CIMCON
digital
solutions for the digital economy

CIM 10

The most versatile IoT edge platform that drives digital transformation at scale within budget and on time

Sensor Data

- Wired or Wireless Sensor
- PLC/DAQ Energy Meter
- Machine Status

Industrial-grade Hardware and Software

- Peripheral Service
- PLC/DAQ Energy Meter
- Data Ingestion, Forward and Data quality
- Edge AI/ML
- Secured Data Transfer

Private/Public Cloud

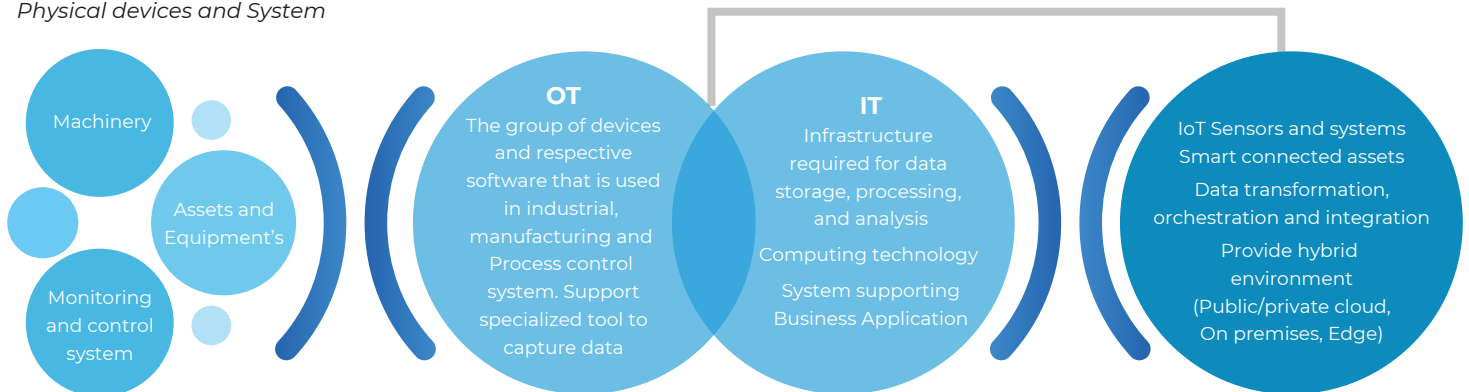AWS / Azure / Google

Client Data Center

CIMCON Edge platform aims to industry to motivate and alleviate the IIoT transition among different industries by providing an Edge platform with a secured cloud environment and with all the technology needed to make digital transformation directly accessible to the industry.

CIM 10 helps industry needs to drive more performance from your assets, Collaborate better and generate more value from the existing system through operational excellence resulting in offering greater business agility, faster insight, Lower operating cost, and faster ROI from digital transformation projects.

CIM 10 helps the industry to operate their business in real-time and make smarter decisions by streamlining the processes, taking measures before any deviation or fault occurs, optimizing operations, and improving safety.

SOLVING THE SHORTCOMING OF OT/IT CONVERGENCE

Physical devices and System

Machinery

Assets and Equipment's

Monitoring and control system

OT
The group of devices and respective software that is used in industrial, manufacturing and Process control system. Support specialized tool to capture data

IT
Infrastructure required for data storage, processing, and analysis
Computing technology
System supporting Business Application

IoT Sensors and systems
Smart connected assets
Data transformation, orchestration and integration
Provide hybrid environment
(Public/private cloud, On premises, Edge)

KEY FEATURES

CIM10 provides an end-to-end IIoT solution for all your remote service, monitoring, and maintenance needs from hardware to the Cloud. CIM10 is a next-generation Industrial IoT platform engineered with features to build IoT solutions for a variety of industrial use cases, by supporting a variety of protocols to support a wide variety of industrial equipment in monitoring, asset tracking, equipment condition monitoring predictive maintenance.

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Secure and Reliable

Easy to Install and Configure
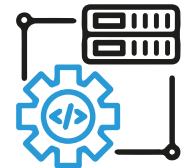
Remote Access

User Management

No Code Environment

White Labelling

Alarms and Notifications

Historical Configurable Data

▸ **Multiple Wired and Wireless Connectivity Options**

Equipped with onboard Analog and Digital Inputs, RS485, USB- Host, and Bluetooth to connect with various local and remote field Sensors and Devices for ingesting data. Also supports RS232, Gigabit-Ethernet, Wi-Fi, and Cellular Networks (2G / 4G) for host Server/Cloud connectivity with various industry-standard protocols such as MODBUS, MQTT, etc.

▸ **High Speed IO Expansion**

It has got a dedicated high-speed RS-485 expansion bus to cater to applications with a large IO count.

▸ **Computing at the Edge**

CIM 10 is powered by a 1GHz single-core processor that offers ample processing power at the Edge. This allows compute-intensive AI/ML algorithms, processing of large volumes of data for real-time alerts and notifications to be performed close to the asset for the fastest possible response time without the costly overhead of communicating the data into the cloud.

▸ **CIM Cloud**

Managing devices connected to the CIM 10 at scale and enterprise-wide in a secure manner is critical.

▸ **Data Lake (iData)**

It's all about the data. Data contains invaluable information about your assets, how they are performing, and if they are at risk of failing in the future. If you listen to what the data is saying, you can avoid costly asset failures and downtime. With CIMCON Digital's intelligent iData platform, all your structured, semi-structured, or fully unstructured data is securely stored in iData's Data Lake. This data can be easily accessed by authorized developers, data scientists, and analysts for tasks such as reporting, visualization, advanced analytics, and machine learning.

▸ **Ease of Configuration**

Multiple user interface options such as USB debug, and Bluetooth to connect to a smart device allow unlimited flexibility to users for device configuration, and run time data capture on-site analysis.

▸ **Security**

Secured Provisioning, Communication, and Data Integrity is ensured by enhanced Cyber Security architecture both at the IT and OT level.

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APPLICATION AREAS

▶ **Gas Compressor and Dispenser Monitoring**

- Temperature and Pressure parameter monitoring of the Gas station with Alarm generation.
- Compressor loading and suction pressure Remote Control.

▶ **Smart Building**

- Energy efficiency analysis and optimization opportunities.
- Access control and safety.
- Space utilization and parking management.

▶ **Smart Water**

- Water Generation, Water Treatment Plants, Filtration Bed, and Sewage Treatment Plant Operations.
- Water leak detection, Chlorine leak detection, and Starter panel heat/smoke detection.
- Pump and Tube Well Motor preventive maintenance with help of useful data analytics and alarm generation i.e., detect Excessive Motor Vibration, Pump Dry Running, Locked Rotor condition, etc. by monitoring various parameters (Voltage, Current, Power, Flow, Vibration, and Temperature).

▶ **Oil & Gas distribution network**

- Real-time monitoring of critical parameters in Cathodic Protection application i.e., TR Current, TR Voltage, PSP.
- Time-stamped with Geographical location information History Datalog and Trend generator.

▶ **Smart Manufacturing**

- Machine efficiency and power consumption analysis.
- Machine fault detection and diagnosis.
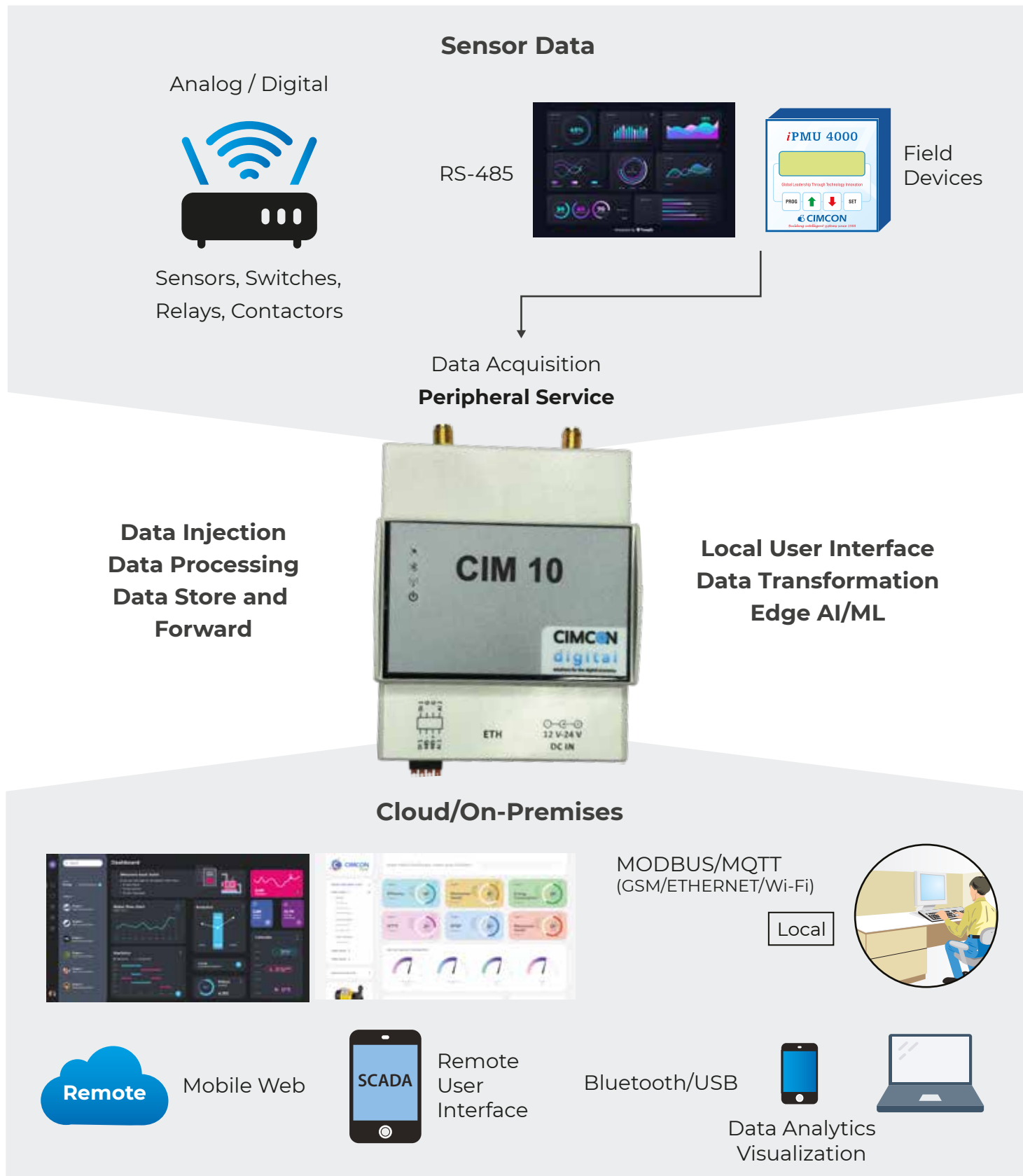- Quality analytics.

▶ **Protocol Converter**

- With multiple wired and wireless connectivity options it can act as a Protocol Converter/Gateway to cater to any legacy application upgrade requirement in a plug-and-play manner.

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HOW IT WORKS

Sensor Data

Analog / Digital

Sensors, Switches, Relays, Contactors

RS-485

iPMU 4000
Global Leadership Through Technology Innovation
PROG | ↑ | ↓ | SET
CIMCON
Building intelligent systems since 1999

Field Devices

Data Acquisition
Peripheral Service

**Data Injection
Data Processing
Data Store and
Forward**

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**Local User Interface
Data Transformation
Edge AI/ML**

Cloud/On-Premises

MODBUS/MQTT
(GSM/ETHERNET/Wi-Fi)

Local

Remote   Mobile Web

SCADA   Remote User Interface

Bluetooth/USB

Data Analytics Visualization

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EDGE MANAGER

Features

- Asset Inventory
- Device Inventory
- Customer Management
- User Management
- Telemetry Visualization
- User Defined Workflows
- Rules based Data Routing
- Device Health Monitoring
- Device Administration
- Device Fleet Dashboard
- Firmware Management
- Device Profile Management
- Sensor Library
- Alarm Management
- Notifications
- App White Labelling

Integrations

- External MQTT
- HTTP REST API
- Outbound HTTP Webhook
- OPC UA Adapter
- AWS IoT Core
- AWS Kinesis
- Azure Event Hub
- Azure IoT Hub
- IBM Watson

- **Mesh Networking**
  - CIMCON Digital's CIM 10 comes with Bluetooth Low Energy (BLE) capabilities. One of the often-used BLE feature is the mesh networking capability. This allows intelligent applications in the edge device to manage a group of sensors, being able to apply a configuration to group of sensors in the mesh, and also to gather sensor states. Thus, the BLE mesh feature enables awareness of the sensor network with very optimized resource utilization.

Ready to use Micro Services Catalogue

- SDK – Python
- SDK – C/C++
- PLC Flow execution engine
- FFT Analytics Service

- AWS IoT Core Connector
- Azure IoT Connector
- Google IoT Core Connector
- Things Worx Connector

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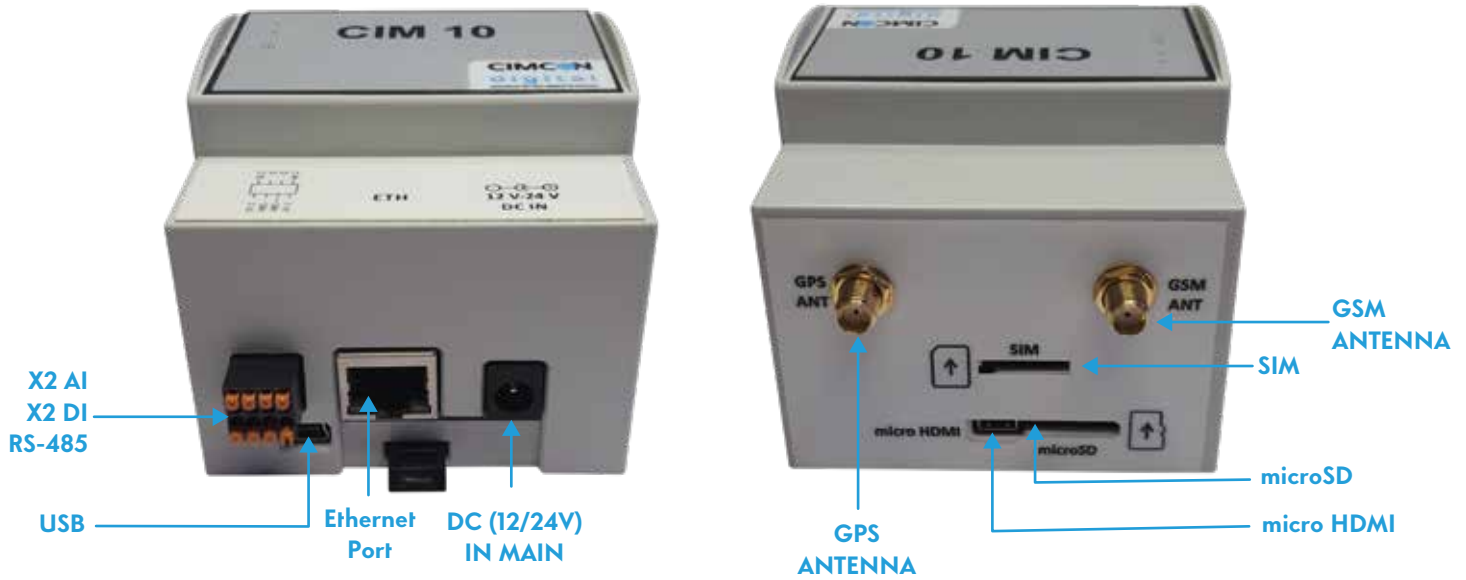
DEVICE TECHNICAL SPECIFICATIONS

• CORE	ARM Cortex-A8	Single core, 1GHz
	RAM	512 MB
	Flash	4 GB
	microSD card slot	x1, for additional data storage
	RTC with battery backup	Yes
• PERIPHERAL IO	Digital Input	x2, 12/24V DC operated
	Analog Input	x2, 12-bit resolution, 0-10V / 4-20mA input
	IO expansion	Yes, Modbus IO(External on RS-485)
• WIRED CONNECTIVITY	RS-485 port	x1
OPTIONS	Ethernet port	x1, 10/100 Mbps
	USB Device	x1 (Console)
• WIRELESS CONNECTIVITY	Cellular modem interface	2G/4G LTE-CAT1
OPTIONS	GPS (Optional)	GPS, GLONASS, BeiDou
	Wifi	-
	Bluetooth	x1 (BT5.0 protocol)
• POWER SUPPLY	DC operated	12~24V DC, 15W max
• ENCLOSURE	Plastic	ABS/PC
	Mounting	Plate mount (with additional clamp) or DIN rail
• OPERATING CONDITION	Temperature	-20^{0}C to + 55^{0}C
	Humidity*	20%-90% RH, non-condensing
	IP*	Ip20
		* Panel installation

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INTERFACE LAYOUT

X2 AI
X2 DI
RS-485

USB

ETH

Ethernet Port

DC (12/24V) IN MAIN

GPS ANT

GSM ANT

GSM ANTENNA

SIM

micro HDMI

microSD

microSD

micro HDMI

GPS ANTENNA

MECHANICAL DIMENSIONS

62mm

90.5mm

68.1mm

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Specifications subject to change without notice.
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