Agni Soil Scanner: Official Datasheet

Lab-Grade Precision & AI-Powered ROI for the Modern Farm

The Agni & Saathi Solution

Stop Guessing. Start Knowing.

Most farm decisions are made blind, leading to resource waste and inconsistent yields. The Mitti-AI platform turns guesswork into a science.

1. **The Agni Scanner:** Our field-hardened, IP67-rated IoT device provides a complete, lab-grade soil analysis in under 30 seconds.
2. **The Saathi App:** The Agni scanner collects the data, but the Saathi (friend) app gives you the answers. It uses our powerful Megha AI engine to translate complex soil data into a simple, profitable, and actionable plan in your local language.

What Agni Measures:

- Soil pH
- Electrical Conductivity (EC)
- Soil Moisture
- Soil Temperature
- Nitrogen (N)
- Phosphorus (P)

- Potassium (K)
- ...and 8+ other parameters

Detailed Technical Specifications

The Agni Soil Scanner utilizes advanced sensing and connectivity features to deliver reliable, on-the-spot analysis.

Feature	Specification
Core Technology	ESP32-S3 Microcontroller, NIR & Electrochemical Sensors
Connectivity	Bluetooth 5.0 LE, Wi-Fi
Positioning	Integrated GPS/GNSS Module
Ingress Protection	IP67 (Weatherproof and Dustproof)
Battery Life	24-hour continuous use (rechargeable)
pH Range	3.5 - 9.0 pH (Accuracy: ±0.1)
EC Range	0 - 20 dS/m (Accuracy: ±2%)
NPK (NIR)	0 - 999 ppm (Accuracy: ±5%)
Moisture	0 - 100% (Accuracy: ±0.5%)


Agni

Case Study 1: Fertilizer Savings (Paddy Crop)

The Problem

A farmer in Odisha was applying a uniform 110 kg of Urea per acre to his paddy crop, as per traditional practice. This was a significant cost and led to nutrient runoff.

The Saathi Solution

1. The Agni scanner created a field heatmap, showing that **Zone A** was severely Nitrogen deficient, but **Zone B** (near a waterway) had high Nitrogen levels.
2. The Saathi App provided a variable-rate plan: "Increase Urea by 15% in Zone A. Decrease Urea by 40% in Zone B."

The Return on Investment (ROI)

Metric	Traditional Practice	Saathi Optimized
Traditional Urea Cost	~ ₹320/acre	~ ₹250/acre
Total Savings (per acre)	-	**₹70 per acre**

Across 20 acres and 2 crop cycles, this farmer saved **₹2,800** on Urea alone, while also improving his soil health by reducing runoff.

Case Study 2: Yield Increase (Wheat Crop)

The Problem

A farmer's wheat yield was stagnant at 12 quintals/acre, despite using the correct fertilizers. He didn't know why.

The Saathi Solution

1. An Agni scan instantly revealed the problem: the soil **pH was 5.2** (highly acidic). This "locked" the NPK fertilizer, making it unavailable to the plants.
2. The Saathi App provided a clear recommendation: "Your soil is acidic. **Apply 1.5 tonnes/acre of paper mill sludge** (a local industrial waste) to neutralize the soil. This will unlock the nutrients you are already using."

The Return on Investment (ROI)

Metric	Value
Cost of Action (Sludge Application)	~ ₹1,200/acre
Yield Increase	2 quintals/acre (12 to 14)
Increased Revenue (2 quintals x ₹2,150)	₹4,300 per acre
Net Profit (Year 1)	**₹3,100 per acre**

Get Started

Transform Your Farm Today.

The Agni scanner is more than a tool. It's a complete platform for profitable, sustainable agriculture.

To get a personalized demo and a detailed ROI calculation for your specific crop and farm, contact our team.

Contact Detail	Information
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