## **Technical specifications of Modular UPS (20KVA)**

## GENERAL

This specification is for a three-phase, on-line, continuous operation, solid-state UPS. The UPS shall operate as an active power control system, working in conjunction with the building electrical system to provide power conditioning and on-line power protection for the critical loads.

The supplier shall supply, installation and commissioning of UPS at Queen Alia International Airport / Tower Building. In addition to installation of the related electrical works (Electrical Distribution Board with its connections to serve UPS loads)

Training proposal should be submitted for at least five (5) CARC employees to maintain the offered UPS includes location, material and hours needed for such training. The training shall cover UPS theory, location of subassemblies, safety, battery considerations and UPS operational procedures.

Two separate offers (technical and financial includes sales tax) should be submitted

## • System Description

- The UPS shall be in a self-contained cabinet and shall be the capacity of 20 kVA/kW
- The UPS shall offer internal N+1 redundancy by providing an extra power module to ensure redundancy.
- The UPS and Batteries are housed in the same cabinet (internal batt)
- The UPS shall support installation with 4-wire (L1, L2, L3, N, PE) WYE.
- The UPS shall contain a static bypass switch and a display.
- The UPS shall be using a modular design in which power functions, static bypass, battery and system control are embedded in modules for optimal MTTR.
- Battery Runtime shall be around 120 minutes at current load of (±3KVA).

## **Specification Compliance Table**

General			Comply (Yes / No)	Comment
1	UPS Capacity	20 KVA		
2	Input / Output connection	3ph/3ph		
3	Type Topologies	True online double conversion technology		
4	System architecture	Modular design		
5	Efficiency in double conversion mode	≥ Up to 93% in Online mode, 97% in ECO mode		
6	Inverter / rectifier topology	Transformer – free, IGBT with PWM		
7	Brand	European or American Well-known brand		
8	Related Electrical works	Distribution Board, CBs, Cables		
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9	Rated voltage	400V 3-phase (adjustable for 380V or 415V 3-phase)		
10	Frequency	50 HZ		
11	Input Frequency Range	45Hz-66Hz,		
12	Power factor	> 0.99 at full load		
Output				
13	Nominal voltage	400V 3-phase (adjustable for 380V or 415V 3-phase)		
14	Voltage Regulation	±2%		
15	Frequency	50 HZ		
16	Power factor	≥ 0.9		
17	(THDU%)	<3%		
18	Overload capability / Inverter	110%: ≥05 Minutes 125%: ≥01 Minutes 150%: ≥10 Seconds >150% : 100ms		

Battery						
19	Туре	Maintenance–free VRLA				
		batteries (AGM)				
20	Soft start capability	Yes				
21	Backup time	≥ 120 min @ 3KW Load				
22	Date of production	≤ 6 Months				
23	Lifetime	5 years				
24	Battery Technology	Smart Advanced Battery				
		Management				
		Technology				
25	Battery test	Automatic battery test				
Connectivity and function extensions						
26	Front panel	Graphical LCD				
27	SNMP Card	For Remote Monitoring				
Environmental						
28	Operating temperature	0 °C to 40 °C				
	range					
29	Audible noise at (1)	≤ 55 (dBA) at normal				
	meter	mode				
Standards and certifications						
30	Safety	IEC/EN 62040-1				
31	Electromagnetic	IEC/EN 62040-2				
	compatibility (EMC)					
32	Approvals	CE, CB report (TUV)				
33	WARRANTY	Two years				
34	The supplier should be a certified service center (provide the certificates)					
35	The supplier should have	The supplier should have a trained engineer on the same UPS (provide the				
	certificates)					
36	The supplier should be an exclusive distributor for the UPS Brand in Jordan					
	(provide the certificates)					
37	The supplier should Provide a List of References in Jordan					