	<4ms			<0ms	
From normal mode to ECO mode	<10ms			<10ms	
System Full load	>90%			>92%	
Efficiency ECO mode				>94%	
Inverter overload capacity	105% —150% 30s transfer to bypass mode giving alarm; > 150% 300ms transfer to bypass mode giving alarm				
BATTERY					
Battery type	Lead acid maintenance free battery				
DC voltage	24V DC	48V DC	72V DC	192V DC /240V DC	192V DC /240V DC
Inbuilt battery	9Ah/12V	9Ah/12V	9Ah/12V	7.5Ah/12V	9Ah/12V
Battery quantity	2	4	6	16/20	16/20

CHARGER					
Output voltage	27.5±0.4V	55±0.6V	82.5±0.9V	220±0.9V/275±0.9V	
CHARGER METHOD	Three - stage charging				
Input voltage range	80VAC-300VAC or 40VAC-150VAC			150 VAC-300VAC	
Charger current	Standard model:1A; Long time model: 6A (Option 12A)			Standard model:1A; Long time model: 6A	
Protect	Overheat protection, fan test protection				
	L-N false protection, phase difference protection, output overload protection				
	Mute, cold start, auto start AC				
Control	RS232; SNMP card; USB (default only RS232)				
The media	Functional software, status analysis, turn on, turn off the UPS system				
	monitor UPS working status, historical storage				
Display	LCD/LED				

SYSTEM OPERATING ENVIRONMENT						
Operating environment	Operation tem.	0 – 40 degrees C				
	Store tem.	25 degrees C – 55 degrees C				
	Humidity	20 – 90% (non - condensing)				
	Altitude	0m- 1500m, over 1500m, used with power derated				
Noise	<50db			<55db		
UPS dimension (W*D*H) mm	Long time	144x357x215	190x452x341		262x514x455	
	Standard				262x514x735	
Packing dimension (W*D*H) mm	Long time	230x445x315	320x550x462		365x605x510	
	Standard				390x625x937	
Net/Gross Weight (kg)	Long time	5.6/6.9	11/13	11.6/137	22.1/25.2	22.8/25.9
	Standard	13/14.5	23.5/25	26.6/28.8	64.1/72.2	70.8/78.9

BATTERY RUNTIME CHART - Internal Battery (minute)

Load (%)	1kVA	2kVA	3kVA	6kVA	10kVA
50	12	12	12	11	9
60	10	10	10	9	8
70	8	8	8	8	7
80	6	6	6	7	6
90	5	5	5	6	5
100	4.5	4.5	4.5	5	4.5

The times above are approximate. They are based on new, fully charged standard batteries at a temperature of 25°C with 100% resistive UPS loading. The listed run times can vary by +- 5% because of manufacturing variances of the batteries.

