DaVis®
Davis Instruments

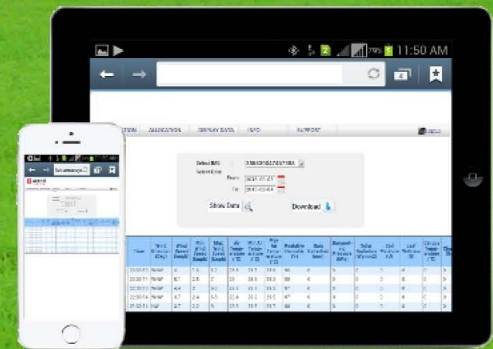# WIRELESS WEATHER STATION

with New Wireless Data Logger

- Improved accuracy & reliability
- Communication Over GPRS
- Firmware Over The Air Upgrade
- Battery Charging From Solar Panel
- Offline Data Storage in Micro SD Card
- Real-time data access on web and mobile
- World class NIST traceable sensors

WIRELESS WEATHER STATION

SENSOR SPECIFICATIONS

The Wireless Weather Station (WWS) connects with following ten sensors.

1. Wind speed
2. Wind direction
3. Rain collector
4. Air temperature
5. Humidity
6. Solar radiation
7. Leaf wetness
8. Soil moisture
9. Atmospheric pressure
10. Soil temperature

Parameter		Value
Wind Speed	Sensor type	Magnetic switch
	Range	0 - 250 Kmph
	Accuracy	±3 Kmph or 5% (Whichever is greater)
Wind Direction	Sensor type	Potentiometer
	Range	0 - 360 deg
	Accuracy	±3 deg
Rain Collector	Sensor type	Tipping bucket with magnetic reed switch
	Resolution	0.1 mm
	Accuracy	0.2mm
Air Temperature	Sensor type	Thermistor
	Range	-40 to +65 °C
	Accuracy	±0.5 °C
Humidity	Sensor type	Film capacitor element
	Range	1 to 100% RH
	Accuracy	±3% (0 to 90% RH), ±4% (90 to 100% RH)
Solar Radiation	Sensor type	Silicon photodiode
	Range	0 to 1800 W/m2
	Accuracy	±5% of FS
Leaf Wetness	Sensor type	Artificial leaf electrical resistance
	Range	0 to 15
	Accuracy	±0.5
Soil Moisture	Sensor type	Electrical resistance
	Range	0 to 200 cb
	Resolution	1 cb
Soil Temperature	Sensor type	Thermistor
	Range	-40°C to 80°C
	Resolution	0.1°C
Atmospheric Pressure	Sensor type	Piezoresistive
	Range	15 to 115 kPa
	Accuracy	±1.5 % of FS

WIRELESS WEATHER STATION

WIRELESS DATA LOGGER SPECIFICATIONS

The GSM/GPRS data logger enables weather sensors data collection and transmission to internet and to your mobile, making real-time information available at your finger tips without binding you in distances. Lowest energy consumption among its category of devices, helps it run for days without charging. It connects with a small 5W solar panel to power itself and supply power to sensors connected with it. Firmware Over The Air Upgrade, user configurations through SMS, authorization for secure operation and other features make it versatile and user friendly data logger. The dual microprocessor architecture of new data logger ARN-DLG88 dramatically reduces power consumption and improves data integrity. The new data logger ARN-DLG88 can take input from generic sensors giving analog, digital and serial outputs.

PARAMETER	VALUE / DESCRIPTION
Communication	
Network type	Quad-Band GSM
Frequency band	850/900/1800/1900 MHz
Indication	LED indication for power, network health, LCD for data display and settings
Electrical	
Voltage Input	9-28 V
Current Consumption	< 150mA (average current in operation) < 10mA (in sleep)
Internal power	Rechargeable Li-ion batteries Capacity: 4.4 Ah
Storage	Internal flash memory: 2MB External flash memory: 2GB SD card
Timer	RTC with backup battery (replaceable) Accuracy: 1%
Time synchronization	Real time synchronization from telecom, server, internet

WEB INTERFACE

Aeron provides web interface for automatic weather stations fitted with Wireless Data Logger ARN-DLG88. The user is provided with login and password to view and download the data. The data is displayed in tabular format with date selection for easy viewing. The data is downloaded in .xls file format.

The Wind Speed and Air Temperature data is stored and shown with minimum and maximum values during logging interval in addition to the averaged value. The rain collection is total value of rainfall within the logging interval.

Sr.No	Date	Time	Wind Direction (Deg)	Wind Speed (kmph)	Min Wind Speed (kmph)	Max Wind Speed (kmph)	Air Temperature (°C)	Min Air Temperature (°C)	Max Air Temperature (°C)	Realative Humidity (%)	Rain Collection (mm)	Barometric Pressure (kPA)	Solar Radiation (Wpmm2)	Soil Moisture (U)	Leaf Wetness (U)	Canopy Temperature (°C)	Charging Status
1	05/04/13	17:30:19	322	18.1	1.4	20.2	31.9	31.8	32.2	12	0	87.4	53.5	0	0	0	4
2	05/04/13	17:00:22	56	8.6	0	23.1	32.2	31.9	32.5	12	0	87.4	71.3	0	0	0	4
3	05/04/13	16:00:22	70	2.8	2.1	12.3	32	31.8	32.4	12	0	87.4	652.2	0	0	0	4
4	05/04/13	15:00:20	4	7.2	0	17.3	32.4	0	32.6	13	0	87.5	880.3	0	0	0	4
5	05/04/13	14:00:18	43	13	1.4	14.4	30.8	30.3	31.7	15	0	87.6	1029.9	0	0	0	4
6	05/04/13	13:00:22	353	13	0	13.7	29.9	29.6	30.4	16	0	87.6	1122	0	0	0	4

"We may not change weather to our advantage but its' prior knowledge helps reduce losses"