

### 1.0 Power Supply Module

No.	Module / Item Description	Quantity Required	Suppliers Part No.	Supplier/ Vendor Name	Cost (US)	Remark
1	DIODE 1N4004 DO-204AL	10	D1N4004	VISHAY	-	
2	SMD ZENER DIODE - 3.9V	1	ZNR-3.9V	SM Technology (Vendor)	-	
3	ZENER DIODE - 6.8V	1	ZNR-6.8V	SM Technology (Vendor)	-	
4	BC557B PNP TO92 45V,100mA,625mW	1	BC557B	PHILIPS	-	
5	HEXFET Power MOSFET TO-220AB 55V VGS(th)=2Vmax	1	K2733	TOSHIBA	-	
6	IC TL431A TO92 PROGRAMABLE SHUNT REGULATOR	1	TL431A	TI	-	
7	CAP ELEC 2200MF 6.3V 10MM Dia 5MM Pitch	1	-	JAMICON	-	
8	CAP ELEC 470uF 20% 25V	1	-	JAMICON	-	
9	CAP ELEC 47uF 20% 16V	1	-	JAMICON	-	
10	CAP CER 0.1uF 10% 10V SMD 0603 PACK X7R	1	MCCB104K1NRT	SMEC	-	
11	RES TF 1% 1/8W 100PPM 3.3K 0603PACK	2	RC73A2C 1002 FT	SMEC	-	
12	RES TF 1% 1/8W 100PPM 100K 0603PACK	1	RC73A2C 1001 FT	SMEC	-	
13	RES TF 1% 1/8W 100PPM 2K 0603PACK	1	RC73A2C 2001 FT	SMEC	-	
14	RES TF 1% 1/8W 100PPM 680R 0603PACK	1	RC73A2C 6800 FT	SMEC	-	
15	RES TF 1% 1/8W 100PPM 6K2 0603PACK	1	RC73A2C 6201 FT	SMEC	-	
16	RES 1W 75R 1W	1	-	SMEC	-	
17	RES ZERO OHM JUMPER	1	RC73JP2X	SMEC	-	
18	TRANSFORMER (POWER SUPPLY)	1	240V/8V Dual	Excel Par	-	
19	METAL OXIDE VARISTOR (MOV)	1	TVR14561	HHV	-	

### 2.0 Main Module

No.	Module / Item Description	Quantity Required	Suppliers Part No.	Supplier/ Vendor Name	Cost (US)	Remark
1	DIODE BAV99 SOT23 3PIN	4	BAV99	PHILIPS	-	
2	DIODE BAS16 SOT23 3PIN	2	BAS16	PHILIPS	-	
3	DIODE SCHOTTKY BAT54 SOT23 3PIN	5	BAT54	PHILIPS	-	
4	BC857 PNP SOT23 45V,100mA,250mW	2	BC857	PHILIPS	-	
5	MMBT2222A NPN-SOT23 40V,600mA,225mW	1	MMBT2222A	PHILIPS	-	
6	RENEASAS CONTROLLER H8/38086R	1		RENEASAS	-	
7	LMV324M OP-AMP QUAD LOW VOLTAGE R-to-R 14 PIN SOP PACK	1	LMV324M	NS	-	
8	SN74LVC2G66 DUAL BILATERAL SWITCHES	1	74LVC2G66DCTR	TI	-	
9	AT24C32 EEPROM 4K BYTE 12C SOIC-8PIN	1	AT24C32AN	Atmel	-	
10	LM239M LOW OFFSET QUAD COMPARATOR SO8 14PIN	1	LM239M	NS	-	
11	RTC PCF8563T 12C 8PIN SOIC	1	PCF8563T	PHILIPS	-	
12	V6309RSP3B SUPERVISORY CIRCUIT ACTIVE LOW SOT23	1	V6309RSP3B	EM MICRO	-	
13	5 RELIAMATE PIN CONNECTOR PIN 2.54MM PITCH	1	CONNPN5		-	
14	MANGANESE DIOXIDE LITHIUM BATTERY	1	CR2032 T23	MAXELL	-	
15	CONNECTOR 14PINBOX-TYPE FRC 2.54MM PITCH	1	E10T CNN		-	
16	CONNECTOR 10PINBOX-TYPE FRC 2.54MM PITCH	1			-	
17	8 DIGIT 5 ICONS CUSTOM MADE LCD DISPLAY	1	-		-	
18	RED LED 3 MM CLEAR TINTED + HOLDER	1	HLMP-1301 (Tinted)	AGILENT	-	
19	IR LED +PHOTO TRANSISTOR COMBINATION	1	-	EVERLITE	-	
20	PUSH BUTTON SWITCH	2	-	SM Technology (Vendor)	-	
21	MINIATURE CYLINDRICAL CRYSTAL 9.8304MHz	1	EAT9.8304F22C55 HOSONIC AT-39 CRYSTAL	HOSONIC	-	
22	MINIATURE(CYLINDRICAL) CRYSTAL 32.768KHZ +/- 10ppm	1	XTAL_MINI	ELEKTRON	-	
23	CAP ELEC 470UF 25V	1			-	
24	CAP ELEC 47uF 20% 16V	4	-	JAMICON	-	
25	CAP CER 0.1uF 10% 10V SMD 0805 PACK X7R	18	MCCB104K2NRT	SMEC	-	
26	CAP CER 15pF 10% 50V SMD0805 NPO	3	MCCE120K2NOT	SMEC	-	
27	CAP CER 47pF 10% 50V 0805SMD NPO	6	MCCE470K2NOT	SMEC	-	
28	CAP CER 56pF 10% 50V 0805SMD NPO	2	MCCE560K2NOT	SMEC	-	
29	CAP ELEC 100uF 20% 25V	2	-	JAMICON	-	
30	CAP CER 10nF 50V 0805 SMD	2	MCCB103K2NRT	SMEC	-	
31	CAP 680pF 0805 SMD	1	MCCE681K2NOT	SMEC	-	
32	RES ZERO OHM JUMPER	15	RC73JP2X	SMEC	-	
33	RES TF 1% 1/8W 100PPM 100K 0603PACK	6	RC73A2C 1003 FT	SMEC	-	
34	RES TF 1% 1/8W 100PPM 110K 0603PACK	2			-	
35	RES TF 1% 1/8W 100PPM 100R 0603PACK	8	RC73A2C 1000 FT	SMEC	-	
36	RES TF 1% 1/8W 100PPM 10K 0603PACK	22	RC73A2C 1002 FT	SMEC	-	
37	RES TF 1% 1/8W 100PPM 120R 0603PACK	1	RC73A2C 1200 FT	SMEC	-	
38	RES 2% 1/8W 100PPM160K 1206PACK	4	RC73A2E 1603 FT	SMEC	-	
39	RES TF 1% 1/8W 100PPM 1K 0603PACK	8	RC73A2C 1001 FT	SMEC	-	
40	RES TF 1% 1/8W 100PPM 1M 0603PACK	6	RC73A2C 1004 FT	SMEC	-	
41	RES TF 1% 1/8W 100PPM 200K 0603PACK	4	RC73A2C 2003 FT	SMEC	-	
42	RES TF 1% 1/8W 100PPM 91K 0603PACK	2	RC73A2C 913 FT	SMEC	-	
43	RES TF 1% 1/8W 100PPM 2K 0603PACK	1			-	
44	RES 1% 1/4W 100PPM 2K4 1206PACK	1	RC73A2E 2401 FT	SMEC	-	

45	RES TF 1% 1/8W 100PPM 6K2 0603PACK	1			-	
46	RES TF 1% 1/8W 100PPM 3K3 0603PACK	2			-	
47	RES TF 1% 1/8W 100PPM 680R 0603PACK	2	RC73A2C 6800 FT	SMEC	-	
48	RES TF 1% 1/8W 100PPM 62R 0603PACK	2			-	
49	RES TF 1% 1/8W 100PPM 62K 0603PACK	1			-	
50	RES TF 1% 1/8W 100PPM 18K 0603PACK	1			-	
51	RES 1% 1/4W 100PPM 10R 1206PACK	1			-	
52	RES 1% 1/4W 100PPM 82K 0603 PACK	2			-	
53	RES 1% 1/4W 100PPM 2M4 0603 PACK	2			-	
54	HEAT SINK FOR MOSFET	1			-	

### 3.0 Accessory

No.	Module / Item Description	Quantity Required	Suppliers Part No.	Supplier/ Vendor Name	Cost (US)	Remark
1	CT 10-60A	2	-	Excel Par	-	
2	NEUTRAL MISSING CT	1	-	Excel Par	-	

### 4.0 RS232 Card

No.	Module / Item Description	Quantity Required	Suppliers Part No.	Supplier/ Vendor Name	Cost (US)	Remark
1	CAP ELEC 100uF 20% 16V	2	--	JAMICON	-	
2	CAP CER 0.1uF 10% 10V SMD 0603 PACK X7R	7	MCCB104K1NRT	SMEC	-	
3	RES TF 1% 1/8W 100PPM 5K1 0603PACK	1	RC73A2C 5101 FT	SMEC	-	
4	RES TF 1% 1/8W 100PPM 2K 0603PACK	1	RC73A2C 2001 FT	SMEC	-	
5	RES TF 1% 1/8W 100PPM 3K3 0603PACK	2	RC73A2C 332 FT	SMEC	-	
6	3 Terminal Fixed 5V Voltage Regulator TO-92M Package	1	HA178L05P		-	
7	14-pin Quad Two Input NAND Gate SO-14	1	74HC00D	PHILIPS	-	
8	4-pin SMD Single Channel Opto-Isolator	2	SFH618-4SM	ISOCOM	-	
9	5V RS232 Transceivers	1	MAX202ESE	MAXIM	-	
10	DIODE 1N4004 DO-204AL	4	D1N4004	VISHAY	-	
11	Low Voltage SMD Varistors	2	ZV 6 M 0805 101	KEKO	-	

### 5.0 Optional

No.	Module / Item Description	Quantity Required	Suppliers Part No.	Supplier/ Vendor Name	Cost (US)	Remark
1	RES TF 1% 1/8W 100PPM 1K 0603PACK	3	RC73A2C 1000 FT	SMEC	-	Current limiting resistors for LEDs
2	RES TF 1% 1/8W 100PPM 100K 0603PACK	1	RC73A2C 1003 FT	SMEC	-	RC delay for Power-ON Reset
3	CAP CER 0.1uF 10% 10V SMD 0805 PACK X7R	2	MCCB104K2NRT	SMEC	-	Debounce capacitors for MD and Up Keys
4	CAP CER 47pF 10% 50V 0805 SMD NPO	4	MCCE470K2NOT	SMEC	-	<b>DON'T MOUNT</b>
5	THREE PIN SMD DIODE BAS16	1	BAS16	PHILIPS	-	RC delay for Power-ON Reset
6	RED LED 3 MM CLEAR TINTED + HOLDER	3	HLMP-1301 (Tinted)	AGILENT	-	LED Indicators
7	PUSH BUTTON SWITCH	2	-	SM Technology (Vendor)	-	MD and Up key
8	Inductor (T16 CORE)	1	T16 FERRITE CORE	JINANICA TELECOM PVT.LTD. (Vendor)	-	Inductor at power supply input

### 6.0 Battery Module

No.	Module / Item Description	Quantity Required	Suppliers Part No.	Supplier/ Vendor Name	Cost (US)	Remark
1	DC to DC Converter SOT89	1	MC33463H-33LT1	MOTOROLA	-	
2	Inductor 100uH / 0.6A	1	EPCOS 882144 - A104J	EPCOS	-	
3	UF DIODE MURS 140T	1			-	
4	Sanyo Battery	2	Cell Type N-600AAK	Sanyo Cadnica	-	
5	DIODE BAS16 SOT23 3PIN	2	BAS16	PHILIPS	-	
6	2 PIN RELIAMATE CONNECTOR PIN 2.54MM PITCH	1			-	
7	2SD1628 NPN TRANSISTOR	1	2SD1628	SANYO	-	
8	RES TF 1% 1/8W 100PPM 5K6 0603PACK	1			-	
9	DIODE BAV99 SOT23 3PIN	6	BAV99	PHILIPS	-	
10	RES TF 1% 1/8W 100PPM 10K 0603PACK	4	RC73A2C 1002 FT	SMEC	-	

Assumptions/Information	
Sl. No.	Description
1	Cost of components from RENESAS is not mentioned .
2	Indian Rupees to US Dollar conversion is done considering the ratio of currency value as \$1=Rs.45 (For components from Local Market )
3	All the components and the cost of the the components are provisional and are subjected to change during the design phase of the project life cycle.
4	Cost of the wire capable of carrying 60A ,used in the primary of CT is not considered.
5	Cost of the Optional Components are mentioned in a Separate sheet .
6	The cost of the components is for 100k Quantity
7	PCB Cost is not included