

Data Telemetry API Overview for Agricultural IoT Solutions

Introduction

The Data Telemetry API enables integration with agricultural IoT devices, allowing seamless transmission, retrieval, and analysis of sensor data related to soil, weather, crops, and machinery. This overview describes available endpoints, data structure, and usage patterns.

Base URL

```
https://api.agro-iot.example.com/v1/
```

Authentication

All endpoints require an API key sent in the HTTP header:

```
Authorization: Bearer <your_api_key>
```

Endpoints

1. Retrieve Device Telemetry

```
GET /devices/{device_id}/telemetry
```

Parameters:

- **device_id**: String, required (unique device identifier)
- **from**: ISO8601 datetime (optional)
- **to**: ISO8601 datetime (optional)

Sample Response:

```
{
  "device_id": "sensor-001",
  "telemetry": [
    {
      "timestamp": "2024-06-01T09:00:00Z",
      "soil_moisture": 37,
      "temperature": 28.3,
      "humidity": 68,
      "ph": 6.2
    },
    ...
  ]
}
```

2. List Devices

GET /devices

Returns all registered IoT devices for the farm.

Sample Response:

```
{
  "devices": [
    { "device_id": "sensor-001", "location": "Field A", "status": "active" },
    { "device_id": "weather-002", "location": "Field B", "status": "inactive" }
  ]
}
```

Data Fields

Field	Type	Description
timestamp	string	ISO8601 date and time of data point
soil_moisture	number	Soil moisture percentage (%)
temperature	number	Temperature in Celsius (°C)
humidity	number	Relative humidity (%)
ph	number	Soil pH level

Error Codes

Status	Message
401	Unauthorized: Invalid API key
404	Device not found
400	Bad request: Malformed parameters

Contact & Support

For integration assistance, please contact api-support@agro-iot.example.com