

EKOMOS

Better Environment,
Brighter Living,
Creating the Value of Life.

EKOMOS

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Company Introduction



Company Overview

- **Company Name** : EKOMOS Co., Ltd.
- **CEO** : Soonheung Cha
- **Established** : March 1, 2015
- **Business Registration No.** : 851-81-00014
- **Head Office.**
#608 ERICA Convention Center, 55 Hanyangdaehak-ro, Sangnok-gu, Ansan-si, Gyeonggi-do, 15588, Korea.
- **Lab./Fac.**
F969-F970, 325 Sandan-ro, Danwon-gu, Ansan-si, Gyeonggi-do, 15426, Korea.
- **Main Business**
Communication Inspection Equipment, Environmental Sensors, Smart Farm Devices, Complete ODM solutions based on EMS (Electronic Manufacturing Services).
- **Business Sectors**
R&D :
Electrical/Electronic development, Mechanical design, Visual/Product design.
ICT :
System Software, Database and online information provision.
Manufacturing :
Electronic sensing devices, Automatic measurement and control devices, Agricultural / Forestry machinery, Electromagnetic measurement/test/analysis instruments, Radio recording and playback devices.

Company History

Sep. 2025	Participation in overseas exhibitions. (Australia, Vietnam, Hong Kong)
Apr. 2025	Designated as a Promising Climate-Tech Enterprise in Gyeonggi-do.
Feb. 2025	Launch of Environmental Sensors and Nutrient Solution Supply Devices.
Jul. 2024	Implementation of Smart Factory system.
Oct. 2023	Approval of Business Reorganization Plan. (Ministry of Trade, Industry and Energy)
Apr. 2023	Commendation from the Minister of Science and ICT. (56th Science Day)
Nov. 2022	Capital increase. (54.6M KRW → 221.5M KRW)
Sep. 2022	Venture Company Certification, Material / Component / Equipment Specialist Certification, Gyeonggi-do Export Association Commendation.
Oct. 2021	Purchase and relocation of factory and research institute, Registration as a research institute company. (Ministry of Science and ICT)
Mar. 2020	Registration of Dedicated Research Department.
Nov. 2019	Registration as a Samsung Electronics partner and Capital increase.
Jul. 2017	Completed of Startup Growth Project. (Ministry of SMEs and Startups)
Sep. 2016	Gyeonggi-do Governor's Commendation.
Mar. 2015	Establishment of EKOMOS Co., Ltd.

Patent Status

NO	Title	Registration	Application Number	Registration Number	Registration date
01	Portable LED lighting	Design	30-2014-0046702	20-0790485	Mar. 26. 2015
02	Portable LED lighting	Patent	10-2014-0023971	10-1516662	Apr. 24. 2015
03	Bluetooth system high-speed data transmission service support device and method	Exclusive License		0882356	
04	Portable terminal displaying a video design	Design Patent	30-2014-0056058	30-080971	Aug. 07. 2015
05	Trademark "ekomos"	Design	40-2014-0087914	40-1139365	Oct. 29. 2015
06	Trademark "Sound & Wright"	Design	40-2014-0087928	40-1146950	Dec. 04. 2015
07	Trademark (3 product categories)	Design	40-2015-0053651	40-1169820	Mar. 31. 2016
08	Portable lantern	Design Patent	30-2016-0056554	30-0926524	Oct. 11. 2017
09	Trademark (Backcountry)	Design	40-2017-0066320	40-1336023	Mar. 02. 2018
10	Portable LED lighting device	Patent	10-2015-0048647	10-1849279	Apr. 10. 2018
11	Control method for portable lighting device through terminal linkage and program therefor	Patent	10-2016-0160947	10-1979193	May. 10. 2019
12	Portable LED lighting device	Patent	10-2018-0052681	10-2042837	Nov. 04. 2019
13	Plant factory system using solar energy	Exclusive License		10-2050330	Nov. 25. 2019
14	Disaster monitoring sensor device	Patent	10-2019-0140501	10-2269621	Jun. 21. 2021
15	Autovalve system	Patent	10-2020-0170295	10-2276405	Dec. 06. 2022
16	Livestock house management system using a thermal imaging camera	Patent	10-2020-0139000	10-2503497	Feb. 21. 2023
17	Nutrient solution control system	Patent	10-2022-0157929	10-2637183	Feb. 08. 2024
18	Plant cultivation device	Patent	10-2023-0057929	10-2637184	Feb. 08. 2024
19	Strawberry cultivation system	Patent	10-2023-0057918	10-2652680	Mar. 26. 2024

Air Quality Sensor

ISU-EK01(E1)



Key features

- **Multi-Factor Environmental Sensing :**
Comprehensive device that measures and records critical air quality factors, including temperature, humidity, fine dust, AQI, TVOC, and CO₂.
- **Versatile Remote Communication :**
Supports seamless real-time data transmission to remote servers via Ethernet, Wi-Fi, or RS485 communication protocols.
- **User-Friendly Configuration & Safety :**
Features a USB port for easy functional setup and a built-in audible alarm system that triggers if sensor readings exceed preset safety ranges.
- **Intuitive Status Monitoring :**
Equipped with a high-visibility front LED indicator to allow users to quickly check the device's operational status at a glance.

ITEMS		SPECIFICATION
Power	DC Adapter	DC 12V (10V ~ 30V)
	PoE	48V
	USB Charger	USB-Ctype, DC 5V / 1A
Display	LED	Power : Red LED
		Status : Blue LED
Input	Switch	Factory Reset Button
		DIP (10 pins) Switch
Sensors & Measurement Range		Fine Dust : PM1.0, PM2.5, PM10
		CO ₂ : 400 ~ 2,000ppm
		TVOC : 0 ~ 65,000ppb
		Temp. : -40 ~ 85℃
		Humi. : 0 ~ 100%RH
Comm.		Wi-Fi, LAN, USB Type C, RS485
Comm. Protocol		MQTT, MODBUS
Power Consumption		7W
Operating Temperature		-10℃ ~ 50℃
Operating Humidity		0 ~ 95%RH
Dimensions (W x D x H)		112 x 76 x 37mm
Weight		150g

Thermoelectric Wireless Sensor

TEG-B Sensor



Key features

- **Self-Powered Wireless Technology :**
Utilizes advanced thermoelectric generation to harvest electricity from heat, powering the device without external power sources or batteries.
- **Real-Time Fire Hazard Prevention :**
Wirelessly transmits real-time temperature and humidity data to proactively prevent fire hazards and monitor heat pipe integrity.
- **Integrated Pipe & Valve Monitoring :**
Features high-precision sensors that measure ambient humidity and heat pipe temperatures to ensure stable valve operation.
- **Simplified Installation :**
Designed for easy deployment without the need for complex power or communication cabling, significantly reducing maintenance and setup costs.
- **Versatile Hardware Compatibility :**
Includes specialized adapters for various circular pipe sizes and supports customizable heat sinks based on specific pipe temperatures.

ITEMS		SPECIFICATION
Sensors & Range	Temperature	Type-K Thermo Couple
		Range : 0℃ ~ 1,000℃
	Humidity	Relative humidity sensor
		Range : 0% ~ 100%
Operating Environment	Thermoelectric Element	Hot Plate Allowable : -60℃ ~ 300℃
		Cold Plate Allowable : -60℃ ~ 180℃
	Working Temp.	0℃ ~ 65℃
Operating Environment	Pipe Temp.	150℃ ~ 700℃
Thermoelectric Element Temperature Difference.		25℃ difference for min current generation
Charge / Discharge Cycles		500,000Cycles
Wireless Communication		ZigBee (Bluetooth), LoRa
Power Consumption		165mW
Dimensions (W x D x H)	Heat Sink	72 x 72 x 65mm
	Thermoelectric	56 x 56 x 4.5mm
	Sensor Box	68 x 68 x 36mm
	Connection Adapter	Varies depending on pipe size

Photolonized Gas Detector

VOC-E01



Key features

- **Advanced TVOC Detection :**
Utilizes high-precision photoionization technology to accurately measure Total Volatile Organic Compounds (TVOC).
- **Industrial-Grade Reliability :**
Compact and highly accurate, these detectors are optimized for critical industrial safety and environmental air quality monitoring.
- **Integrated Gas Analysis Solutions :**
ECOMOS incorporates these advanced photoionization sensors into comprehensive gas analysis systems.
- **Dual-Channel Monitoring & Display :**
Features two-channel gas concentration measurement with real-time data visualization on an integrated LCD screen.
- **Versatile Output & Alarms :**
Equipped with dual-output capabilities for both measured concentration values and immediate safety alarm signals.

ITEMS		SPECIFICATION
Power	Voltage	DC 24V ±5%
	Current	500mA
Display	LED	Power : Green LED, Alarm : Red LED
	LCD	Display : LCD (16 Character x 2 Line)
Input	Switch	Power, Menu, up/down, Reset
Output	Dry Contact	(2CH) N/C, Photo MOS Relay, 1A @DC24V
	Analog Out	(2CH) Current Output (4mA ~ 20mA)
Measurement Gas		VOC(Volatile Organic Compounds), Alcohol, Ethanol, Formaldehyde, Methyl Chloride, Propane, Acetone, Toluene, Butane
Measurement Range		20,000ppb (±2%)
Sensor Life		6,000 hours
Operating Temp. / Humi.		10 ~ 60℃ / 30 ~ 85%RH
Dimensions (W x D x H)		130 x 108 x 37mm
Product Weight		240g

Plant Growth System

VGS-EK02(V2)



Key features

- **Eco-Friendly Green Space Creation :**
Facilitates the creation of sustainable, vertical garden-style green spaces suitable for any indoor environment.
- **Year-Round Premium Food Production :**
Ensures a consistent supply of healthy, fresh food by cultivating plants year-round, regardless of external environmental conditions.
- **Tailored Growth Environment :**
Precisely adjusts light, nutrients, temperature, wind, and CO₂ levels to meet specific plant growth requirements and user preferences.
- **Comprehensive Sensor & Control Elements :**
Features integrated control systems for managing essential growth factors.
 - **Light :** Precision LED Dimming & Spectrum Control.
 - **Nutrients :** Accurate EC/pH Monitoring & Nutrient Control.
 - **Temperature :** Advanced Ambient & Irrigation Temperature Control.
 - **Air flows :** Intelligent Diurnal Airflow Management.

ITEMS		SPECIFICATION
Power	AC Input	AC 220V / 60Hz
Display	7" LCD	Monitoring and control
Input	Touch Switch	LCD Touch Screen
	Select Switch	Power ON/OFF
Sensors & Measurement Range		EC : 0 ~ 5,000uS/cm
		pH : 0 ~ 14pH
		CO ₂ : 0 ~ 5,000ppm
		Temp. : 0 ~ 60℃
		Humi. : 0 ~ 100%RH
Communication		LAN, RS485 (Option : Wi-Fi)
Operating Temperature		5 ~ 50℃
Dimensions (W x D x H)		2,000 x 800 x 2,250mm (Custom : Negotiable)
Product Weight		Varies depending on specifications.

Mid-scale Fertigation System

NSC-EK01(N1)



Key features

- **Optimized for Mid-sized Facilities :**
Featuring a state-of-the-art mixed nutrient tank, the NSC-EK01 is the ideal solution for mid-sized plant factories and facility horticulture.
- **Multi-Zone Precision Irrigation :**
Accurately delivers tailored nutrient solutions to up to 12 separate irrigation zones, ensuring each crop receives the exact amount and cycle required.
- **Rigorous EC & pH Control :**
Maintains consistent nutrient mixing and stabilizes EC and pH values according to pre-set crop requirements.
- **Comprehensive Data Tracking :**
Provides real-time and historical monitoring of EC, pH, irrigation timing, volume, and system alarms for informed management.
- **Scalable Efficiency :**
Designed to maximize productivity in larger-scale seaweed or crop cultivation environments through automated nutrient supply.

ITEMS		SPECIFICATION
Power	AC Input	AC 220V / 60Hz
Display	7" LCD	Monitoring and control
Input	Touch Switch	LCD Touch Screen
	Select Switch	Power on/off, Manual Operation
	EMS Switch	Emergency Stop Switch
Sensors & Measurement Range		EC : 0 ~ 5,000uS/cm
		pH : 0 ~ 14pH
		Temp : 0 ~ 60℃
Communication Method		LAN, RS485 (Option : Wi-Fi)
Operating Temperature		0 ~ 50℃
Nutrient Mixed Tank		200L
Pump Flow Rate		MAX 25.5 TON/HOUR
Irrigation Rate (60% of Flow Rate)		15.3 ton/hour
Cultivation Area (e.g., Strawberries)		Hydroponics : Approx. 6,800m², Soil (Drip Irrigation) : Approx. 12,200m²
Dimensions (W x D x H)		1,300 x 1,100 x 1,200mm (Custom : Negotiable)
Product Weight		Varies depending on specifications.

Small-scale Fertigation System

NSC-EK02(N2)



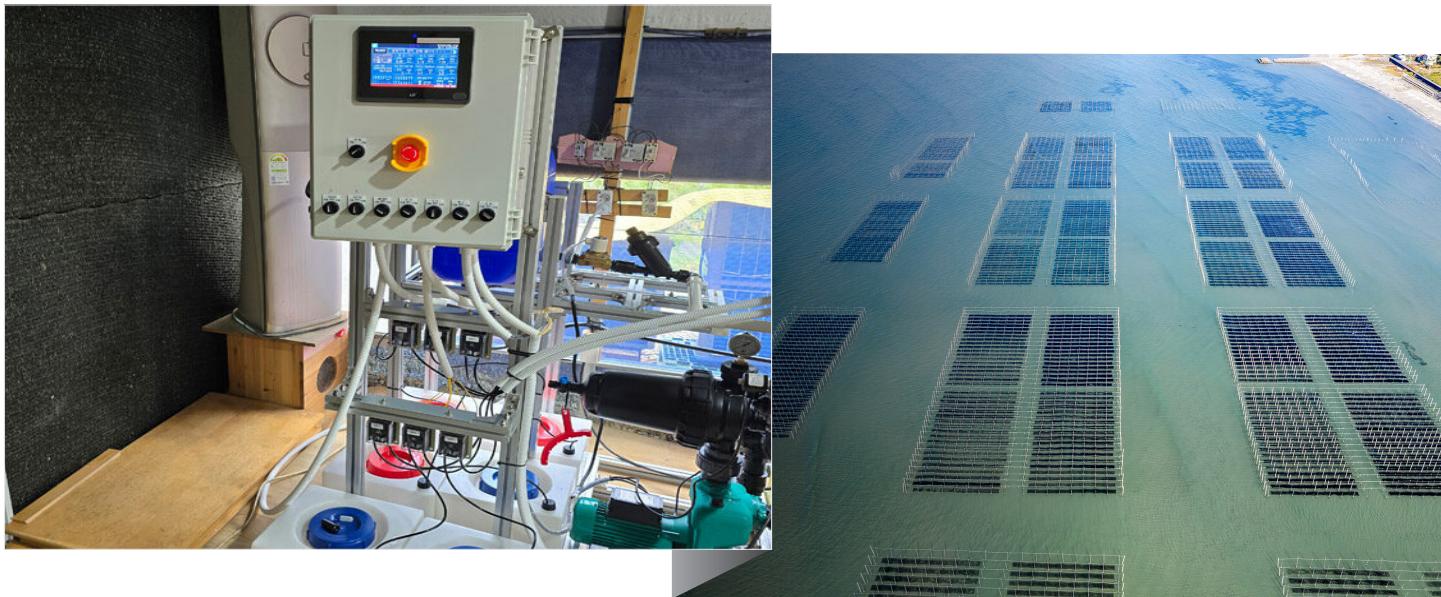
Key features

- **Optimized for Small-scale Facilities :**
Equipped with a state-of-the-art mixed nutrient tank, the NSC-EK02 is an essential device specifically designed for small-scale plant factories and facility horticulture.
- **Precision-Controlled Nutrient Supply :**
Consistently mixes and accurately supplies the uniform amount of nutrient solution necessary for optimal crop growth.
- **Stable EC & pH Maintenance :**
Rigorously monitors and maintains the EC and pH values tailored to each crop's specific settings through a consistent mixing process.
- **Tailored Irrigation Management :**
Precisely delivers the mixed nutrient solution to the target irrigation area based on a set cycle and amount optimized for the crop.
- **Real-time System Monitoring :**
Provides comprehensive historical data in real-time, including EC and pH levels, irrigation timing, volume, and system alarms for precise management.

ITEMS		SPECIFICATION
Power	AC Input	AC 220V / 60Hz
Display	7" LCD	Monitoring and control
Input	Touch Switch	LCD Touch Screen
	Select Switch	Power on/off, Manual Operation
	EMS Switch	Emergency Stop Switch
Sensors & Measurement Range		EC : 0 ~ 5,000uS/cm
		pH : 0 ~ 14pH
		Temp. : 0 ~ 60℃
Communication Method		LAN, RS485 (Option : Wi-Fi)
Operating Temperature		0 ~ 50℃
Nutrient Mixed Tank		140L
Pump Flow Rate		MAX 4.8 TON/HOUR
Irrigation Rate (60% of Flow Rate)		2.9 ton/hour
Cultivation Area (e.g., Strawberries)		Hydroponics : Approx. 1,200m², Soil (Drip Irrigation) : Approx. 2,300m²
Dimensions (W x D x H)		1,200 x 1,050 x 1,450mm (Custom : Negotiable)
Product Weight		Varies depending on specifications.

Automated Seaweed Cultivation System

NSC-GA01(G1)



Key features

- **Stable Year-Round Production :**
Ensures a consistent supply of raw materials by remaining unaffected by climate change, rising water temperatures, marine pollution, or diseases.
- **Precision Nutrient Management :**
Delivers exact nutrients essential for laver growth while maintaining optimal water quality.
- **Value Maximization :**
Enhances added value by maximizing productivity per unit area and ensuring the production of high-quality laver.
- **Data-Driven Optimization :**
Analyzes accumulated growth and environmental data to provide the ideal nutrient solution for each stage of development.
- **Eco-Friendly Closed System :**
Features a sustainable nutrient supply system that completely blocks external pollutants and maximizes water reuse.

ITEMS		SPECIFICATION
Power	AC Input	AC 220V / 60Hz
Display	7" LCD	Monitoring and control
Input	Touch Switch	LCD Touch Screen
	Select Switch	Power on/off, Manual Operation
	EMS Switch	Emergency Stop Switch
Sensors & Measurement Range		EC : 0 ~ 200mS/cm
		Salinity : 0 ~ 70ppt
		pH : 0 ~ 14pH
Communication Method		LAN, RS485 (Option : Wi-Fi)
Operating Temperature		5 ~ 50℃
Nutrient Mixed Tank		200L
Pump Flow Rate		MAX 25.0 TON / HOUR
Irrigation Rate		12.6 ton / hour / 2 times
Tank Nutrient Volume		5 tons (70%)
Tank size (W x D x H)		1,200 x 5,000 x 1,200mm (Custom : Negotiable)
Dimensions (W x D x H)		2,000 x 1,500 x 1,450mm (Custom : Negotiable)
Product Weight		Varies depending on specifications.

Seaweed Seeding Machine

SSW-GA01



Key features

- **Enhanced Productivity :**
This seeding wheel device optimizes seed attachment and efficiency during onshore seaweed (laver) seedling harvesting.
- **High Efficiency :**
Ensures a large volume of seaweed seeds are evenly attached to the net in a single process. (Basic frame: 2m x 2m)
- **Sturdy Construction :**
Made of durable stainless steel, highly resistant to corrosion and deformation.
- **User-Friendly Operation :**
Features variable rotation speeds, bidirectional operation, and an ergonomic design to reduce fatigue.
- **Safety First :**
Equipped with an Emergency Stop (EMS) switch to ensure immediate operator safety.

ITEMS	SPECIFICATION
Power	AC 220V/60Hz
Reduction Motor	2 hp (varies depending on rotor size)
Rotation Speed	0 ~10 rpm(variable)
Operating Direction	Forward / Reverse Switching
Emergency Stop	EMS Switch (Manual reset push switch)
Frame Material	SUS 304
Max. Net Attachment	1~3 nets (20m, 3layer/net, 1time)
Wheel Size (W x D)	2 x 2 m (Custom : Negotiable)
Product Weight	50kg (Varies depending on specifications)

Smart Farm Environmental Sensor

A1



Key features

- Multi-Parameter Sensing:
A detection sensor that performs real-time measurement and transmission of temperature, humidity, CO₂, and illuminance (light intensity).
- Remote Data Transmission: Utilizes the RS485 communication protocol to transmit real-time measured values to remote control units.
- Optimized for Smart Farming: Specifically designed for greenhouse or container-based smart farms; it provides highly accurate real-time data to ensure perfect control of internal environmental conditions.
- Intuitive Status Monitoring: Equipped with a front-mounted LED for easy verification of the device's operational status at a glance.

ITEMS		SPECIFICATION
Power	DC Adaptor	DC 12V (10V ~ 30V)
Display	LED	Operation Status : Green
		Sensor Alarm : Red
		Comm. Alarm : Blue
Input	Switch	Factory Reset Button
		DIP (10 pins) Switch
Sensor & Measurement Range		CO ₂ : 400 ~ 5,000ppm
		Light : 0 ~ 88,000lux
		Temp.: -40 ~ 125°C
		Humi. : 0 ~ 100%RH
Communication		RS485
Comm. Protocol		MODBUS
Consumption		<4W
Operating Temp.		0 ~ 60°C
Operating Humi.		0 ~ 95%RH
Dimemsions (WxDxH)		110 x 110 x 75mm
Weight		280g

Air Quality Sensor

E2



Key features

- Real-time Environmental Monitoring: This sensor device performs real-time measurement and transmission of various parameters, including temperature, humidity, fine dust, CO₂, CO, formaldehyde, and TVOC.
- Remote Data Transmission: To facilitate the analysis and monitoring of real-time data, it supports remote transmission to servers via Wi-Fi and RS485 communication protocols.
- Easy Configuration & Integrated Alarm: Device settings can be easily configured via a USB port. Additionally, it features a built-in alarm that triggers if sensor readings exceed pre-defined thresholds.
- Intuitive Status Display: The front-mounted LED indicator allows for quick and easy monitoring of the device's operational status.

ITEMS		SPECIFICATION
Power	DC Adapter	DC 12V (10V ~ 30V)
	USB Charger	C type, DC 5V / 2A
Display	LED	Power : Red LED
		Status : Blue LED
Input	Switch	Factory Reset Button
		DIP (10 pins) Switch
Sensor & Measurement Range		Fine Dust: PM1.0, PM2.5, PM10
		CO ₂ : 400 ~ 5,000ppm
		CO : 0 ~ 500ppm
		CH ₂ O : 0 ~ 1,600ppb
		TVOC : 0 ~ 65,000ppb
		Temp. :-40 ~ 100°C
		Humi. : 0 ~ 100%RH
Communication		Wi-Fi, USB Type C, RS485
Comm. Protocol		MQTT, MODBUS
Consumption		<7W
Operating Temp.		0 ~ 60°C
Operating Humi.		0 ~ 95%RH
Dimemsions (WxDxH)		110 x 110 x 45 mm
Weight		470g

Smart Farm Weather & Soil Monitoring Sensor

O1



Key features

- Designed for agricultural sites such as farms, greenhouses, and orchards.
- Collects, stores, and transmits real-time weather and soil data to provide accurate environmental monitoring.
- Supports precision agriculture through disaster alerts and crop management features.
- Ensures reliable and accurate data through high-precision sensors.
- Built to withstand harsh outdoor environmental conditions.

ITEMS	SPECIFICATION
Input Power	AC 90~240V (50/60Hz)
Air Temperature	-40 ~ 60°C
Relative Humidity	0 ~ 100%RH
Atmospheric Pressure	300 ~ 1,100hPa
Solar Radiation	0 ~ 2,000 W/m ²
Wind direction	0 ~ 360°
Wind Speed	0 ~ 60 m/s
Rainfall	≤4mm/min
Soil Temperature	30 ~ 70°C
Soil Moisture	0~100%(m ³ /m ³)
Soil EC	0~10dS/m
Soil pH	0~14pH
Comm,Interface	LoRa