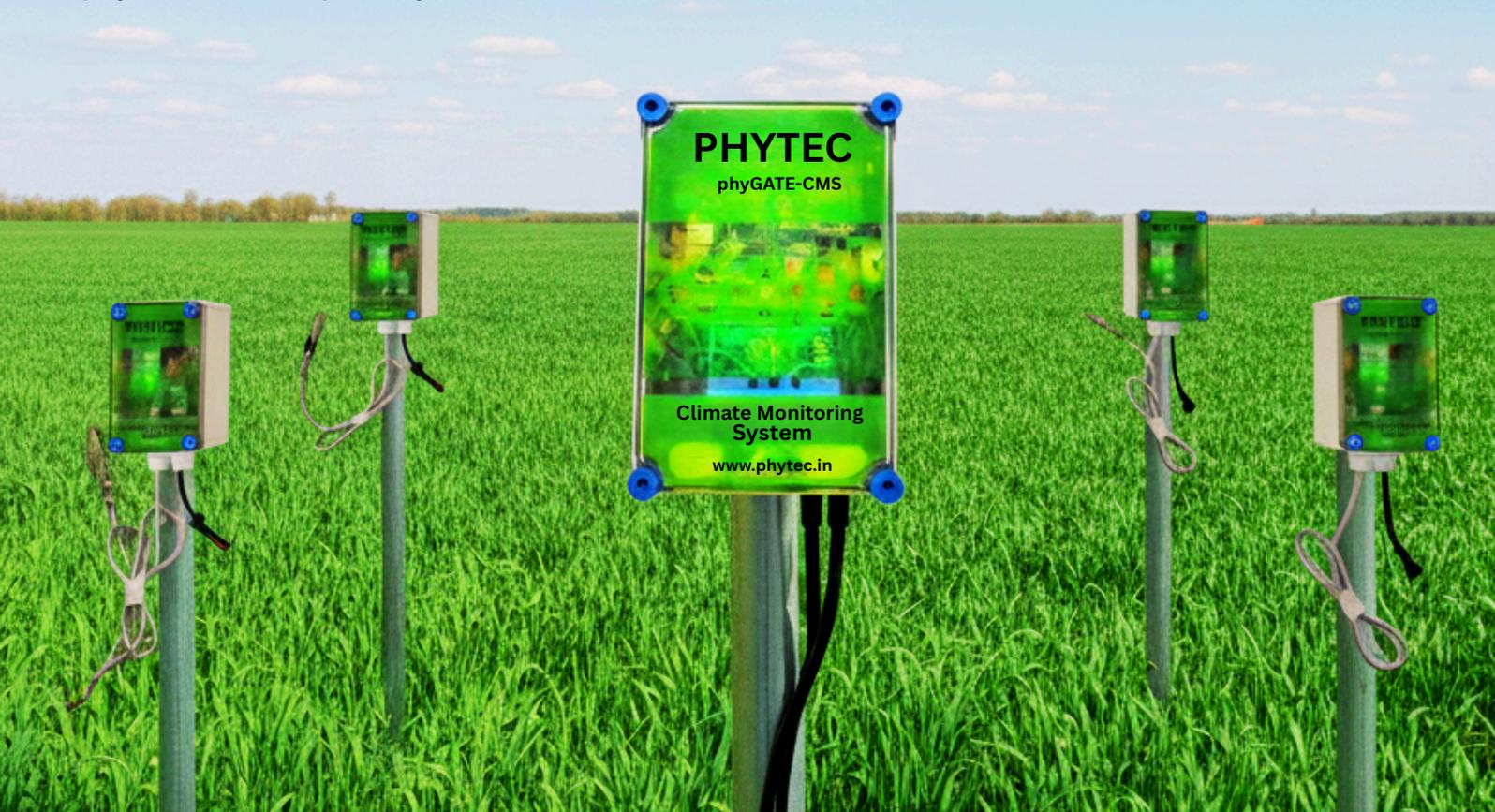# CLIMATE MONITORING SYSTEM

PHYTEC provides scalable, intelligent edge system solution that seamlessly bridge sensor nodes, industrial-grade gateways, and AI-enabled cloud platforms. Our solutions drive digital transformation in **Smart Agriculture** for real-time monitoring and analysis of crop-growth, diseases, crop yield, soil quality.

PHYTEC
phyGATE-CMS

Climate Monitoring System
www.phytec.in

How it Works

phyEDGE-Sens is a **Smart Sensing Controller** that transforms any conventional sensor into a smart sensor.

phyEDGE-Gateway is an **Edge AI Gateway** that connects and manages local sensors, enabling secure and efficient communication with the cloud.

phyEDGE-Link is a reliable, scalable, **AI-enabled Cloud platform** offering ready-to-deploy applications for diverse industrial and infrastructure use cases.

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Climate Monitoring Sensor phySENS-WTH41

Techinal Specifications

SOC	
Processor	ARM® Cortex®-M33
Frequency	up to 78Mhz
Dual Band Radio	Sub-GHz + 2.4 GHz BLE

SENSOR	
Temp & Humidity	SHT41 + Metal Shield
Temperature	-40°C to +125°C
Accuracy & RT	+/- 1.8 °C
Response Time	2 Sec

SOFTWARE	
Operating System	phyRFmesh

PHYSICAL PROPERTIES	
Power Supply	5V DC
Dimensions	113 x 63 mm
Weight	400 Grams

Key Features

- **High-Accuracy Sensor Core**: Built on SHT41 for precise temperature and humidity measurements..
- **Ultra-Low Power Operation**: Perfect for battery-powered IoT and remote monitoring devices.
- **Seamless Connectivity**: Standard interfaces for integration with industrial and smart city platforms.
- Global Standards Compliance: Designed for deployment across diverse geographies and industries.

Applications

- Agriculture & Greenhouses
- Smart Buildings & Offices
- Cold Chain & Warehousing
- Healthcare & Labs

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phyEDGE-Gateway

phyGATE-CMS contains **RB-DCU** board and it is based on ARM processor, designed for secure and low-power embedded industrial applications. It offers robust connectivity with dual multiprotocol *Sink-Nodes* on South-Bridge and for North-Bridge Wi-Fi, Ethernet, Cellular 4G/5G and Bluetooth alongside high security TPM on board.

Running Linux, this board is an ideal solution for IIoT gateways and remote monitoring in demanding industrial environments.

Technical Specifications

SOC	
Processor	ARM Cortex-A7/A53/A55
Frequency	528MHz - 2000MHz
Security	AES, Ciphers, RNG, RSA
MEMORY	
eMMC	8GB / 32GB
RAM DDR3	512MB / 4GB
EEPROM	4 kB
SOFTWARE	
Operating System	Linux(Yocto based)
INTERFACES	
Ethernet	1x 10/100/1000 Mbps
Serial	1x RS-232 Full duplex / RS-485 HalfDuplex, UART
Digital Input	4x DI
MMC/SD/SDIO	microSD Card Slot
Bluetooth	1x
Optical UART	1x
RF connector	2x
Display	SPI -TFT LCD
Boot Source	eMMC, SD Card
Connectivity	4G fallback to 3G/2G
PHYSICAL PROPERTIES	
Temperature	-40 ° C to + 85 ° C
Power Supply	5V (DC)
Dimensions	280 x 190 x 130 mm
Weight	1.5 Kilograms

phyEDGE-Link AI Cloud

Phy-EDGE-Link AI Cloud Platform, built on an open-source framework, is a powerful solution for managing data, enabling real-time monitoring, and delivering decentralized AI-driven analytics both at the edge and in the cloud. Its core **Network Management System (NMS)** component supports scalable network management, from small setups to millions of connected devices. The platform includes ready-to-deploy applications for diverse use cases such as **Smart Agriculture**, *Digital Factories, Smart Cities, eMobility & EV Charging Infrastructure, Utility Automation, and Smart Transportation*

PHYTEC
Embedded, India

Smart Agriculture with CMS

Coconut farmers in Tamil Nadu's Pollachi region taken initiative to combat the spread of Root Wilt Disease and climate-induced crop vulnerability, they adopted PHYTEC's Climate Monitoring System (CMS).

This solar-powered, network-independent solution enables real-time monitoring of critical environmental parameters—temperature, humidity, rainfall, and solar radiation—across farms in Anamalai and Pollachi blocks.

With over 10 lakh coconut trees already affected and 1 lakh removed, CMS provides location-specific climate insights to guide crop diversification and identify alternative fruit and spice crops suited to micro-climatic zones. CMS system seamlessly integrates with cloud infrastructure, supporting data-driven decision-making. Backed by *Tamil Nadu Agricultural University*, this farmer-led, tech-enabled initiative is redefining sustainable agriculture in the region.

Ordering Information

Sno	Part Number	Description
1	**RBSYS-CMS**	CMS Complete Solution (5x phySENS-WTH41, 1x phyGATE-CMS, phyEDGE-Link Cloud 1 Year & Installation Support)
2	**RBGW-CMS**	phyGATE-CMS Gateway
3	**RBSNS-WTH41**	phySENS-WTH41 Sensor
4	**RBCLD1-CMS**	phyEDGE-Link Cloud 1 Year Subscription

CMS Link

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