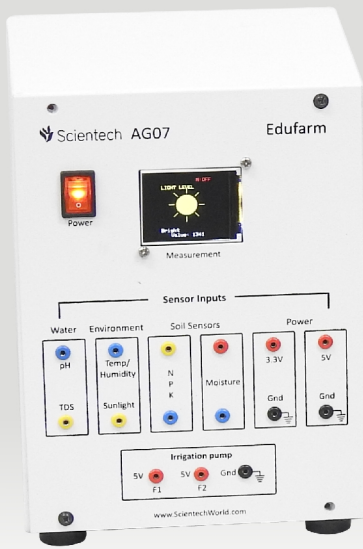




Sciencetech AG07 Edufarm, a revolutionary educational system designed to transform your classroom into a dynamic hub of scientific exploration. Edufarm empowers students to move beyond textbooks and engage directly with the fundamentals of environmental science, agriculture, and technology. It's a very useful STEM tool for cultivating curiosity in growing young minds.

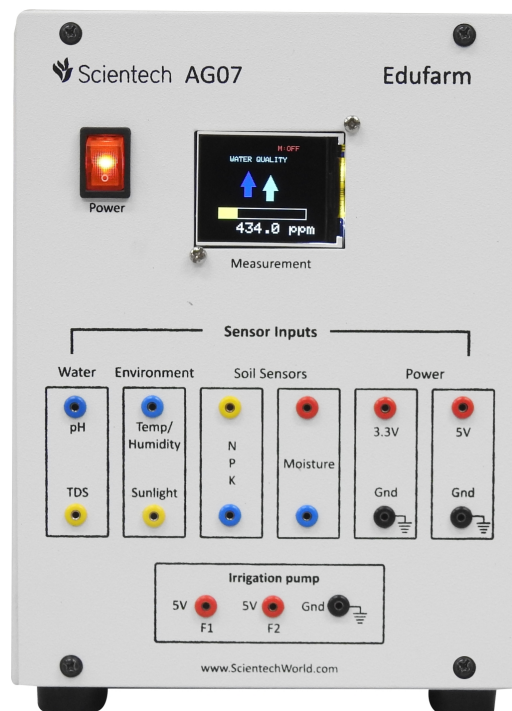
Edufarm is an all-in-one, sensor-based ecosystem that allows students to build, monitor, and manage a miniature farm. With a comprehensive suite of integrated sensors, learners can explore the intricate variables that govern plant life. They can track the ambient environment in real-time by measuring temperature, humidity, and light intensity, understanding how these factors create the perfect microclimate for growth.

The exploration goes deeper with Sciencetech advanced water quality module, enabling students to measure crucial parameters like TDS (Total Dissolved Solids) and pH. This offers a practical lesson in chemistry and the vital role water plays in sustaining life. Furthermore, Sciencetech sophisticated soil monitoring system uncovers the secrets beneath the surface. Students can use the soil moisture sensor to understand hydration and deploy the powerful NPK sensor to analyze the soil's nutritional health by detecting levels of Nitrogen (N), Phosphorus (P), and Potassium (K).

What truly sets Edufarm apart is its ability to connect data to action. The intelligent need-based irrigation system teaches the principles of sustainability and automation, watering plants precisely when needed. By bridging the gap between theory and real-world application, Edufarm provides an unforgettable learning experience that fosters critical thinking, problem-solving, and a lifelong passion for science. Prepare to plant the seeds of innovation with Edufarm!

Features

- Comprehensive platform all-in-one platform to learn, explore, and develop skills in smart agriculture with automation.
- Multi-Sensor Integration monitors soil moisture, sun light, temperature, humidity, water pH, NPK, and TDS.
- Automatic control features automatic irrigation pump control based on defined soil moisture thresholds.
- Graphical display intuitive graphical visuals (bars, icons, scales) for each parameter.
- Real-time visualization display rotates through all sensor readings every 5 seconds for a complete overview.
- Educational focus ideal for students, and hobbyists to understand precision in agriculture.
- Structured learning comes with step-by-step assignments to methodically understand each system component.
- User-friendly self-explanatory system with clear labeling and connections.



Scope of Learning

- Environmental Science: Grasp the impact of crucial environmental variables like temperature, humidity, and light on plant growth and development.
- Soil Chemistry: Learn the vital role of macro-nutrients like Nitrogen (N), Phosphorus (P), and Potassium (K) in soil health and their direct effect on plant nutrition.
- Water Management: Discover the importance of water quality for effective irrigation by analyzing key metrics such as pH and Total Dissolved Solids (TDS).
- Sustainable Agriculture: Develop a comprehensive understanding of soil health by combining moisture and nutrient data to make informed, sustainable farming decisions.

Technical Specifications

- Soil Moisture Sensor
- Sun Light Sensor
- Temperature and Humidity Sensor
- pH Sensor
- NPK & TDS Sensors
- Automatic Irrigation Control
- Digital Display
- Farming platform
- Irrigation system

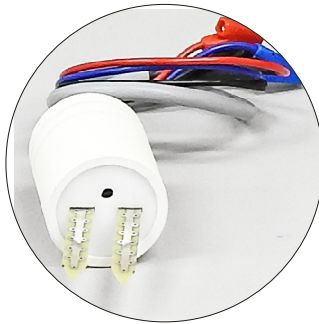


Farming platform

Sensors



Sun Light Sensor



Soil Moisture Sensor



Temperature and
Humidity Sensor



NPK



pH Sensor



TDS Sensor