

8. Design and Fabrication of Cost Efficient Arduino Solar Charge Controller:

This study was done upon an arduino based charge controller with low cost. Later on its performance was tested.

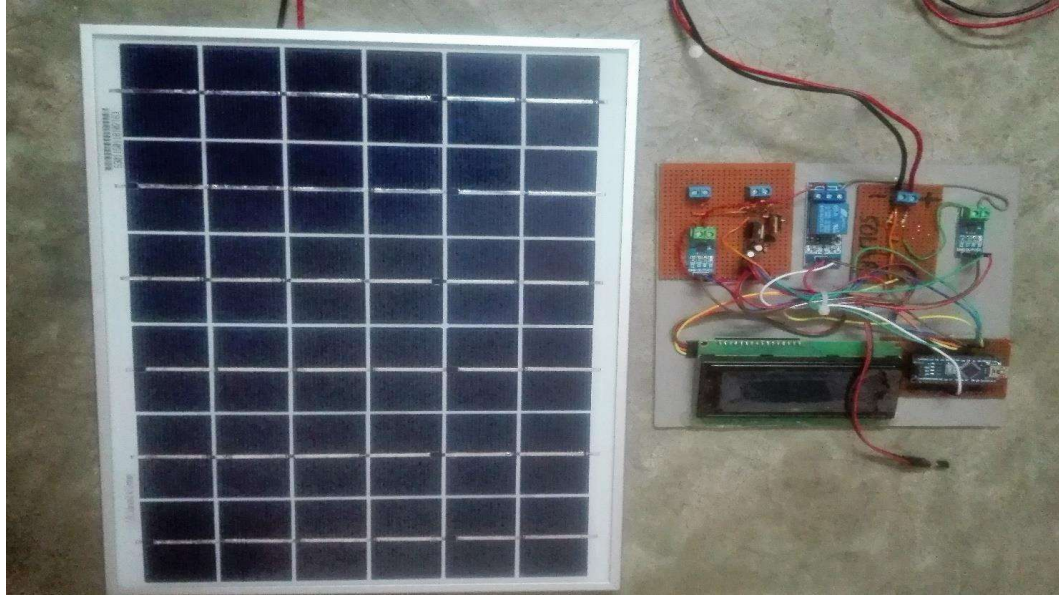


Fig: Solar Charge Controller.

Time	Solar Supply Voltage, V	Solar Supply Current, A	Temperature, Celsius
08.00AM	21.02	0.54	36
08.30AM	20.22	0.54	36
09.00AM	20.96	0.53	37
10.00AM	19.97	0.53	39
11.00AM	21.94	0.54	40
11.30AM	21.96	0.46	41
12.00PM	21.08	0.45	42
12.30PM	19.97	0.54	44
01.30PM	19.67	0.54	48
02.00PM	19.79	0.54	42
02.30PM	20.02	0.51	40
03.00PM	19.64	0.54	40

Table: Solar Panel Supply Voltage with Different Time Period.

Time	Battery Input Voltage, V	Battery Input Current, A	Temperature, Celsius
08.00AM	14.74	0.56	36
08.30AM	14.79	0.58	36
09.00AM	14.60	0.56	37
10.00AM	14.79	0.59	39
11.00AM	14.89	0.58	40
11.30AM	14.97	0.59	41
12.00PM	15.67	0.58	42
12.30PM	15.97	0.59	44
01.30PM	15.77	0.57	48
02.00PM	15.79	0.58	42
02.30PM	15.64	0.58	40
03.00PM	15.64	0.58	40

Table: Battery Input Voltage with Different Time Period.