



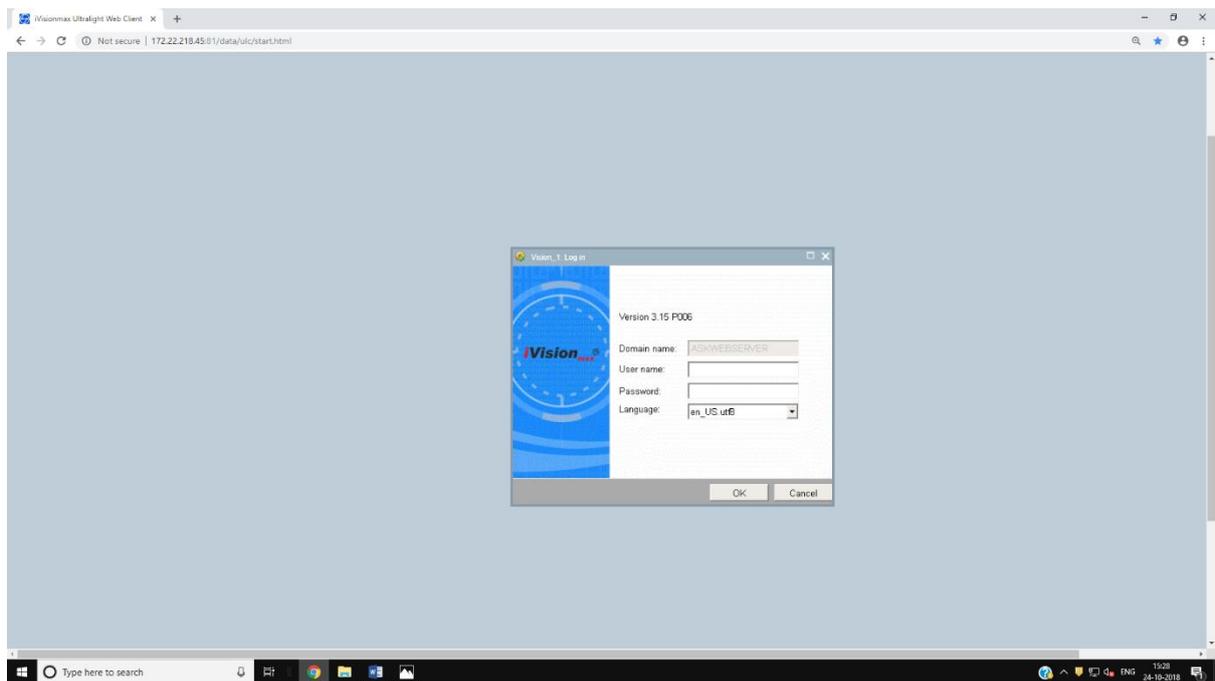
# Graphic User Interface

SCADA Software: **iVision<sub>max</sub>** SCADA

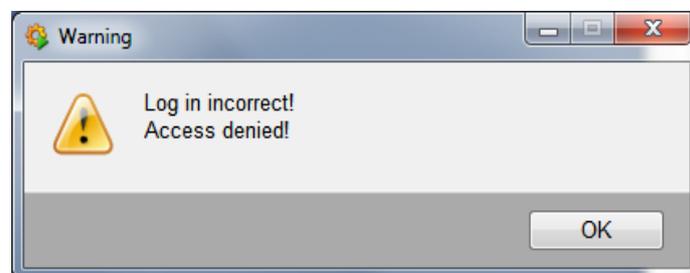
## 1. Start up and login

Path to open SCADA screen: <http://172.22.218.45:81/data/ulc/start.html>

A login panel will be opened where user has to login for viewing SCADA run time screen.



User has to enter correct username and password to login. For unauthorized login, warning popup will be displayed.



Click OK, and re-enter username name password.



## 2. SCADA Template

After successful login, welcome screen will be displayed, wait for 8-10 seconds to completely load the page. Template for SCADA run time screen is described below.

District	Total GPs	Conn GPs	Live GPs	Solar energy consumption(kWh)	Discom energy consumption(kWh)
AJMER	276	173	0	2735.300 kWh	11543.400 kWh
ALWAR	472	317	0	2920.000 kWh	11331.400 kWh
BANSWARA	307	93	0	279.200 kWh	2662.600 kWh
BARAN	214	169	0	2120.600 kWh	8172.500 kWh
BARMER	380	330	0	3898.200 kWh	19234.700 kWh
BHARATPUR	371	91	0	808.200 kWh	1919.500 kWh
BHILWARA	383	256	0	1234.900 kWh	16616.200 kWh
BIKANER	219	168	0	451.100 kWh	7838.000 kWh
BUNDI	181	172	0	1164.500 kWh	14781.600 kWh
CHITTORGARH	288	272	0	3490.500 kWh	17871.600 kWh
CHURU	249	180	0	1036.200 kWh	9313.600 kWh
DAUSA	225	202	0	874.300 kWh	2998.900 kWh
DHAULPUR	153	84	0	549.500 kWh	3568.300 kWh
DUNGARPUR	237	144	0	934.400 kWh	8949.300 kWh
DUNGANAGAR	320	309	0	4345.200 kWh	17503.300 kWh
HANUMANGARH	251	224	0	3597.800 kWh	14032.000 kWh
JAIPUR	489	353	0	6098.800 kWh	15317.700 kWh
JAISALMER	128	63	0	29.900 kWh	75682.800 kWh
JALORE	264	212	0	1956.000 kWh	8404.800 kWh
JHALAWAR	252	224	0	1371.600 kWh	13338.400 kWh
JHUNJHUNU	288	249	0	6660.900 kWh	56537.900 kWh
JODHPUR	339	281	0	534.100 kWh	24334.400 kWh
KAROLI	223	100	0	479.900 kWh	1874.900 kWh
KOTA	157	123	0	1575.200 kWh	4848.700 kWh
NAGAU	461	350	0	1579.800 kWh	19376.400 kWh
PALI	320	301	0	1382.800 kWh	19980.500 kWh
PRATAPGARH	152	132	0	2029.400 kWh	7006.200 kWh
RAJASAMAND	205	161	0	1382.800 kWh	7919.700 kWh
SAWAI MADHOPUR	197	183	0	1775.600 kWh	10309.500 kWh
SIKAR	329	313	0	4190.600 kWh	28633.300 kWh
SIROHI	151	132	0	2298.400 kWh	8060.800 kWh
TONK	231	167	0	2654.500 kWh	8922.900 kWh
UDAIPUR	467	301	0	560.600 kWh	8700.500 kWh

The SCADA screen mainly consists of following parts:

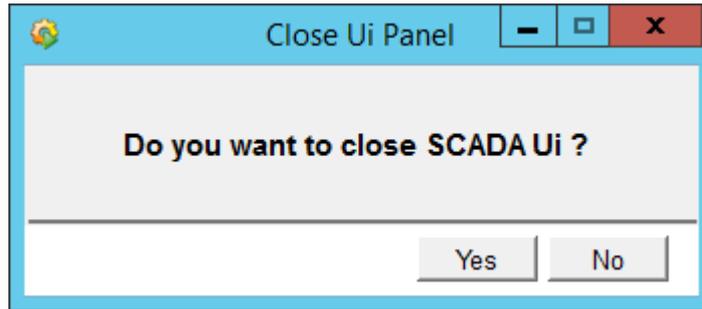
**Title panel:** Project name, customer name and customer logo will be displayed on title panel. Buttons to open home screen, events, reports, change password screen and shutdown SCADA are on this panel.



- Home Page:** Button to open home page of SCADA.
- Event Screen:** Event panel displays time at which the event occurred, event description, value and user. User can view closed, current events, can filter, sort the events.
- Excel Reports:** Button to open tool through which new templates for reports (communication & consumption) can be created (Accessible from Server machine only).
- Dashboard Reports:** Button to generate communication and consumption report of any district or all districts.
- Password Change:** Button to change password of logged in user by entering the old & new password.



f) **Shutdown Panel:** Button to logout and close the User interface.



**Navigation panel:** Buttons to navigate through different zones.

**Information panel:** Information panel displays latest three alarms in alarm bar. It also contains logo of L&T and *iVision*<sub>max</sub>. Button to open alarm panel is given near alarm bar in information panel.



**Base panel:** SCADA screens will be displayed in base panel.

### 3. SCADA Functionalities:

#### 3.1 Home Screen

District	Total GPs	Conn GPs	Live GPs	Solar energy consumption(kWh)	Discom energy consumption(kWh)
AJMER	276	173	0	2735.300 kWh	11543.400 kWh
ALWAR	472	317	0	2920.000 kWh	11351.400 kWh
BANSWARA	307	93	0	279.200 kWh	2662.600 kWh
BARAN	214	169	0	2120.600 kWh	8172.500 kWh
BARMER	380	330	0	3898.200 kWh	19234.700 kWh
BHARATPUR	371	91	0	808.200 kWh	1919.500 kWh
BHILWARA	383	256	0	1234.900 kWh	16616.200 kWh
BIKANER	219	168	0	451.100 kWh	7836.000 kWh
BUNDI	181	172	0	1164.500 kWh	4738.000 kWh
CHITTORGARH	288	272	0	3490.500 kWh	17871.600 kWh
CHURU	249	180	0	1036.200 kWh	9315.600 kWh
DAUSA	225	202	0	874.300 kWh	2998.900 kWh
DHAULPUR	153	84	0	549.500 kWh	3568.300 kWh
DUNGARPUR	237	144	0	934.400 kWh	8949.300 kWh
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KAROLI	223	100	0	479.900 kWh	1874.900 kWh
KOTA	157	123	0	1575.200 kWh	4848.700 kWh
NAGAU	461	350	0	1579.800 kWh	19376.400 kWh
PALI	320	301	0	4274.000 kWh	19980.500 kWh
PRATAPGARH	152	132	0	2029.400 kWh	7006.200 kWh
RAJASAMAND	205	161	0	1382.800 kWh	7919.700 kWh
SAWAL MADHOPUR	197	183	0	1775.600 kWh	10309.500 kWh
SIKAR	329	313	0	4190.600 kWh	28653.300 kWh
SIROHI	151	132	0	2298.400 kWh	8060.800 kWh
TONK	231	167	0	2654.500 kWh	8922.900 kWh
UDAIPUR	467	301	0	560.600 kWh	8700.500 kWh



- **Total GPs** – No. of GPs present in a particular district.
- **Total Connected GPs** – No. of GPs connected in a particular district.
- **Live GPs** – No. of GPs which are currently connected in a particular district.
- **Solar Energy Consumption (kWh)** – Total amount of solar energy consumed in a district.
- **DISCOM Energy Consumption (kWh)** – Total amount of DISCOM energy consumed in a district.
- **District Navigation** – By clicking here , it will directly open panchayat samiti overview screen.
- **Start Polling for all sites** – By clicking on this button, polling will start for all sites of all district simultaneously. To stop polling, click on the stop polling button. As all the sites get polled on same time, this polling has adverse effect on Rajnet Bandwidth, hence only few persons (i.e. TD, Project OIC) have authorization of this button.

### 3.2 Zone Screen

### 3.3 District Screen

District	Panchayat Samiti	No. of GPs	Atleast once connected GPs	Avg connected days per GP	Solar						Discom					
					Run Hours			Consumption (kWh)			Run Hours			Consumption (kWh)		
					Cumulative	Cumulative/GP	Avg RunHr per Day / GP	Cumulative	Cumulative/GP	Avg kWh per Day / GP	Cumulative	Cumulative/GP	Avg RunHr per Day / GP	Cumulative	Cumulative/GP	Avg kWh per Day / GP
Ajmer	Arain	21	18	178	1040.20	57.79	0.32	335.10	18.62	0.10	49036.15	2724.23	15.30	3099.20	172.18	0.97
Ajmer	Bhinay	24	14	172	4661.21	232.94	1.94	110.20	7.87	0.05	20494.44	1463.89	8.51	1212.40	93.74	0.55
Ajmer	Jawaja	35	31	183	4991.62	161.02	0.88	3204.50	38.85	0.11	40139.35	1294.82	7.08	2827.80	91.22	0.50
Ajmer	Keki	31	21	153	5870.94	279.57	1.83	403.40	19.21	0.13	30646.31	1459.35	9.54	2290.80	109.09	0.71
Ajmer	Kishangarh	31	21	194	2768.47	131.83	0.68	485.90	23.14	0.12	43917.85	2091.33	10.78	3033.30	144.44	0.74
Ajmer	Masuda	31	19	195	85.39	4.49	0.02	31.60	1.66	0.01	31422.40	1653.81	8.48	1230.80	64.78	0.33
Ajmer	Peesangan	42	27	165	9079.82	336.29	2.04	906.10	33.56	0.20	51205.50	1896.50	11.49	3340.00	123.70	0.75
Ajmer	Sarwar	20	13	172	1198.28	92.18	0.54	115.30	8.87	0.05	20821.48	1601.65	9.31	580.30	44.64	0.26
Ajmer	Srinagar	41	41	195	10859.82	264.87	1.36	564.60	13.77	0.07	81027.06	1976.27	10.13	2631.00	64.17	0.33
<b>Ajmer</b>	<b>9</b>	<b>276</b>	<b>205</b>	<b>180</b>	<b>40555.74</b>	<b>197.83</b>	<b>1.10</b>	<b>4156.70</b>	<b>20.28</b>	<b>0.11</b>	<b>368710.63</b>	<b>1798.59</b>	<b>9.99</b>	<b>20345.60</b>	<b>99.25</b>	<b>0.55</b>



### 3.4 Panchayat Samiti Screens

SCADA FOR SMART IO CONTROLLER

District: **Ajmer** | Panchayat Samiti: **Arain**

Grampanchayat Communication and Consumption Data

#	Grampanchayat	Remote Changeover Command Forced	Current Source	First Connect Date	Last Connect Date	Solar RunHours	Solar Consumption	Discom RunHours	Discom Consumption
1	Aakodiya		DISCOM	2018.08.21 10:04:29.748	2018.10.24 10:01:33.044	0.00	0.00	3788.48	842.90
2	Arain		DISCOM	2018.03.01 14:22:06.945	2018.05.26 20:37:44.903	0.00	0.00	2652.25	5.60
3	Barol		DISCOM	2018.03.01 18:06:10.306	2018.09.24 10:02:28.298	519.22	111.00	2861.36	730.10
4	Bhagwantaura		DISCOM	2018.08.24 14:48:27.903	2018.08.24 14:48:27.903	0.18	0.20	452.26	4.00
5	Bhamolaav		Power Source OFF	2018.03.27 13:47:18.522	2018.04.07 16:23:03.702	0.00	0.00	422.02	91.30
6	Bhogadeet		Power Source OFF			0.00	0.00	0.00	0.00
7	Borada		DISCOM	2018.03.01 14:22:08.367	2018.10.24 10:01:33.044	0.00	0.00	5734.59	9.30
8	Dabrela		Power Source OFF	2018.05.24 15:27:36.131	2018.10.24 10:01:32.091	0.00	0.00	5243.53	152.90
9	Dadiya		DISCOM	2018.05.02 16:52:46.950	2018.07.16 10:02:11.714	42.60	10.70	1212.25	44.60
10	Desopurl		Power Source OFF			0.00	0.00	0.00	0.00
11	Dhasook		DISCOM	2018.05.10 13:25:26.764	2018.05.10 13:32:57.774	0.00	0.00	0.00	0.00
12	Gothiyana		DISCOM	2018.03.01 15:56:53.158	2018.05.25 11:37:08.963	0.00	0.00	1853.69	89.50
13	Jheerota		SPV	2018.03.01 14:22:06.305	2018.10.24 10:01:34.372	467.89	210.10	3063.06	352.80
14	Kalanada		DISCOM	2018.03.01 14:22:06.774	2018.07.02 10:01:41.054	0.00	0.00	3449.22	39.40
15	Kasheer		DISCOM	2018.06.02 12:02:33.684	2018.08.01 10:01:25.791	0.00	0.00	1264.68	0.00
16	Katsoora		DISCOM	2018.06.18 17:01:04.061	2018.10.24 10:01:34.247	0.00	0.00	3363.92	60.30
17	Lamba		DISCOM	2018.05.24 12:24:04.616	2018.10.24 10:02:01.998	0.00	0.00	3385.68	5.30
18	Mandawariya		Power Source OFF			0.00	0.00	0.00	0.00
19	Manoharpura		DISCOM	2018.05.05 12:33:30.095	2018.10.23 10:01:32.379	0.15	0.20	2911.97	27.80
20	Sandaliya		DISCOM	2018.03.07 17:41:30.332	2018.05.03 11:20:17.907	0.00	0.00	1834.48	5.60

Page 2 >>

L&T Electrical & Automation | 10/25/2018 11:21:30 AM | Kareen DISCOM power contactor status | DISCOM Contactor ON | CAME:TRUE | 25/10/18 11:34:16 AM | iVisionmax

### 3.5 Gram Panchayat Screens

For every Atal Seva Kendra's smart IO controller panel, a dashboard screen is prepared status and parameters related to respective location will be displayed.

#### 3.5.1 Communication OK

If site is active & connected with controller, it will display **Communication OK**.

SCADA FOR SMART IO CONTROLLER

Zone: **Jaipur** | **Jhotwara** | **Dhankiya**

**Communication OK**

**Solar Power Supply**  
 Cumulative Energy: 0.000 kWh  
 Avg energy: 0.000 kWh  
 Total active power: 0.000 kW  
 SPV contactor OFF  
 SPV incomer MCB OFF  
 SPV MCB Healthy  
 SPV - Solar Meter communication failed

**DISCOM Supply**  
 Cumulative Energy: 534.800 kWh  
 Avg energy: 2.081 kWh  
 Total active power: 0.078 kW  
 DISCOM contactor ON  
 DISCOM incomer MCB ON  
 DISCOM MCB Healthy

Solar power supply daily energy consumption (For last 25 days):  
 No. of previous days →

DISCOM power supply daily energy consumption (For last 25 days):  
 No. of previous days →

Avg. SPV Run Hours: 0.00 Hrs  
 Avg. DISCOM Run Hours: 22.34 Hrs  
 One day cycle

First Connected on: 01.03.2018 2:22:14 PM  
 Last Connected on: 13.11.2018 11:22:02 AM

Single Line Diagram  
 I/P FROM SPV: 0.000 kW  
 I/P FROM DISCOM: 0.078 kW

Troubleshooting Page

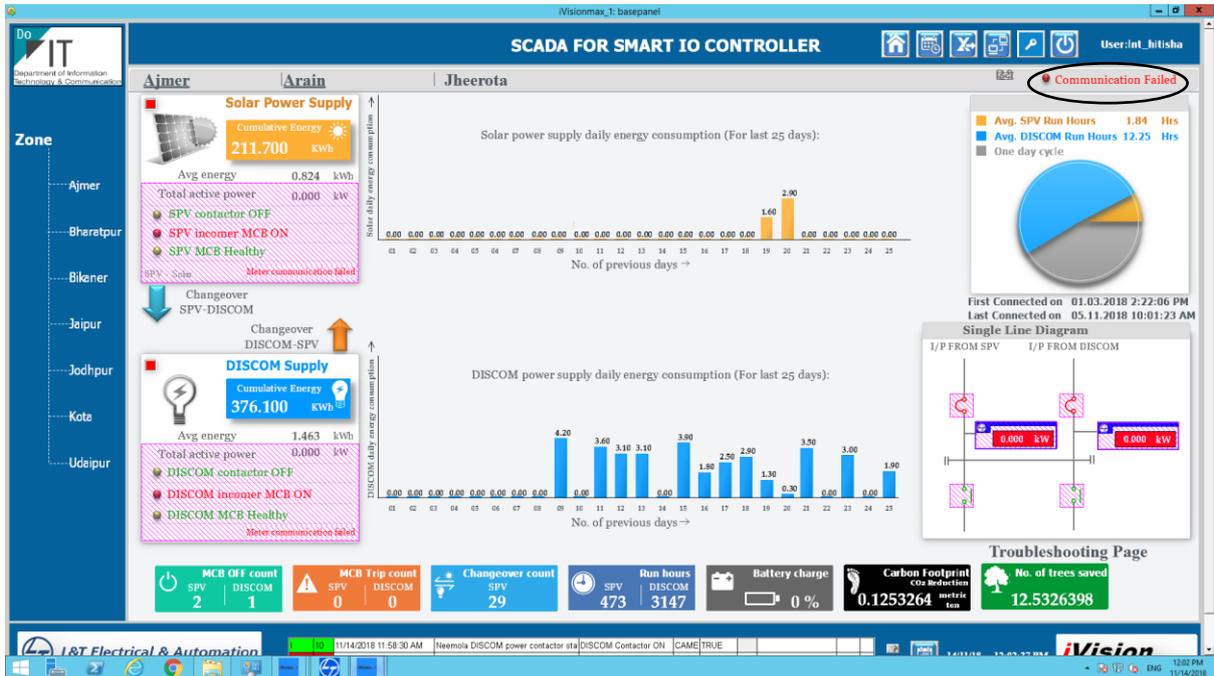
MCB OFF count: SPV 2, DISCOM 0  
 MCB Trip count: SPV 0, DISCOM 0  
 Changeover count: SPV 1  
 Run hours: SPV 0, DISCOM 5740  
 Battery charge: 0 %  
 Carbon Footprint: 0.000000 metric ton  
 No. of trees saved: 0.000000

L&T Electrical & Automation | 11/14/2018 11:42:02 AM | Jaipur Solar power contactor status | SPV Contactor OFF | CAME:FALSE | 11/14/2018 11:58 AM



3.5.2 Communication Failed

If site is active and not connected with controller, it will display **Communication Failed**. Also the hatched line indicates communication failed.



Description of dashboard for individual Atal Seva Kendra dashboard:

Following parameters are displayed in dashboard:

- **Solar power supply status:**

ON:



OFF:



An indication will be provided to display Solar power supply.

Green – Solar power ON, Red – Solar power OFF

In case solar power supply is OFF, energy parameters (cumulative) will hold the last values, and active power will display 0.

Respective MCB and contactor status is displayed as below:

Incomer MCB ON: <b>SPV incomer MCB ON</b>	Incomer MCB OFF: <b>SPV MCB Healthy</b>
Contactor ON: <b>SPV contactor ON</b>	Contactor OFF: <b>SPV contactor OFF</b>



Incomer MCB Healthy: <b>SPV MCB Healthy</b>	Incomer MCB tripped: <b>SPV MCB Trip</b>
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• **Meter data:**

Following parameters will be read from meters and displayed on SCADA:

Total active power:

**Total active power**      **0.253**    kW

Cumulative energy:

Solar power supply:

DISCOM power supply:



• **Counters:**

Following counter will be displayed in the dashboard:

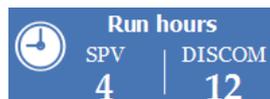
SPV and DISCOM incomer MCB Off count: This counter gives total number of times incomer MCBs were switched OFF.



SPV and DISCOM Incomer MCB trip count: This counter gives total number of times the incomer MCBs were tripped.



SPV and DISCOM total run hours:



Changeover count: This count given total number of times changeover is done between Solar and DISCOM manually or automatically.



• **DISCOM power supply status:**

ON:

OFF:



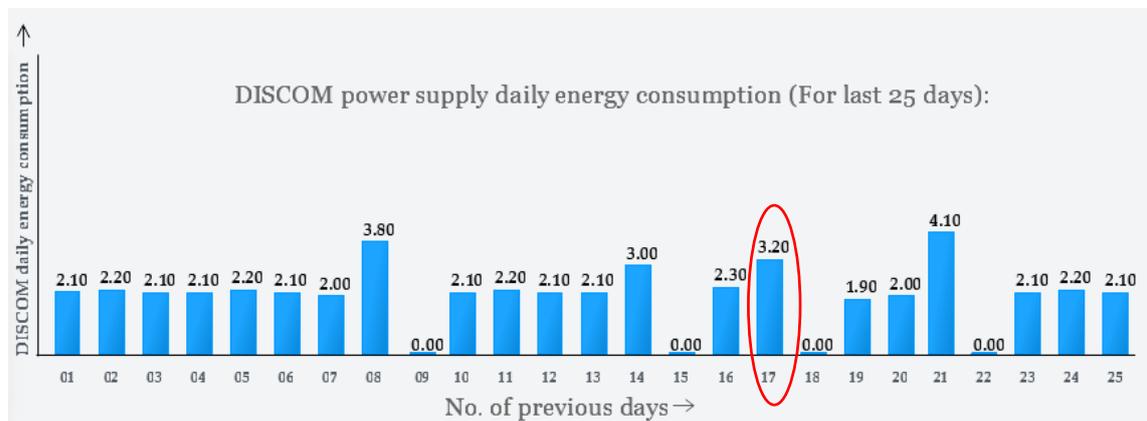


An indication will be provided to display DISCOM power supply.

Green – DISCOM power ON, Red – DISCOM power OFF

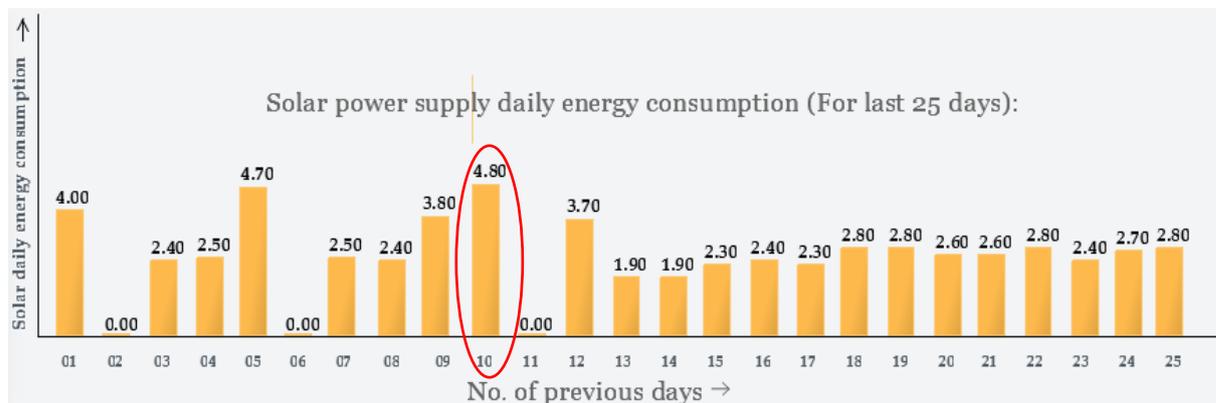
Incomer MCB ON:  DISCOM incomer MCB ON	Incomer MCB OFF:  DISCOM incomer MCB OFF
Contactor ON:  DISCOM contactor ON	Contactor OFF:  DISCOM contactor OFF
Incomer MCB Healthy:  DISCOM MCB Healthy	Incomer MCB tripped:  DISCOM MCB Trip

• DISCOM Bar Graph:



This bar graph displays energy consumption for last 25 days. For e.g. on 17<sup>th</sup> day total energy consumption was 3.20 kWh.

• SOLAR Bar Graph:



This bar graph displays energy consumption for last 25 days. For e.g. on 10<sup>th</sup> day total energy consumption was 4.80 kWh.



### 4. Dashboard Reports:

#### 4.1 Communication Report

Displays more than once connected, only once and not connected.

Displays connected and not connected sites in selected no. of days (30)

From drop down list select all or any district for which communication report is required to be generated.

Select any no. of days for which report is required to be generated.

#### 4.2 Consumption Report

Click on generate report to generate report of all the districts which will display a consolidated data of Solar and DISCOM Run Hours and Consumption.





**Consumption Report:**

SCADA\_Consumption\_Report\_20181114 - Excel

Project : Establishment of SCADA based Smart Panel for Backup Power Supply at Atal Seva Kendra

SCADA Energy Consumption Report

14/11/2018 06:10 Schedule Administrator

Sr. No.	District	Panchayat Samiti	No. of GPs	No of Atleast once connected GPs	Average connected days per GP	Solar			Discom								
						Run Hours			Consumption (kWh)			Run Hours			Consumption (kWh)		
						Cumulative	Cumulative per GP	Average Runhrs Per Day / GI	Cumulative	Cumulative per GP	Average kWh Per Day / GI	Cumulative	Cumulative per GP	Average Runhrs Per Day / GI	Cumulative	Cumulative per GP	Average kWh Per Day / GI
1	AJMER	9	276	205	201	41174.05	200.85	1.00	4210.00	20.54	0.10	391326.29	1908.91	9.49	21938.10	107.02	0.53
2	ALWAR	14	472	363	179	52075.18	143.46	0.80	5590.50	15.40	0.09	189212.13	521.25	2.90	19551.00	53.86	0.30
3	BANSWARA	11	307	104	156	2764.15	26.58	0.17	683.80	6.57	0.04	45797.87	440.36	2.82	4976.40	47.85	0.31
4	BARAN	7	214	172	187	28942.66	163.16	0.87	3037.90	17.66	0.09	162523.65	944.90	5.06	11695.60	67.47	0.36
5	BARMER	17	380	333	189	83250.88	250.00	1.33	7175.50	21.55	0.11	358371.08	1076.19	5.71	35832.20	107.60	0.57
6	BHARATPUR	11	371	101	131	12731.88	126.06	0.96	1092.40	10.82	0.08	39263.37	388.75	2.96	3466.40	34.32	0.26
7	BHILWARA	12	383	274	200	14399.22	52.55	0.26	1514.80	5.53	0.03	352067.48	1284.92	6.43	25909.50	94.56	0.47
8	BIKANER	7	219	179	164	7679.32	42.90	0.26	1082.90	6.05	0.04	174295.87	973.72	5.94	19411.30	108.44	0.66
9	BUNDI	5	181	176	169	25938.44	147.38	0.87	2146.00	12.19	0.07	116738.77	663.29	3.94	11364.40	64.57	0.38
10	CHITTORGARH	11	288	275	214	35423.83	128.81	0.60	5302.60	19.28	0.09	245173.07	891.54	4.16	32024.00	116.45	0.54
11	CHURU	7	249	190	157	9300.73	48.95	0.31	1012.70	9.54	0.06	205221.08	1080.64	6.87	21024.60	110.66	0.70
12	DAUSA	6	225	208	197	21396.31	102.87	0.52	1384.30	6.66	0.03	114217.68	549.12	2.78	4778.70	22.97	0.12
13	DHOLPUR	5	153	96	138	6922.12	72.11	0.52	821.00	8.55	0.06	36640.81	381.68	2.77	4908.60	51.13	0.37
14	DUNGARPUR	10	237	151	173	18913.84	125.26	0.72	1643.00	10.88	0.06	122857.89	813.63	4.70	11444.10	75.79	0.44
15	GANGANAGAR	9	320	315	166	136397.45	433.01	2.62	13687.80	43.45	0.26	497991.07	1580.92	9.55	60774.20	192.93	1.17
16	HANUMANGARH	7	251	228	161	68816.68	301.83	1.87	7572.60	33.21	0.21	232241.87	1018.60	6.32	26558.50	116.48	0.72