DelphEon
Accelerating IIoT



Smarter Solutions for Industrial IoT

Product Range Overview

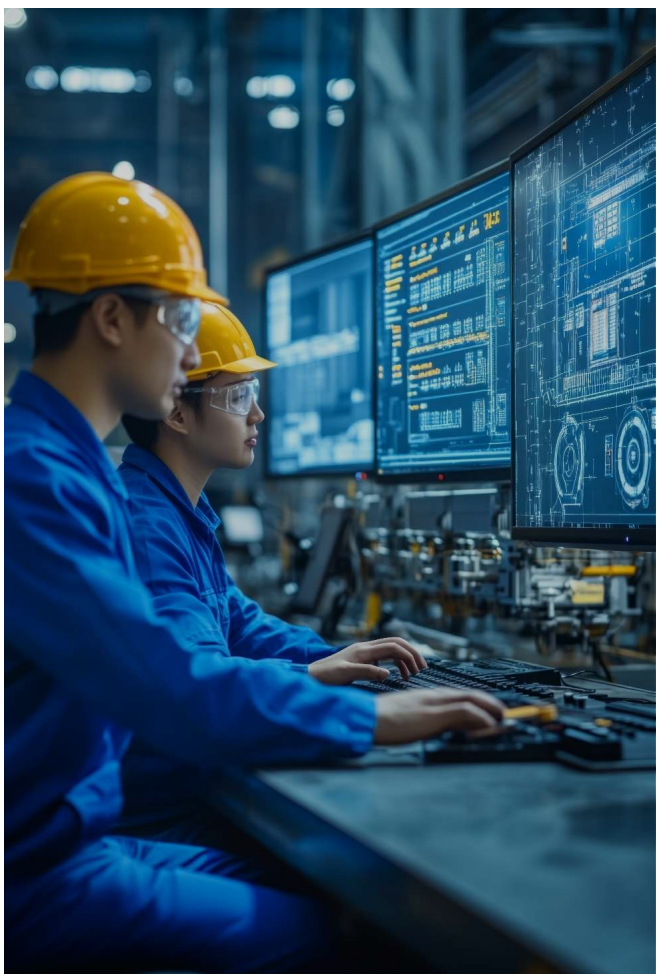
Product description, quick and easy selection of products.

You may also visit Delpheon website:

www.delpheon.io

The Connected World

Imagine a world where every device has a voice, where sensors seamlessly connect and exchange data, and where information flows effortlessly between them and the central hub through a secure IP connection. This is the incredible world of Internet of Things, where possibilities are boundless.



Welcome to the 'Industry 4.0' era, where IoT is poised to revolutionize industries, boosting productivity and ensuring unparalleled efficiency. In the critical infrastructure sector, IoT is a game-changer, redefining the way we access real-time information and empowering us to manage equipment remotely. In today's dynamic landscape, industry leaders are embarking on a remarkable journey of digitalization. They aren't just modernizing their internal processes but also forging strong, digital connections with partners across the value chain. At the culmination of this transformative process, these industrial trailblazers will emerge as true digital enterprises. Their core remains their physical products, but they'll be elevated by dynamic digital interfaces, efficient processes, and a treasure trove of innovative, data-powered services.

Partner with **Delpheon** to lead the way, not follow.



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Introduction

Delpheon is a comprehensive solution **:** Offering Remote Diagnostics , Predictive Maintenance , Industry 4.0, and Digital transformation capabilities. Delpheon leverages AI and machine learning to deliver; Monitoring, Analytics and Control. It empowers businesses to **Predict** faults, **Diagnose** issues, and **Optimize** operations—all with minimal manual intervention.

Core Components



Sensor Packaging



IO Modules



Communication Modules



Data Management Suite



Dashboard Creator



Prediction Engine



Alerting System



Optimization & Control

How Delpheon Helps Enterprises:

1. **Measure:** Energy, water, compressed air, and more. Track availability, quality, and performance.

2. **Monitor:** Specific consumption, OEE, EER, MTTF, MTBF etc.

3. **Benchmark:** Compare against industry standards, trends, and historical data.

4. **Improve:** Use anomaly detection, predictive maintenance, and optimization to enhance efficiency and reduce downtime.

DelphEon backed by **Gadgeon Smart Systems** is your complete Industrial IoT solution provider. Gadgeon is an end-to-end Product engineering and Technology company, which enables us to make custom sensors and hardware for data collection especially from legacy systems. By leveraging our expertise in Product engineering, IoT engineering, Embedded systems - Hardware and Firmware, Full stack development, Cloud application development, Advanced Data Analytics using Machine-Learning and AI; customers can gain on high-impact business transformation initiatives.

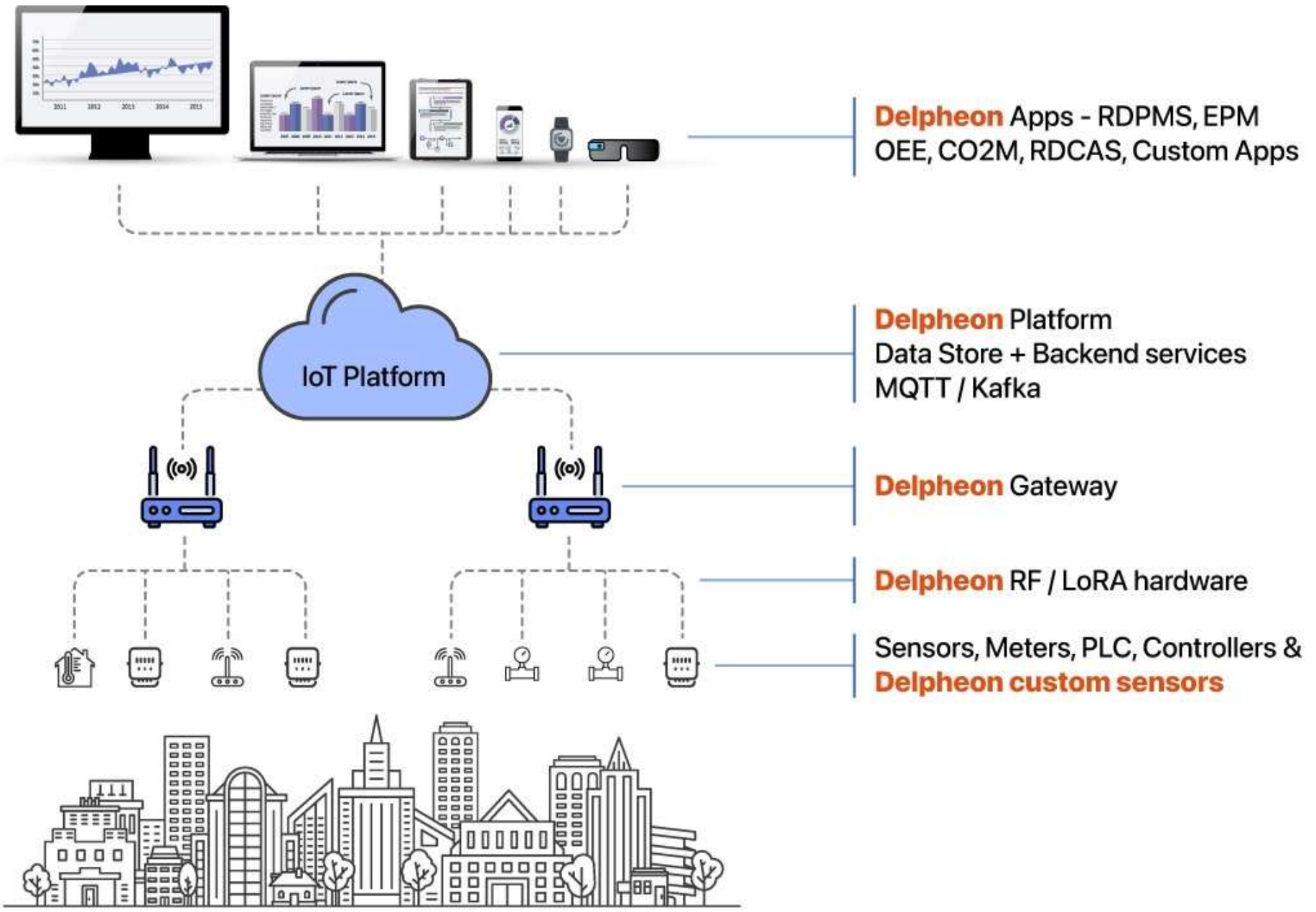
End To End Capability

Delpheon integrates various industrial devices, processes data, and delivers actionable insights to streamline your entire operation. It ensures seamless data flow from sensors and edge devices to the computing platform, enabling real-time decision-making. With its end-to-end solution, Delpheon allows industries to monitor, control, and optimize operations effectively using a combination of advanced connectivity, data processing, and analytics.

Delpheon's architecture is scalable, secure, and fully customizable, designed to meet your unique industrial needs.

Our platform spans across multiple critical layers:

1. **Physical Layer**: Supports data collection from a vast range of sensors, meters, PLCs, and controllers.
2. **Communication Layer**: Delpheon gateway combined with robust communication modules, ensure reliable data transmission from devices to the platform.
3. **Computing Layer**: The Delpheon platform offers powerful data processing, real-time analytics, and AI/ML to provide actionable insights that drive smarter decisions and reduce operational downtime.



Products Overview

DelphEon offers a comprehensive suite of products strategically positioned within every layer of the Industrial Internet of Things (IIoT) architecture. From smart sensors and edge computing, to robust data processing, analytics, and secure connectivity, DelphEon's versatile solutions seamlessly integrate with each stage, enabling end-to-end IIoT capabilities for enhanced industrial operations.



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Product Details

Delpheon Sensorconnect Module



Delpheon SensorConnect provides accurate measurements of **current**(contactless) and **voltage** in various industrial environments. With its modular design and advanced isolation technology, SensorConnect ensures reliable performance while maximizing space and minimizing installation efforts. Whether it's for railway systems, oil and gas operations, or intelligent buildings, Delpheon SensorConnect delivers **precision**, **safety**, and **efficiency** in a single compact module.

Advantages

Precision & Safety

Achieve highly accurate current and voltage measurements with advanced isolation technology, ensuring enhanced safety and equipment protection .

Compact & Easy Installation

The stackable, space-saving design combined with DIN Rail mount ability and daisy-chain power supply simplifies installation, reduces wiring complexity, and maximizes efficiency in confined spaces.

Rugged & Reliable Performance

Designed for harsh industrial environments, Delpheon SensorConnect offers built-in surge protection to ensure continuous operation and uninterrupted output in challenging conditions.

Industries

RAILWAY

MANUFACTURERS

INTELLIGENT BUILDINGS

OIL & GAS

AUTOMOTIVES

Technical data

Sensorconnect - Current

	SC-DC10A	SC-DC1A	SC-AC1A
Type	DC	DC	AC
Measuring type	Contact less current measurement	Contact less current measurement	Contact less current measurement
Max current	10A DC	1A DC	1A AC
Power supply	12-40V DC	12-40V DC	12-40V DC
Output	0-10V	0-10V	0-10V
Storage temperature	0 ºC to 70 ºC	0 ºC to 70 ºC	0 ºC to 70 ºC
Mounting	Din Rail mountable	Din Rail mountable	Din Rail mountable

Sensorconnect - Voltage

	SC-DC110V	SC-DC10V	SC-AC110V
Type	DC	DC	AC TRMS
Max input voltage	160V DC	10V DC	150V AC (50 or 60 Hz)
Power supply	24V to 60V DC/AC	24V to 60V DC/AC	24V to 60V DC/AC
Accuracy class (Acc to IEC 60688)	0.2	0.2	0.2
Isolation	Input to output : 3.2kv Power supply to input/output : 5.2kv	Input to output : 3.2kv Power supply to input/output : 5.2kv	Input to output : 3.7kv Power supply to input/output : 3.7kv
Output	0-10V or 4-20mA	0-10V or 4-20mA	0-10V or 4-20mA
Storage temperature	0 ºC to 70 ºC	0 ºC to 70 ºC	0 ºC to 70 ºC
Mounting	Din Rail mountable	Din Rail mountable	Din Rail mountable

Transform Your Operations with Delpheon SensorConnect

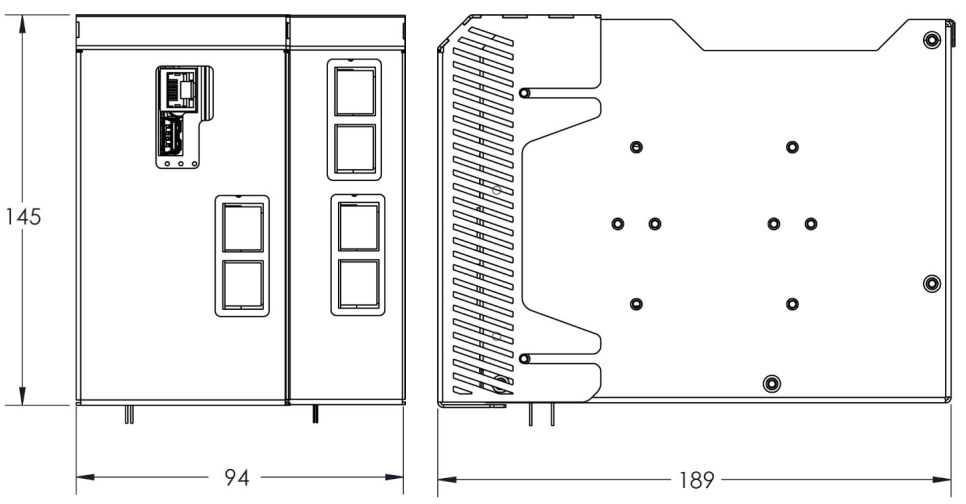
Delpheon SensorConnect is engineered for industries that require reliable and scalable solutions. With its robust design and user-friendly installation, you can effortlessly integrate it into your Industrial IoT systems.

Delpheon Field Transmission Unit (FTU)



Field Transmission Unit (FTU) provides powerful **telemetry capabilities**, allowing remote monitoring and management of assets. With its advanced and modular IO capabilities and various communication options, the FTU ensures reliable data logging, edge processing and data transmission (to central systems) enabling monitoring and analysis, even in the most challenging environments.

All dimensions in **mm**



Modular & Adaptable
The flexible backplane architecture enables easy customization, allowing the FTU to adapt to various applications. You can expand the number of analog and digital inputs by integrating additional I/O daughter cards.

Flexible Analog Input Options
Easily switch between 4-20 mA and 0-10 V analog input modes, providing versatility and adaptability to meet various application requirements.

Features

High-Performance Processing
Driven by the ARM Cortex A53, the FTU handles complex data processing swiftly, ensuring you have access to actionable insights in real time.

Industry-Standard Connectivity
Easily integrate the FTU into your existing systems with Modbus TCP communication, providing a seamless flow of data between remote assets and central control systems.

Robust I/O Capabilities
Featuring 20 analog and 4 digital inputs/ outputs, the FTU is equipped to handle a broad range of sensors and inputs, providing comprehensive monitoring.

Secure, Remote Access
With built-in VPN support, you can securely access and manage the FTU from anywhere in the world.

Communication options
It supports Modbus TCP, Modbus RTU, Wi-Fi and 4G LTE communication options.

Device Configuration And Functionality

Delpheon Field Transmission Unit (FTU)

Interface configuration	LAN, 4G/LTE
IO configuration	Card specific Channel configuration
Device Control	Soft Reboot
Security	User authentication(Json Web Token), Reset password
Diagnostic	Downloadable application logs with log rotate support

System Specification

CPU	Arm Cortex-A53 64-bit 2-CORE at 1.0 GHz
OS	QorIQ SDK (FSL Linux Distro) 3.1.10 (dunfell)
Storage	8GB eMMC5.1 NAND FLASH
RAM	DDR4 2GB
Programming	Linux CPP , Shell Scripting, C
Serial Port	Isolated RS485- 1X3POS 3.5mm Terminal Block - 1
PCIe Slots	PCIe 2.0; 2 Mini PCIe Slots (Half Size &Full size) for Wi-Fi and 4G/LTE
Power Input	24 ~ 36 VDC
Ethernet Port	RJ-45 10/100/1000 Mbps
Power options	24V@ 500mA (typical) and @ 850mA (maximum)
Storage Temperature	0°C to 85°C
Working Temperature	0°C to 70°C

Boundless Applications

Delpheon FTU Module is used to instrument legacy equipment on a factory floor for remote monitoring. It is equipped with analog inputs, digital I/O, and relay outputs which can be connected to sensors and actuators. It acts as a Modbus TCP or RTU slave, that can be controlled from IoT Gateways or any Modbus master controller for remote monitoring and control.

Multiple industries can leverage Delpheon FTU for implementing solutions like Building Management Systems, Process Monitoring, Home Automation, and Remote asset Monitoring.

Delpheon RF Connect



Delpheon RF Connect enables reliable, long-range wireless data transmission from remote locations to a central gateway. Utilizing the **license-free RF band in India**, RF Connect eliminates the need for complex wiring infrastructures, making it an ideal solution for environments with connectivity challenges. Available in two configurations— **Mesh Router (MR)** and **Border Router (BR)**—RF Connect ensures robust data collection and transmission in even the most constrained spaces.

Why Choose RF Connect?

1. **Long-Range, Reliable Communication**: With a range of several kilo meters in Line of Sight (LOS), RF Connect provides uninterrupted data transmission across vast distances.
2. **Self-Healing Mesh Network**: The multi-hop mesh technology ensures seamless data transfer, even in areas with potential signal interference or obstructions.
3. **Cost-Effective & Easy Installation**: The compact design and elimination of field wiring reduce installation costs, making it ideal for deployment in remote or hard-to-reach locations.
4. **Connectivity with devices**: Industry-standard downstream connectivity allows seamless integration with a wide range of field devices, such as PLCs, meters, and I/O modules.

Key Features

- Operates On License-Free RF Band
- Mesh And Border Router Configurations
- Supports Ipv6 Addressing
- TSCH (6Tisch) Technology
- OTA Firmware Updates
- MODBUS RTU Protocol

System Specifications

Delpheon RF Connect

General Specification	Power Input	24 VDC
	Radio Standard	IEEE 802.15.4 g/e
	Operating Temp	-30°C to +85°C
	Storage Temp	-40°C to +150°C
	Dimensions	93 x 51 x 28 mm
	Weight	175 g
Wireless Specifications	Wireless Band	865.125 MHz - 866.725 MHz
	Max Output Power	27 dBm
	Network Architecture	TSCH (6TiSCH) (IPv6 + Time Slotted Channel Hopping)
Serial Communication	Data Collection Protocol	MODBUS RTU
	Port	Isolated RS485
	Baud Rate	115200 bps

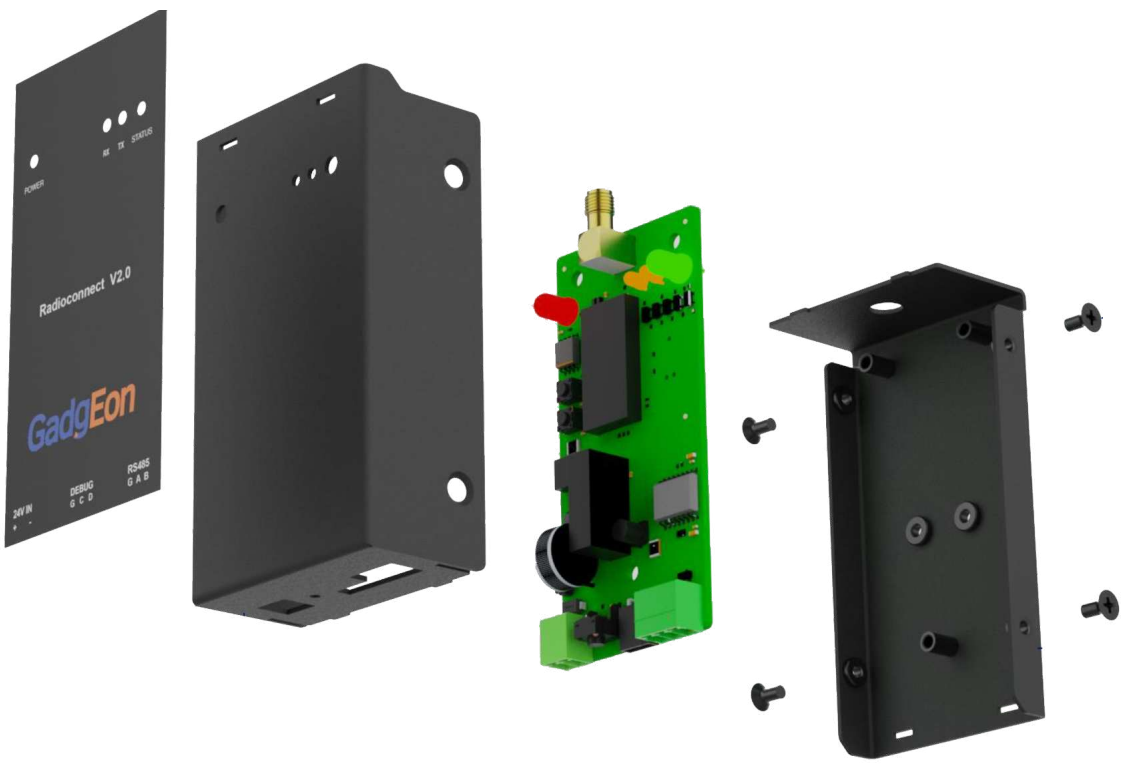
Why RF Connect?

Efficient Communication

RF Connect's multi-hop mesh and frequency hopping technologies reduce packet collisions, ensuring efficient, lossless and reliable data transmission.

Versatile Deployment

From industrial to commercial application, RF Connect can be integrated into any system that requires remote, wireless communication.



Delpheon Gateway

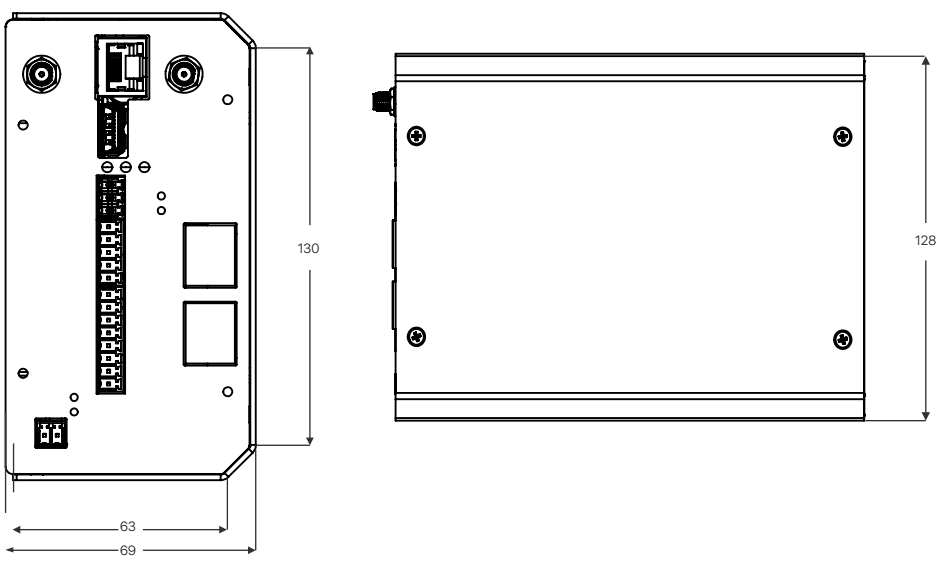


Delpheon Gateway is a robust, industrial-grade edge device that serves as the central hub for **communication**, **data collection**, and management in IoT ecosystems. It seamlessly connects to a wide range of devices and sensors, supporting protocols like Modbus and OPC UA, enabling efficient remote monitoring, advanced analytics, and **predictive maintenance.**

Secure Connectivity

- Secure connectivity – user authentication (JSON Web token) and reset password
- Multiple connectivity options – Ethernet with 10/100/1000Mbps and PCIe x1 interfaces
- Downloadable application logs with log rotate
- Physical Isolation between OT-IT

All dimensions in **mm**



Features

- **Robust Data Handling**
  Equipped with a high-performance ARM Cortex A53 CPU, the Delpheon Gateway ensures swift and efficient data processing for industrial operations.
- **Universal Connectivity**
  Supports a wide range of downstream connectivity protocols, including Modbus TCP/RTU, OPC UA, and BACnet, along with upstream protocols such as MQTT, Kafka, MS SQL, and PostgreSQL—ensuring seamless communication across all devices and systems.
- **Resilient in Rugged Environments**
  With its lightweight, compact design and durable build, it performs in the most demanding industrial settings.
- **Flexible Configuration Options**
  Users can configure devices easily through the web interface or by uploading a custom Excel sheet. Backup and restore configurations to simplify operations across multiple sites.
- **Edge Capability**
  Equipped with Timer, Trigger, Delta, Event, and Threshold-based reading capabilities along with optional write functionality for added flexibility.

Use Cases

1 Remote Monitoring
Gateways are deployed in remote monitoring systems to measure operational and process parameters such as temperature, humidity, pressure, vibration etc in industrial facilities, laboratories, and outdoor environments.

2 Energy Management Systems
Gateways control and monitor energy consumption in buildings, factories, and renewable energy installations.

3 Building Management
The Delpheon Gateway facilitates real-time monitoring of HVAC, lighting, energy meters, and flow meters; optimizing energy efficiency and managing building operations.

4 Industry 4.0
Gateways collect data from sensors, machines, industrial systems such as PLCs, controllers, and other devices to analyze conditions, and automate industrial functions for optimal yield and resource efficiency

Technical data

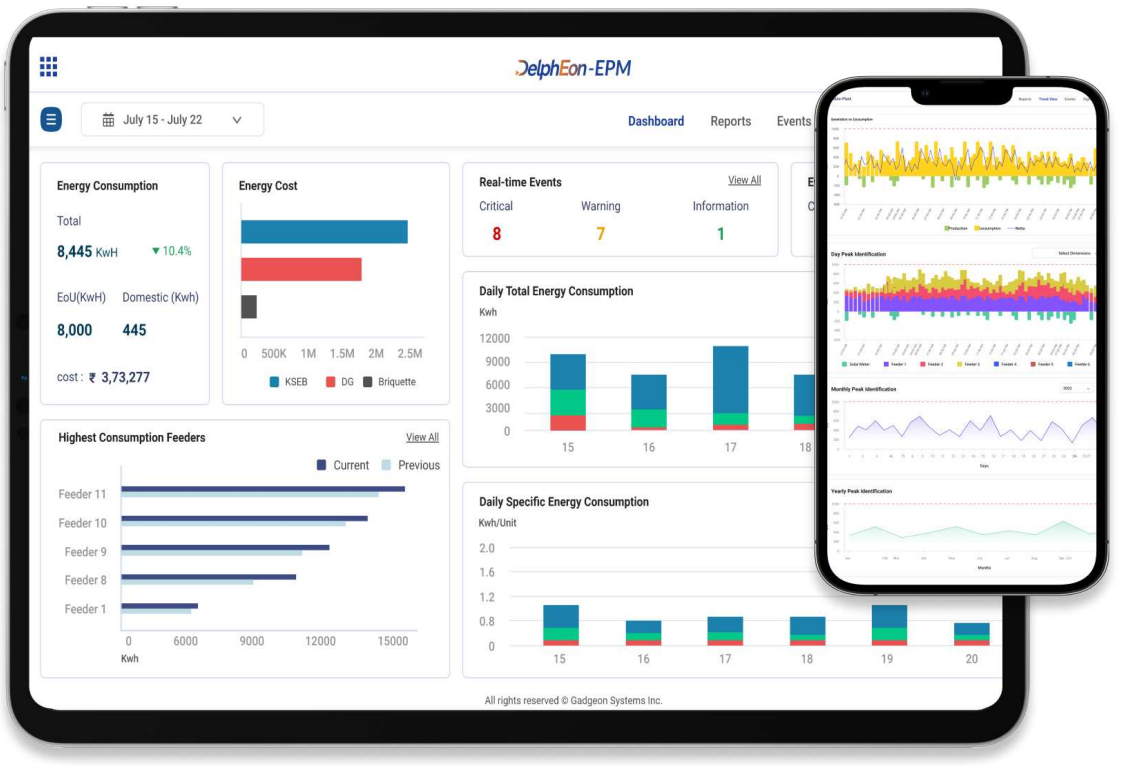
Delpheon Gateway

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Programming	Linux CPP , Shell Scripting, C
Serial Port	Isolated RS485- 1X3POS 3.5mm Terminal Block - 1
PCIe Slots	PCIe 2.0; 2 Mini PCIe Slots (Half Size &Full size) for Wi-Fi and 4G/LTE
Power Input	24 ~ 36 VDC
Ethernet Port	RJ-45 10/100/1000 Mbps x3
Power options	24V@ 500mA (typical) and @ 850mA (maximum)
Storage Temperature	0°C to 85°C
Working Temperature	0°C to 70°C

Delpheon LiTE

Integrate disparate data from machines and manufacturing systems such as MES, ERP, Laboratory, & quality systems. Effortlessly create and publish dashboards. Receive automated alerts.

Delpheon Lite is an innovative, lightweight platform, designed to provide industries with a powerful yet **simplified IIoT solution**. With Delpheon Lite, industries can seamlessly **collect**, **monitor**, and **analyze data** from connected devices, making it the perfect platform for small to mid-sized operations looking to optimize efficiency.



3 In 1 SOLUTION

IOT GATEWAY

The IoT Gateway software is a mini-SCADA which collects OT data (PLC, meter, sensor) automatically.

DATA HISTORIAN

Warehousing data from multiple sources like OT, MES, ERP & quality systems.

DASHBOARD CREATOR

Intuitive analytics tool to design, visualize, and publish data insights with the team or in public.

Key Features

Easy Configuration and Setup: Offers an intuitive, user-friendly interface for easy configuration of device parameters. It simplifies setup and management, enabling quick and effortless configuration without requiring extensive technical expertise.

Drag & Drop Dashboard Creator : Create intuitive dashboards tailored to your operational needs with our easy-to-use dashboard builder.

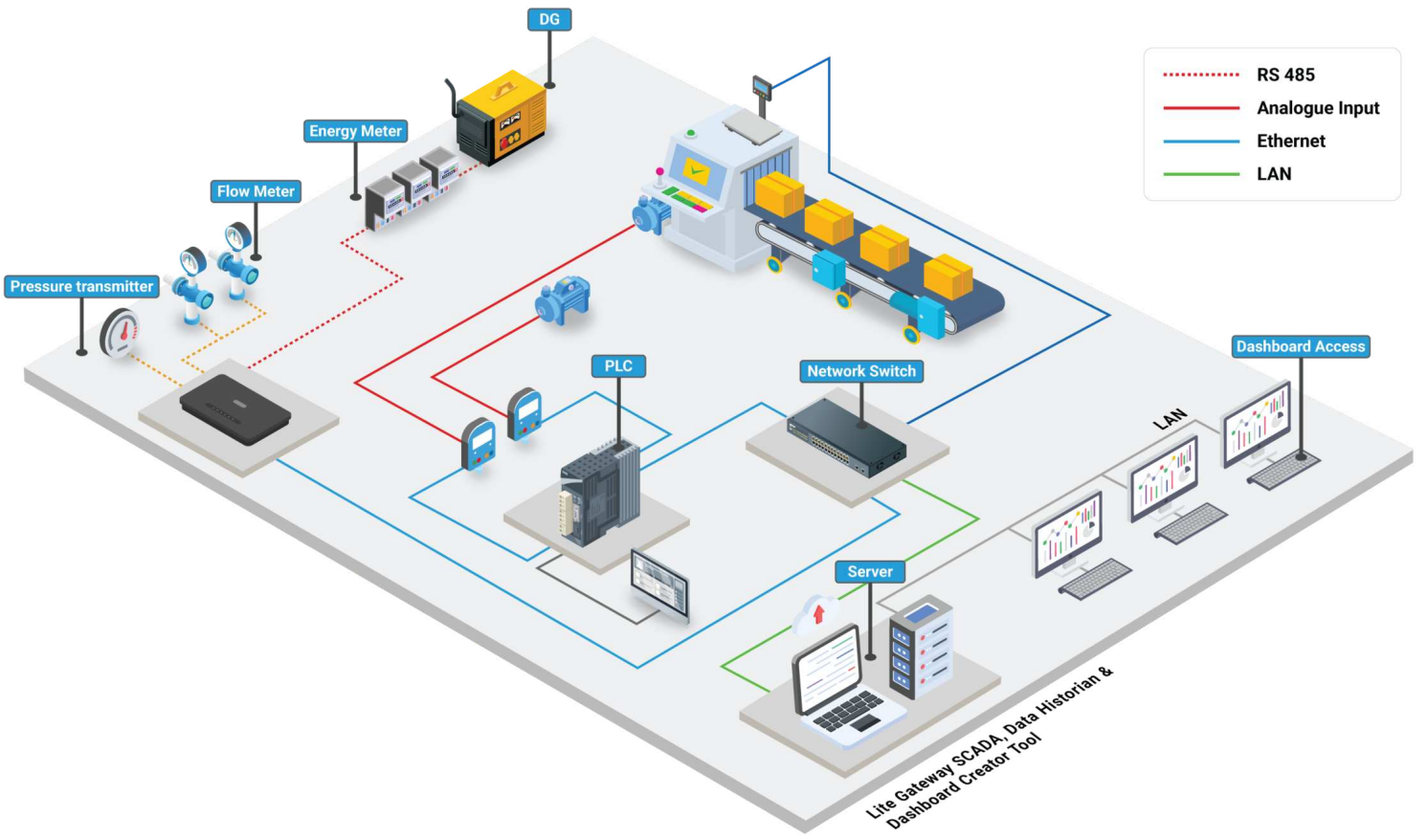
Seamless Data Source Integration: Delpheon Lite enables easy integration of multiple data sources, including telemetry readings, manual data inputs, and other databases.

Use Cases

Energy Accounting :A real-time energy dashboard integrating data, transactions, and analytics for efficient demand forecasting and savings.

Sustainability / ESG : Monitor sustainability metrics, reduce carbon footprint, and align with ESG goals through IoT-powered dashboards and reporting.

Industry 4.0 :Leverage IoT for production monitoring with drag-and-drop dashboards, driving informed decision-making and accurate predictions.



This deployment scenario demonstrates how Delpheon Lite seamlessly collects data from sensors like pressure transmitters, flow meters, and energy meters, delivering real-time monitoring to enhance operational efficiency. It connects with PLCs and controllers also. It supports downstream protocols such as OPC-UA, Modbus TCP/RTU, and BACnet. Upstream communication is enabled via MQTT, Kafka, PostgreSQL, and others, making it an ideal solution for industries requiring comprehensive insights and efficient decision-making.

Features Of Delpheon Lite

- Sensor/Meter Provisioning
- Code-Free Visualization Builder
- Real-Time Insights
- Alerts & Notifications
- Access Control
- Multiple Data Sources
- SQL IDE With Metadata Browser
- Predictive Analytics
- Highly Secure
- Unlimited Publishing

> Delpheon Lite offers a 3-in-1 solution for seamless data collection, warehousing, and dynamic dashboards. It converts sensor and PLC data into actionable insights—no coding required. It is scalable, enabling collaborative decision-making in a cost-effective manner. Seize control of data analytics with LiTE's user-friendly interface and robust functionality.

Notes

Notes

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Partner with the Experts

Delpheon leads in industrial IoT solutions with an end-to-end platform connecting sensors, devices, and systems. Unlock smarter, data-driven decision-making across industries from manufacturing and logistics to energy and utilities. Delpheon's innovative technologies provide the insights and control you need to optimize operations, reduce downtime, and drive efficiency.

Get in Touch with Us

Our global team is ready to support you on your IIoT journey. Contact us today to learn more about how Delpheon can help transform your business.

GadgEon
Engineering Smartness

Gadgeon Systems Inc
Milpitas, CA, USA

Gadgeon Europe BV
Aartselaar, Belgium

Gadgeon Middle East
Dubai, UAE

Gadgeon Smart Systems Pvt. Ltd
Kochi & Bangalore

www.delpheon.io

sales@gadgeon.com

+91 9947125427