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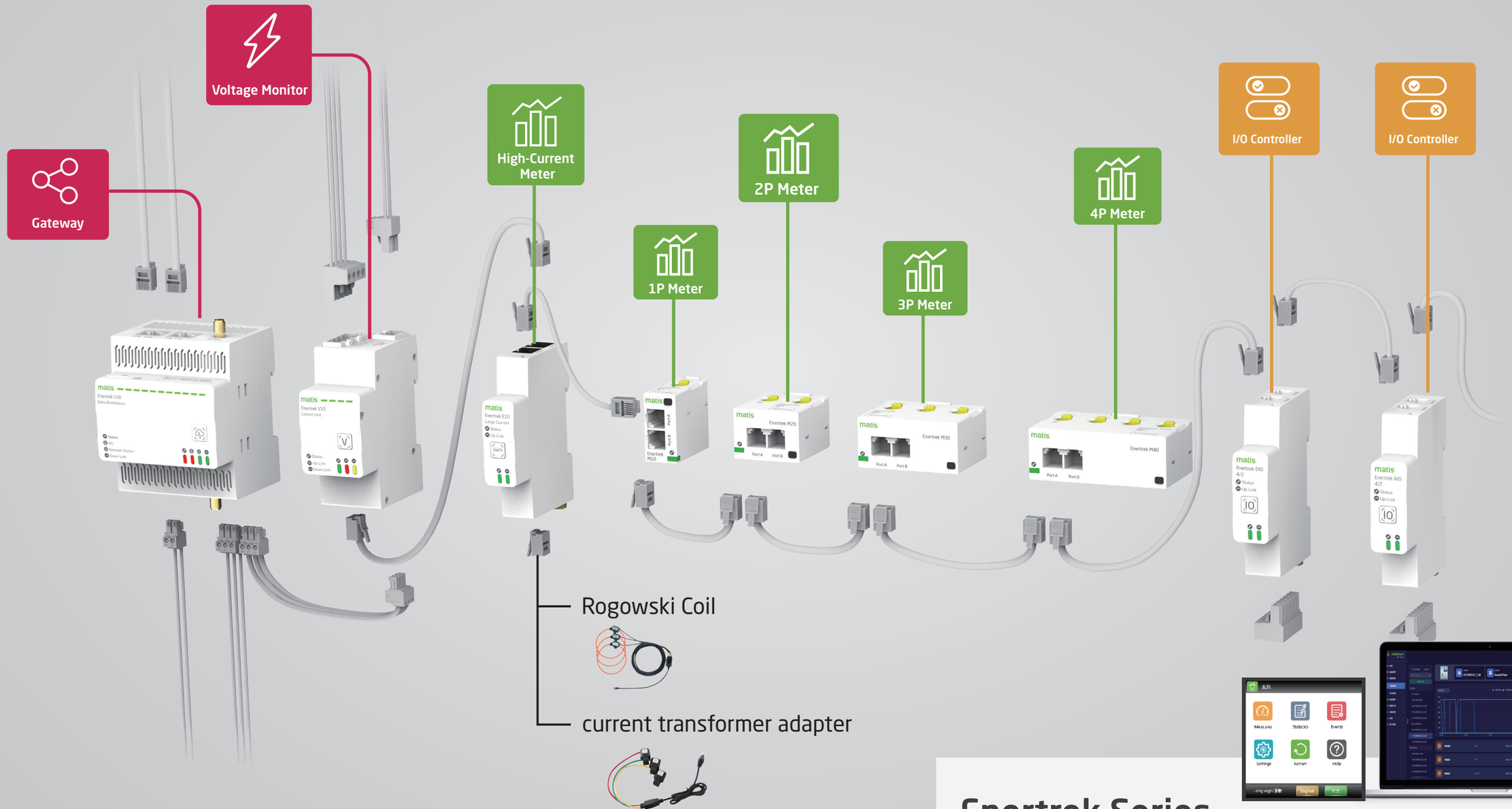
AIoT Electric



Enertrek Series

Power Measuring & Monitoring Device

Innovative Power Monioring System, Scalable Anytime, Accessible Anywhere

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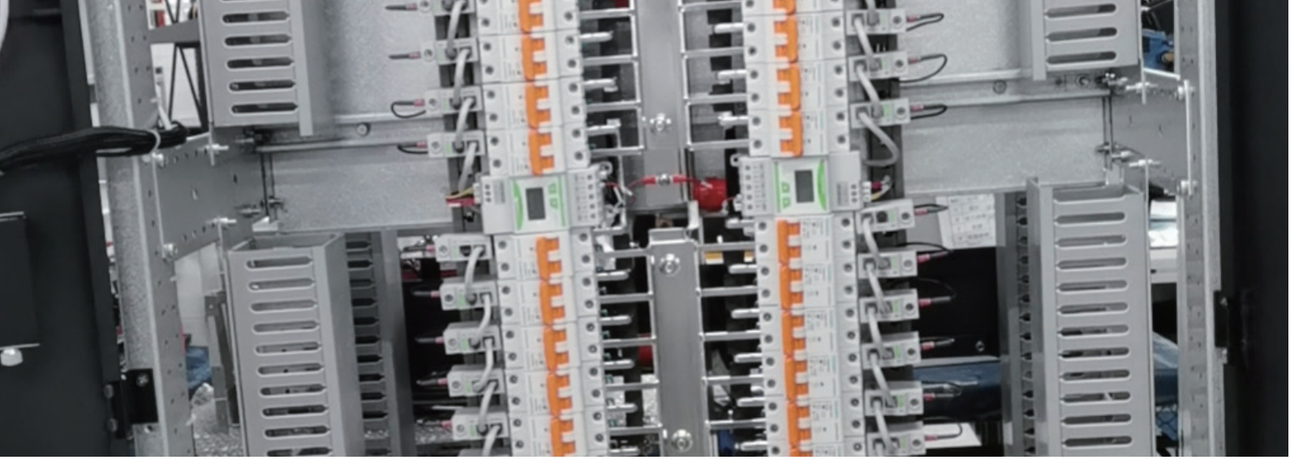


Features

- **Real-time Morntoring**

  Real-time monitoring and measurement of all the loads including MCB/MCCB, ACB and collecting all the electrical parameter such as Power, Current, Voltage ,Power factor ect.

- **Smart Analysis**

  Identify energy consumption trends, provide abnormal load warnings, and enable remote monitoring of device status to ensure system stability.

- **Efficient Management**

  Optimize PDU load distribution, improve power system stability, and reduce energy waste.

- **Energy Optimization**

  Optimize energy efficiency based on accurate data, reduce operating costs, and enhance overall energy performance.

- **Compact Design**

  Modular structure, suitable for PDU cabinets, power distribution cabinets, and distribution boxes, without occupying additional space.

- **High-Precision Measurement**

  Multi-loop monitoring with a measurement accuracy of class 0.5S, meeting international measurement standards.

- **Communication**

  Supports Modbus RTU, Modbus TCP , and other protocols, enabling seamless integration into various energy management systems.

- **Remote Operation and Maintenance**

  Supports abnormality alarms, data recording, and analysis. Enables remote operation and maintenance, reducing manual inspections and improving fault response speed.

Benefits

Easy Installation

Enertrek adopts a modular design with plug-and-play support, simplifying installation and reducing labor costs.

-75%

Space Saving

Enertrek reduces cabling and installation needs by 60%, optimizing panel layout and improving power distribution efficiency.

Smart Monitoring

The multi-circuit monitoring system supports over 20 circuits, covering currents from 63A to 6000A, providing accurate data analysis and fault alerts.

-10%

Energy Efficiency Improvement

High-precision energy metering and intelligent analysis help reduce energy waste by up to 10%.

Cost Saving

Optimized energy management and load distribution can reduce electricity costs and lower long-term operational expenses.

Safe & Reliable

Enertrek features high-standard electrical safety design with real-time fault detection and alerts, ensuring stable power distribution.

Carbon Emission Reduction

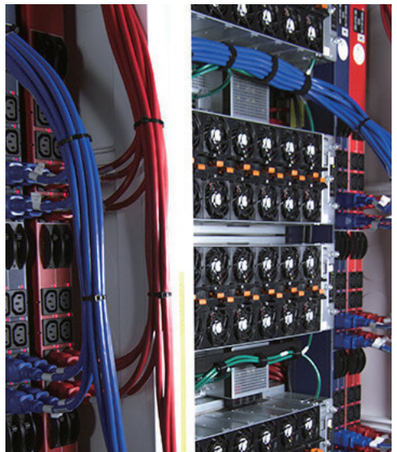
Ensure fast payback while helping to reduce CO2 emissions

Scalability

Supports adding or adjusting monitoring modules based on load requirements, adapting to various applications.

Industry Compliance

Meets major electrical and energy management standards, ensuring regulatory compliance and system compatibility.



Enertrek System

Modular Design, Put together your own metering and monioring system

Data Acquisition & Remote Access to Measurement Data

1

Smart Gateway
Enertrek-G30

Power Monitoring Software

Voltage Acquisition Module & Local Display

2

Enertrek_V10

Display 86*86
Enertrek-D10

Config. Software
Enertrek-Vision

Enertrek M & E: Current Acquisition for AC measurement

3

Low current Meter 1-4P 63A
Enertrek-M

High Current Meter
3P up to 6000A
Enertrek-E

Split Core CT & Rogowski Coil

4

CTF_Φ12~30cm

CTO_200~600A

CTA_5A/2.5mA

Enertrek IO: Analog & Digital Input/Output Module

5

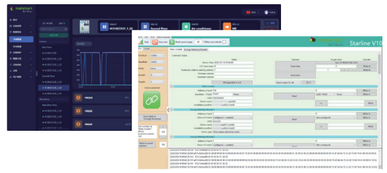
DI & DO Module
DIO-4/2

AI & AO Module
AIO_2/2

Enertrek Overview

Innovative power monitoring system , accessible everywhere, for everyone

The Enertrek system revolutionizes electrical measurement with flexible installation, easy connection, and configuration. Offering high accuracy and advanced functionality, it is ideal for metering consumption and monitoring power quality in industrial and commercial settings. The system includes a main controller & voltage module (Enertrek-V), current modules (Enertrek-M/E), I/O module, CTs, smart gateway, and local display & software.



Flexible

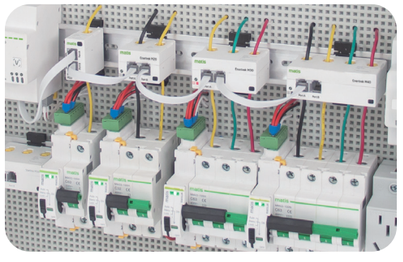
- Enertrek features a modular design, enabling customizable measurement for diverse power systems.
- Integrates voltage, current monitoring, I/O control, smart gateway, and visualization software for full energy management.
- Supports multiple protocols (Modbus RTU/TCP, SNMP) for seamless SCADA, DCIM, and EMS integration.

Integration

- Measures both AC and DC loads, covering low to high-voltage systems.
- Enables end-to-end power monitoring, improving energy efficiency.

Innovative

- DC-PLC transmission reduces wiring complexity, offering greater stability than RS485.
- RJ12 bus supports cascading modules, simplifying installation and maintenance.
- High-precision multi-circuit monitoring (0.5S-class), meeting international standards.



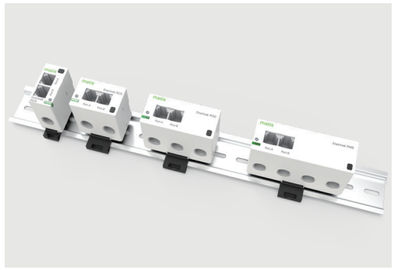
Compatibility

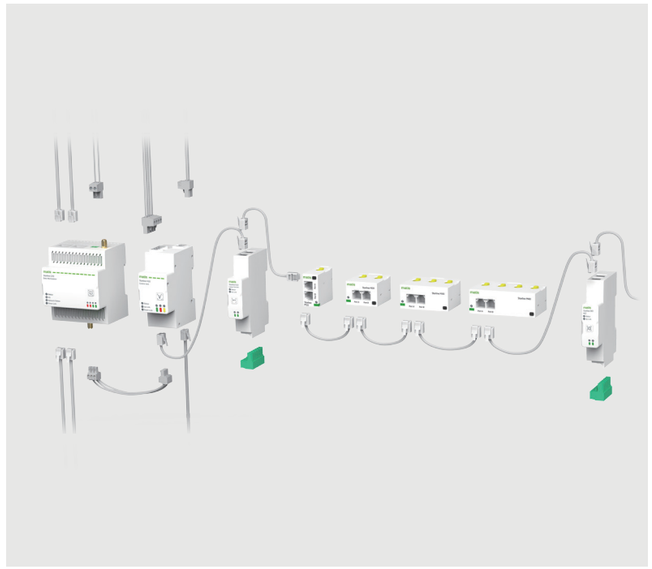
- Enertrek-M fits MCBs, allowing direct installation in distribution boxes/PDU.
- Enertrek-E supports CTs up to 6000A, ideal for main incomer and busbar monitoring.
- Compatible with DIN rail and backplane mounting for various environments.

Core Value

High Precision, Energy Monitoring, High Energy Efficiency

Enertrek adopts Modular Design , integrating high-precision measurement, smart alarm, remote monitoring and efficient wiring to achieve precise energy management and efficient operation and maintenance.





Modular Design :

Freely combine voltage, current, and energy measurement modules to meet different application requirements

Accurate measurement:

High-precision current, voltage, power, and harmonic monitoring to ensure data reliability.

Alarms:

Anomaly detection, threshold alarm, and early warning of abnormal power consumption.

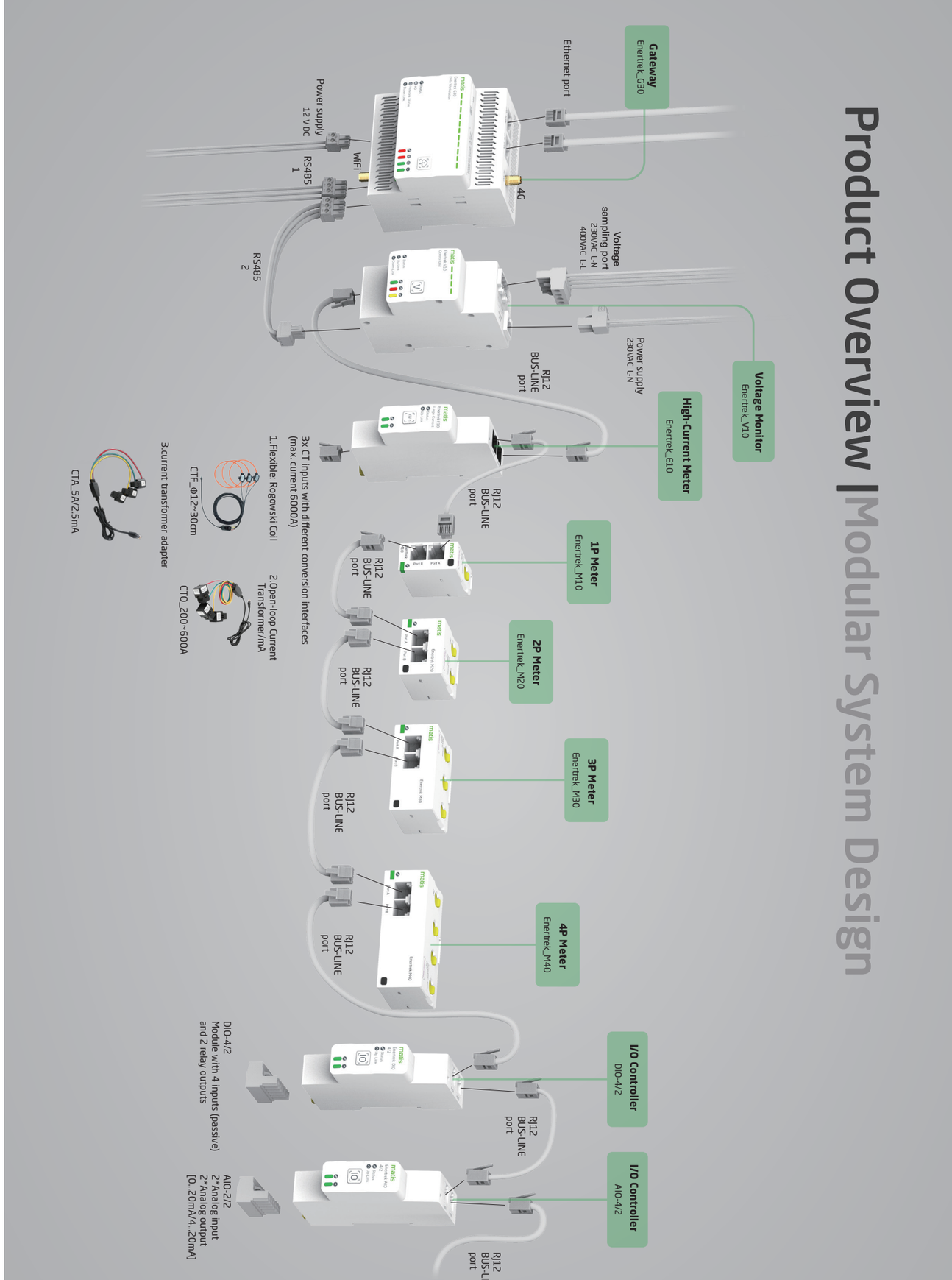
Remote Access to Measurement Data:

Supports Web and LAN access to view energy consumption data in real time.

Easy Connection:

Enertrek Bus (RJ12) connection simplifies installation and improves construction efficiency.

Product Overview |Modular System Design



1 Product Introduction

Enertrek_V Main Controller & Voltage Acquisition Module

Enertrek_V

Enertrek-V is the main controller and voltage acquisition module in the system. It collects voltage data and transmits it via DC-PLC to current acquisition modules for energy and electrical parameters. It supports up to 20 current acquisition modules (both high and low current), is compatible with various single-phase and three-phase power systems, and adapts to different global power grid environments. It also features RS485 with Modbus protocol.

- Connect & Manage: Supports up to 20 current acquisition modules
- High Integration: Big current module, low current module, and I/O module in one system
- Downward Communication: Uses DC-PLC communication
- Upward Communication: Supports RS485 with Modbus protocol
- System Compatibility: Supports both single-phase and three-phase systems
- Voltage Accuracy: 0.2%

		Enertrek_V10 (Basic Version)	Enertrek_V20(Advanced Version)
Metering and monitoring	Uab、Ubc、Uca	●	●
	Va、Vb、Vc	●	●
	frequency (f)	●	●
Imbalance	Phase voltage imbalance		●
	Line voltage imbalance		●
Quality analysis	THDva、THDvb、THDvc		●
	THDuab、THDubc、THDuca		●
Alarm function	Over-limit alarm(trigger an alarm when the set value exceeds the limit)		●
	phase voltage imbalance alarm		●
	line voltage imbalance alarm		●
Width/modules		**27mm/1.5**	
Applicable voltage	1P (1*230V)	●	●
	3P+N (3*400V)	●	●
	3P (3*230V)	●	●
	advanced analysis functions		●

✳ Enertrek V20 is coming soon. Stay tuned.

2 Product Introduction

Enertrek_M Low current Meter

Enertrek_M

Enertrek-M is a low current acquisition module supporting up to 63A. It offers 1P, 2P, 3P, and 4P models for MCBs and connects up to 20 units with Enertrek-V via DC-PLC. Ideal for sub-metering and branch monitoring in commercial buildings and data centers.

- Maximum Connections: Supports up to 20 connections with the Enertrek-V main controller (voltage acquisition module)
- Available Models: 1P, 2P, 3P, 4P
- Current Range: Up to 63A
- Energy Accuracy: Class 1 & Class 0.5
- Communication: DC-PLC
- Compatibility: Fits all miniature circuit breakers (MCBs)
- Installation: DIN rail mounting
- Additional Feature: Integrated temperature detection
- Compliance: IEC 62053-21 / IEC 62053-22

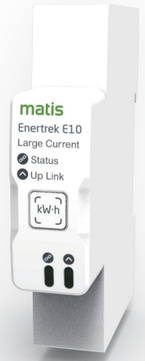
		Enertrek_M10	Enertrek_M20	Enertrek_M30	Enertrek_M40
Basic parameters	Current inputs	1	1	3	3
	Basic current (Ib)	10A			
	Max. current (Imax)	63A			
	Supported load types	1P, 1P+N	1P+N, 2P, 2P+N	3P, 3P+N	3P+N
Energy metering		Support ±kWh, ±kvarh, kVAh metering			
Multi-parameter measurement	Total current (I1, I2, I3)	Monitor the current data of each channel			
	Total power (ΣP)	Monitor total active power			
	Total reactive power (ΣQ)	Monitor total reactive power			
	Total apparent power (ΣS)	Monitor total apparent power			
	Power factor (ΣPF)	Monitor total power factor			
	Per phase power	Support per phase power (P), reactive power (Q), apparent power (S) and power factor (PF)			
Communication	Communication protocol	Modbus RTU protocol, support remote monitoring			
	Connection	Enertrek Bus (RJ12) interface			
	Power supply	Power supply via RJ12 port			
Temperature		Monitor each phase temperature			
Physical specifications	Width(mm)	18	36	54	72
Application scenarios	Distribution system	low single-phase current metering	single-phase, two-phase and three-phase current metering	three-phase current metering	three-phase current metering
	Industrial Equipment	current monitoring of low power devices	current monitoring of small and medium-sized equipment	current monitoring of high power equipment	current monitoring of large industrial equipment
	Power management system	Support low current metering and management			

3 Product Introduction

Enertrek_E/ High Current Meter (3P ,up to 6000A)

Enertrek_E

Enertrek-E is a high-current acquisition module supporting three-phase load measurement up to 6000A. It is compatible with mA and A-class split-core CTs and Rogowski coils. Up to 20 modules can be connected to the Enertrek-V main controller (voltage acquisition module) via DC-PLC communication. It is widely used for metering and monitoring main circuits in industrial and building applications.



- Max Connections: Up to 20 modules with Enertrek-V main controller (voltage acquisition module)
- Phase Support: Three-phase
- Current Measurement: Up to 6000A
- CT Compatibility: Supports mA and A-class split-core CTs & Rogowski coils
- Smart CT Detection: Auto-identification for quick connection and verification
- Energy Accuracy: Class 1 & Class 0.5
- Communication: DC-PLC
- Installation: DIN rail mounting
- Standards Compliance: IEC 62053-21 / IEC 62053-22

		Enertrek_E10 (Basic Version)	Enertrek_E11 (Advanced Version)	Enertrek_E31 (Advanced Version)
Instantaneous value measurement	Phase voltage, line voltage, current, frequency	●	●	●
	Fundamental power factor (DPF)		●	●
	Active / reactive power, apparent power, power factor (P, Q, S, PF)	●	●	●
Energy metering	Forward / reverse active/reactive energy (EPImp, EPExp, EQImp, EQExp) Apparent energy (ES)	●	●	●
Tariff metering	Up to 6 tariffs		●	●
Demand			●	●
Voltage, current imbalance			●	●
Phase diagram	Voltage/current phase sequence, angle		●	●
Harmonic	Voltage/current harmonic percentages and values(up to the 50th harmonic)		●	●
Max/Min values	U, I, P, Q, S, Demand		●	●
Alarm	Overcurrent and overload		●	●
	Harmonic		●	●
	Current imbalance		●	●
External CT		CTO		Rogowski coil
Accuracy class		Class 0.5		
Specification		18mm		

✳ Enertrek_E11 is coming soon. Stay tuned.

4 Product Introduction

Enertrek_G Smart Gateway

Enertrek_G10/G20/G30

Enertrek_D10

Enertrek_G

Enertrek G30 is the core gateway of the Enertrek system, connecting all sub-devices and RS485 bus devices while ensuring stable data transmission via Ethernet, Wi-Fi, and 4G. It integrates a web server for remote configuration and device management.

Enertrek G30 delivers efficient data management and optimization, empowering industrial and commercial systems with intelligent solutions.

- Data Management: Multi-protocol acquisition, real-time alarms, historical database management.
- Data Analysis: Fault diagnosis, trend prediction, energy optimization.
- Visualization & Control: Chart display, statistical reports, remote operation.
- Intelligent Optimization: AI analysis, energy-saving strategies, automatic alerts.
- System Integration: API support for seamless data sharing.

		Enertrek_D10	Enertrek_G10	Enertrek_G20	Enertrek_G30
Features		Local data display and configuration	Data Acquisition, Analysis, and Management		
Display function		●			
Gateway function			Basic gateway functions	Standard gateway functions	Advanced gateway functions
Data analysis and management			●	●	●
Data transmission			●	●	●
Power supply		24V DC	12V DC	12V DC	12V DC
Communication interface	RS485 host interface	●	●	●	●
	RS485 slave interface	●	●	●	●
	Ethernet		●	●	●
	Wi-Fi			●	●
	4G				●
Network Service	Enertrek Vision		●	●	●
	WEB-CONFIG	●	●	●	●
	Installation method	Panel mounting	DIN rail		
	Dimensions	86*86（mm）	3 modules	4 modules	5 modules

5 Product Introduction

Enertrek-IO I/O Module

Enertrek_IO

Enertrek-IO is an I/O module integrating digital I/O (DIO-4/2) and analog I/O (AIO-2/2) to meet various input and output requirements.

- DIO-4/2: Includes 2 digital inputs and 4 relay outputs , suitable for switch control and status monitoring.
- AIO-2/2: Provides 2 analog inputs and 2 analog outputs, supporting analog signal measurement and adjustment.

Applications of DIO-4/2

INPUTS:

Water, energy, gas, thermal energy and other meters.

Monitor status of sensors and protection devices (On/Off)

Tariff change

OUTPUTS:

Pulses from incremental variables (energies,costs, CO2 emissions or working time).

Applications of AIO-2/2

INPUTS:

Temperature(°C) Pressure (kPa)

Flow rate (m°) Humidity (%RH)

OUTPUTS:

Values of analogue inputs

Instantaneous electrical variables: Voltage, Current Power. etc.

	DIO-4/2	AIO-2/2
Application scenarios	- Logical status monitoring - Alarm linkage - Signal counting	- Environmental parameter monitoring (such as pressure, humidity, temperature, etc.) - Industrial equipment control
Inputs	4 digital inputs	2 analog inputs
Input signal type	- Dry contact input (passive signal)	- Support 4-20mA current input - Programmable support for 0-10V voltage input
Input function	- Status monitoring: monitor the circuit breaker OF, SD or device status - Count and record the number of input pulses	Collect analog signals to achieve accurate environment and device monitoring
Outputs	2 transistor outputs	2 analog outputs
Output signal type	- Passive output - Support 48VDC/50mA or 24VAC/ 100mA output	- Support 4-20mA current output - Support 0-10V voltage output - Linear control signal output
Output function	- Remote logic control - Input events trigger alarm output	- Alarm linkage: triggering in association with input events (such as over limit, status change)
Shell width	18mm	

✳ AIO-2/2 is coming soon. Stay tuned.

6 Product Introduction

Enertrek-CT : Split Core CT & Rogowski Coil

Enertrek_CT

Enertrek-CT includes open-core current transformers (CTO), flexible current transformers (Rogowski coil CTF), and current transformer adapters (CTA). Designed to work with the Enertrek-E high-current acquisition module, it supports current measurement up to 6000A, meeting diverse high-current monitoring needs.

CTA (Current Transformer Adapter)

- CTA serves as an adapter between Enertrek-E and traditional CTs, providing 5A/2.5mA secondary output. It extends the measurement range to match conventional CTs and is ideal for system upgrades and retrofits, ensuring seamless integration with existing systems.

	CTA-5A
Primary current (A)	5
Secondary current (mA)	2.5

CTO (Open-Core Current Transformer)

- CTO connects directly to Enertrek-E via RJ45 port, supporting 100-600A measurement with 0.2% accuracy. As an mA split-core CT, it allows quick installation without power interruption, enhancing convenience.

	CTO-100	CTO-200	CTO-400	CTO-600
Cable channel diameter (mm)	16	24	36	46
Rated current (A)	100	200	400	600
Recommended cable cross section (mm²)	25/35	70/95	185/240	300
Maximum current (A)	120	250	450	650
Secondary current (mA / A)	333mA			
Rated load	10Ω			
Accuracy class	Class 0.5			

Rogowski (Flexible Current Transformer)

- The Rogowski coil is a split-core flexible current transformer, designed for space-constrained environments. It supports wide-range and high-precision measurement and connects directly to Enertrek-E via RJ45 port, enabling accurate energy data collection and optimal performance in complex wiring scenarios.

	CTF-50	CTF-80	CTF-100	CTF-150	CTF-200	CTF-300
Open-core diameter (Ømm)	50	100	100	150	200	300
Current measurement range (a.c.)	800A	1000A	2000	3000A	6300A	10KA
Frequency response	1Hz -20kHz(-3dB)					
Measurement accuracy	Class 0.5					
Power supply	Self-powered					
Output signal	85mV					
Communication interface	RJ45					
Installation method	Open-mouth, quick plug and unplug					

7

Product Introduction

Power Monitoring Platform

Enertrek Smart Power Monitoring Platform

Enertrek is a high-efficiency, intelligent, and scalable multi-circuit power monitoring platform that integrates energy measurement, remote monitoring, and device management. It is designed for industrial power distribution, data centers, and building automation applications.

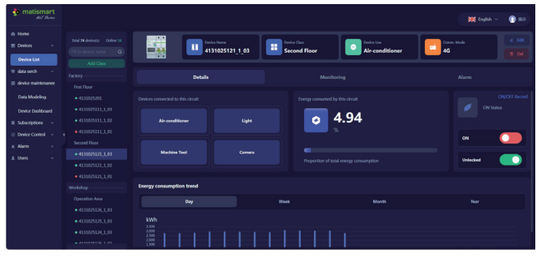
Key Advantages

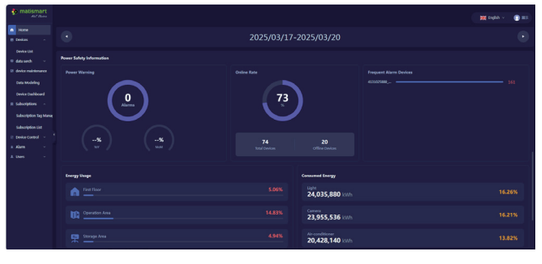
- Precise Measurement:
  Supports real-time monitoring of current, voltage, power, harmonics, and other critical electrical parameters.
- Remote Monitoring:
  Enables remote management through various communication protocols.
- Modular Design:

  Flexible and scalable to meet different project requirements.

Applications

- Industrial Power Distribution
- Data Centers
- Smart Buildings
- Energy Management



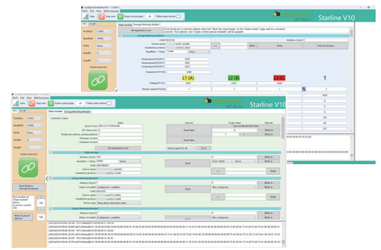


8

Product Introduction

PC Supervisory & Web Remote Management

PC-Based Supervisory Software



The Enertrek PC-Based Supervisory Software is a local monitoring and configuration tool designed to help operation and maintenance personnel efficiently manage and configure devices.

Key Advantages

- Real-Time Monitoring:
  Provides intuitive visualization of electrical data through graphs, charts, and reports.
- Device Management:
  Supports multi-device configuration, enabling quick parameter adjustments to improve operational efficiency.

Ideal for

- Maintenance Engineers
- On-Site Technicians
- Power Management Personnel

Web Server Remote Management Platform

The Enertrek Web Server is a cloud-based remote management system focused on device management and communication monitoring. It allows users to access and manage devices anytime, anywhere via PC, mobile, or tablet for efficient remote operations.

Key Advantages

- Device Management:
  Supports adding, deleting, and modifying devices for seamless configuration.
- Communication Monitoring:
  Monitors real-time communication status to ensure stable data transmission.

Applications

- Remote Maintenance
- Device Management

Core Functions

Accurate Measurement, Smart Management

High-precision energy monitoring

- Applicable to power distribution cabinets, motors, data centers, commercial buildings, etc.
- Monitor key parameters such as voltage, current, power, power factor, harmonics, energy consumption, etc.
- Comply with IEC 62053-21 / IEC 62053-22 metering standards to ensure accurate and reliable data

Modular architecture, flexible expansion

- Use RJ12 bus connection to simplify wiring and improve installation efficiency
- Distributed measurement, flexible expansion of monitoring points, adapting to power systems of different sizes

Smart communication and remote monitoring

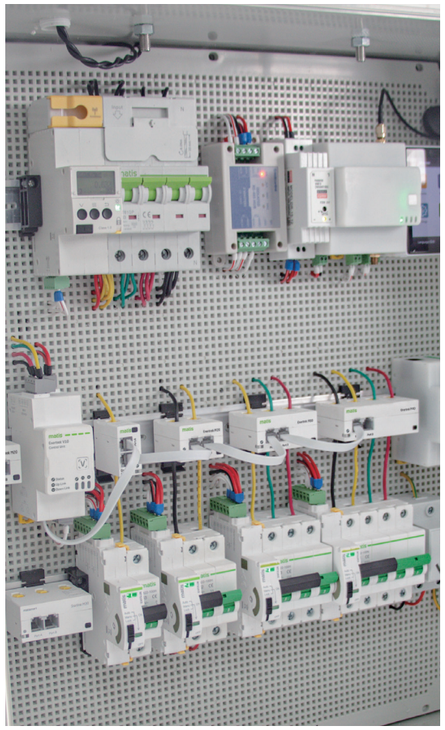
- Support MODBUS RTU, seamlessly connected to SCADA / EMS / BMS and other management systems
- Remote access: Wi-Fi / 4G / Ethernet, realizing multi-terminal data visualization

Data analysis and smart alarm

- Event recording, abnormal analysis, energy efficiency optimization, and accurate operation and maintenance data
- Smart alarm: multi-dimensional warnings such as power outages, surges, and current anomalies to improve system safety

Innovative Technologies

Subverting Tradition, Comprehensive Upgrade



Enertrek, makes energy management in industry and data centers more accurate, smarter and more efficient!

75%
Reduce space usage by 75%

More compact

10%
reducing overall energy consumption by 10%

More energy-saving

x3
maintenance efficiency increased by 3 times

50%
Installation speed increased by 50%

More efficient

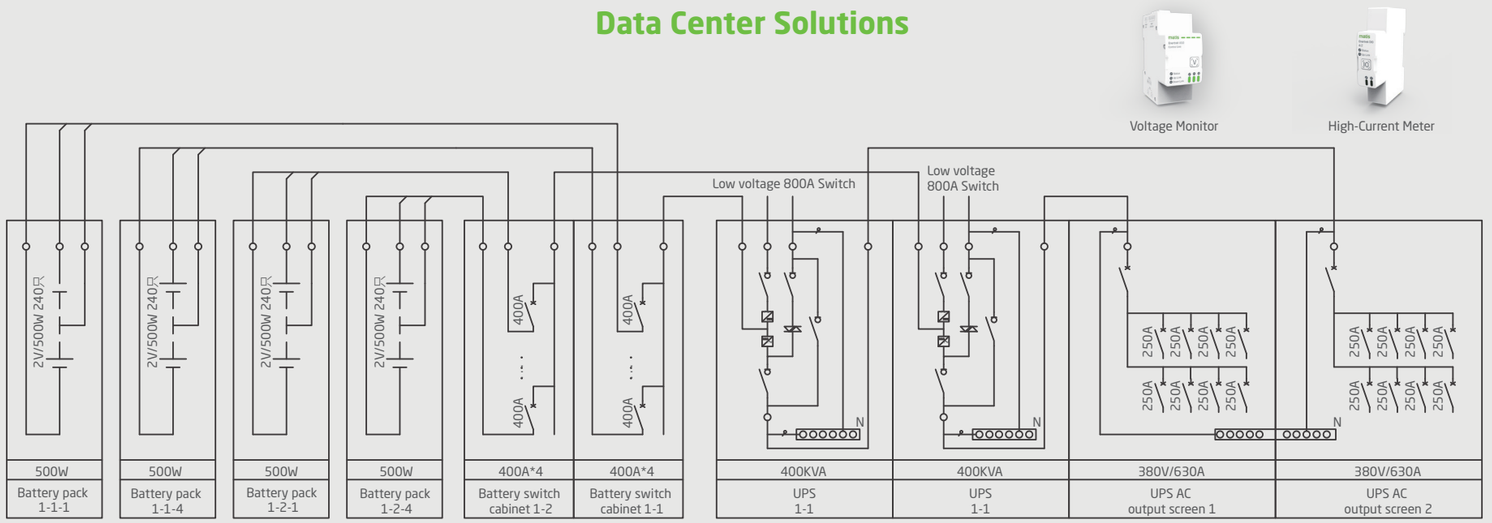
30%
Metering accuracy increased by 30%

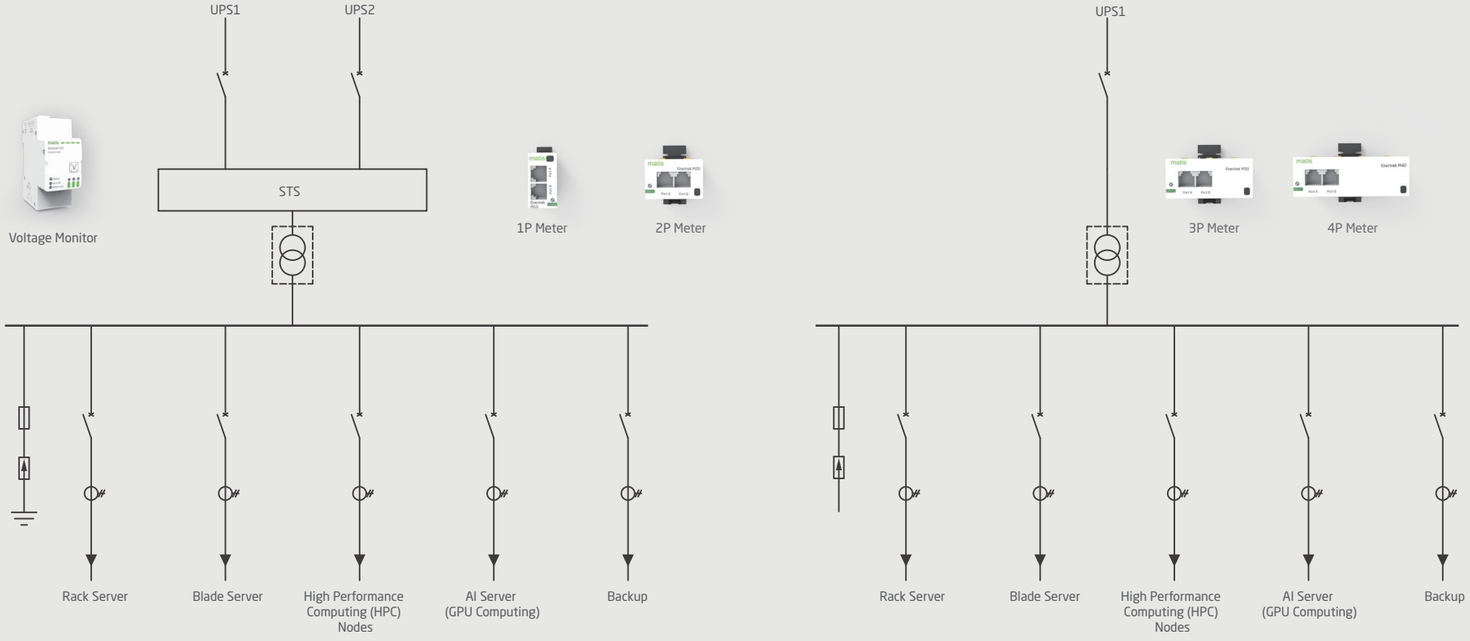
More accurate

Application Scenarios

Data Center

Data Center Solutions





Enertrek helps smart data center management and ensures stable operation of IT equipment!

Accurately monitor the power consumption of equipment in the computer room and improve power supply reliability

Solution Overview

Enertrek is an advanced PDU monitoring system designed for data center power management. Data centers have extremely high requirements for power stability. Enertrek monitors the power supply of PDU (power distribution unit), collects key data such as power, current, and voltage in real time, and transmits it to the monitoring system through the network to ensure stable operation of the equipment and reduce the risk of downtime.

Typical application scenarios

- **Accurately measure the power consumption of IT equipment such as servers, storage devices, switches, and optimize power distribution solutions.**
- **Real-time monitoring of PDU load, providing energy consumption analysis and overload alarms.**
- **Support high-density cabinet monitoring to ensure the stable operation of AI computing clusters.**

Server cabinet monitoring | Data center room | Cloud computing and supercomputing center

Solution advantages

- **Support class 0.5 and above accuracy to ensure data reliability.**
- **Suitable for single-phase and three-phase PDU monitoring, support expansion.**
- **Data transmission via RJ12/MODBUS/Ethernet, support BMS/EMS access.**
- **Real-time monitoring of current and voltage anomalies, warning of overload, short circuit and other problems.**
- **Analyze PDU load conditions, help data centers optimize energy consumption management, and improve PUE indicators.**

Smart alarm | Modular design | Remote monitoring | Solution advantages | Energy efficiency optimization

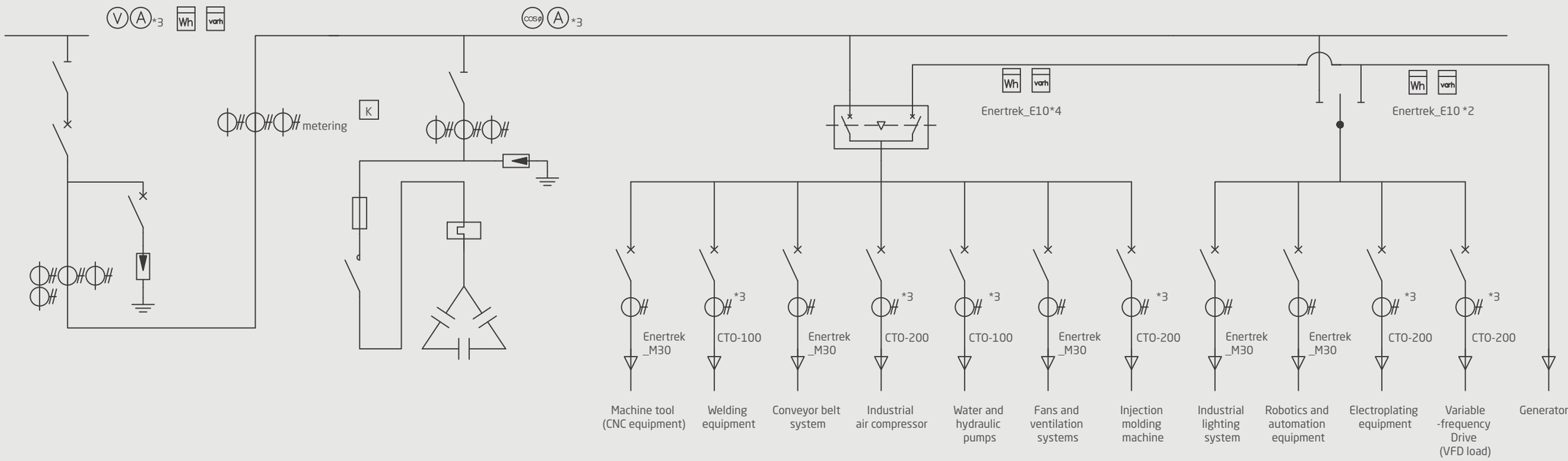
Application Scenarios

Industrial Power Distribution

Enertrek helps smart energy management and improves industrial efficiency!

Accurately measure factory electricity consumption and optimize energy efficiency management

Industrial Power Distribution Monitoring Solution



Voltage Monitor

High-Current Meter

CTO_200~600A

3P Meter

Solution Overview

Enertrek is an advanced multi-loop energy monitoring system designed for industrial environments. It can accurately measure current, voltage, power and energy consumption, and upload data in real time through the network to help factories optimize energy management.

Typical Application Scenarios

Industrial power distribution monitoring

- Monitor the energy consumption of loads such as CNC machine tools, injection molding machines, conveyor belts, welding equipment, fans, water pumps, and industrial air compressors.

Solution Advantages

High-precision measurement | **Energy efficiency analysis** | **Modular design** | **Alarm and protection** | **Remote monitoring**

- Support accuracy of class 0.5 and above to meet the needs of precise metering.
- Can expand multi-loop measurement, suitable for different industrial scenarios.
- Remote data acquisition via RJ12/MODBUS/Ethernet
- Analyze trends based on historical data to save energy and reduce costs.
- Support overload, overvoltage, and harmonic analysis to improve equipment safety.

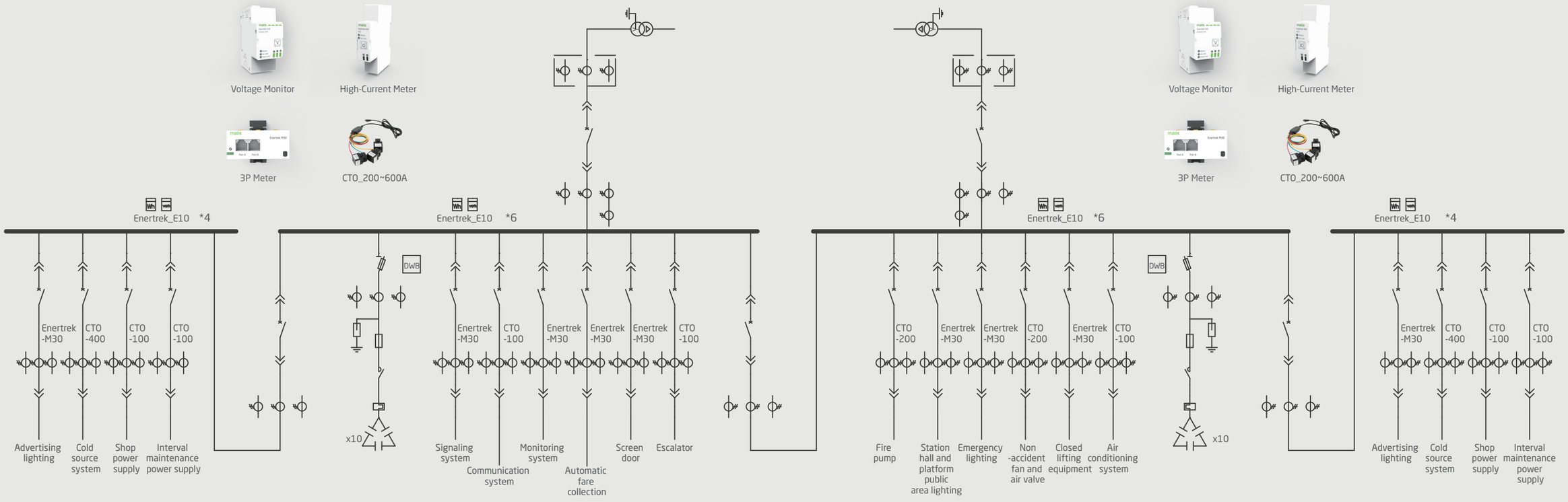
Application Scenarios

Urban Rail Transit Electrical Metering Solution

Enertrek helps smart rail transit power supply management and improves operational efficiency and safety!

Ensure rail transit power supply safety and improve operational reliability

Urban Rail Transit Electrical Metering Solution



Solution Overview

As an advanced rail transit power monitoring system, Starine is designed for rail transit scenarios such as subways, high-speed railways, and light rails, providing accurate current, voltage, power, and energy consumption monitoring. Through real-time data transmission and smart analysis, it ensures the stability and reliability of the power supply system and prevents operation interruptions caused by power anomalies.

Typical Application Scenarios

Station power distribution system **Tunnel power supply system**

- Measure the energy consumption of key loads such as station halls, platforms, automatic fare collection systems (AFC), screen doors, escalators, etc.
- Monitor metro tunnel lighting, fans, and emergency power supplies to ensure safe operation.

Solution Advantages

High-precision measurement **Smart data analysis** **Remote monitoring** **Safety alarm mechanism** **High compatibility**

- Support accuracy of class 0.5 and above to meet the needs of rail transit energy management.
- Analyze load trends based on historical data and optimize energy management.
- Support MODBUS/Ethernet/wireless transmission to monitor power supply status in real time.
- Real-time detection of short circuit, overload, voltage anomaly, and provide warning.
- Can be integrated into SCADA, BMS, EMS and other smart operation and maintenance systems.

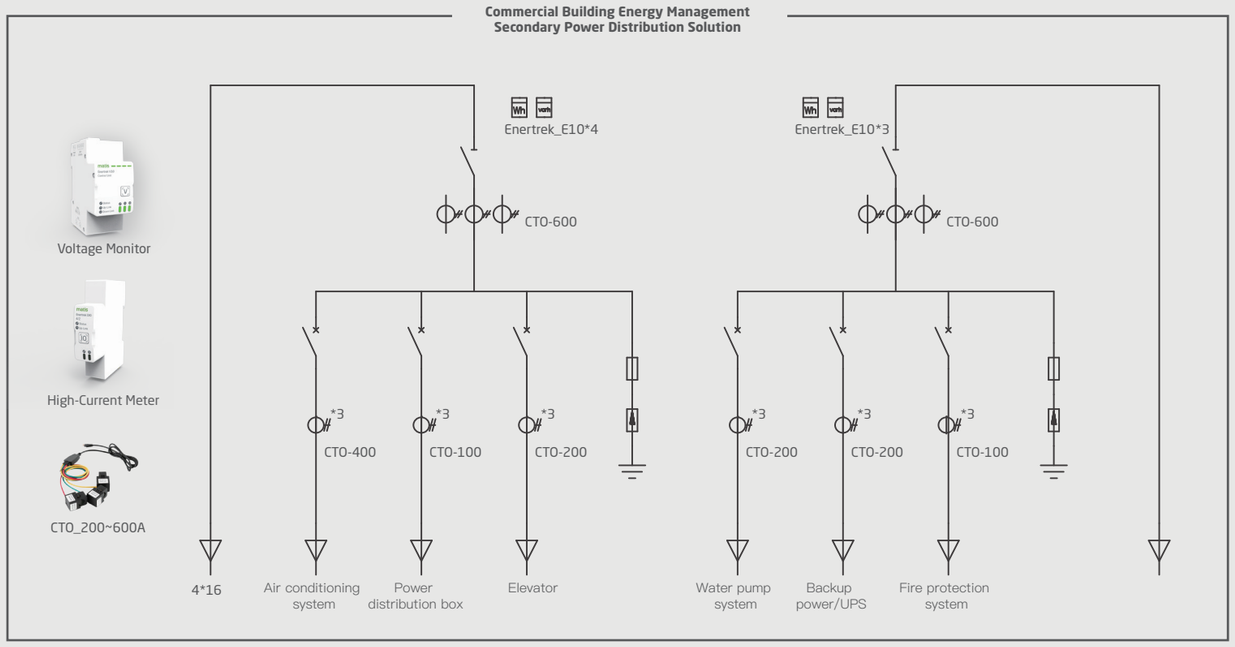
Application Scenarios

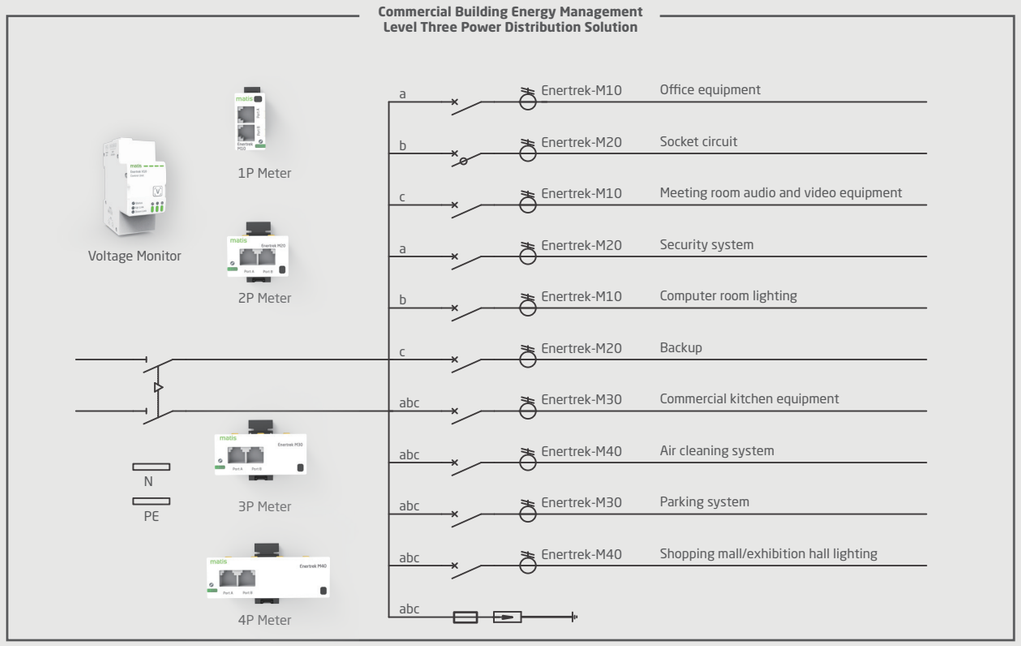
Commercial Building Power Monitoring

Enertrek helps smart commercial building management, optimizes energy efficiency and reduces operating costs!

Accurately monitor building energy consumption and optimize energy management

Commercial Building Power Monitoring





Solution Overview

Starine is a smart energy monitoring system designed for commercial buildings such as office buildings, shopping malls, hotels, and commercial complexes. By real-time monitoring of key loads such as lighting, air conditioning, elevators, and electricity consumption in shops, it provides accurate energy consumption analysis and optimization suggestions to help building managers reduce energy consumption costs and improve energy utilization.

Typical Application Scenarios

Air conditioning and HVAC systems | **Elevators and escalators** | **Lighting management** | **Energy metering for commercial tenants**

- Real-time monitoring of energy consumption of central air conditioners, fresh air systems, and chillers, to optimize the operation mode
- Analyze elevator operation data to reduce energy consumption during off-peak hours.
- Monitor lighting loads in public areas, floor offices, and shops, and smartly adjust lighting strategies
- Independent metering of each tenant's electricity consumption, accurate allocation of electricity costs, improve energy efficiency

Solution Advantages

Itemized energy consumption monitoring | **Remote smart management** | **Energy efficiency analysis & energy-saving optimization** | **Anomaly alarm** | **Flexible and compatible**

- Refine energy consumption data of different areas and different equipment to improve management accuracy.
- Support MODBUS/Ethernet/wireless transmission, remote monitoring and control.
- Based on big data analysis, provide energy-saving suggestions to reduce building operating costs.
- Real-time monitoring of overload, power anomaly, and voltage fluctuation to ensure equipment safety.
- Support access to BMS (building management system) and EMS (energy management system), seamless integration of existing building smart platform.

Case

Energy Consumption Management of a Large Industrial Park

An industrial park with multiple workshops, power rooms, and offices faces challenges:

- Traditional monitoring devices are bulky, with limited cabinet space.
- Manual meter reading is inefficient, with slow data updates.
- Real-time power consumption is unknown, affecting scheduling.
- Inefficient equipment operation leads to energy waste.

Limited Space | Data Lag | Difficult Management | High Energy Costs

Implementation Effect

Efficient operation and maintenance	Remotely monitor the energy consumption of each workshop in real time to reduce the manual meter reading and inspection
Precise management	Factory managers can use the Enertrek platform to know the power consumption of each workshop and equipment in real time
Energy saving and cost reduction	Adjusting equipment operation strategies based on data analysis helps companies save more than 15% of electricity costs each year
Optimize power distribution	Smartly identify abnormal loads, alarm timely, reduce equipment failure rates, and improve production continuity

With the Enertrek solution, the industrial park achieved precise measurement,efficient management, and smart optimization, enhancing O&M efficiency and cutting energy costs for greener manufacturing.

Case

PDU Shunt Current Monitoring in a Data Center

A data center operator faces key energy challenges:

- Traditional monitoring devices are bulky and hard to install in PDU cabinets.
- Inaccurate branch current monitoring hinders server optimization.
- No real-time current alarms risk overloads and power failures.
- Limited energy data makes PUE optimization difficult.

Cabinet is space-limited | Load management is difficult | Fault warning lag | Insufficient energy consumption optimization

Implementation Effect

Accurate load monitoring	Real-time monitoring of the current of each PDU branch to prevent load imbalance and optimize server deployment
Smart alarm management	Abnormal load warning to prevent overload, short circuit, equipment failure, and improve data center safety
Remote operation and maintenance support	Operation and maintenance personnel can remotely check the PDU operation status at any time through the Enertrek monitoring platform
Energy efficiency optimization and cost reduction	Accurate data supports dynamic load adjustment, reducing PUE by 0.1-0.2 and saving energy costs

With the Enertrek PDU monitoring solution, the data center enhanced load management, O&M efficiency, and energy optimization, ensuring server stability while reducing PUE for smarter, more efficient operations.

Case

Energy Monitoring and Electricity Optimization of a Commercial Complex

A large commercial complex with malls, offices, and hotels faces key challenges:

- Varying energy use across businesses complicates management.
- High-load and no-load consumption drive up costs.
- Manual meter reading delays data, hindering precision.
- Lack of real-time monitoring raises failure risks

Complex power structure | Serious energy waste | Inaccurate metering | Lack of smart warning

Implementation Effect

Accurate energy monitoring by zone	Real-time monitoring of energy consumption in shopping malls, office buildings, and catering areas, and independent billing
Smart load control	Optimize the energy consumption mode of air conditioning, lighting, elevator and others according to actual demand
Remote operations and smart warning	Abnormal load warning, reducing the risk of device overload, short circuit, and failure, and improving safety
Energy saving, cost reduction and green operation	Data analysis supports energy-saving transformation, reducing overall energy consumption by 12-18% and significantly optimizing operating costs

With the Enertrek solution, the complex achieved refined energy management,optimized power use, and improved efficiency, cutting costs and enhancing sustainability.