evoluzn

INDUSTRIAL IoT (IIoT)
AND
CLEANROOM SOLUTIONS

IoT SOLUTIONS

EVOLUZN

CLEANROOM SOLUTIONS

EDGE COMPUTING & CONTROL SYSTEMS

TEMPERATURE
HUMIDITY

30 °C
40 %

POWER CONSUMPTION

06 BAR

111000 KWh

111000 ppm
16 PSI
04 BAR

DUST PARTICLES MONITOR
LIQUID LEVEL MONITORING
GAS LEVEL MONITORING

ON / OFF

⚠ ALERT !

PLEASE CHECK GAS LEVELS
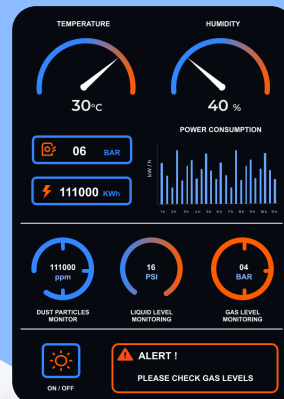
EVOLUZN

About Us :

Evoluzn Inc was formed in 2012 under the laws of Illinois, USA, with a primary focus on wireless broadband devices, including 5G/4G/3G routers.

Evoluzn India Private Limited is a fully owned subsidiary of Evoluzn Inc. that was established in 2019. The company's focus is on Research, Development, and Manufacturing of Internet of Things (IoT) devices that are useful in Home, Office, and Industrial Automation.

Evoluzn India Cleanrooms Private Limited, a fully owned subsidiary of Evoluzn Inc., was established in 2022. The company's focus is on Cleanroom Solutions suitable for Pharmaceutical, Electrical, and Electronics Industries, as well as Surgical Rooms in Medical Facilities.

By leveraging the expertise of these three entities, Evoluzn is fully equipped to provide end-to-end solutions to its customers. We specialize in building cleanrooms that are fully automated and equipped with real-time monitoring systems to communicate their conditions and attributes to local and remote audiences. We offer IoT devices that can be seamlessly integrated with your existing assets to provide real-time data for monitoring and controlling purposes.

Our Focus Areas relevant to Automation :

➤ **STANDARDIZATION:**

We offer be spoke IIOT solutions that are compliant with industry standards. These solutions are achieved by deploying appropriate sensors and integrating them with a unified digital network.

➤ **SCALABILITY & ALIGNMENT WITH INDUSTRY X.X:**

Our company's solutions are designed to be scalable and ready for adding more sensors and devices in the future. All control modules are linearly scalable by nature.

➤ **SECURITY:**

Our company ensures secure communication by employing encryption protocols such as SHA256 in an end-to-end format between the client and server. We also custom-build our solutions with enhanced security to provide a fully customized and secure experience for our clients.

➤ **USEABILITY:**

Our company does not believe in the "one size fits all" approach. We understand that each control point and user interface is unique and should be built according to your requirements.

➤ **AFFORDABILITY:**

Our company provides solutions that are designed to be affordable and scalable for digital transformation.

WE ARCHITECT OUR SOLUTIONS CONSIDERING YOUR CURRENT GOALS AS WELL AS FUTURE EXPANSION POSSIBILITIES!

LIQUID LEVEL MONITORING

LIGHTING

POWER MEASURING

TEMPERATURE / HUMIDITY

PRESSURE

AIRFLOW

DUST PARTICLE MONITORING

FIRE HAZARD PROTECTOR

GAS LEVEL MONITORING

TEMPERATURE   HUMIDITY

30°C   40 %

POWER CONSUMPTION

06   BAR

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DUST PARTICLES MONITOR   LIQUID LEVEL MONITORING   GAS LEVEL MONITORING

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ALERT !
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EVOLUZN

✔ MEASURING & MONITORING

✔ LOCAL & REMOTE CONTROL

✔ LOCAL & REMOTE ALERTS (EWS)

✔ PROACTIVE STATISTICS

✔ HISTORIC DATA STORAGE & ANALYSIS (ML/AI)

EVOLUZN

Knowing the Overall Equipment Efficiency (OEE) of a manufacturing unit is crucial for Senior Management and Production Planning Teams. However, manual calculations of OEE can sometimes project a misleading picture due to inaccurate data. Imagine if machines could report their Availability and Yield Rates! In such a case, identifying machine or process-related issues to increase productivity and reduce overhead costs becomes a priority for everyone without having to take a top-down approach for optimizing the overall performance of the manufacturing plant's operations. This is where Industrial Internet of Things (IIoT) comes in.

➤ DATA VISUALIZATION:

When raw data is transformed into intuitive and usable information for aiding quick and proactive decision-making, most of the inefficiencies and issues can be readily identified and remedied by leadership teams. This is where Edge Computing becomes important. By deploying IoT sensors and devices at each production line, manufacturers can gather and process data in real-time, enabling them to identify and address inefficiencies in the production process. People working at the bay can visually see their own productivity, which works as a motivating factor to improve, and at the same time, systematic or process-oriented inefficiencies can be addressed by the management teams in parallel.

➤ INCREASE PRODUCTIVITY:

Tracking Overall Equipment Efficiency (OEE) is a crucial step towards achieving higher productivity and reducing losses. By identifying the root causes of lower OEE, organizations can reduce downtime, optimize equipment performance, and minimize quality issues, leading to higher production rates and output without the need for additional resources or investments.

➤ COST REDUCTION:

Optimizing machine utilization and process flows can help reduce production delays and improve overall output, leading to significant cost savings. By minimizing equipment downtime, organizations can avoid costly production delays. Improving quality and reducing defects helps minimize scrap, rework, and material wastage, resulting in further cost savings.

➤ IMPROVED EFFICIENCY:

Efforts to enhance Overall Equipment Efficiency (OEE) help identify and address inefficiencies in the production process. While this part is semi-manual, as machines report the actuals and humans must identify process-related issues, once the data is available, it becomes easy to identify process flow issues or challenges. By reducing idle time and streamlining manufacturing operations, organizations can make better use of their resources, leading to improved overall efficiency. Adding Machine Learning (ML) and Artificial Intelligence (AI) layers to the automated system, once adequate, applicable, and accurate data is available, will further propel the possibilities to improve the overall efficiency of operations.

➤ HIERARCHICAL DATA MODEL:

Evoluzn follows the ISA95 model for collecting and processing data, which enables Senior Management to track operational efficiencies of the Manufacturing Plant at Production Line, Area, Site, and Enterprise levels instantaneously at any time. This can be achieved by adding IoT sensors and devices to machinery at each Production Line, computing the Production Line Statistics at the Edge, and then communicating to the Central Control Server where each individual Production Line's Operational Efficiency Statistics can be sorted and grouped into Area, Site, and Enterprise Level summaries. Such information can greatly help track the current statuses as well as optimize the facility's throughput.

DATA COLLECTION

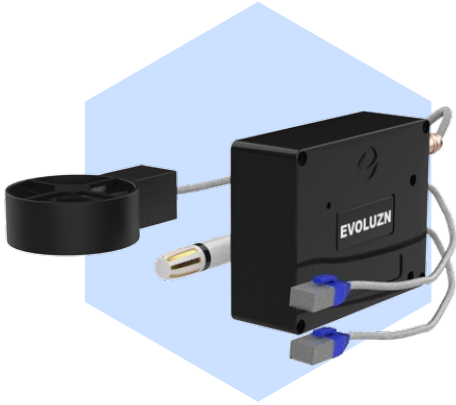DATA VISUALIZATION

INCREASE PRODUCTIVITY

IMPROVED EFFICIENCY

COST REDUCTION

OPTIMAL UTILIZATION OF ASSETS

MACHINE 1

75% AVAILABILITY
90% PERFORMANCE
95% QUALITY

64% OEE

MACHINE 2

70% AVAILABILITY
85% PERFORMANCE
88% QUALITY

52% OEE

MACHINE 3

80% AVAILABILITY
95% PERFORMANCE
92% QUALITY

70% OEE

MACHINE 4

75% AVAILABILITY
90% PERFORMANCE
95% QUALITY

64% OEE

PRODUCTION LINE EFFICIENCY

62.5 %

M1 M2 M3 M4

OEE %

1h 2h 3h 4h 5h 6h 7h

BAY 1 / AREA 3 / SITE 2

EQUIPMENT FAILURE 78%
PLANNED OUTAGE 21%
PRODUCT DEFECTS 9%
LOGISTICS DELAYS 15%
ACCIDENT / INJURIES 3%

ROOT CAUSES

EVOLUZN

EMPOWERING PROACTIVE DECISION-MAKING WITH REAL TIME PRODUCTION METRICS

INDUSTRIAL AUTOMATION

CLEAN ROOM MONITOR

MODEL NO. - EZN-CRMxxxx-B/W

Application:	Measure Monitor and Control Temperature, Humidity , Differential Pressure, Dust and Air Flow
Measuring Range:	• Temperature: -20 To +99°C • Humidity: 0 To 99 % • DP: -500 To 500 Pa • Dust Particles: 0.3~1.0; 1.0~2.5, 2.5~10mm • Air Flow: 1 To 9999 Ft3/M CFM
Connectivity:	Ethernet

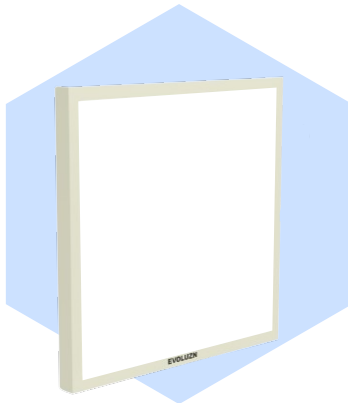## TEMPERATURE, HUMIDITY & DIFFERENTIAL PRESSURE METER

MODEL NO. - EZN-THDPSxxxx-B/W

Application:	Measure and Monitor Temperature, Humidity and Differential Pressure Locally as well as Remotely
Measuring Range:	• Temperature: -20 To +99°C • Humidity: 0 To 99 % • DP: -500 To 500 Pa
Connectivity:	Ethernet

SMART LIGHT

MODEL NO. - EZN-LED-2x2xxxx-60

Application:	IoT Based Smart Lighting Solutions for Cleanrooms and Industrial Areas
Sizes:	• 2' X 2' (610 X 610MM) • 2' X 1' (610 X 305MM) • 1' X 1' (305 X 305MM)
Wattage:	40W,60W,80W,100W
Connectivity:	Ethernet

DUST PARTICLE MONITOR

MODEL NO. - EZN-PDMxxxx-B/W

Application:	Measure and Monitor Density Of Dust Particles employing a Portable Monitor or IoT based Measure and Monitoring System .
Measuring Range:	0.3~1.0μm; 1.0~2.5μm; 2.5~10μm
Accuracy / Resolution:	2% / 1%

INDUSTRIAL AUTOMATION

MULTI MACHINES CONTROLER

MODEL NO. - EZN-MMC-8Mxxxx-95

Application:	Schedule and Control Multiple Machines in Production Area Locally and Remotely
No. Of Machines Control:	8
Control Machine Current Upto:	3 Φ / 440V / 95A

SMART INDUSTRIAL CONTROL PANEL

MODEL NO. - EZN-32INxxxx-T

|			
Application:	Touchscreen Based Production Bay Management System with Embedded Edge Computing		
Display Resolution:	1280 * 768 Pixels	**Operating System:**	Android
Connectivity:	Ethernet		

AIRFLOW MONITOR

MODEL NO. - EZN-AFMxxxx

Application:	Monitor and Measure Cleanroom Airflow for Maintaining Essential Air Pressure and Regulating Circulation
Accuracy:	97%
Connectivity:	Stand Alone / Ethernet
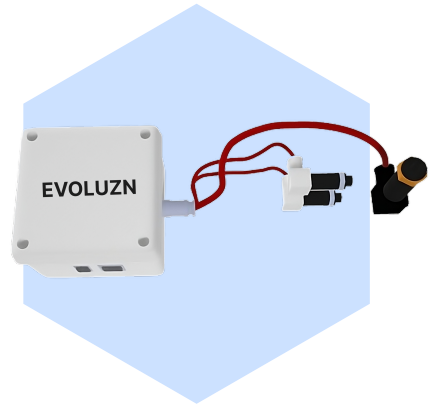
GAS PRESSURE MONITOR

MODEL NO. - EZN-GPMxxxx

Application:	Monitor and Measure Gas Pressure in Surgical Rooms and Industrial Facilities
Measuring Range:	• Gas Pressure: 0 To 16 BAR • Vacuum: 0 To -1 BAR
Connectivity:	Ethernet

INDUSTRIAL AUTOMATION

SMART SMOKE DETECTOR

MODEL NO. - EZN-SSDxxxx

Application:	Elevating Safety with an Ethernet Mesh-Based Smoke Detection Network and Early Warning System (EWS)		
Detection Sensor Type:	Photo-Electric	**Local Sound Alarm:**	Yes
SMS And App:	Yes	**Alarm Over Desktop :**	Yes
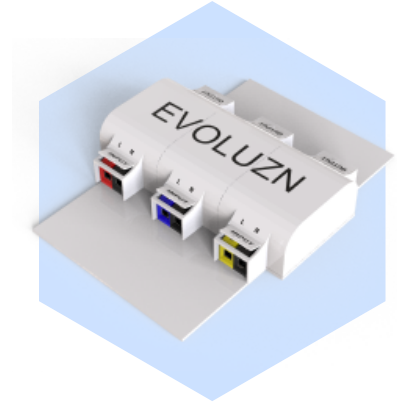
INDUSTRIAL ENERGY MONITOR AND CONTROLER

MODEL NO. - EZN-THDPSxxxx-B/W

|	
Application:	Enhanced Power Management for Heavy Machinery: Measurement, Monitoring, and Control
Measuring Range:	• Temperature: -20 To +99°C • Humidity: 0 To 99 % • DP: -500 To 500 Pa
Connectivity:	Ethernet
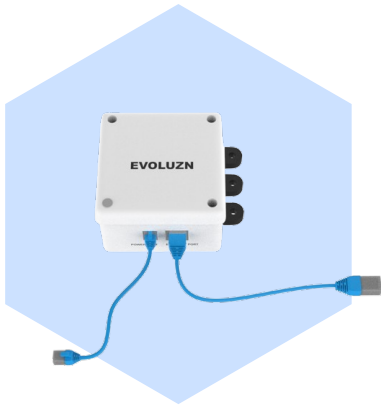
MOTOR FAULT DETECTOR

MODEL NO. - EZN-MFDxxxx

Application:	Realtime identification of Motor Failures and Reporting Root Causes .		
Input working voltage:	180Vac To 260Vac, 50/60Hz	**Designs For Motors Upto :**	3 Φ
Alerts:	Belt Down, Belt Broken and Motor Failure	**Power Monitoring:**	Yes
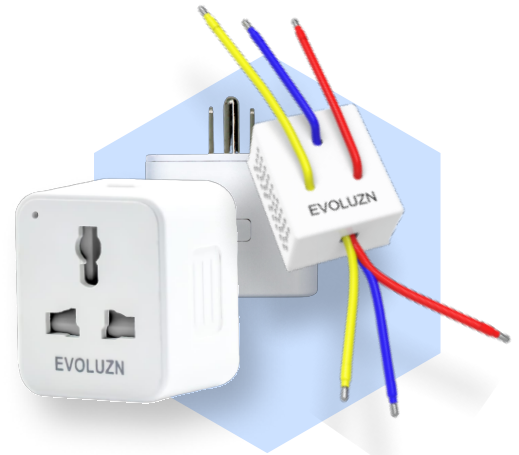
16A SMART PLUG

MODEL NO. - EZN-SP16xxxx

Application:	Monitor, Protect, and Control High-Power Consuming in Single-Phase Machines and Appliances		
Input/ Output Range:	90Vac To 260Vac , 50/60Hz , 16 A , 3600W		
Voltage And Power Protection:	User Defined Range	**Input Voltage Surge Protection:**	5kV

CLEAN ROOM SOLUTIONS

OFFERING FLEXIBLE, INNOVATIVE & TURNKEY SOLUTIONS

➤ MODULAR SANDWICH PANELS:

- Evoluzn offers Laminated / Precoated / SS Sandwich panels for cleanrooms, cold rooms and dry rooms that are designed following the latest CGMP norms and standards.

- Our range of quality products include Modular Wall Panels, Walk-able & Non-walk-able ceiling Panels with infill materials like PUF, EPS, Rockwool and Honeycomb.

➤ HEATING VENTILATION & AIR CONDITIONING SYSTEMS:

- Evoluzn offers range of HVAC solutions for Pharmaceutical and Hospital Clean rooms and Industrial Ventilation Systems. Our HVAC Team follows up to date guidelines of ASHRAE, ECBC Norms, LEED, OSHA, NFPA,SMANCA and Green Building guidelines while designing the HVAC Systems .

- Our specially made Air Handling Units are simple to operate , support energy saving, robust in construction and reduce microorganisms.

➤ DISPENSING AND SAMPLING BOOTHS:

Evoluzn provides a wide range of standard and customized Dispensing and Sampling Booths that are designed to partially purify raw materials and compounds. Dispensing Booths are engineered to eliminate powder contamination, thereby safeguarding the operator and the surrounding environment. Our Sampling Booths are equipped with two to three validation ports for Pre-filters and HEPA filters, which help indicate filter clogging.

➤ PASS BOX (DYNAMIC AND STATIC):

- Evoluzn's specially designed pass boxes are very well suited for various industries like Pharmaceutical, Electronic, Hospitals and Engineering. Our Pass Boxes are suitable for Bacteria and Virus preventing applications.

- We offer Indication alarms, CE approved Interlock Systems and Double Glazed View Panels.

➤ LAMINAR WORK STATIONS:

Evoluzn manufactures both vertical and horizontal laminar flow workstations.They are safe to operate , compact, light weight and designed to allow multiple "dead zones" within a laboratory. Construction of all structures are done with focus on aesthetics also. The materials used are compatible with cleanroomenvironments.

- Ceiling Suspended Laminar Work Station
- Horizontal Laminar Work Station
- Vertical Laminar Work Station
- Mobile Laminar Work Station

➤ AIR AND WATER SHOWERS:

- Evoluzn's Air Showers provide access to and from the work areas with high velocity and low air pressure for reducing dust particles from personal and material entry.

- The construction of all structures are sound and esthetically pleasing. The materials used are in compliance with cleanroom environment's standards.

➤ SOLUTIONS FOR HOSPITALS

Evoluzn offers complete solutions for hospital facilities and specializes in Modular Operation Theatres. Our services include HVAC systems, OT lighting, monitoring solutions, and specialized control panels for essential functions like gas alarms and air quality.

➤ FUME CUPBOARDS:

- Evoluzn's Fume Cupboards are best choice for controlling exposure to chemicals, noxious fumes and airborne hazardous materials which are generated in various environments.

- We can provide custom made fume cupboards as per your requirements .

➤ NITROGEN CHAMBERS

- Evoluzn's Nitrogen Chambers or Nitrogen Storage Cabinets are the perfect solution for storing electronic components and wafers in a safe and secure environment. Our cabinets are designed to maintain low humidity levels (1% to 60% RH) in the presence of Nitrogen (N2) gas, which helps prevent oxidation issues. Our cabinets are compliant with IPC/JEDEC J-STX-033C standards and are available in different sizes with ESD safe paint coating.

- Our specially made Air Handling Units are simple to operate , support energy saving, robust in construction and reduce microorganisms.

➤ GARMENT CUIBICLES:

Evoluzn offers high quality Dynamic Type Garments Storage Cubicles for Pharmaceutical Production or Research Areas, Semiconductor Laboratories, Nanotechnology Laboratories and Operation Theatres where attire related contamination is a concern. These storage cubicles are design in accordance with GMP Guidelines and are easy to clean and disinfect. They employ highly durable UV and IR Lamps for durability and reliability.

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Andhra Pradesh , India.

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519,TSIIC Limited Aero
Park,Nadergul Village, R.R.
Dist,Hyderabad – 501 510,
Telangana, India.

Nagpur Branch :

Block No. 102 First Floor
Pramila Apartment, Plot no.15,
Khamla Road Above Khamla
Automobiles,
Nagpur- 440025,
Maharashtra , India.

Our Core Design Principles To Deliver Measurable Outcomes:

EVOLVE THE EXISTING

✔ Upgrade and Build on the Existing Set-Up where possible

ADD MEASURABLE VALUE

✔ Deliver Measurable Benefits & Metrics

CREATE A ZEN EXPERIENCE

✔ Focusing on enhanced User Experience (UX)

**" SOLUTIONS THAT ARE DESIGNED,
DEVELOPED AND MANUFACTURED IN INDIA "**