

AUTOMATIC WEATHER STATION [COMPACT SERIES]

Product Introduction

RK-Compact-AWS having the industrial grade micro controller ensure the reliability, accuracy and continuous performance in the toughest weather condition. **RK-Compact-AWS** is the best choice for the research works in the market. Design makes easy to installed by one person and reduce the transportation cost. AWS **Compact series** all model comes with the tripod stand, solar panel and battery an intelligent solar and AC power circuit make the system self-powered.

RK-Compact-AWS AWS is categorized the four models **Compact 3 in 1 | Compact 5 in 1 | Compact 6 in 1** | **Compact 7 in 1 | Compact 8 in 1** which can be selected by the user according the measuring weather parameters.

Compact Data logger having the facility of the measuring the Temperature, Wind Speed, Wind Direction, Barometric Pressure, Relative Humidity, Dew Point, Solar Radiation and Rainfall. All the above model measuring the Data logger for the collection of real time data automatically. **16 X 2** alphanumeric display and **1 X 4** keypad is provided at front of data logger for programming data logger and monitoring sensor reading at site without the help of computer.



Data Logger View	v				
PROFESSINAL LINE	SPECIFICATION				
Model	Compact-datalogger version v-21.7				
Display	16 Characters x 2 Lines alphanumeric display				
Measured Parameter	Date, Time, Air Temp. (°C), Max Air Temp. (°C), Min Air Temp. (°C), RH (%), Max RH (%), Min RH (%), Wind Speed (m/s), Maximum wind speed (m/s), Average wind speed (m/s), Wind Direction (Deg), Rainfall (mm), Dew Point (°C), Solar Radiation (watt/m), Air pressure (hPa), Open Pan Water Level (mm), Battery (volts)				
Real Time Clock	Stability long-term: ±1 ppm / year Stability (temperature): ±3.5 ppm or better form -40° to 85°C				
Logging Rate	1 min to 1 hours				
Data Storage	16 GB (sufficient for more than 5 years of logging in 1 min. logging rate)				
Power supply	5 volts				
Battery Life	< 5 years in continuous operation				
Clock accuracy	±2 seconds per year				
Battery Charging	Through solar panel or 220 Volts AC				
IP rating	IP 65				
Operating Temp.	-40°C to 75 °C				
Operation Humidity	0 to 95% no-condensing				
Data Retrieval	SD Card and RS 485 (Optional) No need of any software direct copy and past				
Data Transmission	GPRS telemetry or WIFI in IOT (optional)				
Watchdog timer	System Reset Upon Microprocessor Failure				
Weatherproof encl.	IP 67 weatherproof enclosure provides Optional				
D - 44 Cl	and Deltamore				

Battery Charges and Battery					
PROFESSINAL LINE	SPECIFICATION				
Model	BC-life6				
Output Voltage	5 Volts DC				
	Reverse Polarity				
Protection	Battery over Charge Protection				
	Battery over Discharged Protection				
Battery Charging	Provided Inbuild solar charging Circuit through solar panel (6 V, 6 watts)				
Dattery Charging	220 volts AC supply (optional)				
Battery Life	More than 2 years				
Battery Indicators	2 wire for the logger to show in logger				
	Soft Start Charging or good health of battery				
Advance Feature	Battery Temperature measurement inside				
	Disconnect charging when temperature of batter goes high than normal				





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TEMP. AND HUMIDITRY PROFESSINAL LINE **SPECIFICATION AIR PRESSURE**



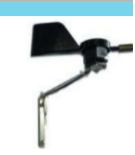
Measuring range temperature -40° C to 123 ° C Measuring humidity 0 to 100 % **Accuracy temperature** ± 0.3 ° C @ 5 to 40° C Accuracy rel. humidity ± 2% @ 20 to 80 % **Resolution of temperature** 0.01 ° C Typical Resolution rel. humidity 0.05 % RH Typical **Operating condition** -40°C to +70 °C @ 0...100 % Supply voltage 0 to 5 volts Weather shield IP 65 provided Dew point Calculated Provided Measuring range air pressure 300 hPa ~ 1100 hPa Accuracy air pressure ±0.12hPa or better



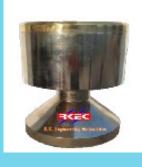
WIND DIRECTION WIND SPEED **PROFESSINAL LINE SPECIFICATION**



0 ° to 360 ° Measuring range wind direction Measuring range wind speed 0.8 ... 50 m/s Accuracy wind direction 0.5 m/s at 0.8 ... 5 m/s and Accuracy wind speed 2 % FS at 5.02... 50 m/s Resolution of the wind direction **Resolution wind speed** $0.06 \, \text{m/s}$ Operating condition 0...+70 °C • 0...100 % **Supply Voltage** 0 to 5 volts Material Polycarbonate



RAIN GAUGE PROFESSINAL LINE SPECIFICATION



Туре	Tipping Bucket Self Empty		
Measuring intensity	500 mm/ hours		
Accuracy of rain gauge	150 mm / hour; better than ±3%		
Rain Gauge Diameter	159.6mm		
Collection area	200 cm^2		
Design	Aerocon for remove the wind effect		
Resolution	0.20 mm		
Oneveting condition	0°C to +70 °C		
Operating condition	0100 %		
Output	Switch / pulse output		
Material	Aluminum Powered Coated		
Capacity	Unlimited		

SOLAR RADIATION PROFESSINAL LINE **SPECIFICATION**



0 to 1800 W/m² Measuring range 400 - 1100 nm **Spectral Response Range** $\pm 3\%$ (0° to $\pm 70^{\circ}$ incident angle) **Cosine Response Cosine Response** $\pm 10\%$ ($\pm 70^{\circ}$ to $\pm 85^{\circ}$ incident angle) Absolute accuracy ±5% of full scale 1 W/m^2 Resolution up to ±2% per year **Operating Environment** - 40 to 65 °C; 0 to 100% RH Less than 1 ms Response Type Silicon cell ISO 9060:2018 Class C



OPEN PAN EVAPORATION

PROFESSINAL LINE

SPECIFICATION

SHAFT AND PULLY SENSOR



Pan Material Copper / GI / SS **Pan Diameter** 1220 mm ±3 mm User select the pan material and standard before Getting Quotation

Standard IS 5973-1998 Depth of the pan 254 mm Resolution $0.20 \, \text{mm}$

Accuracy of pan ±0.25 % at FS Stand Wooden **Protection** MS mesh for bird protection

Shaft and Pully Sensing **Sensor Operating temp** 40 to +140°F (-40 to +60°C) **Measuring Range** 0 to 7.8 " (0 to 200 mm) Linearity

0.25%



PURCHASER SELECT THEIR MODEL BELOW

Model Sensors	Compact 3 in 1	Compact 5 in 1	Compact 6 in 1	Compact 7 in 1	Compact 8in 1			
Wind speed	✓	✓	✓	✓	✓			
Wind direction	✓	✓	✓	✓	✓			
Rainfall		✓	✓	✓	✓			
Temperature		✓	✓	✓	✓			
Humidity		✓	✓	✓	✓			
Solar radiation				✓	✓			
Air Pressure	✓		✓	✓	✓			
Open Pan Evaporation					✓			
SS Tripod Stand	✓	✓	✓	✓	✓			
Battery case	✓	✓	✓	✓	✓			
GPRS Telemetry	✓	✓	✓	✓	✓			
SMS Alert up to 3 People	✓	✓	✓	✓	✓			
WIFI Telemetry	At Extra Cost	At Extra Cost	At Extra Cost	At Extra Cost	At Extra Cost			
RS 485 data communication	At Extra Cost	At Extra Cost	At Extra Cost	At Extra Cost	At Extra Cost			



DATA TRANSFER

Through SD card direct in Excel File no need of the software.

Just Copy and paste to your computer

WIFI COMMUNICATION (optional)

A WIFI shield provided with the PC software user enter the its modem or WIFI dongle User ID and Password and transmit the data to our server for storage and analyzing the data. A cost-effective solution if the system installed in the WIFI range, reduced user internet and no need to purchase an individual SIM for a station.

Advantage of this feature for abroad user is that a WIFI dongle user connected to the logger given port. Either it is CDMA or GSM network dongle Logger push the data into the sever.

GPRS Modem (optional)

- a) A GPRS enabled SIM is supposed to be installed in the modem. Based on the Sim Operator, the GPRS settings have to be configured in the modem.
- b) Once a proper SIM card is inserted and the terminal is switched ON.it will automatically
- c) The terminal will continuously monitor serial port for messages received from the device connected.
- d) When modem receives a valid command in the serial port. it will take appropriate action based on the commands.
- e) Whenever the modem receives command from controller, it will be pushed through serial port. f) Stores Failed GPRS packets in non-volatile memory until system re-stores proper GPRS connection to server (zero data loss)

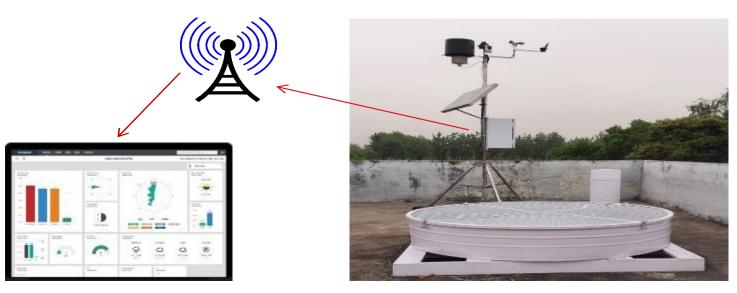
RS 485 Communication (Optional)

A RS 485 communication provide optional, logger transmitted the data every 1-minute interval with date and time stamp. A digital Running display also connected with this communication for the see the current data









Specifictaion and Design Subjected to Change as per future technology, All rights reserve to the RK Engineering Corporation