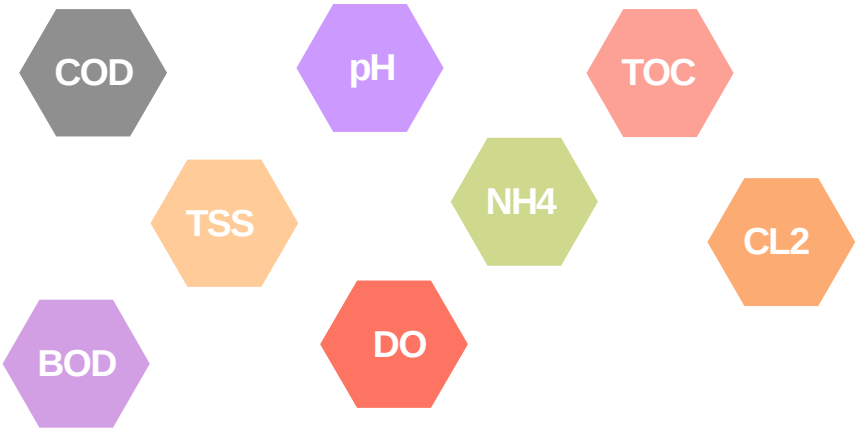
User Manual

Engineering & Environmental Solutions

Online Water Analyzer

(EE-WA404A)

Online Water Analyzer



Introduction:

Online Water Analyzer technology is based on unique method UV-Visible Spectrophotometry which associate proprietary high resolution spectrograph with Fourier Transform & Least Square mathematical treatment.

Our goal for the future is to continue to provide customers with reliable instruments, proven methods, easy procedures, and outstanding technical support. We will strive to be best choice brand offering trust and assurance to our customers.

Major Applications

- ✓ Plant treatment
- ✓ Water treatment
- ✓ Pharmaceutical applications
- ✓ Biological applications
- ✓ Fertilizer applications
- ✓ Boiler feed water
- ✓ Oxidizing applications
- ✓ Bilge water in ship applications
- ✓ Swimming pool applications
- ✓ Water quality monitoring
- ✓ Bleaching applications
- ✓ coloring applications
- ✓ and many more

Alarms For Low & High

Automatic Operation

Low Cost Of Maintenance

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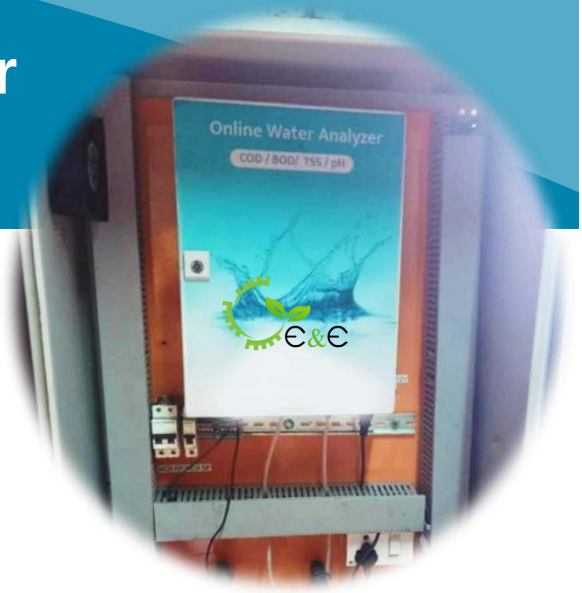
Online Water Analyzer



Measurement Principle

Online Water Analyzer based on Ultraviolet/Visible (UV/Vis) absorption, which has found increasingly wide application in process industries. The spectrum of interest here extends from 200 nm to 750 nm. Direct absorbance for COD, BOD, TOC, NO3, COLOR, pH, TSS and Cr bring fast and stable measurements.

This unique method allows measurements on extremely turbid or colored samples like Exceptional selectivity and no interference has never been reported after years of operation on many different applications.

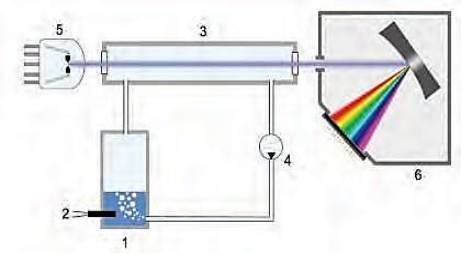
The patented flow cell allows very high level of suspended solids without clogging. The turbidity is automatically compensated by a dual-wavelength method.

The UV source is a Xenon flash lamp specified for 109 flashes that corresponds to more than years of life time with one measurement every minute.

Physico-chemical measurements like pH, ORP, dissolved oxygen, conductivity can be added to the internal measurements by using external probes. The dissolved oxygen probe is based on fluorescence method for a lower maintenance and higher stability

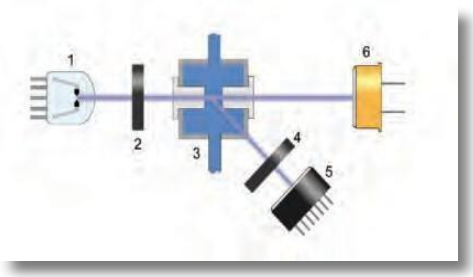
UV Absorbance Principle

1: Xenon lamp
2: Flow cell
3: Beam Splitter
4: Peak filter
5: Peak detector
6: Reference filter
7: Reference detector



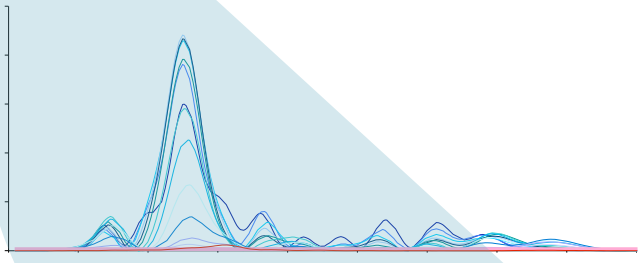
UV Absorbance (liquid and gas phase)

1: Stripping Pot
2: Temprature Probe
3: Gas Flow cell 4: Gas Pump
5: Xenon Flash Lamp 6: Spectrograph

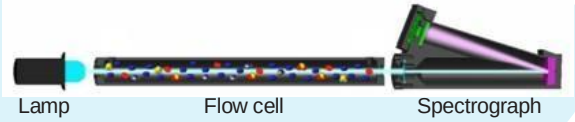


UV Fluorescence principle

1: Xenon lamp
2: Excitation filter
3: Flow cell
4: Emission filter
5: Photomultiplier 6: Reference photo detector

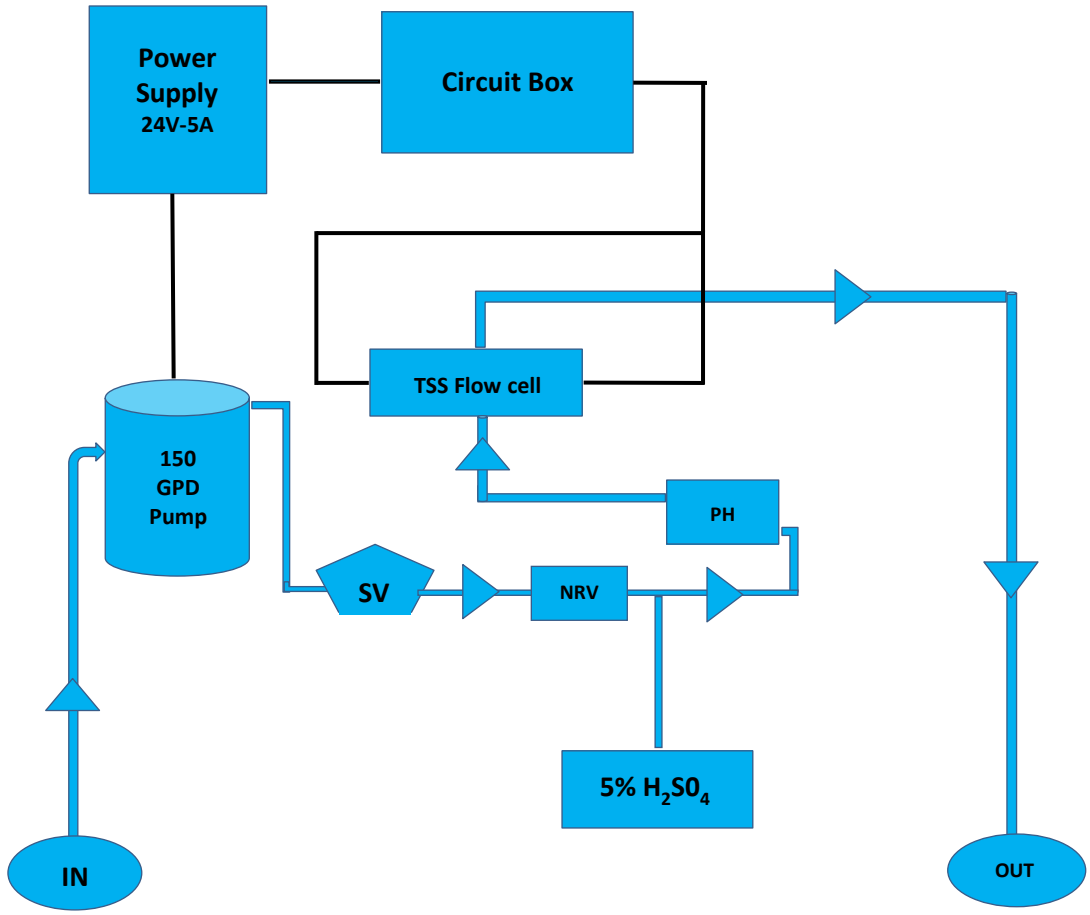


- ✓ High degree of stability, selectivity and sensitivity
- ✓ No second pollution
- ✓ Up to eight components measured simultaneously
- ✓ Non–contact with sample



Online Water Analyzer

Flow Diagram Of Online Water Analyzer



NOTE:

- (———)- Wiring
- (———)- 8 mm water pipe

COMPONENTS

1. **POWER SUPPLY:** The 24v-5A AC TO DC supply use to give power all over the circuit.
2. **CIRCUIT BOX:** This box contains all the computer code which is used to regulate the electric supply all over the circuit and the command to all the electrical unit.
3. **150 GPD PUMP:** The pump is used to pull the water from the tank and regulate water in between the path passes through flow cells consisted of sensors to get readings.
4. **TSS FLOWCELL:** The TSS flow cell contain sender and receiver housing in one housing sensor get mounted and in other the LED is mounted and in between there is test section which regulates water to get tested.
5. **PH FLOWCELL:** The PH flow cell consist of sensor which detect the PH value of water.
6. **Solenoid VALVE (SV):** The Solenoid valve is mounted after the pump to open and close the flow of water as per the requirement or as per the system flow.
7. **NON-RETURNING VALVE (NRV):** The NRV is use to restrict back flow as we also regulate 5% H_2SO_4 mix with 95% H_20 to clean the flow cell to get proper results.

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Technical Datasheet

Analyser Type	Cabinet Type & Multiparameter
Measuring Principle	COD/ BOD/ TSS: UV light absorption (Scan between 200nm and 750nm) pH: Electrode & Potentiometric
Measuring Range	COD: 0 – 1000 mg/l
	BOD: 0 – 1000 mg/l
	TSS: 0 – 1000 mg/l
	pH: 0 – 14 pH
Operating Humidity	5 - 95% non-condensing
Operating Temperature	0-50 °C
Accuracy	±5% of certified reference standard
Response Time	≤60 Seconds
Communication	*RS485 & *RS232 available for communication *USB port available for USB communication
Data Transfer features	• PDF/Excel report from Server • All parameters shall be displayed on HMI/Display and Online Web server software accessible through dedicated username and Password. • Sampling shall be done at pre-designated time interval, which can be varied as required by the user. • Server for uploads data to CPCB/SPCB. • Cloud based DATA logger is used to transfer data to CPCB/ SPCB Portal. • Visual alarm shall be activated when the status increases above set limit (Optional). • Additional custom features as required by the user (Optional)
Memory	Up to 16 Gb with date and time
Display	7” HMI color screen
Power supply	220 V AC nominal
Consumption	60W max.
Calibration requirement	Zero Calibration: an auto zero is performed at every cleaning cycle. Span: Factory calibrated. No further adjustment is normally required.
UV source	Xenon Flash Lamp
Additional Features	Automatic Zero calibration facility
	Online fault rectification. Optional Inbuilt System for remote control to access troubleshooting
	Analyzer is cabinet type for easy operation, maintenance & troubleshooting.
	USB port is available for recorded measurement download, screen copy function (easy troubleshooting) & software update

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Online Water Analyzer

+Features

QUALITY TESTED

Our engineers have developed a wide range of advanced solutions and services to help monitoring the quality of water and air

BEST TECHNOLOGY IN UV-SPECTROSCOPY

- High degree of stability, selectivity and sensitivity
- No second pollution
- Up to eight components measured simultaneously
- Non-contact with sample

FRIENDLY DESIGNE

- No moving parts in the detector module (Each channel can be optimized for sensitivity, one spectral range and stability)
- Superior design and manufacturing methods make it faster and easier to use
- Compact simple design, less than 14 KG

ECONOMY

- Customizable detector module: different detector for each different chan- nel (Repeatability, reproducibility, stability, low maintenance analytical method transferability.)
- UV-radiation source with extremely long life 109 emitting, and not heated

EASY TO USE

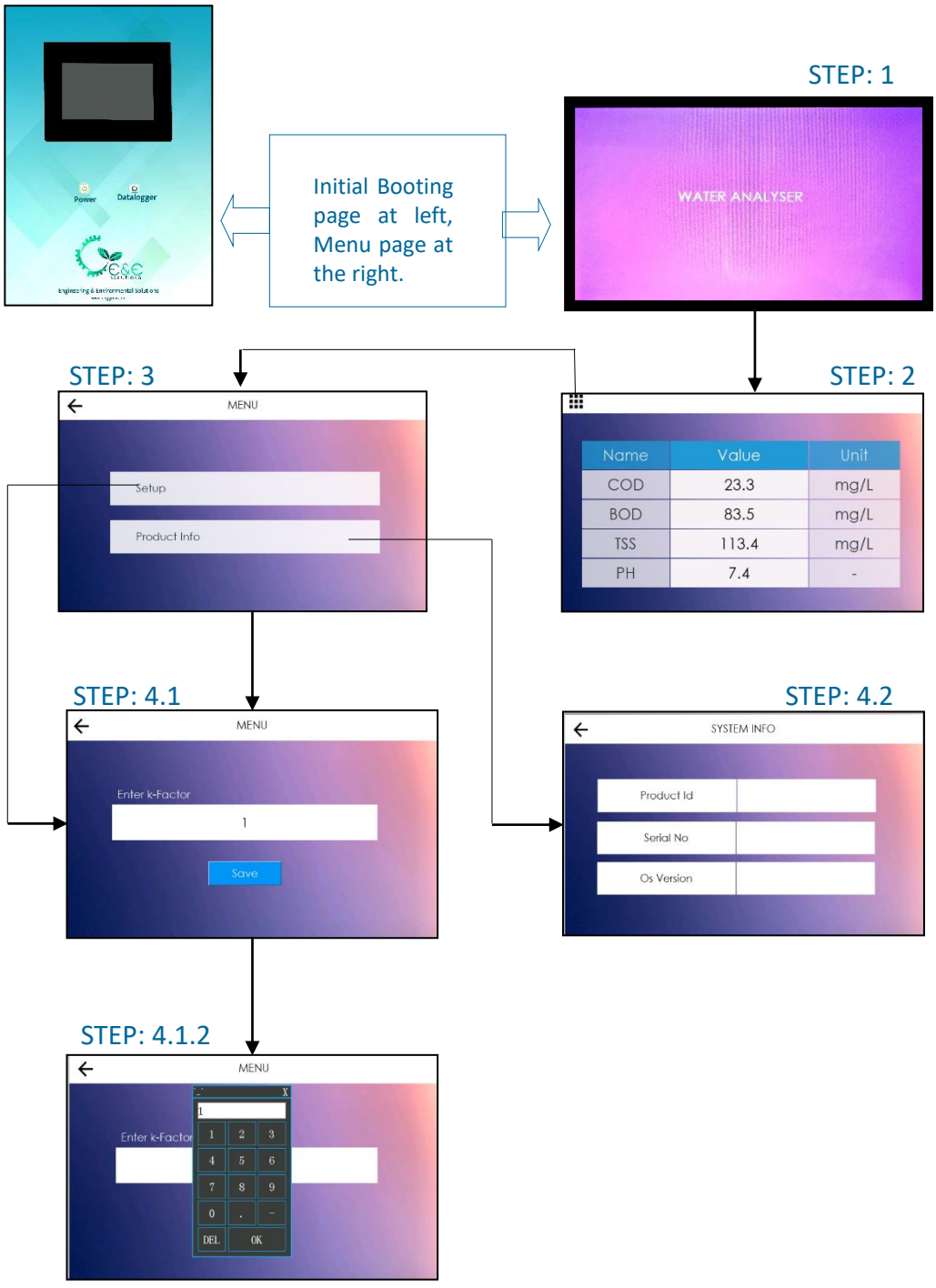
- Friendly screen, easy to handle
- USB collects Data
- <10s respond time
- Easy installation
- Various applications

Online Water Analyzer

Operational Functionality

This section walks you through the step-by-step standard operational procedures on how to use the monitor.

Getting Started



Online Water Analyzer

STEP.1: First of all, Water Analyzer screen interface is appear.

STEP.2: Then, screen will show the dashboard of water analyzer's parameters (COD, BOD TSS & PH).

STEP.3: To enter, in the main menu, you have to press this icon, at the left upper corner of the dashboard.

STEP.4: In the main menu, there are two options: ***"Setup"*** and ***"Product Info".***

STEP.4.1: In this sub-step, to change the K-factor value, you have to click on ***"Setup"*** option.

STEP.4.1.2: Please enter the value of K-factor and click on OK.

STEP.4.2: Please click on ***"Product Info"*** to get the detail about your product.

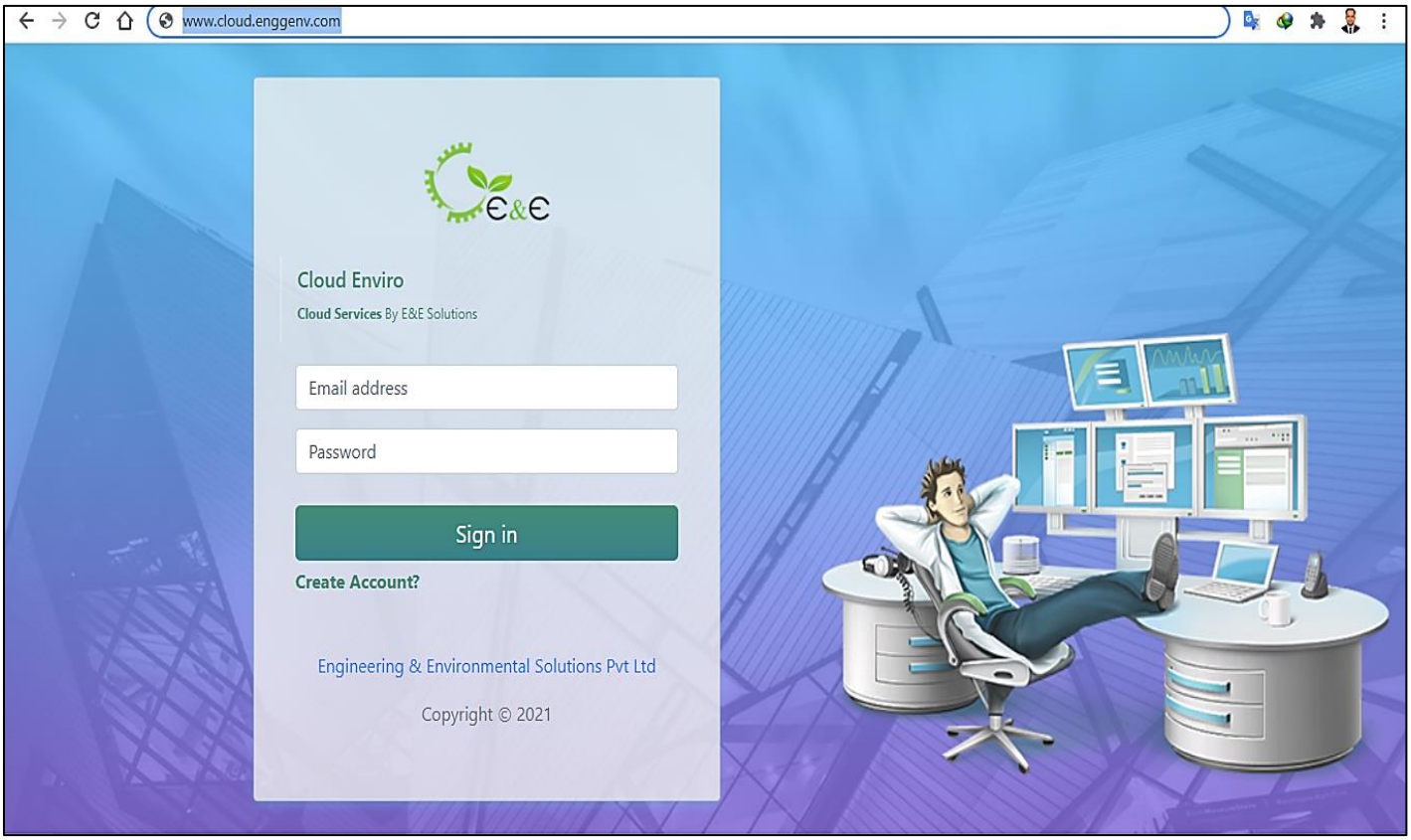
>Press button to return back to previous page.

Online Water Analyzer

Direction to get data on our cloud server

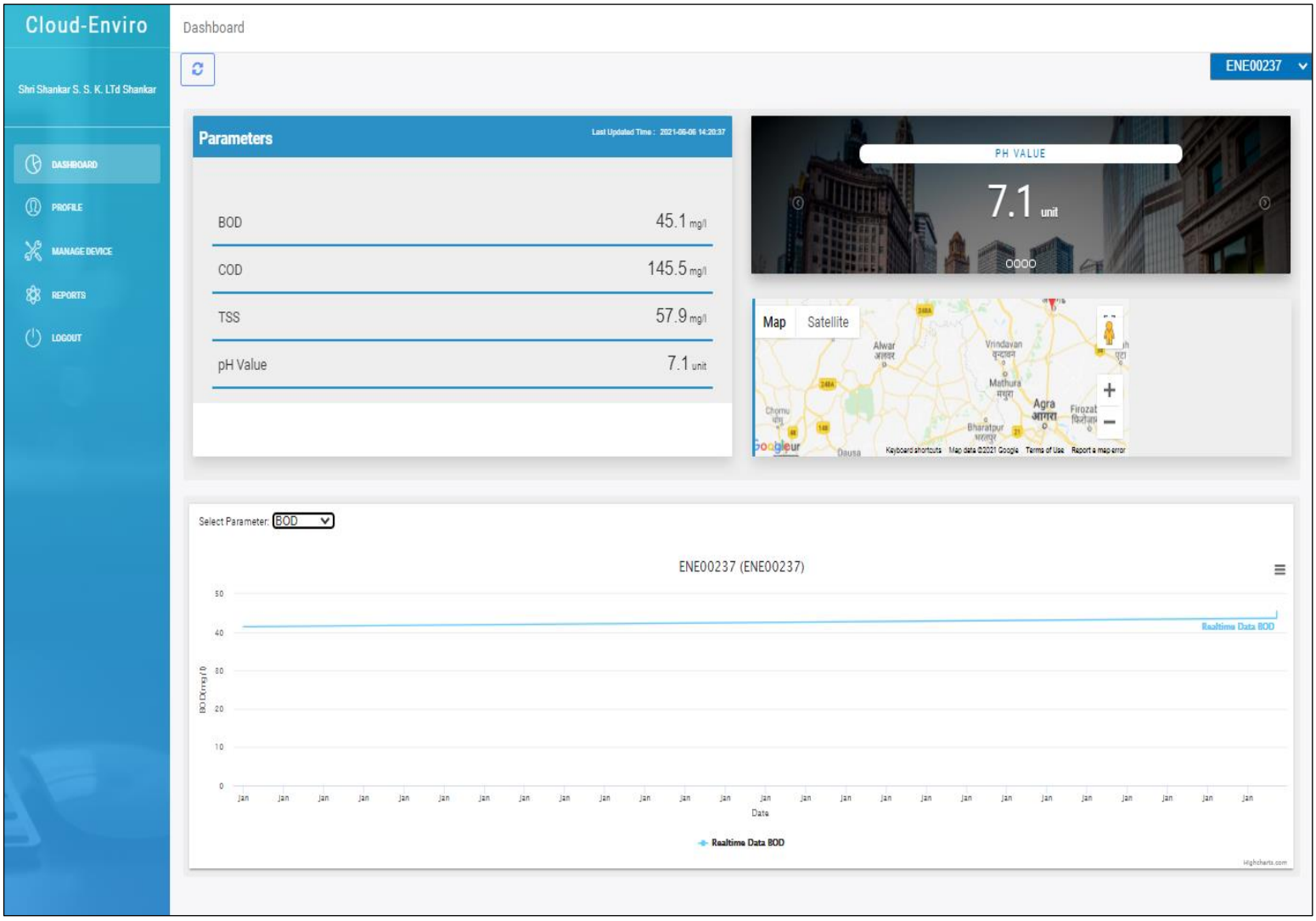
STEP.1: Log on to our cloud server website "www.cloud.enggenv.com" to get data on your server.

STEP.2: Enter your email address and password OR Sign-up by selecting "Create Account" and follow the procedures as shown in the below picture.



Online Water Analyzer

STEP.3: After logging in you will find Online Water Analyzer parameters and real time monitoring graph in the DASHBOARD section.



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