

TECHNICAL SPECIFICATIONS
MODEL-REN M1P450048SOLAR
FHUPS0623X0-3.5KVA-48V-70A MPPT GT-C SMART

S.No	TECHNICAL PARAMETERS	SPECIFICATION
A	BATTERY MODE	
A.1	No Load Current (Switch OFF)	$\leq 180 \text{ mA}$
A.2	Nominal Battery Voltage	48V
A.3	Output Voltage at No LOAD	$230V \pm 3\% V$
A.4	Output Frequency	$50\text{Hz} \pm 1 \text{ Hz}$
A.5	Fan Run @ every First Start Up/ON-OFF switch ON Time	Fan Operates Properly (Fan Runs for 3 sec only)
A.6	Output AC Current @ Full LOAD	$12.5\text{Amp} \pm 0.5\text{Amp}$
A.7	Battery Current @ Full LOAD	$70\text{Amp} \pm 1\text{Amp}$
A.8	Harmonic distortion in O/P waveform (Resistive load)	$\leq 3\%$

B	UPS MODE	
B.1	Low Cut With Phase Match	$180 \pm 10V$
B.2	Low Cut Recovery With Phase Match	9-12V Hysterisis from $>$ Low Cut Voltage
B.3	High Cut With Phase Match	$270 \pm 10V$
B.4	High Cut Recovery With Phase Match	9-12V Hysterisis from $<$ High Cut Voltage
B.5	Change Over Time From Mains To UPS	$\leq 10\text{msec}$
B.6	Change Over Time From UPS To Mains	$\leq 10\text{msec}$

C	NORMAL MODE	
C.1	Low Cut With Phase Match	$100 \pm 10V$
C.2	Low Cut Recovery With Phase Match	9-12V Hysterisis $>$ Low Cut Voltage
C.3	High Cut With Phase Match	$290 \pm 10V$
C.4	High Cut Recovery With Phase Match	9-12V Hysterisis $<$ High Cut Voltage
C.5	Change Over Time From Mains To UPS	$\leq 40\text{msec}$
C.6	Change Over Time From UPS To Mains	$\leq 10\text{msec}$

D	CHARGING MODE	
D.1	Low Charging Current @ 220V AC (NC)	$15 \pm 1.0A$
D.2	High Charging Current @ 220V AC (HC)	$20 \pm 1.0A$ (Setable 5A-20Amp)
D.3	Boost Charging Voltage (HC/NC)	$14.4 \pm 0.2V$ (per Battery)
D.4	Float Charging Voltage (HC/NC)	$13.7 \pm 0.2V$ (per Battery)

E	Solar Charge Controller With Real Time Clock	
E.1	Solar Charge Controller	MPPT CHARGE CONTROLLER (70 Amp)
E.2	Charge Controller Type	SINGLE INPUT- INTERLEAVED MPPT
E.3	Max PV input Power	3250-3350 Watt
E.4	Max Solar Input Voltage Range (Vmpp)	68-88V
E.5	Max Solar DC Input Voltage (Voc)	110V
E.6	Solar Battery Charging Current (settable)	40 Amps.(default) Setable from 5 to 50 Amps for Battery
E.7	Max. Solar Input Current	40 Amp

F	PROTECTIONS	
F.1	Over Load Protection with Alarm	Over Load Shut Down After 6 Auto Retries;
F.2	Over Load Shut Down Reset	Through ON/OFF Switch & Mains
F.3	Battery Low Alarm	$10.8 \pm 0.2V$ (per Battery)
F.4	Battery Low Protection	Battery Low Shut Down After 4 Auto Retries;
F.5	Battery Low Shut Down Reset	Through ON/OFF Switch ,Mains or Solar
F.6	Over Temperature Protection With Alarm	Should be OK($95 \pm 5 ^\circ\text{C}$);
F.7	Short Circuit @ Mains Mode	Mains MCB trip
F.8	Short Circuit Protection (Battery Mode)	Yes

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F.9	Short Circuit Retry (Battery Mode)	One
F.10	Short Circuit Reset (Battery Mode)	Through ON/OFF Switch & Mains
F.11	Mains MCB Trip	Functional
F.12	P.V. REVERSE PROTECTION	Available

Accessible Parameters Via Operating Display		
1. AC Mains Voltage	7. Warnings or Protections Status	
2. O/P Load in %	i) Overload	
3. Battery input voltage	ii) Short Circuit	
4. Battery Charging/ Discharging current (Bar Graph)	iii) Fuse/AC MCB Trip (off and On the system after reset the MCB to reset the protection)	
5. Solar KWH used	iv) Over Temperature	
6. Solar Status	v) Empty 'Battery' Blinking	
	vi)PV Reverse	
Logic:	Smart Solar Selection Logic based on built in Real Time Clock (SL-1,SL-2,SL-3,SL-4).	
	Provision for Charging by Solar Power Only.	
	Provision for setting Critical Parameters of Solar.	
	Ability to provide rated output power directly from solar panels (if solar is available) in addition charges the battery	
	Intelligently give the priority to solar power and take the balance from Mains.	

Note :- Power Saver Mode Enable after 105 Minute of Battery Full Charge .