

# SCADA WITH DATA LOGGER



FROM TEAM DRS



## SCADA with Remote Monitoring System

Precisely monitor, control, and visualize every aspect of your operations for intelligent control using new high-performance technology from Predix HMI/SCADA. With a quick glance, operators know what's important and the right actions to drive increased efficiency and reduced costs.

SCADA will help in the following: -

- Less time spent navigating
- Faster finding critical data
- Improvement in alarm resolution success
- Faster to identify relevant screen for an alarm
- Increase in usability
- Faster build and deployment

SCADA provided by DRS has string level monitoring compatibility and it has features of remote access to the real time data. It shall have features for projecting next day generating based on historical data / suitable logic. System provided by us can send the telemetry data to the local SLDC via GPRS / GSM / in suitable mode.

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Computer-aided data acquisition unit has a separate & individual system comprising of different transducers to read the different variable parameters, A/D converter, multiplexer, demultiplexer, interfacing hardware and software which will be very robust, rugged which it is suitable to operate in the control room Environment. With SCADA we will provide reliable sensors for solar insolation, temperature, and other weather and electrical parameters with the data logger unit.

All data is recorded chronologically date wise and it is MS Excel / CSV compatible. The data is accessible remotely through authorized access. The data logger has internal reliable battery backup and data storage capacity to record all sorts of data simultaneously round the clock. All data stored in a common work sheet. Chronologically and representation of monitored data shall be in graphics mode or in tabulation form. All instantaneous data can be shown in the Computer Screen. We can give this data Remote Monitoring also.

Our SCADA measures and continuously record electrical parameters in interval of 5-15 minutes. Electrical parameters measured are as under: -

1. Energy export to grid at 33KV
2. Main combiner box parameters
3. Inverter level parameters
4. Parameters at LV terminal
5. Power characteristics of HT side
6. Ambient temperature near array field
7. Module surface temperature
8. Wind Speed and direction
9. Solar irradiation/isolation
10. Measuring and reporting the performance-ratio (PR) of the Plant.

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- **PLUG & PLAY**
- **ALL INFORMATION ON DASHBOARD**
- **UPTO 100 INVERTER MONITORED**
- **PR MANAGEMENT**
- **EFFECTIVE O&M TOOL**

Another innovation from Team DRS, Weather Monitoring Solutions from DRS. It helps you to optimise and predict the generation of solar power plants which are on rooftop or ground mounted.

We provide complete monitoring solutions at all times by giving your real-time information on all the essential parameters which will help you in getting maximum yield from your solar power plant

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## Data Logger with built in GSM/GPRS Modem (DRS/DL-GSM)

<b>GSM Antenna</b>	
<ul style="list-style-type: none"> <li>▪ Impedance</li> <li>▪ VSWR</li> <li>▪ Radiation</li> <li>▪ Operating Temperature</li> <li>▪ Connector</li> <li>▪ Maximum power</li> <li>▪ Frequency</li> </ul>	<p>50 ohms &lt; 2.0 Omni-directional -10 to +55 degree Celsius SMA 50W 900 MHz: 824-960 MHz 1800 MHz:1710-1880 MHz</p>
<b>GSM interface</b>	
<ul style="list-style-type: none"> <li>▪ GPRS class</li> <li>▪ SMS</li> <li>▪ SIM card</li> <li>▪ RF output power</li> <li>▪ Protocols</li> <li>▪ Memory</li> </ul>	<p>GPRS multi-slot class 10 Text &amp; PDU mode Standard 1.8V/3V type Class 4 (2W) @ 850/900MHZ Class 1 (1W) @ 1800/1900MHZ Embedded TCP/IP and UDP/IP protocol stack, Socket, HTTP, FTP, SMTP 1MB RAM   Internal RTC with battery backup</p>
<b>Analog Input</b>	6 Channel (0-5V or 4 – 20 mA) with 12 bit resolution
<b>Digital Input</b>	6 Digital inputs or pulse counter
<b>Digital output</b>	4 Digital outputs, open collector type for sink outputs, capable of handling load 200mA @ 12VDC
<b>DI12 interface (Optional)</b>	1 Universal SDI12 interface
<b>Serial Interface</b>	RS 232/485 interface, supports baud rate up to 115200bps
<b>Internal storage</b>	SD card (micro SD). Storage Up to 32 GB (Optional and on demand only)



## Ambient Temperature & Humidity Sensor (DRS/ATS/70S)

<b>Measuring Range</b>	0 - 100 °C
<b>Accuracy</b>	± 0.5 °C
<b>Sensor</b>	RTD PT100Ω Class A
<b>Cable</b>	3m Teflon
<b>Operating Temperature</b>	0 - 70 °C
<b>Supply Voltage</b>	5 VDC
<b>Output</b>	0 - 1 V corresponding to 0 - 100 °C



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## Wind Speed Sensor (DRS/WSS)

Operating Temperature	-40°C Min, +65°C Max
Sensor Type	Solid State Magnetic Sensor
Cable Type	4 - conductor, 26 AWG
Cable length	12 meters
Connector	Modular Connector(RJ-11)
Maximum Cable Length	73 meters <b>(Not Included)</b>
Wind Vane and Control Head	UV-resistant
ABS Wind Cups	Polycarbonate
Anemometer Arm	Black Anodized Aluminium
Range	0.5 to 89 m/s
Accuracy	±2 mph or ±5% (whichever is greater)
Weight	1.34 kg's
Resolution and Unit	Measured in 1mph. Other units are converted from mph and rounded to nearest 1 km/h, 0.1m/s.
Range	0.5 to 89 m/s, 1 to 322 km/h
Accuracy	3km/h, 1m/s or ±5% (whichever is higher)



Note: Maximum displayable wind speed decreases as cable increases. At 42m of cable, maximum displayable wind speed is 60 m/s; at 73 m, maximum wind speed displayed is 45 m/s.

## Solar Radiation Sensor (DRS/SRS/130S)

Operating Temperature	-40°C Min, +65°C Max
Storage Temperature	-45°C Min, +70°C Max
Transducer Type	Silicon Photodiode
Spectral Response	400 to 1100 Nano meters
Cosine Response	
▪ Percentage of reading	±3% (0° to 70° C), ±10%(70° to 85° C)
▪ Percentage of full scale	±2%(0° to 90° C)
Accuracy	±5% of full scale
Drift	Up to ±2% per year
Temperature Coefficient	+ 0.12% per °C
Reference Temperature	25 °C
Housing Material	UV-resistant PVC plastic
Weight	250 gms
Range	0 to 1800 W/m <sup>2</sup>
Output	0 to 3 VDC (0-1800w/m <sup>2</sup> ) green colour



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## Surface Module Temperature Transmitter (DRS/SMTT/70S)

Measuring Range	0 - 100°C
Accuracy	± 0.5°C
Sensor	RTD PT100
Output	0-5V
Supply Voltage	12V DC
Weight	150gms(Approx.)

