

Crystal Series

CL10000-CL20000

10~20kVA, 3:1 phase PF 1.0



Control Panel



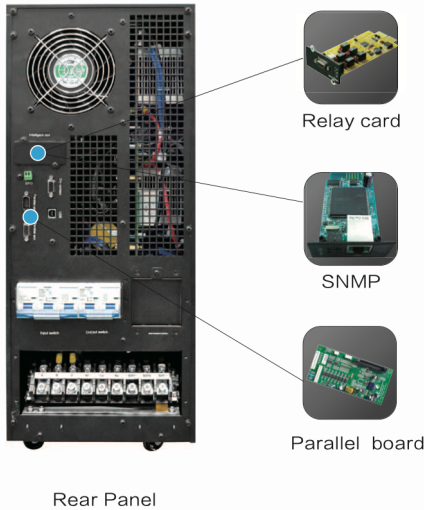
LCD Touch Screen

The Crystal Series Double Conversion true online Series, featured with DSP-controlled technology, superior input Voltage window for energy ECO mode, parallel capability (for 10KVA, 20KVA 3/1), smart fan speed control, optional powerful charger, is an ideal solution to your computer center, network center, communication system, automatic control system or other critical system.

Features

- Input current harmonic: <3%
- N+X parallel redundancy
- Online double conversion with DSP control
- Optimization battery group. QTY 16/18/20 pieces (optional).
- Output power factor up to 0.9
- Wide input voltage range: 120~276Vac
- Wide input frequency range (50Hz: 45~55Hz / 60Hz: 54~66Hz)
- Support generator input
- Support economic (ECO) operation mode
- Self-testing when UPS startup
- Options: SNMP card/Relay card/ Parallel card
- Cold start
- Three stage charging mode extends battery life, optimizes recharging time.
- Selectable high efficiency mode of operation.
- Cold start.
- Standard communication options: RS232 communication port,
- USB communication port, and relay output contacts or SNMP.
- Power shedding function may turn off uncritical load in battery
 - backup to make longer backup time for critical load.
- Extended runtime with up to four extended batteries modules (EBPs) per UPS.
- Emergency shutdown control through the remote emergency power-off (EPO).
- Versatile LCD human-computer interface.
- Operating Flexibility
- Runtime expandability
- High level of UPS reliability (total microprocessor control)
- Simplified installation
- Low Noise Level





- 1-EPO port
- 2- Intelligent slot for SNMP card, dry contact card etc
- 3- External battery cabinet connector
- 4- Output slots including two segments
- 5- Output terminals
- 6- Input Slot
- 7- RJ45 Surg Suppress
- 8- RS232 port
- 9- USB port

EMERGENCY FUNCTION

This configuration ensures the operation of emergency systems that must be supplied in the event of a mains power failure, such as emergency lighting, fire detection/extinguishing systems and alarms. When the mains power supply fails, the inverter begins powering the loads with a progressive start up (Soft Start) in order to prevent overload. Crystal Series is compliant for installation in medium-voltage transformer rooms in accordance with applicable legislation, for the power supply with reserve charge of medium-voltage coils.

RUNTIME EXPANDABILITY

Optional battery extension packs can be connected to increase UPS runtime. In addition the Crystal Series range includes ER versions with no internal batteries and

REDUCED MANAGEMENT COSTS

The UPS is highly flexible and easy to configure. Programmable functions can be set via software or manually via the front display panel. Crystal Series can be configured in the following operating modes:
 ON LINE: maximum load protection and output voltage waveform quality;
 ECO Mode: to increase efficiency (up to to 98%); allows you to select LINE INTERACTIVE technology;
 SMART ACTIVE: the UPS automatically decides the operating mode based on the mains power quality;
 STANDBY OFF: the UPS can be selected to function only when the mains power supply fails (emergency only mode);
 Frequency Converter: operation (50 or 60 Hz).

LOW NOISE LEVEL

Thanks to the use of high frequency components and load-based fan speed control, the noise produced by the UPS is less than 40 dBA.

BATTERY OPTIMISATION

The Crystal Series range has a deep discharge protection device to optimize battery life. Periodically the UPS carries out a battery efficiency test (which can also be manually activated); its wide input voltage tolerance range helps to reduce battery usage and maintain performance over time.

ADVANCED COMMUNICATIONS

Sentinel Dual offers maximum flexibility for integration with all types of communication systems. • Multi-platform communication for all operating systems and network environments: PowerShield3 supervision and shutdown software for Windows operating systems 11, 10, 8, Server 2022, 2019, 2016 and previous versions, Windows Server Virtualization Hyper-V, macOS, Linux, Citrix XenServer and other Unix operating systems; • UPS Tools configuration and customisation software supplied as standard; • RS232 serial port and opto-isolated contacts; • USB port; • Slot for communications boards such as Modbus/Jbus, TCP/IP-SNMP and relay contacts.

HIGH QUALITY OUTPUT VOLTAGE

- Even with non-linear 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 (ON LINE double conversion technology (VFI compliant with EN62040-3) with filters for the suppression of atmospheric disturbances;
- Power factor correction: UPS input power factor close to 0.99 and sinusoidal current uptake.

MODEL		CL10000	CL15000	CL20000
Capacity		10KVA/10KW	15KVA/15KW	20KVA/20KW
INPUT				
Nominal Voltage		380/400/415Vac, 3Ph+N+PE		
Operating Voltage Range		208-478Vac		
Operating Frequency Range		50Hz: 45-55Hz / 60Hz: 54-66Hz		
Power Factor		>0.99		
THDi		<5% (100% linear load)		
Bypass voltage range		380Vac Max. voltage: +25% (optinal +10%, +15%, +20%) 400Vac Max. voltage: +20% (optinal +10%, +15%,) 415Vac Max. voltage: +15% (optinal +10%,) Min. volyage: -45% (optinal -20%, -30%) Frequency synchronize tracing range: ±10%		
OUTPUT				
Output voltage		220/230/240Vac		
Voltage regulation.		± 1%		
Power Factor		1.0		
Frequency	Line Mode	±1% / +2% / +4% / +5% / +10% of the rated frequency (option)		
	Battery Mode	(50/60 ±0.1) Hz		
Crest factor		3 : 1		
THDv		<1% with linear load		
		<5% with non linear load		
Efficiency		93.5%	94.5%%	
BATTERY				
Battery voltage		±96/108/120Vdc(optional)		
Charge Current (A)		1A(10kVA Standard unit) ; Max.current 10A(Long run unit)		
Capacity (standard unit)		12V/7Ah/9Ah		
Typical recharge time		6~8 hours (to 90% of full capacity)		
System Features				
Transfer time		Utility to Battery: 0ms, Utility to bypass: 0ms		
Over load		Load<110%: 60Min; <125%: 10Min; >150% turn to bypass mode		
Alarm		over load, utility abnormalm UPS fault, battery low, high and low Voltage		
Protection		short crcuitm overload, over temperature, battery lowm fan fault. Alarm		
Remot LCD		Support		
Communication		USB, RS485, Parralel port, Coupler dry. Contact, Intelligent slot, SNMP, card (option), relay. Card (option)		
ENVIRONMENTAL				
Operating Temperature		0-40 C		
Storage temperature		-25-55 C (No battery)		
Humidity		0-95% (non condensing)		
Altitude		< 1500m. When>1500m		
Noise level		<55dB	<58dB	
PHYSICAL				
Dimension D x W x H (mm)		828x250x868		
Net weight (Kg)		115	170	171
STANDARDS				
Safety		IEC/EN62040-1, IEC/EN60950-1		
EMC		IEC/EN62040-2, IEC61000-4-2 IEC61000-4-3, IEC61000-4-4, IEC61000-4-8; IEC61000-4-6; IEC61000-4-5		