

Technical Specifications for Bidirectional DC Power Supply – 1 Nos.

S.No.	Equipment	Bidirectional DC power supply	
1)	Output ratings	Output Voltage	0 to 80V
		Output Current	-150A to +150A
		Output Power	-5 kW to +5 kW
2)	Line Regulation	Voltage	≤0.01%FS
		Current	≤0.05%FS
3)	Load Regulation	Voltage	≤0.02%FS
		Current	≤0.05%FS
4)	Resolution	Voltage	0.001V
		Current	0.01A
		Power	0.001kW
		Resistance	0.001Ω
5)	Accuracy (within 12 months, 25°C±5°C) (% of Output)	Voltage	≤0.02%+0.02%FS
		Current	≤0.1%+0.1%FS
		Power	≤0.5% + 0.5%FS
6)	Ripple (20Hz -20MHz)	Voltage	MAX:≤200 mV (p-p)
		Current	≤0.1%FS RMS
7)	Temperature Coefficient (%of Output/°C+Offset)	Voltage	≤50 PPM/°C
		Current	≤200 PPM/°C
8)	Rise Time(no load)	Voltage	≤15ms
9)	Rise Time(full load)	Voltage	≤30ms
10)	Fall Time(no load)	Voltage	≤30ms
11)	Fall Time(full load)	Voltage	≤15ms
12)	Transient Response Time	Voltage	≤2ms
13)	AC input	Voltage	342V to 528V (L-L)
		Frequency	47Hz to 63Hz
14)	Efficiency	90% or above	
15)	Power Factor	0.95 or above	
16)	Operating Temperature	0 °C to 40°C	
17)	Protective Function	OVP, OCP, OPP, OTP and Vsense reversed protection, power down protection, anti-islanding protection	
18)	Standard interface	Standard built-in USB, CAN, LAN, VCP, optional GPIB, analog (including RS232), fibre-optic socket	
19)	Working Temperature	0 to 50°C	
20)	Software	Free software to control the power supply	
21)	Features	It should support (a) Built-in voltage curves complied with LV123, LV148, DIN40839, ISO-16750-2, SAEJ1113-11, LV124 and ISO21848 automotive standards (b) Must have the provision for adding more such units together for capacity expansion Optional (please quote separately if available) (c) Battery simulation function (d) Photovoltaic I-V curves simulation function	
22)	Operation mode	Must support CV/CC/CP in power mode Must support CC/CV/CP/CR in load mode	
23)	Optional	Software to emulate battery, solar PV array etc. with PC interface	
24)	warranty	3 years	