

EcoStruxure[™]
Innovation At Every Level



EcoStruxure Power Mobile Lab

Product Guide

se.com/ecostruxure

Life Is On | **Schneider**
Electric

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Life is On

Schneider
Electric

Introduction

Welcome aboard the EcoStruxure™ Power Mobile Lab

This guide provides an overview of the EcoStruxure™ Power equipment and systems demonstrated onboard the truck.

EcoStruxure Power is an IoT-enabled architecture and platform that digitizes and simplifies medium- and low-voltage electrical distribution systems. It provides actionable data to aid the decisions that help protect people, safeguard assets, maximize operational efficiency and enhance business continuity. The mobile lab demonstrates EcoStruxure Power in the context of an electrical room and a control room while providing an environment to have meaningful conversations about connected solutions.

Consultants and specifying engineers should walk away with new ideas on how to:

Increase productivity



Increase productivity

We know you're tasked to do more with less, and the world of IoT and digitization are only making things more challenging. With EcoStruxure Power we can help save you time and re-work through a combination of our preengineered, pre-validated medium- and low-voltage (MVLV) smart architectures, expert design guides and technical documentation, and integrated design and calculation software tools. You can speed up your project delivery using EcoStruxure Power solutions.

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Consultants and specifying engineers should walk away with new ideas on how to:

Reduce design risk



Reduce Design Risk

Every project has some element of risk. We help to reduce your design risks with our market sector-specific reference design recommendations that comply with local, national, and international codes and standards, as well as designing with digital architectures – think digital twin – and providing our expertise wherever, whenever it’s needed.

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Reduce design risk

Innovate to differentiate



Innovate to Differentiate

We understand that your reputation and credibility are critical to growing your business. With EcoStruxure Power we enable you to provide future-ready, innovative power distribution and management solutions that exceed the expectations of your clients, while keeping their budget in mind, and helping to differentiate your projects and increase your competitiveness.

Welcome aboard the EcoStruxure™ Power Mobile Lab

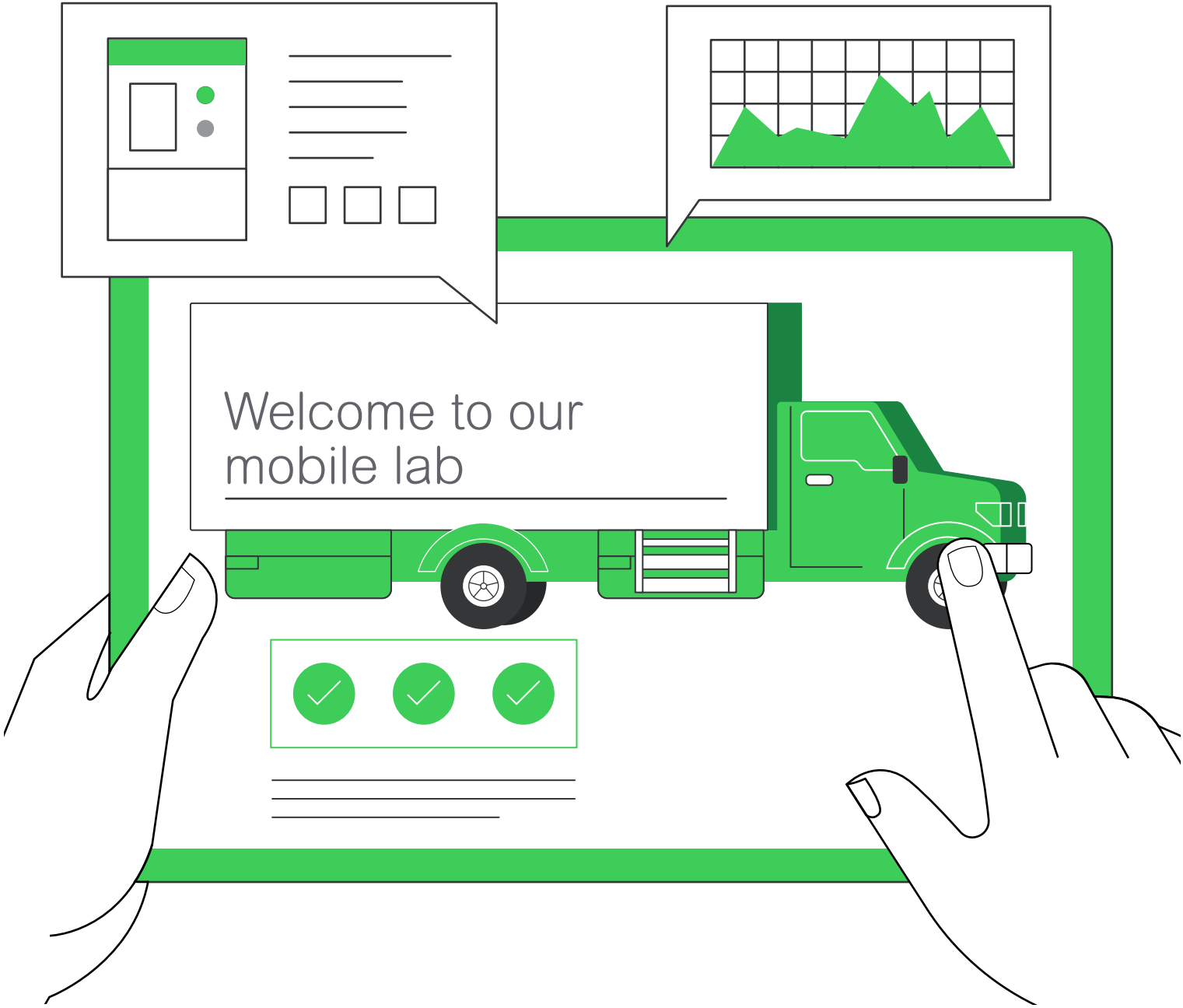
This guide provides an overview of the EcoStruxure™ Power equipment and systems demonstrated onboard the truck.

How to use this guide?

How to use this guide?

The power equipment aboard the EcoStruxure Power Mobile Lab is outfitted with devices that connect, operate, measure, communicate, monitor, and collect data. We know there is a lot to see here, so we created this guide to help you navigate through it. In the following sections, you will see several ways to find what you are looking for. In the overview drawing and product list, you can tap or click a product and you will be taken to that product section.

At the beginning of each product section, the devices are called out and each one has a link that will take you to more information about that particular device. And of course, you can always navigate back to where you were, or tap the “HOME” icon to go back to the beginning.



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EcoStruxure Power

EcoStruxure Power

EcoStruxure Power offers advanced power system communication at every level of the operation. Connected products such as MasterPacT™ MTZ circuit breakers are a key component of EcoStruxure Power, providing real-time operations data, smart analytics, and improved safety and security to the facility and processes.

An IoT-enabled solution, EcoStruxure Power delivers reliable, safe and efficient power with significant financial benefits. The Mobile Lab is our way of bringing you a sample of our digitized LV and MV solutions to demonstrate enhanced connectivity, real-time operations and smart analytics.

Whether it's for a small business, hotel, healthcare facility, food and beverage line, single- or multiple-site operation, EcoStruxure Power can help you redefine power distribution and do more with power equipment.



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This guide provides an overview of the EcoStruxure™ Power equipment and systems demonstrated onboard the truck.

Connected Equipment and software

Connected Equipment and software

When you board the EcoStruxure Power Mobile Lab, you will first see a line-up of power equipment that will look very familiar to you. Then as you scan the area, you will find what we call the “Control Room,” where we will demonstrate some of the EcoStruxure Power solutions that collect data from the equipment and serve it in ways that help facility managers, building operations personnel, and electrical maintenance workers with day-to-day functions, reduce downtime, and run a more sustainable operation.

From EcoStruxure™ Power Monitoring Expert (PME) edge control for power-critical and energy-intensive facilities, to Power SCADA Operation and Power Monitoring Expert, you'll get a solid introduction to what EcoStruxure Power offers.



Welcome aboard the EcoStruxure™ Power Mobile Lab

This guide provides an overview of the EcoStruxure™ Power equipment and systems demonstrated onboard the truck.

Why a Mobile Lab?

Let's face it ... times have changed in recent months. The days of trade shows and large gatherings are over for the time being. But new products and solutions continue to be developed as the goals of sustainability, carbon footprint reduction, and efficiency become increasingly important.

Although the idea of road show vehicles isn't new, it made sense to reintroduce the concept so we can share the latest innovations with you at a smaller-scale personal level, in a clean, controlled environment at your place of business, and eventually at trade events.



Square D Product Liner 1957



EcoStruxure Power Mobile Lab 2021



Why a Mobile Lab?

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Go Green

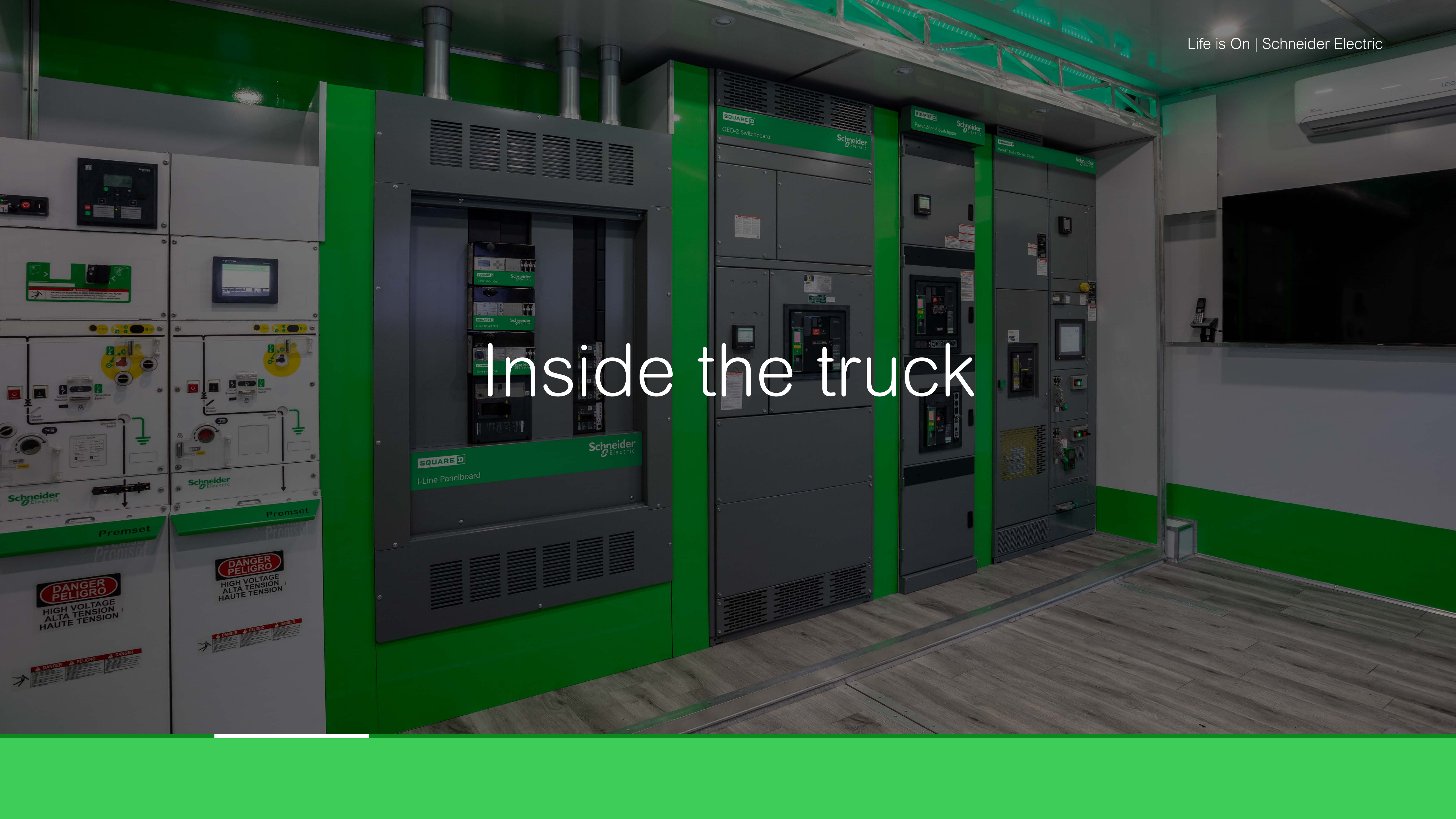
The Mobile Lab was designed by Schneider Electric staff and built by TriMetal Customs on a brand-new Ford F550 chassis. The challenge: create an efficient, clean, mobile, temperature-controlled environment with connected power equipment and controls that demonstrate real-world applications.

Outfitted with four, 200-watt solar panels and battery bank, the truck is powered by sunlight while in “show mode.” Solar power runs the lights, HVAC, cameras, computers, and control power for the connected equipment. An efficient 2200 watt generator and shore power hookups are also available as backup power.

The F550 boasts the new Bio Diesel Capable 6.7 Power Stroke Turbo with Torqshift 10-speed automatic transmission, outperforming the previous year’s 6-speed with only 3.5 pounds added, and can meet demanding driving conditions even in Eco mode.



Inside the truck



The map

Click magnifying glass below to learn more about each product inside the EcoStruxure Power Mobile Lab

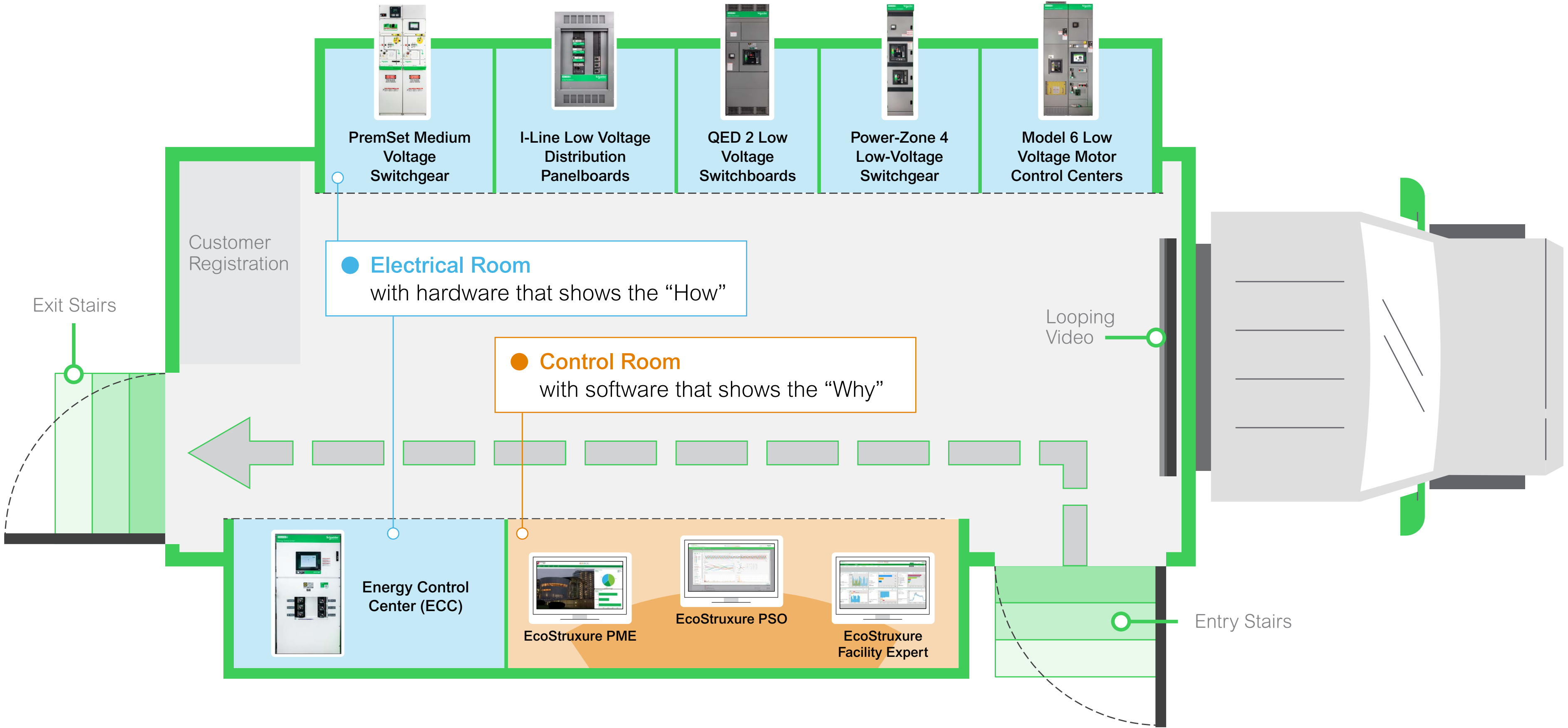


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Click each product to learn more

Equipment

PremSeT™ Medium Voltage Switchgear 🔍

- Thermal Sensors »
- VAMP™ 125 »
- P3 Easergy™ Relays »
- ION™ 9000 »

I-Line™ Low Voltage Distribution Panelboards 🔍

- Smart Cell »
- PowerPacT™ with MicroLogic™ »

QED 2 Low Voltage Switchboards 🔍

- MasterPacT MTZ 2 »
- ERMS »
- PM8000 »

Power-Zone™ 4 Low Voltage Switchgear 🔍

- MasterPacT MTZ 2 »
- ION 9000 »
- ERMS »

Model 6 Low Voltage Motor Control Centers 🔍

- ArcBlok™ »
- Easergy TH110 »
- AVT »
- P-Frame Main »
- Service Port »
- CDR »
- Drives ATV630 »
- FVNR »
- TeSys™ T Starters »
- HMI »
- Open BOX for Universal Panel »
- PAC / PLC »

Energy Control Center (ECC) 🔍

- Human Machine Interface (HMI) »

Control and Diagnostics

EcoStruxure Power Monitoring Expert (PME) 🔍

EcoStruxure™ Power SCADA Operation (PSO) 🔍

EcoStruxure™ Facility Expert 🔍



Equipment

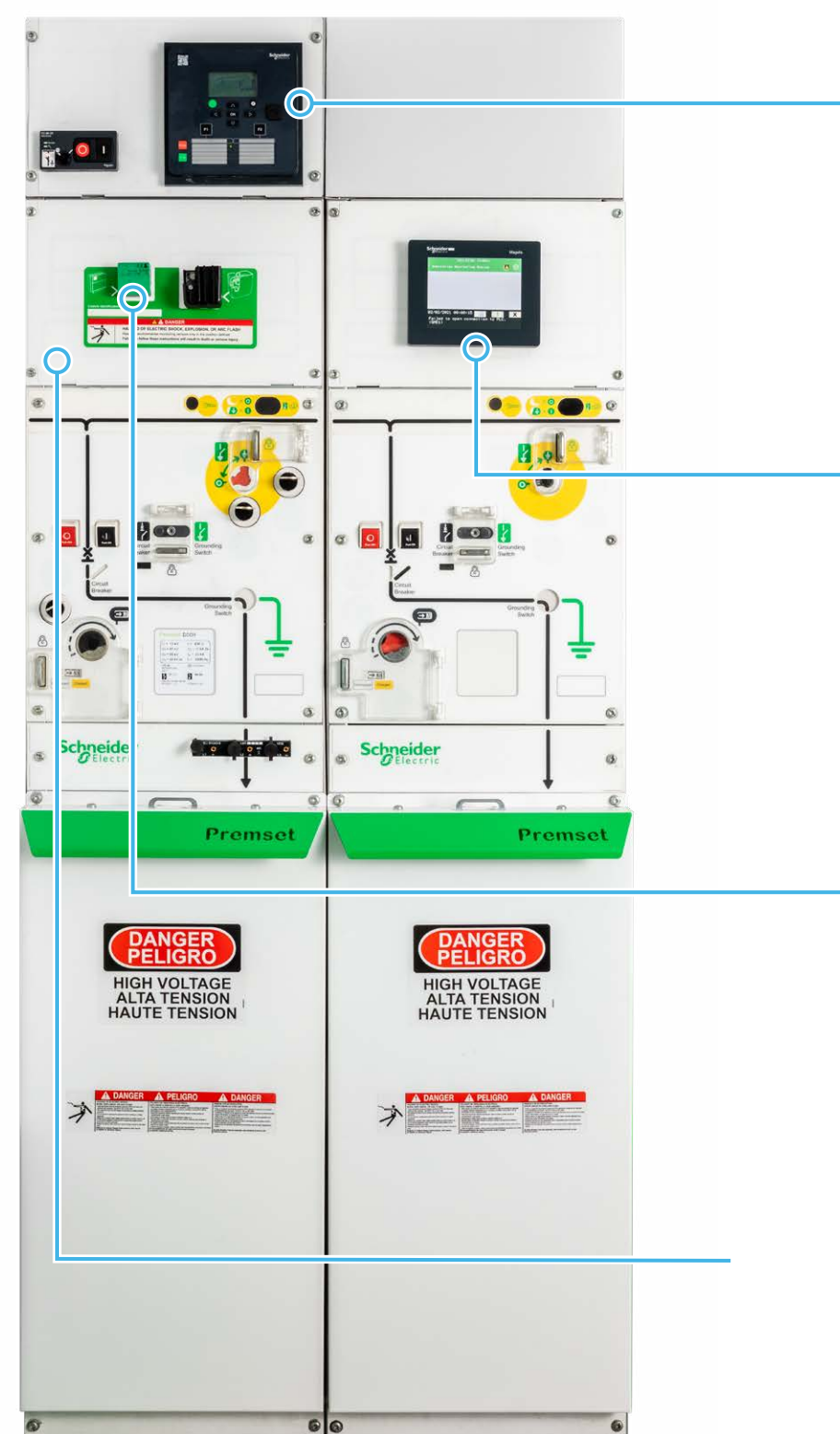
STOP! Do Not Remove this Yellow Cover
Higher incident energy levels present.
Do not energize the equipment with the cover off.
Line side incident energy levels are higher than the cover.
Additional arc flash incident energy calculations must be performed.
Line side incident energy levels are higher than the cover side incident energy levels.
Line side incident energy levels may exceed PPE capabilities.

⚠ DANGER
HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH
Hazard equipment enclosure. Insulate carefully and lock the enclosure to the equipment before trying to install, operate, or maintain the device.
Wear appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E or CSA Z462.
The equipment must be installed and serviced only by qualified electrical personnel.
Turn off all power including the equipment before working inside the Cable Vault.
Always wear a properly rated voltage sensing device to confirm power is off.
Remove all devices, doors and covers before turning on power to this equipment.
Apply Torque to Cable Vault nuts between 20-23 in. lbs (2.2-2.6 Nm).
Failure to follow these instructions will result in death or serious injury.

PremSeT

The new generation of MV switchgear

Part of **SeT Series**



Features the Shielded Solid Insulation System (2SIS).

PremSeT medium voltage switchgear is designed for now and the future. With intelligence, efficiency, safety, and smart-grid compatibility, PremSeT offers an award winning (*Consulting-Specifying Engineer's* Product of the Year 2017) solution for medium voltage power distribution.

With its 3-in-1 switchgear design, the PremSeT system's operational interface is simple, intuitive, and user friendly. The circuit breaker is in series with the isolating grounding switch, which, combined with interlocks, provides integrally designed protection for the operator.

The intelligent electronic devices used in PremSeT allow easy integration based on standard communications protocol with a plug-and-play scanning system for easy configuration.

All this adds up to a flexible system with integrated Web technology, pre-engineered and pre-tested, which you can easily upgrade as necessary. With PremSeT architecture, you can easily build a smarter MV distribution system.



PremSeT

The new generation of MV switchgear

Part of **SeT Series**

Features

Range composed of compact, smart and modular units up to 15 kV, earth shielded solid and easily adaptable to specific requirements:

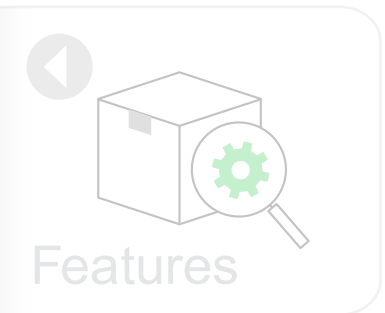
- Circuit breaker and switch-disconnector using vacuum technology
- Rated PF withstand voltage: 95 kV
- Rated busbar current: 600A and 1200A
- Rated max short time withstand current: 25 kA (2 sec)
- Cable grounding switch: 25 kA Fault Making
- Degree of protection: NEMA 1
- Dimensions W x H x D (in.): 14.75 x 65 x 36

Functional units:

- 5 circuit-breakers: D01N, D02N, D06N, D06H, D12H
- Short Circuit Interrupting Rating: 25kA
- Technology: Shielded Solid Insulation
- Standard: ANSI/IEEE

UL Listed

- Standard Warranty Period: 18 months



PremSeT

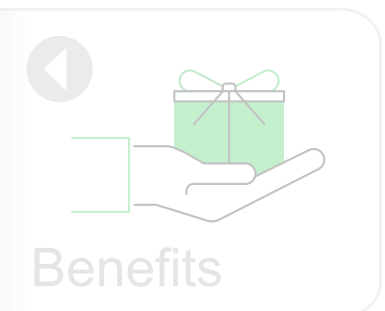
The new generation of MV switchgear

Part of **SeT Series**

Benefits

A technological breakthrough, opening the way to unprecedented safety, efficiency, and ease of use:

- Increased safety and reliability in harsh environments: insulation and shielding of all live parts ensures a longer service life with less maintenance than traditional medium voltage switchgear.
- Flexible, simple, modular, and functional: easy to install and easy to use, with operator-friendly switchgear and optimized service thanks to 2SIS technology.
- Smart grid ready, distributed intelligence: advanced protection, control and monitoring, fully integrated for higher dependability and energy efficiency.



PremSeT

The new generation of MV switchgear

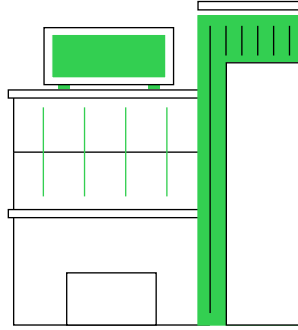
Part of **SeT Series**

Applications

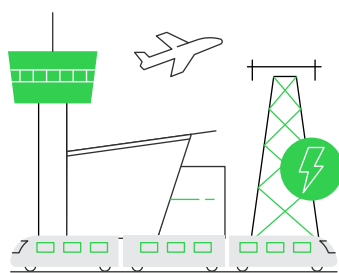
PremSeT applications can be found in all medium voltage market segments including:



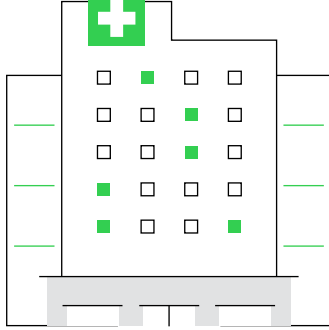
Industrial



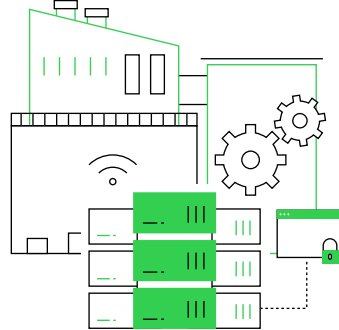
Large Commercial



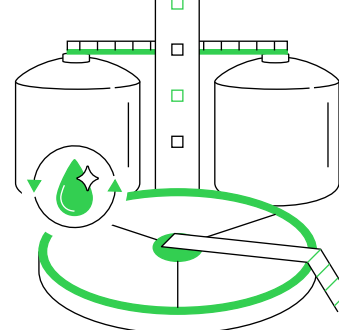
Building and Infrastructure



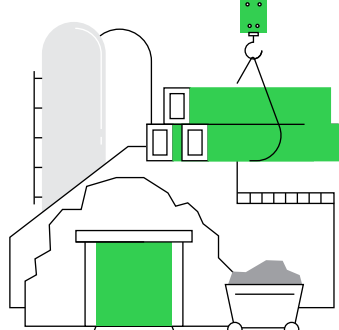
Healthcare



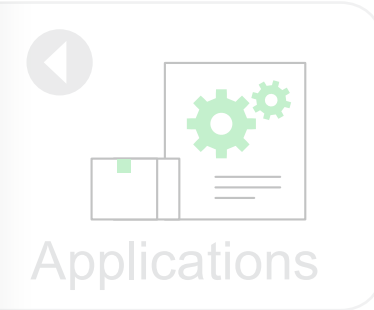
Data Center



Water Treatment

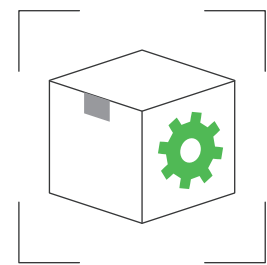


Metals and Mining



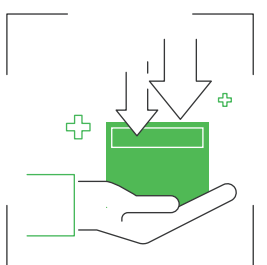
Thermal Monitoring

Switchgear Monitoring Device (SMD)



Ratings/Features

- Continuous, realtime thermal and environmental condition monitoring.
- Wireless sensors communicate via the Zigbee® protocol.
- Self-powered thermal sensors. (No batteries to change)
- Available across MV product offer up to 38KV
- Uses local HMI or communicates directly with customers SCADA system.



Benefits

- Reduces cost of ownership by replacing annual thermal scans with continuous monitoring.
- Increases uptime through early identification of thermal issues.
- An EcoStruxure™ solution through integration with the Asset Advisor/PME/PSO PowerLogic offers.



Local HMI



Modbus SL

Switchgear
Monitoring
Device



Sologate Wireless
Concentrator



Thermal
monitoring TH110

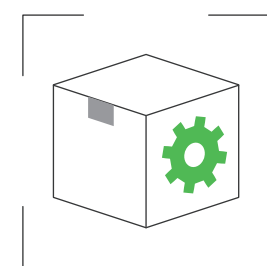
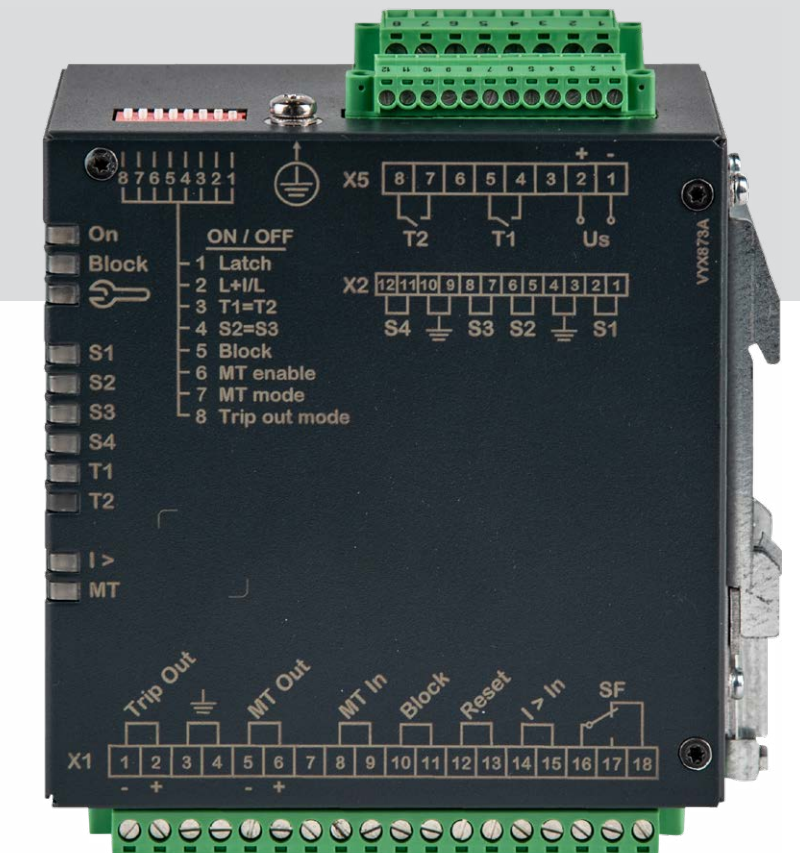


Environmental
monitoring CL110

V125 Arc Flash Relay

Basic arc fault detection for MV and LV power distribution

Schneider Electric's arc flash detection units are versatile and independently operating devices for bay-based protection. They offer optimized and cost-effective solutions for panel builders and OEMs. Underlying this range is the knowledge, innovation, and reputation gained over nearly three decades. These fast and reliable devices reduce damage and protect installations.



Features

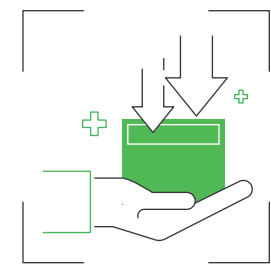
An arc flash is a mass of heat and pressure caused by a switchgear fault. Not only does it cause power outages, but it can also result in loss of business, extensive material damage, and can seriously jeopardize the safety of operational staff. Should a fault occur, arc flash protection minimizes burning time by quickly tripping the circuit breaker, cutting off the current feeding the arc. Short arc burning times are critical, especially when the arc develops during maintenance work on the switchgear, causing property damages. The unique arc fault functionality adds a new dimension to the total protection and reliability of the power distribution installation.

Schneider Electric's active arc flash protection units can detect arc flash faults and send a trip command to the circuit breakers within one ms to distinguish the fault.

Standard Manufacturer's Warranty: 2 years

V125 Arc Flash Relay

Basic arc fault detection for MV and LV power distribution



Benefits

- **Low investment costs and fast installation**

The pre-designed and documented protection schemes are cost-effective, fast to install and commission, and require low investment. One successful operation of the arc protection system provides an immediate return on the investment.

- **Reduced loss of production**

The faster that arc protection operates, the less damage is caused by the arc fault, reducing the possible outage of the power supply.

- **Easy installation in existing switchgear**

The product's design allows for easy installation in existing switchgear. A number of accessories simplify and speed up installation in existing switchgear and electrical panels thanks to its compact design and installation kits.

- **Reduced insurance costs**

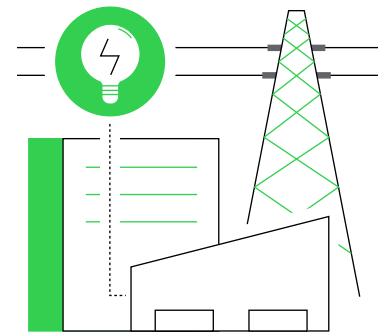
The faster and better the protection system, the more generous the insurance terms and lower the cost should be.



V125 Arc Flash Relay

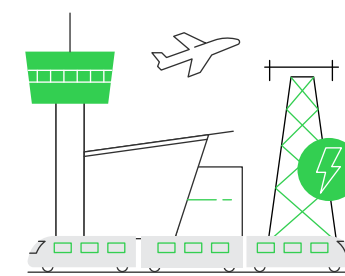
Basic arc fault detection for MV and LV power distribution

Applications



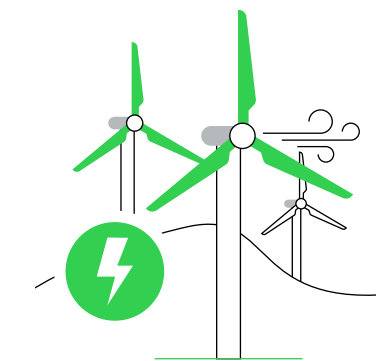
Light industries

- Protection against reduced insulation due to a dirty environment
- Precise and selective pre-tested operation schemes
- Motor control center supervision



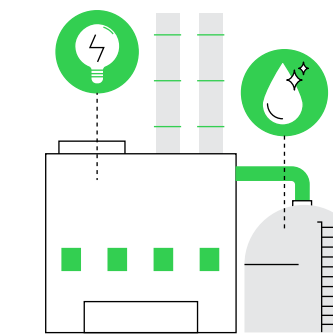
Buildings and infrastructure

- Interface with building automation over contact outputs to speed up switchgear maintenance
- Additional protection against faults due to harmonic distortion in the power system
- Compact size enables flexible installation



Wind power

- Protection of generator, transformer, converter cabinet, cable joints, and circuit breaker compartments
- Generator set emergency trip
- Safety loop support



Utilities

- Entry range product for arc flash protection
- Extension for more extensive schemes utilizing installed sensors becomes possible
- Additional protection for seldom-used network configurations



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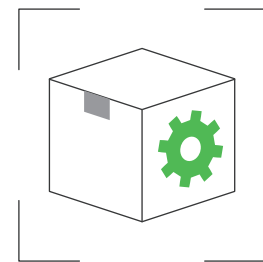
Easergy P3

Compact protection relays for standard applications

Part of PowerLogic



Easy-to-use protective relays for Medium Voltage applications with fast delivery, ideal for panel builders, contractors and partners to save time. From overcurrent to advanced protection, with Arc detection and Ethernet communication including IEC 61850.



Features

Easergy P3 is our latest protection relay for all common MV applications. It is designed for unparalleled efficiency, greater connectivity and enhanced safety to allow Panel Builders, Contractors and Partners to save time every day, while helping to ensure that critical assets and personnel remain protected.

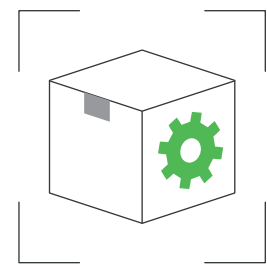
With our unique easy-to-use One-Box design, Easergy P3 includes **more than 40 protection functions and 8 communication protocols** to reduce variation, specification, ordering and delivery times.

It is available in two main models that all feature **USB front port, Mimic HMI display, Matrix Logic with equations and 8 communication protocols** (excludes non-communicating models):

- **Easergy P3 Standard** features 40+ functions and detachable connectors
- **Easergy P3 Advanced** included advanced protection functions (line differential and distance) and optional detachable HMI

Easergy P3

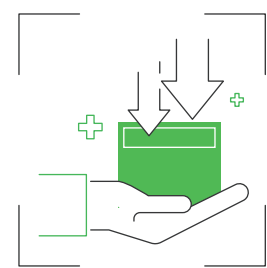
Compact protection relays for standard applications



Features *(cont.)*

Both models are supported by an **innovative range of efficient tools from specification to support**, all dedicated to help you save time. For example, the Easergy P3 smartphone and tablet application will become your helpful companion in operation and maintenance tasks.

Based on more than **100 years of experience in medium voltage protection relays**, Easergy P3 benefits from the reliability of our well-known ranges SEPAM™, MiCOM™ and Vamp.



Benefits

Unparalleled efficiency with attention to time saving at every step

- Simple selection with web-configurator tool
- Fast online ordering using our Ecoreal MV platform
- Simplified configuration and testing from our new eSetup Easery Pro setting tool
- Quick setting changes in the field with the embedded web-server
- Fast delivery with on-the-shelf availability of standard configurations in less than 7 days

Better connectivity brings great benefits

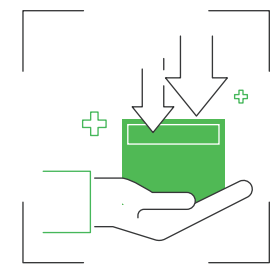
Simplify operation and maintenance with the innovative Easergy SmartApp mobile application

- 8 communication protocols in one device with Serial and Ethernet connectivity
- IEC 61850 and redundancy protocols (RSTP, PRP)
- Increased amount of inputs & outputs for more possibilities



Easergy P3

Compact protection relays for standard applications



Benefits *(cont.)*

Enhanced safety for your assets and personnel

- Embedded arc protection to reduce risk and long-term equipment damage
- Built-in virtual injection testing to quicken installation and commissioning using eSetup Easergy Pro
- Compliant to international quality standards (i.e. IEC 60255-1)

Applications

Suitable for buildings, industries and electric utilities applications alike, Easergy P3 offers a complete range of protection for medium voltage. With more than 40 protection functions, including feeder, motor, transformer, and generator protection and optional arc protection and advanced functions such as line differential and distance, it offers a unique one-box design, to help you save time in almost any environment.

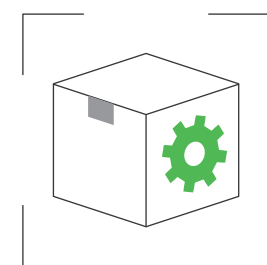


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PowerLogic™ ION9000 Series

Advanced power quality meets unparalleled innovation

With precision twice that of existing energy standards, the ION9000 redefines the standard for accuracy. It resolves power quality issues faster with patented disturbance tracking technology, and provides unique modularity designed to adapt to your changing energy needs, now and far into the future.



Features

As key components within an **EcoStruxure Power** system, **ION9000 series power meters** provide the flexibility and adaptability needed for today and for the IoT-enabled future. Third-party certified Class 0.1S accuracy surpasses every key revenue metering standard, unlocking significant new savings for an innovative competitive edge. Simply open your web browser for comprehensive PQ analysis according to both EN50160 and IEEE519 standards.

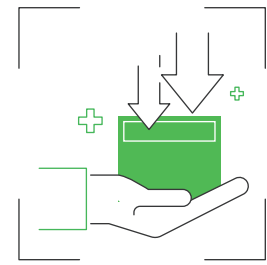
The ION9000 meets emerging international cyber security standards, helping ensure uptime, productivity, and safety. Smart power event analysis correlates facility-wide, system-level events for valuable, actionable power quality information and root cause analysis. Perfect for low to high voltage applications in industrial or healthcare facilities, data centers, and utility networks, the ION9000 is ideally suited to be the foundation of a power management system, and a key enabler of EcoStruxure Power solutions.

Part of PowerLogic



PowerLogic™ ION9000 Series

Advanced power quality meets unparalleled innovation



Benefits

PowerLogic ION9000 meters help you with:

- **Safety:** restore power efficiently while keeping people safe and processes operational. Ensure safe power recovery while switching utility feeds.
- **Reliability:** avoid downtime by understanding root causes of acute or chronic power events, and prevent future occurrences. Increase lifetime of equipment, mitigating effects of poor power quality.
- **Efficiency:** save money by reducing energy spend. Use actionable data to optimize operations, avoid peak demand or power factor penalties or errors in utility bills. Perform maintenance when and where it is needed.
- **Compliance:** comply with local and international energy efficiency standards. Ensure regulatory compliance to operate and protect your business. Prepare your business for future cyber security regulations.



PowerLogic™ ION9000 Series

Advanced power quality meets unparalleled innovation

Applications

PowerLogic ION9000 meters:

- Provide custom substation automation, demand and load management applications
- Quickly locate disturbances
- Predictive maintenance
- Breaker monitoring
- Cost allocation
- Monitoring ongoing operations like battery health and runtime variations
- Help detect and avoid power incidents
- Monitor critical loads 24x7 for peak performance and any deviations from the ideal
- Demand control and load shedding applications

Combine with EcoStruxure Power edge control software and solutions for:

- detailed preventative views into the electrical infrastructure
- advanced diagnostic information and power quality analysis
- mitigation of unplanned downtime
- quickly pinpoint the root cause of power system failures



Next »

I-Line Power Distribution Panelboards

Ideal for service entrance equipment or downstream distribution panels in the electrical system of a large commercial or industrial facility.



The I-Line power distribution panelboard is the most versatile on the market and feature Schneider Electric's unique breaker engagement system. It is used to feed NQ and NF lighting and appliance panelboards. I-Line panelboards are capable of feeding large motor loads and are utilized in most every market segment. Wherever electricity is distributed or controlled, you'll find I-Line Power Panelboards.

Smart devices such as the I-Line Smart Cell, which is demonstrated in the mobile lab, are connected devices that add robust features to any I-Line panelboard. They can be specified with new equipment orders, or used to retrofit I-Line panelboards that are already in service, adding modern functionality to existing equipment.

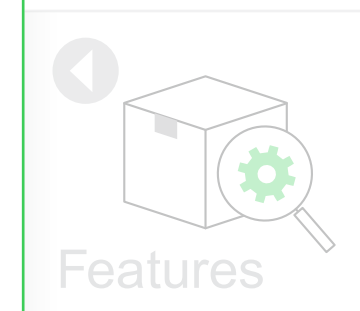


I-Line Power Distribution Panelboards

Ideal for service entrance equipment or downstream distribution panels in the electrical system of a large commercial or industrial facility.

Features

- 600 Vac, 250 Vdc maximum
- 1200 Amp main circuit breaker or main lugs
- 1200 Amp maximum branch circuit breaker
- UL Listed for use on systems with up to 200K max. RMS symmetrical amperes available fault current when using current limiting main or branch circuit breakers
- Fully rated and series rated systems available
- Main Lug interiors are field convertible for top or bottom feed
- Interior, front and circuit breakers require only a screwdriver for installation
- Dead front trim is easily installed
- Branch circuit breaker mounting flexibility; capable of mounting a 15 A circuit breaker next to or across from a 1200 A circuit breaker
- Circuit breakers on right-hand side of I-Line® bus stack completely independent of position and frame size of circuit breakers on left-hand side
- Circuit breaker plug-on jaws have no fasteners – less time spent on installation and maintenance
- Circuit breakers do not require any additional external mounting hardware
- Average branch circuit breaker installation time less than one minute
- Circuit breaker connections are “blow-on” type which draw the connector jaws together, providing a firmer grip under high level short circuit conditions
- Circuit breakers include a push-to-trip feature to exercise the tripping mechanism
- Well suited to rearranging circuits



Features

I-Line Power Distribution Panelboards

Ideal for service entrance equipment or downstream distribution panels in the electrical system of a large commercial or industrial facility.

Benefits

Communication Features (Optional):

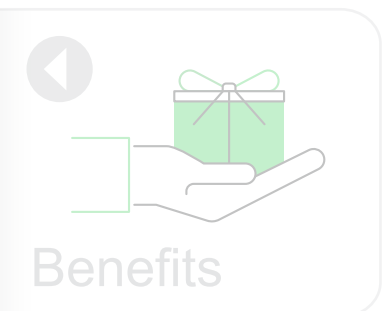
- Capable of communications with individual breakers from 15Amps to 1200Amps
- Individual Display modules available
- Communication connections provided in side extension providing additional space for control wiring and safety by removing control from power compartment.

Metering Features (Optional):

- Individual Breaker display modules
- PowerLogic or ION module available

Availability:

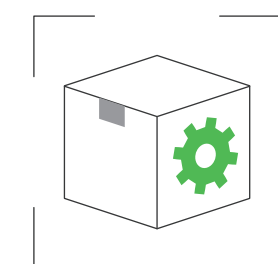
- Factory Assembled or Ready-to-Install
- Quick Ship program available based on customer need



Square D I-Line Smart Cell

Space-saving module for value-added digital solutions

The modular Square D™ I-Line™ Smart Cell enables value-added devices in I-Line panelboards in a variety of combinations. The space-saving unit fits into the I-Line bus in place of a circuit breaker allowing the I-Line panelboard to be transformed into a digital communication or metered electrical distribution solution.



Features

Modular design

- Space-saving design fits into the I-Line bus in place of a breaker; eliminates the need for a I-Line panelboard box extensions/sidecar
- Easy to install; a screwdriver is all that's needed to mount I-Line Smart Cell. Mounts firmly onto the bus stack and fastens with captive retaining screws
- Minimizes impact of project changes, allowing customers to add components anytime

Enhanced Safety

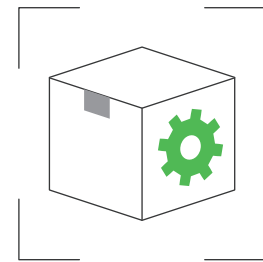
- Components are both visible and accessible for enhanced safety when you're commissioning or using the devices

Integration of value-added devices

- Easily integrate digital communication equipment without increasing equipment footprint, enduring long lead times, or incurring high costs

Square D I-Line Smart Cell

Space-saving module for value-added digital solutions



Features *(cont.)*

Three value-added configurations:

- Smart Systems Communications – Facilitate Ethernet-connected electrical distribution devices to help customers reduce downtime, manage energy use, and improve operational efficiency. Smart Systems features real-time monitoring of Square D PowerPacT™ with Micrologic™ circuit breakers and meters, and other monitoring devices. The solution collects data in real time and can send preconfigured email alerts to allow remote monitoring.
- Entry-level metering EM3555 with Modbus™ or EM3560 with BACnet can be easily and conveniently installed in an I-Line Panelboard. And coming soon, more advanced metering utilizing PowerLogic Power Meters PM5563 and PM8244.
- Energy Reduction Maintenance Setting (ERMS) – Meets NEC 240.87 requirements and reduces arc energy during maintenance to improve electrical contractor safety.



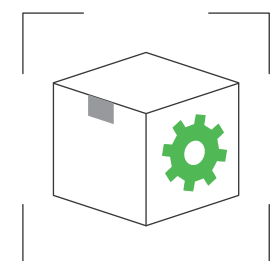
Next »

PowerPacT L-Frame Molded Case Circuit Breakers

Part of PacT Series

A flexible, high-performance offer, certified to global standards for ratings from 70 to 600 A

The PowerPacT H, J, and L-frame circuit breakers are designed to protect electrical systems from damage caused by overloads and short circuits. H and J-frame circuit breakers are available with either thermal-magnetic or Micrologic electronic trip units. L-frame circuit breakers are available with Micrologic electronic trip units only.



Features

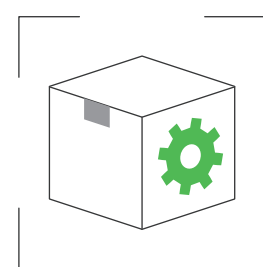
- Rated current from 70 to 600 A
- Breaking capacity from 18 to 65 kA at 480 Vac
- Electronic protection available
- Common accessories and auxiliaries with other PowerPacT frames
- Switch-disconnector versions also available
- Certifications: UL, CSA, CC
- Available in 3 or 4-pole design
- Available from 250 – 600 A, up to 600 Vac and 250 Vdc
- Interrupting ratings (AIC) include D-18 kA, G-35 kA, J-65 kA and L-100 kA at 480 Vac and 20 kA at 250 Vdc
- Available in standard (80%) or 100% rating (250 A and 400 A only)

« Previous



PowerPacT L-Frame Molded Case Circuit Breakers

A flexible, high-performance offer, certified to global standards for ratings from 70 to 600 A



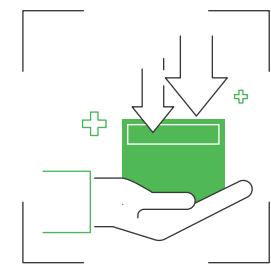
Features *(cont.)*

- Common accessories across the range of PowerPacT Molded Case Circuit Breakers allow users to make late specification changes
- A wide range of field-installable accessories allow customers to reduce inventory without sacrificing flexibility
- Broad offering of operating mechanisms and ratings specifically designed to be used as the main panel disconnect for control panel applications
 - » IEC Style Rotary Operating Handles
 - » NEMA 9421 Door Mounted Rotary Operating Mechanism
 - » NEMA 9422 Flange Mounted Operating Mechanism in two styles – bracket-mounted or cable operated
- Equipped with a unique terminal design that makes converting between busbar and lug options easy
- Easy to install, extremely versatile, a wide variety of terminal options include mechanical lugs, crimp lugs, power distribution lugs, and lug shields
- Available in Unit mount (lug-lug, rear, bus bar), I-line or drawout constructions
- 3 and 4-pole automatic molded case switches available at 400 A and 600 A
- Motor circuit protectors trip units available at 400 A and 600 A
- UL 489 Listed, CSA, NEMA, NMX, VDE, BS, CCC, IEC certified, and CE marked for global acceptance
- Marine ratings also available



PowerPacT L-Frame Molded Case Circuit Breakers

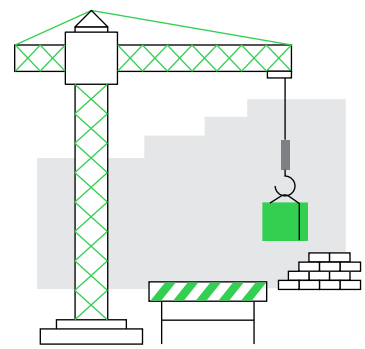
A flexible, high-performance offer, certified to global standards for ratings from 70 to 600 A



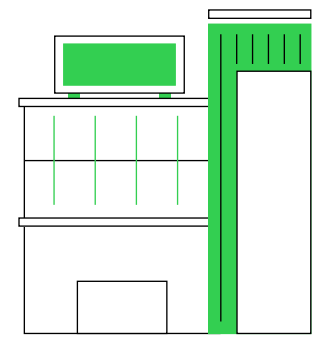
Benefits

- Worldwide availability with unique global part numbers
- Flexible and simple offer, with proven performance
- Direct access to energy metering and energy efficiency thanks to the Micrologic control units

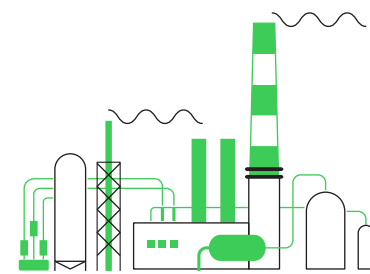
Applications



Construction



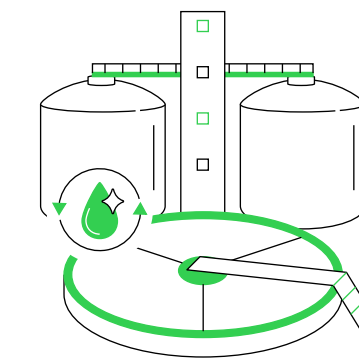
Commercial Buildings



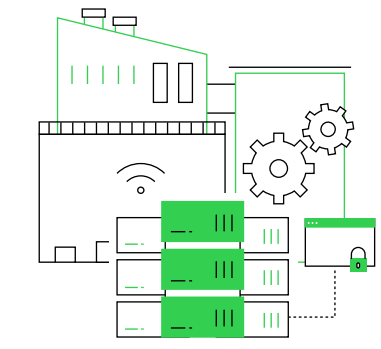
Oil & Gas



Industrial Buildings



Water Wastewater



Data Centers

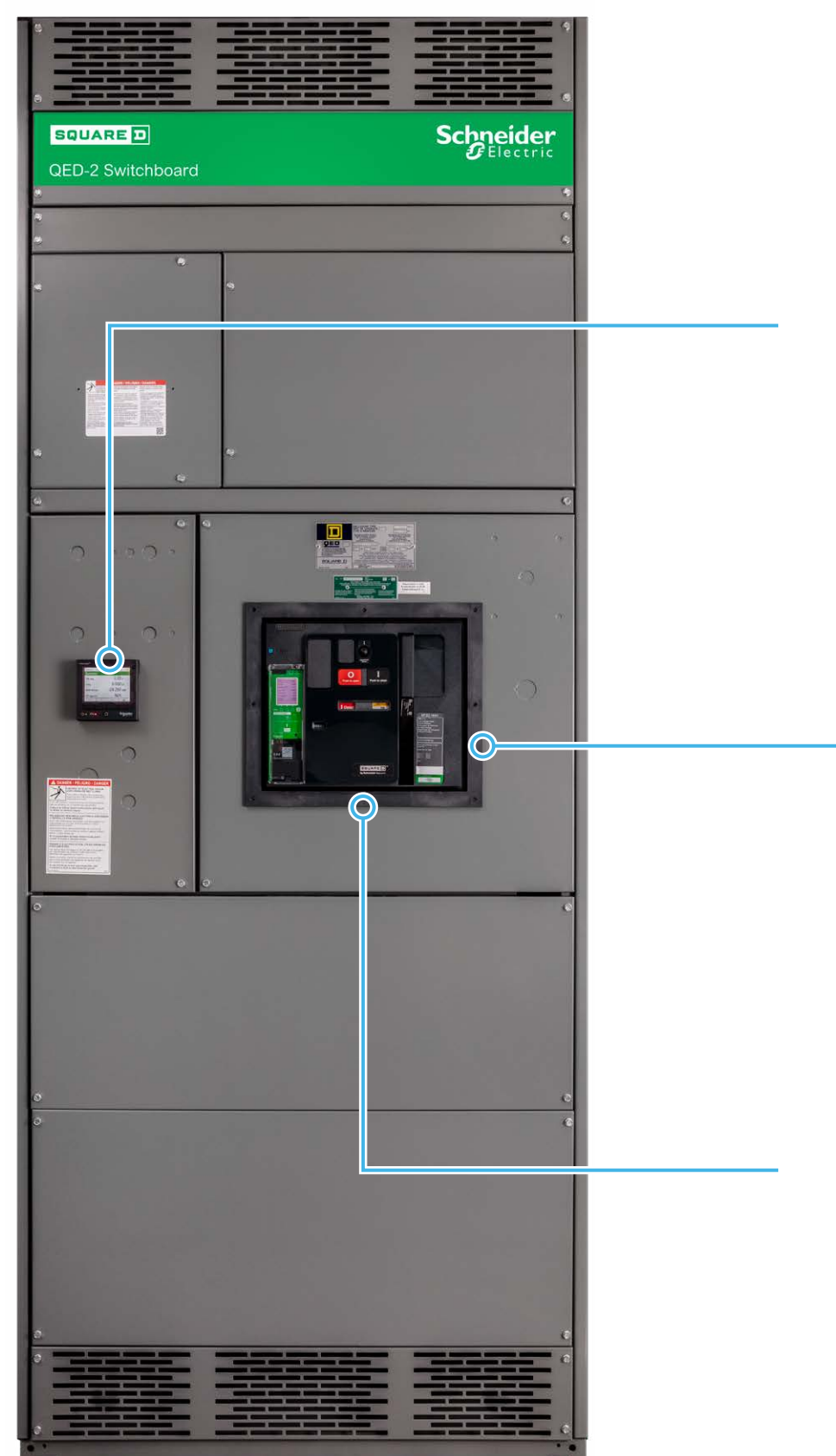
Models: LD250 LD400 LD600 LG250 LG400 LG600 LJ250 LJ400 LJ600 LL250 LL400 LL600 LR250 LR400 LR600



Next »

Square D QED-2 LV Switchboards

Select a standard design that features popular options or create a custom option switchboard



QED-2 switchboards contain the quality, features, and innovations that allow for easier installation.

Standard QED-2 switchboards allow for shorter lead times based around popular feature content. Custom QED-2 switchboards allow for a wide array of optional and special features including new breaker communications options.

For solutions that bring people, products and information together, Square D™ LV QED switchboards are built to last and feature design innovations that make these products easier to install and maintain. Supported by one of the largest distributor, sales and service organizations in the industry, Square D LV QED Custom and Standard Switchboards are readily available to meet the needs of contractors, consultants and end-users.

As one of the most trusted names in electrical distribution, Square D QED switchboards are designed with the highest standards of quality. Custom or Standard Switchboards feature Schneider Electric's unique I-Line plug-on connections in group-mounted construction. With the I-Line design, a screwdriver is the only tool required to firmly ratchet the line end of a molded-case circuit breaker directly onto the I-Line bus assembly. This plug-on design allows quick installation and mounting flexibility of circuit breakers up to 1200A.



Square D QED-2 LV Switchboards

Select a standard design that features popular options or create a custom option switchboard

Features

Our Standard QED-2 switchboard designs feature the most frequently requested ratings and options, with faster delivery. When ordering standard Switchboards, the RapidSource™ program expedites your delivery and reduces lead times, allowing you to meet tighter project schedules. Plus, factory-approved for-construction drawings are available immediately. Your team can get to work pouring pads and installing conduit right away, keeping your crew productive. Please contact your local authorized Schneider Electric distributor for ordering information.

Custom Option: Switchboard Features

- Ratings through 5000 A, 200 kA SCCR
- Voltages to 600 Vac or 250 Vdc
- Circuit breaker and fusible switch mains and feeders
- Hot or cold sequence utility metering
- Internally mounted SurgeLogic® surge protective devices
- PowerLogic® customer metering, including custom communications capability and inter-wiring
- Future ready devices and communications
- Quick Connect Generator option available

Standard Option: RapidSource Switchboard Features

- Ratings up to 4000 A, 100 kA SCCR
- Voltages to 600 Vac or 250 Vdc
- Indoor and Outdoor NEMA enclosure types
- Aluminum with tin plating or Copper with silver plating bussing options
- Single or Double Row I-Line Distribution configurations available
- Internally mounted SurgeLogic® surge protective devices
- PowerLogic® customer metering, with available unwired communications capabilities.
- Commercial Multi-Metering

« Previous



Square D QED-2 LV Switchboards

Select a standard design that features popular options or create a custom option switchboard

Features *(cont.)*

Reduce footprint requirements and installation time for projects requiring top exit of load side cables.

- Cost-effective means of providing revenue (utility) metering for multiple tenants. It is an ideal solution for strip shopping centers or for shopping mall applications.
- Commercial multi-metering is hot sequence metering and is available with either Lever By-pass or Non-Lever By-pass construction.
- Integrated front accessible load side wireway in each section for top exit of cables
- Front and rear alignment standard
- Switchboard ratings through 4000 A, 100 kA
- Meter sections in either three or six socket section configurations
- Tenant mains either circuit breaker or fusible
- 60-200 A without lever by-pass have self-contained meter sockets, 5 or 7-jaw, ring type, test block where required
- 60-200 A lever by-pass have self-contained meter sockets, 7-jaw, ring-less
- 400-1200 A have current transformer rated meter compartments
- Factory installed devices are completely wired from meter socket to disconnect
- Provisions for adding future tenants available as well as future sections
- Sections in either NEMA Type 1 or NEMA Type 3R construction



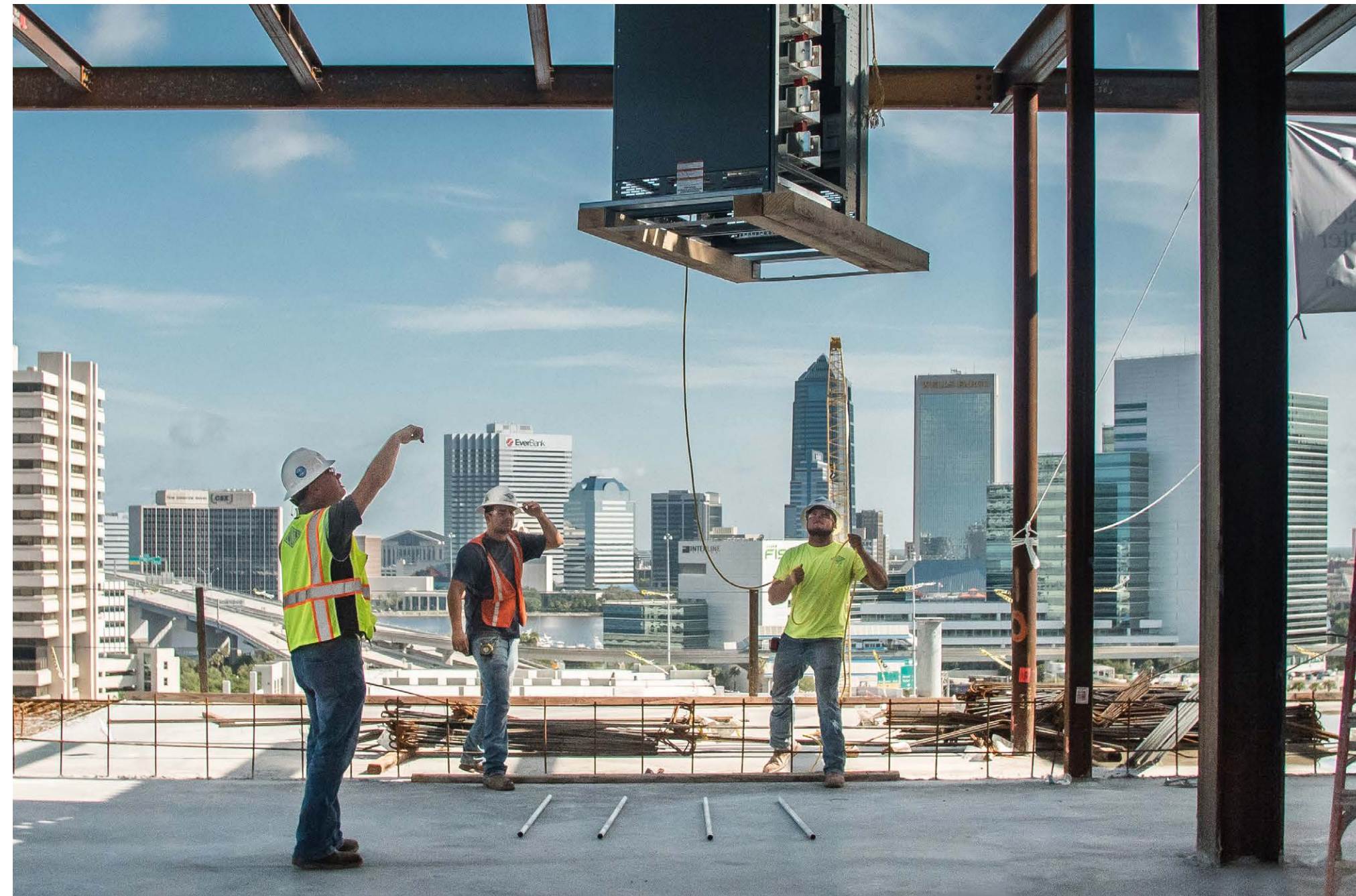
Next

Square D QED-2 LV Switchboards

Select a standard design that features popular options or create a custom option switchboard

Benefits

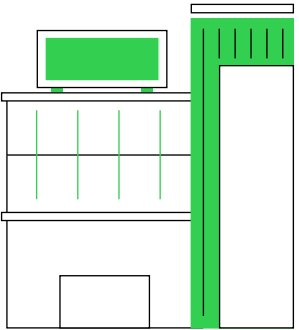
- Custom or standard options
- Quick installation and mounting flexibility
- Standard QED 2 switchboards offer shorter lead times and expedited delivery



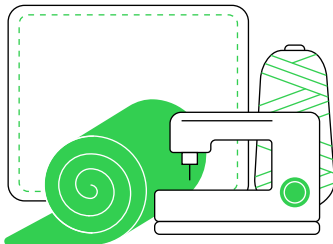
Square D QED-2 LV Switchboards

Select a standard design that features popular options or create a custom option switchboard

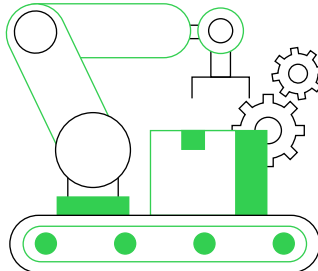
Applications



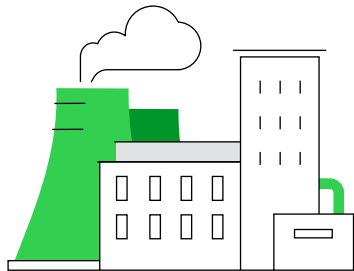
Commercial Buildings



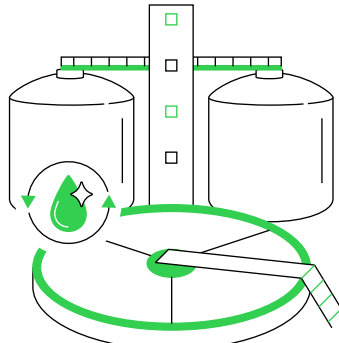
Textile



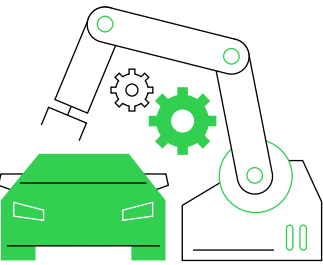
Manufacturing



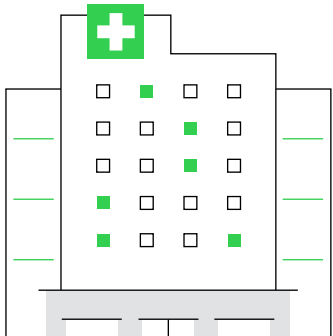
Industrial Buildings



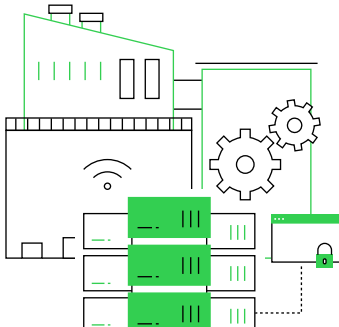
Water Wastewater



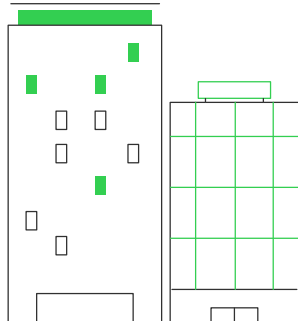
Automotive



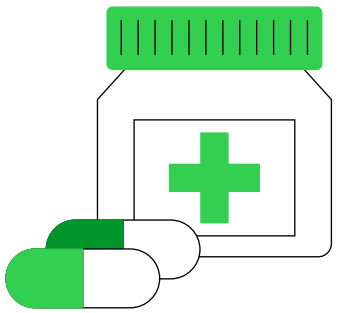
Healthcare Facilities



Data Centers



Commercial Office Buildings



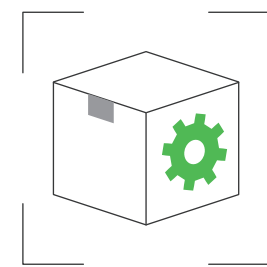
Pharmaceutical



MasterPacT MTZ 2 Fixed Mount Circuit Breaker - UL/ANSI

LV power circuit breaker rated +1200 A with IFE

MasterPacT MTZ offers a complete range with one family, three frame sizes and multiple ratings designed to protect electrical systems from damage caused by overloads, short circuits and equipment ground faults.



Features

Specifications

MasterPacT MTZ offers a complete range with one family, three frame sizes and multiple ratings to meet your requirements for ANSI C37/UL 1066 and UL 489 applications.

- Rated current: 800 to 6000 A
- Breaking capacity: 42 to 200 kA at 480 Vac
- Voltage rating: up to 600 Vac
- 3 frame sizes: MasterPacT MTZ1 from 600 to 1600 A; MasterPacT MTZ 2 from 800 to 4000 A; MasterPacT MTZ3 from 4000 to 6000 A
- Draw out and fixed mount
- 3 pole and 4 pole construction

Part of PacT Series

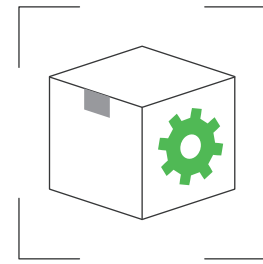


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MasterPacT MTZ 2 Fixed Mount Circuit Breaker - UL/ANSI

LV power circuit breaker rated +1200 A with IFE



Features *(cont.)*

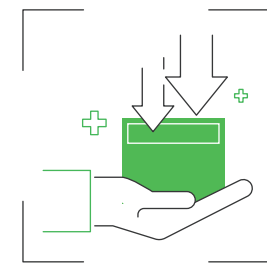
Optimized selection of 3 advanced MicroLogic X control units for advanced protection, measurement and diagnostic functions. MicroLogic X control units can be customized with optional [Digital Modules](#) for enhanced protection and operations.

- MicroLogic 3.0 X - LI (Long time and Instantaneous)
- MicroLogic 5.0 X - LSI (Long time, Short time and Instantaneous)
- MicroLogic 6.0 X - LSI (Long time, Short time, Instantaneous and Ground Fault)
- Built-in Class 1 accuracy active power and energy measurement
- Switch disconnectors version available
- Full range of field-installable auxiliaries and accessories



MasterPacT MTZ 2 Fixed Mount Circuit Breaker - UL/ANSI

LV power circuit breaker rated +1200 A with IFE



Benefits

MasterPacT MTZ circuit breakers are Future Ready and contribute to safety and reliability of electrical installations. Thanks to proven performance and incorporating the latest digital technologies.

Installation-ready (same frame sizes as NT & NW series)

Simple retrofit thanks to identical sizes, power connections and thermal properties as for the MasterPacT NW and NT ranges.

Connectivity-ready (MTZ mobile app, native Ethernet)

MasterPacT circuit breakers with MicroLogic X control units provide simple and reliable access to data from a smartphone or PC.

The following connectivity is offered:

- Direct Ethernet through IFE or EIFE interface
- MasterPacT MTZ Mobile App through Bluetooth low energy or NFC

Energy efficiency-ready (built-in class 1 power meter)

Advanced MicroLogic X control unit can assist in providing corrective, preventive and predictive maintenance and energy management to identify potential savings.

Upgrade-ready (customizable with digital modules)

MicroLogic X control units can be customized with optional Digital Modules to provide advance protection, metering, diagnostics, communication, and remote operation.

Integration-ready (in EcoStruxure Power architecture)

MasterPacT MTZ is a part of EcoStruxure Power – Schneider Electric's open, interoperable, IoT-enabled system architecture.

Environment-ready (can withstand harsh environments)

[Discover MasterPacT MTZ](#). Learn how you can be future ready today.

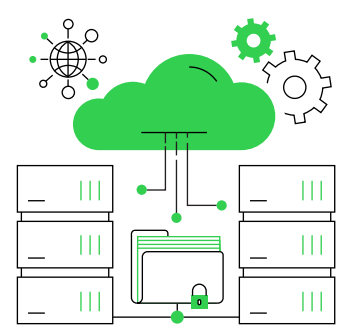


MasterPacT MTZ 2 Fixed Mount Circuit Breaker - UL/ANSI

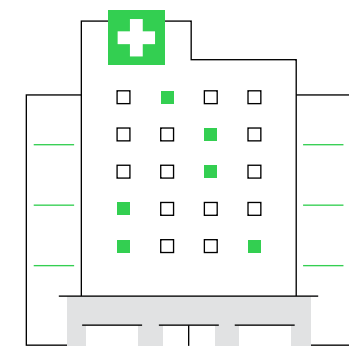
LV power circuit breaker rated +1200 A with IFE

Applications

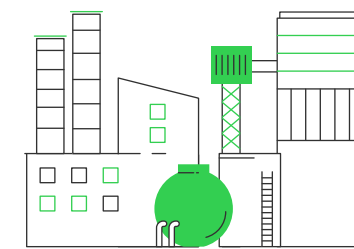
Suitable in most applications for the protection, measurement, monitoring and quality of energy of LV electrical systems. This includes generator protection and motor protection, in standard applications and heavy-duty applications demanding high performance, and ideal for:



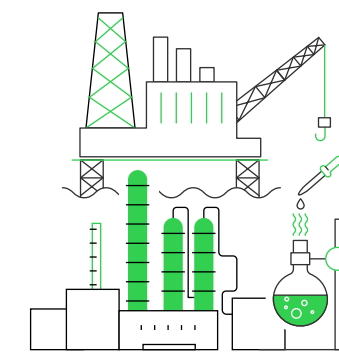
Data centers and cloud



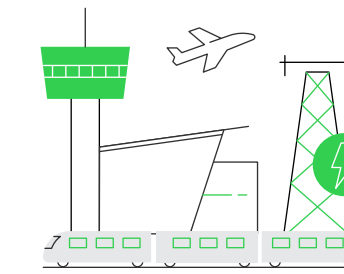
Healthcare:
hospitals



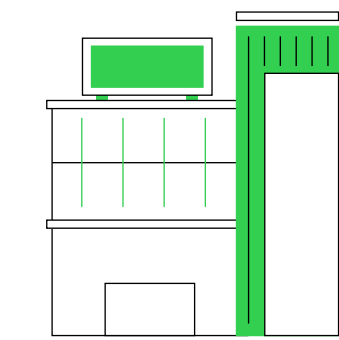
Industry:
mining operations, minerals, metals, and cement production, water and wastewater industry, automotive, food and beverage, etc.



Oil and gas:
extraction and processing, chemicals industries



Infrastructure:
airports, railways, subways, tunnels, power plants, etc.



Buildings:
commercial buildings, hotels, offices



Next »

Energy Reduction Maintenance Setting (ERMS) Switch

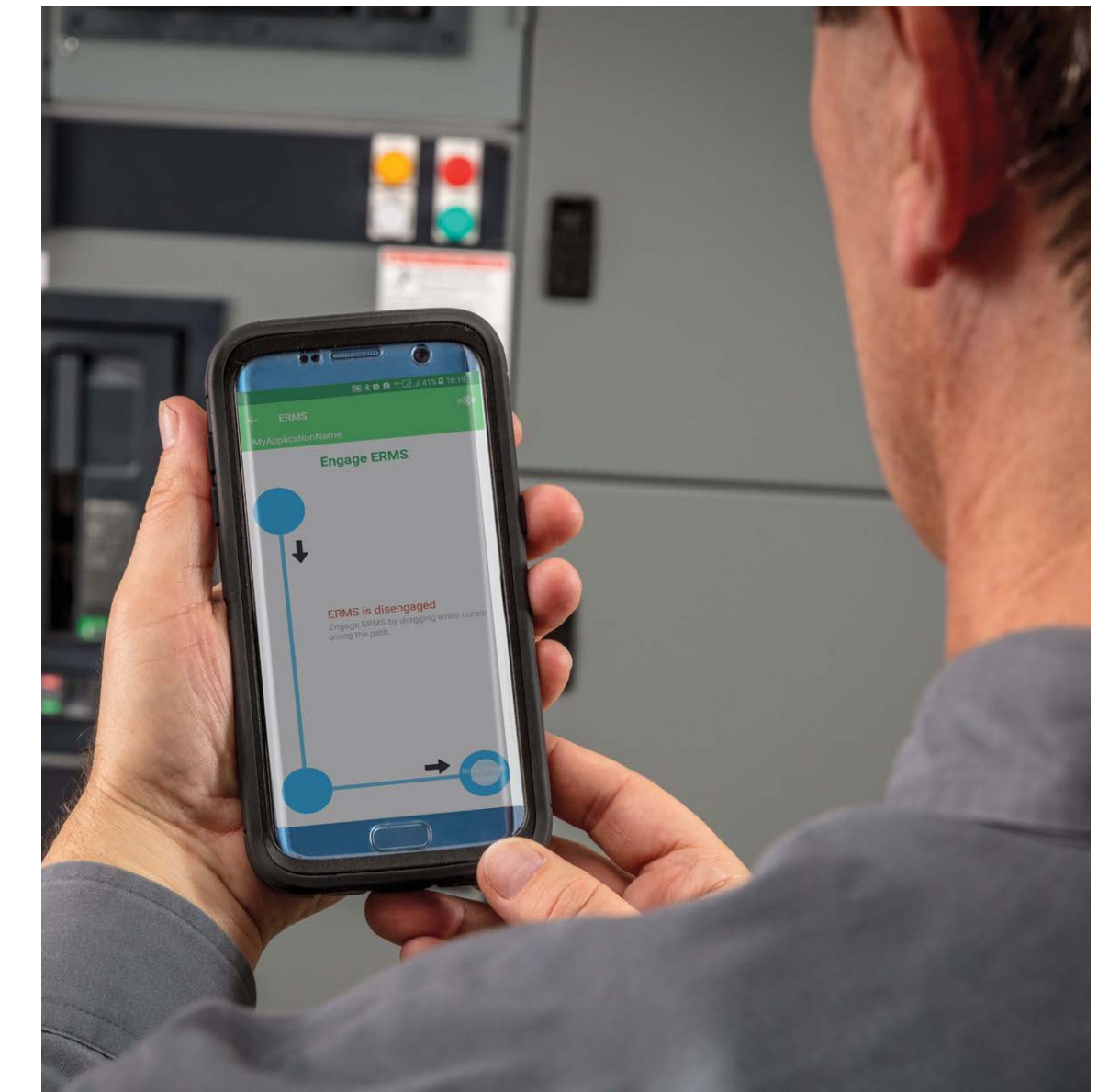
QED-2 Low Voltage Switchboards

During day-to-day operation and maintenance of low voltage QED-2 switchboards, circumstances may exist where work must be done within the Limited Approach Boundary of energized conductors or components. In these cases, de-energizing the equipment may not be feasible due to electrical system design or operational limitations that introduce additional or increased hazards to personnel.

How does one decrease the hazard associated with potential arc flash? The use of an Energy Reduction Maintenance Setting (ERMS) Switch may be a desirable option for Low Voltage Drawout Switchgear.

Combined with the MasterPacT™ low voltage circuit breaker, an ERMS switch option may significantly decrease the time an arcing fault is allowed to exist. Because the thermal incident energy from an electric arc exposure is directly proportional to the time duration of the arc, reduction in the reaction time of the upstream protective device will result in less arc-flash hazard to any nearby personnel. It is desirable to clear the arcing fault as quickly as possible while maintaining overcurrent coordination of the distribution system.

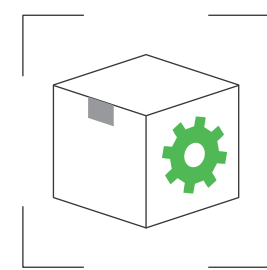
The ERMS Switch option provides a lockable switch that can be an integral part of your Lock Out/Tag Out (LOTO) procedure. Once the work has been performed, the switch can be returned to normal settings that provide the optimal protection and coordination.



PowerLogic PM8000 series

Simplifying power quality, maximizing versatility

Compact, high-performance power meters for cost and network management applications on feeders and critical loads Part of PowerLogic



Features

The PowerLogic PM8000 series meters are compact, cost-effective multifunction power meters that will help you ensure the reliability and efficiency of your power-critical facility. Reveal and understand complex power quality conditions. Measure, understand, and act on insightful data gathered from your entire power system. Designed for key metering points throughout your energy infrastructure, the PowerLogic PM8000 series meter has the versatility to perform nearly any job you need a meter to do, wherever you need it!

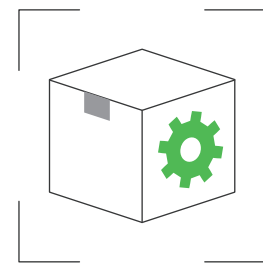
Built on ION™ technology the PowerLogic PM8000 series will also protect the value of your investment with its unique ability to adapt to your needs today and tomorrow.

Part of PowerLogic



PowerLogic PM8000 series

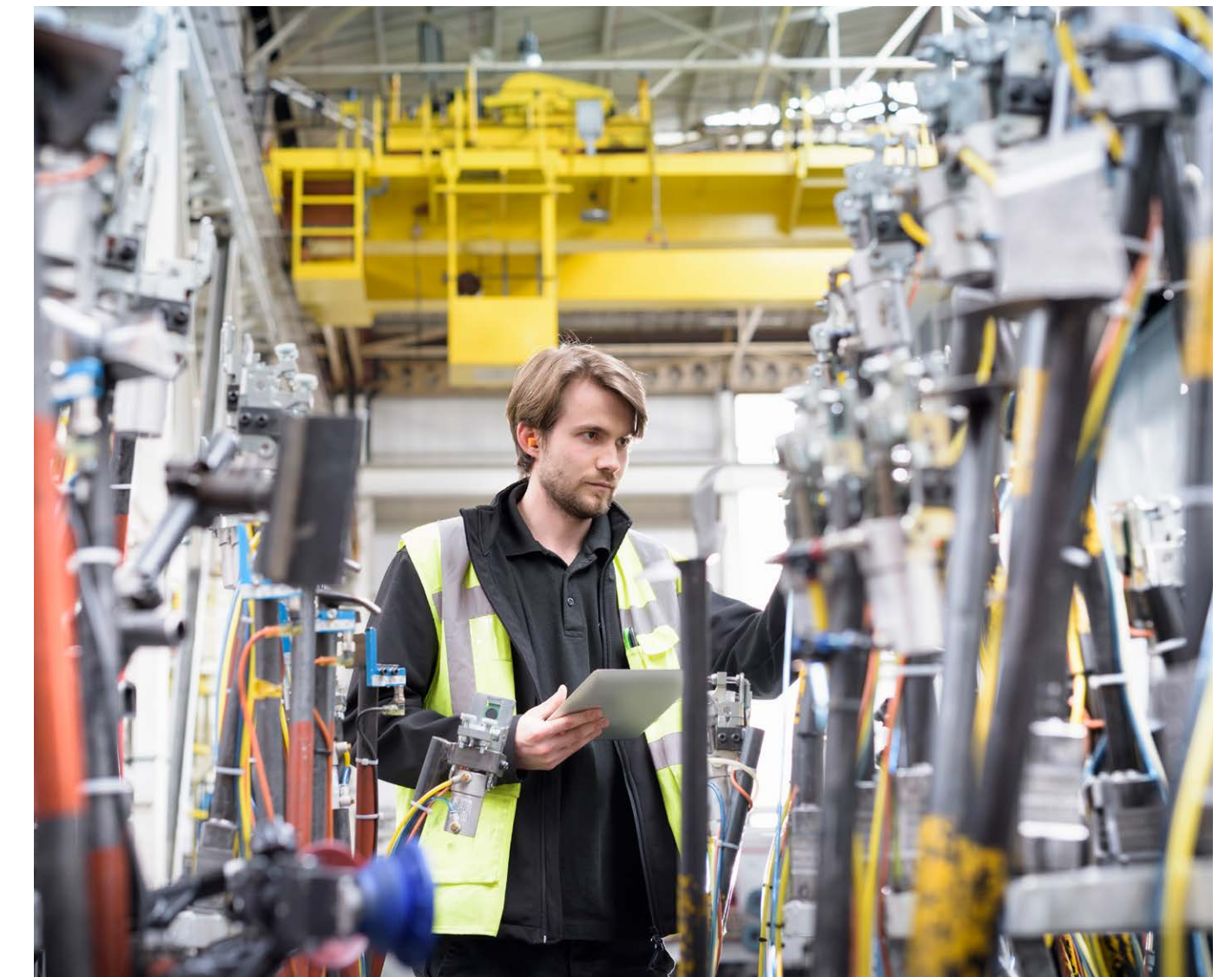
Simplifying power quality, maximizing versatility



Features *(cont.)*

Characteristics

- High-accuracy energy metering: IEC 62053-22 Class 0.2S, IEC 61557-12 PDM-S
- Time synchronization
- Multi-tariff support
- WAGES metering support
- PQ compliance monitoring: IEC 61000-4-30 class S, IEC 62586, EN 50160, IEEE 519
- PQ analysis capabilities: Dip & swell detection, waveform capture, disturbance direction detection, trending & forecasting
- Protocols: Modbus, DNP3, IEC 61850
- Ports: RS-485, dual-port Ethernet, Ethernet-to-serial gateway
- Graphical, color display
- Onboard, customizable web page
- Compatible with 20V to 60V low voltage DC control power systems

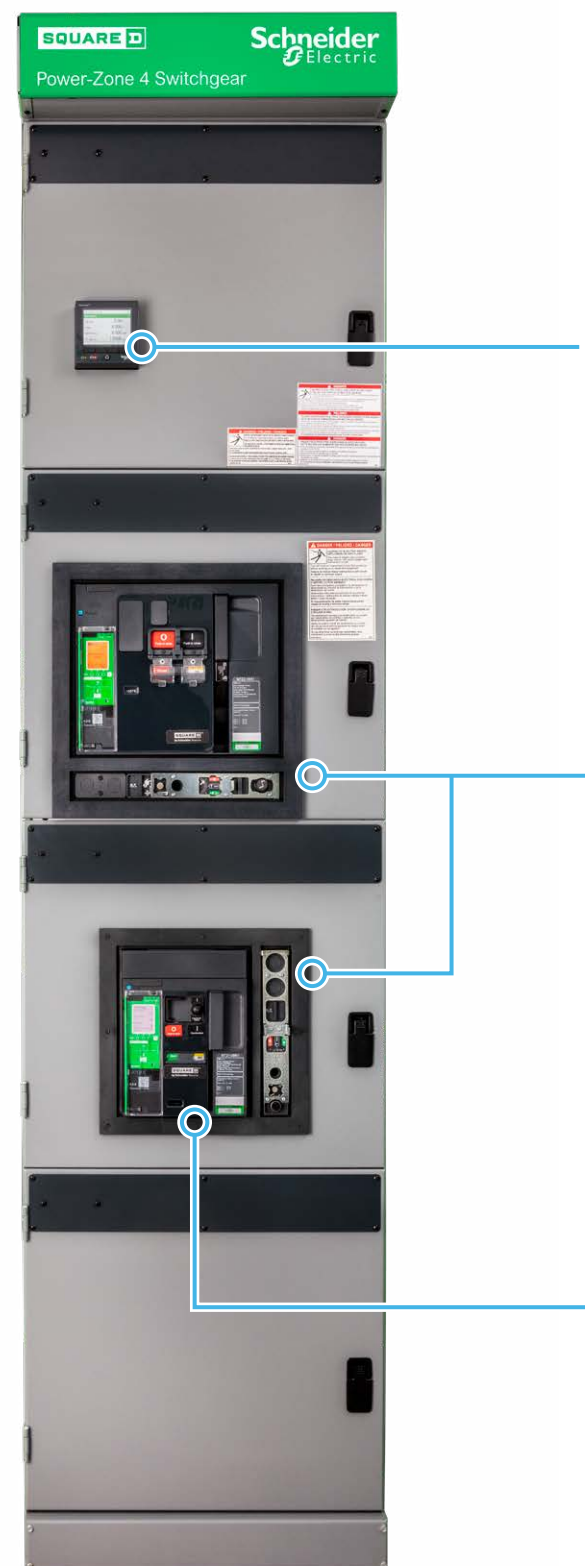


Next »

Power-Zone 4

Low Voltage Drawout Switchgear with MasterPacT MTZ Circuit Breakers

Part of **SeT Series**



Power-Zone 4 LV switchgear has the most space-efficient, flexible design of any switchgear in its class. Unit mount construction and segregated control and power wiring with dedicated gutters for control wiring allow for easy access.

All Power-Zone 4 switchgear feature MasterPacT MTZ circuit breakers, which have the highest short-time and interrupting ratings in the industry. MasterPacT circuit breakers are built for maximum up-time without the need for frequent maintenance and inspections.

ANSI rated to provide superior electrical distribution, protection, and power management in a space-efficient footprint. MasterPacT MTZ drawout power circuit breakers deliver maximum up-time, system selectivity, ease of maintenance, and reliable circuit protection.



Power-Zone 4

Low Voltage Drawout Switchgear with MasterPacT MTZ Circuit Breakers

Part of **SeT Series**

Features

- Stored Energy Drawout Circuit Breakers
- System voltages up to 600Volts AC
- Compartmentalized and Barriercd enclosures
- Designed and built to ANSI® C37.20.1 and is Listed to UL® 1558
- MasterPacT NW/NT circuit breakers are designed and built to ANSI C37.13 and C37.16. Listed to UL 1066
- Short-circuit current rating up to 200 kA without fuses
- High short time withstand ratings up to 100 kA for 30 cycles, minimum
- Family of field installable and upgradeable Micrologic® trip units
- Smallest equipment footprint available in this product class
- Front access to control and communications wire connections
- Bolted silver-plated copper bus provided as standard (up to 6000 amperes maximum)
- Large cable compartment pull area allowing maximum room for power cables (located at rear)
- NEMA Type 1, Type 1 with gaskets or NEMA Type 3R outdoor walk-in enclosures
- Up to 8 MasterPacT NT circuit breakers can be mounted in a 30-inch wide section. (Not available for 600 volts.)

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Power-Zone 4

Low Voltage Drawout Switchgear with MasterPacT MTZ Circuit Breakers

Part of **SeT Series**

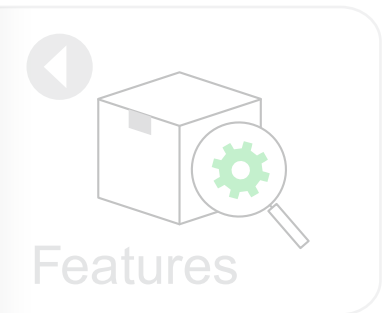
Features *(cont.)*

Optional Features

- Smart Systems Ethernet communications for energy & asset management with built-in web pages
- Automatic Throwover PLC-based control or UL1008 listed Automatic Transfer Switch
- Arc flash limiting MasterPacT NW feeder breakers available in 800, 1600, and 2000 ampere ratings
- Optional MasterPacT NW/NT Remote Racking Device
- High Resistance Ground Controls/Resistor
- Surge Protection Devices
- Infrared Windows/Thermal Monitoring
- Energy Reduction Maintenance Setting Switch
- Insulated Bus
- Remote Racking Device

Communicating Smart Systems Power-Zone 4 Switchgear

- Smart Systems for Electrical Distribution is a simple, plug-and-play, Ethernet-connected power distribution asset management and energy monitoring solution to help you reduce downtime and improve operational efficiency.
- Smart Systems enables local or remote 24/7 real-time status and energy monitoring of Square D MasterPacT™ circuit breakers as well as other power distribution and monitoring devices, such as power meters. Rely on smart data to monitor your buildings' health, pinpoint troublesome areas, and facilitate a predictive maintenance program.



Next 

Power-Zone 4

Low Voltage Drawout Switchgear with MasterPacT MTZ Circuit Breakers

Part of **SeT Series**

Benefits

Rugged, Long Life Operation

- The MasterPacT breaker and PZ4 Enclosure are designed and tested per stringent ANSI ratings
- Low maintenance
- MasterPacT breakers are built to exceed number of ANSI required electrical and mechanical operations
- Add-on Intelligence
- Communications via Ethernet and enhanced web pages turn your gear into a Smart System
- Range of trip units add metering & diagnostic capability
- Advanced metering from our industry leading PowerLogic power meters and monitors Designed to take up Less Space and Time
- Unit mount, drawout for quick maintenance and replacement
- Up to 8-800A feeders in 30" W enclosure
- Depth ranges from 60'-80" D Quality and Performance
- High Short Circuit Ratings without fuses
- (up to 200kA @ 480V, 130kA @ 600V) Segregated power and control wireways
- NEMA/UL/ANSI standards and built in ISO9001 facility.



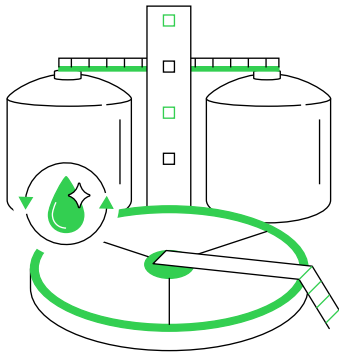
Power-Zone 4

Low Voltage Drawout Switchgear with MasterPacT MTZ Circuit Breakers

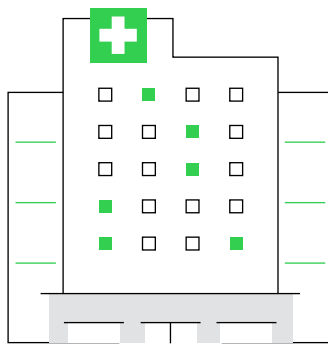
Part of **SeT Series**

Applications

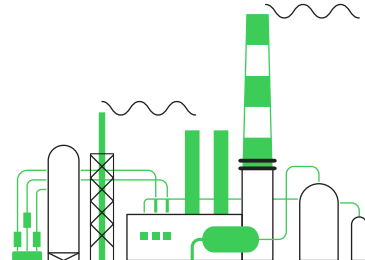
Critical Facilities such as:



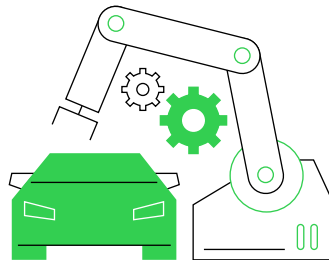
Water/
Wastewater



Healthcare
Facilities



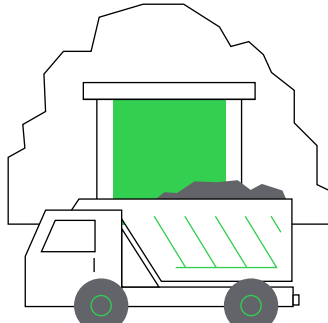
Oil & Gas



Automotive



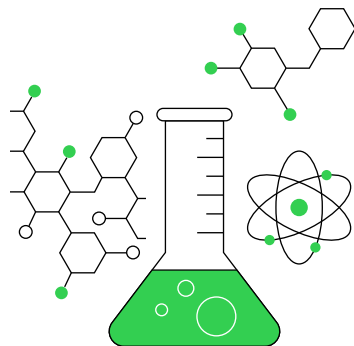
Industrial
Buildings



Mining



Banks



Labs



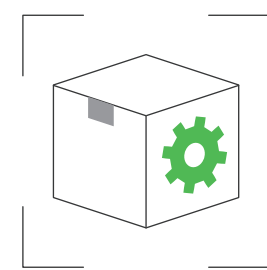
MasterPacT MTZ 2 Drawout Circuit Breaker - UL/ANSI

LV power circuit breaker +2000 with ERMS and IFE Comms

Part of PacT Series



MasterPacT MTZ offers a complete range with one family, three frame sizes and multiple ratings designed to protect electrical systems from damage caused by overloads, short circuits and equipment ground faults.



Features

Specifications

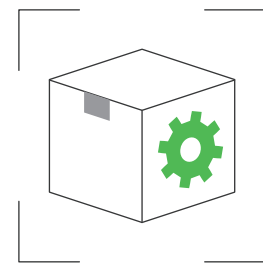
MasterPacT MTZ offers a complete range with one family, three frame sizes and multiple ratings to meet your requirements for ANSI C37/UL 1066 and UL 489 applications.

- Rated current: 800 to 6000 A
- Breaking capacity: 42 to 200 kA at 480 Vac
- Voltage rating: up to 600 Vac
- 3 frame sizes: MasterPacT MTZ 1 from 600 to 1600 A; MasterPacT MTZ 2 from 800 to 4000 A; MasterPacT MTZ 3 from 4000 to 6000 A
- Drawout and fixed mount
- 3-pole and 4-pole construction

MasterPacT MTZ 2 Drawout Circuit Breaker - UL/ANSI

Part of PowerLogic

LV power circuit breaker +2000 with ERMS and IFE Comms



Features *(cont.)*

Optimized selection of 3 advanced MicroLogic X control units for advanced protection, measurement and diagnostic functions. MicroLogic X control units can be customized with optional [Digital Modules](#) for enhanced protection and operations.

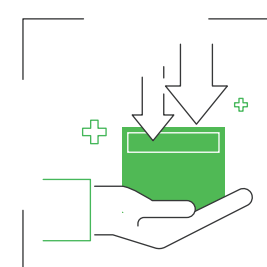
- MicroLogic 3.0 X - LI (Long time and Instantaneous)
- MicroLogic 5.0 X - LSI (Long time, Short time and Instantaneous)
- MicroLogic 6.0 X - LSI (Long time, Short time, Instantaneous and Ground Fault)
- Built-in Class 1 accuracy active power and energy measurement
- Switch disconnectors version available
- Full range of field-installable auxiliaries and accessories



MasterPacT MTZ 2 Drawout Circuit Breaker - UL/ANSI

Part of PowerLogic

LV power circuit breaker +2000 with ERMS and IFE Comms



Benefits

MasterPacT MTZ circuit breakers are Future Ready and contribute to safety and reliability of electrical installations. Thanks to proven performance and incorporating the latest digital technologies.



Installation-ready (same frame sizes as NT & NW series)

Simple retrofit thanks to identical sizes, power connections and thermal properties as for the MasterPacT NW and NT ranges.



Connectivity-ready (MasterPacT mobile app, native Ethernet)

MasterPacT circuit breakers with MicroLogic X control units provide simple and reliable access to data from a smartphone or PC.

The following connectivity is offered:

- Direct Ethernet through IFE or EIFE interface
- MasterPacT MTZ Mobile App through Bluetooth low energy or NFC



Energy efficiency-ready (built-in class 1 power meter)

Advanced MicroLogic X control unit can assist in providing corrective, preventive and predictive maintenance and energy management to identify potential savings.



Upgrade-ready (customizable with digital modules)

MicroLogic X control units can be customized with optional Digital Modules to provide advance protection, metering, diagnostics, communication, and remote operation.



Integration-ready (in EcoStruxure Power architecture)

MasterPacT MTZ is a part of EcoStruxure Power – Schneider Electric's open, interoperable, IoT-enabled system architecture.



Environment-ready (can withstand harsh environments)

[Discover MasterPacT MTZ](#). Learn how you can be future ready today.

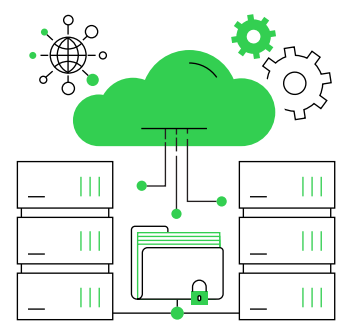


MasterPacT MTZ 2 Drawout Circuit Breaker - UL/ANSI

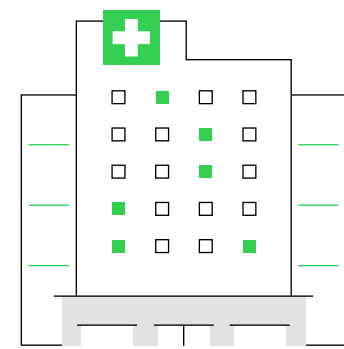
LV power circuit breaker +2000 with ERMS and IFE Comms

Applications

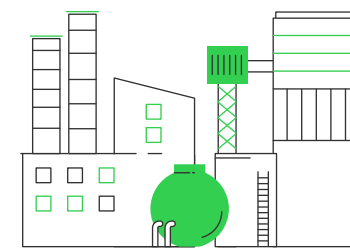
Suitable in most applications for the protection, measurement, monitoring and quality of energy of LV electrical systems. This includes generator protection and motor protection, in standard applications and heavy-duty applications demanding high performance, and ideal for:



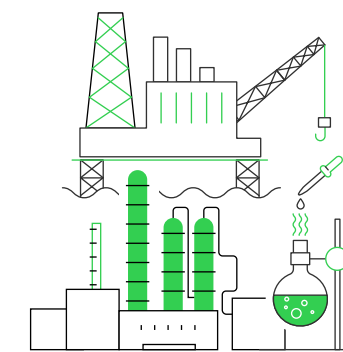
Data centers and cloud



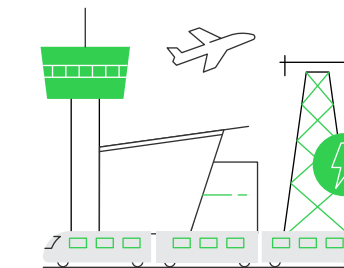
Healthcare:
hospitals



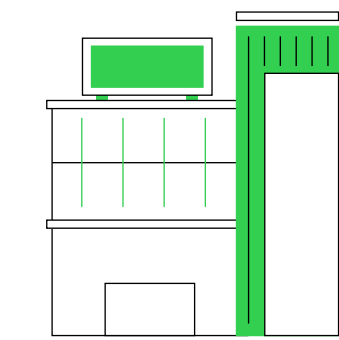
Industry:
mining operations, minerals, metals, and cement production, water and wastewater industry, automotive, food and beverage, etc.



Oil and gas:
extraction and processing, chemicals industries



Infrastructure:
airports, railways, subways, tunnels, power plants, etc.



Buildings:
commercial buildings, hotels, offices



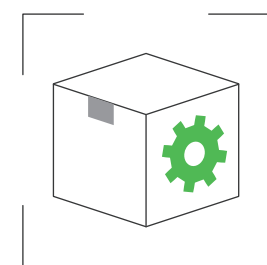
Next »

PowerLogic ION9000 Series

Advanced power quality meets unparalleled innovation

With precision twice that of existing energy standards, the ION9000 redefines the standard for accuracy. It resolves power quality issues faster with patented disturbance tracking technology, and provides unique modularity designed to adapt to your changing energy needs, now and far into the future.

Part of PowerLogic



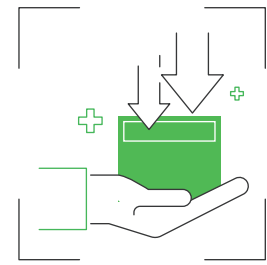
Features

As key components within an **EcoStruxure Power** system, **ION9000 series power meters** provide the flexibility and adaptability needed for today and for the IoT-enabled future. Third-party certified Class 0.1S accuracy surpasses every key revenue metering standard, unlocking significant new savings for an innovative competitive edge. Simply open your web browser for comprehensive PQ analysis according to both EN50160 and IEEE519 standards.

The ION9000 meets emerging international cyber security standards, helping ensure uptime, productivity, and safety. Smart power event analysis correlates facility-wide, system-level events for valuable, actionable power quality information and root cause analysis. Perfect for low to high voltage applications in industrial or healthcare facilities, data centers, and utility networks, the ION9000 is ideally suited to be the foundation of a power management system, and a key enabler of EcoStruxure Power solutions.

PowerLogic ION9000 Series

Advanced power quality meets unparalleled innovation



Benefits

PowerLogic ION9000 meters help you with:

- **Safety:** restore power efficiently while keeping people safe and processes operational. Ensure safe power recovery while switching utility feeds.
- **Reliability:** avoid downtime by understanding root causes of acute or chronic power events, and prevent future occurrences. Increase lifetime of equipment, mitigating effects of poor power quality.
- **Efficiency:** save money by reducing energy spend. Use actionable data to optimize operations, avoid peak demand or power factor penalties or errors in utility bills. Perform maintenance when and where it is needed.
- **Compliance:** comply with local and international energy efficiency standards. Ensure regulatory compliance to operate and protect your business. Prepare your business for future cyber security regulations.



PowerLogic ION9000 Series

Part of PowerLogic

Advanced power quality meets unparalleled innovation

Applications

PowerLogic ION9000 meters:

- Provide custom substation automation, demand and load management applications
- Quickly locate disturbances
- Predictive maintenance
- Breaker monitoring
- Cost allocation
- Monitoring ongoing operations like battery health and runtime variations
- Help detect and avoid power incidents
- Monitor critical loads 24x7 for peak performance and any deviations from the ideal
- Demand control and load shedding applications

Combine with EcoStruxure Power edge control software and solutions for:

- detailed preventative views into the electrical infrastructure
- advanced diagnostic information and power quality analysis
- mitigation of unplanned downtime
- quickly pinpoint the root cause of power system failures



Next »

Energy Reduction Maintenance Setting (ERMS) Switch

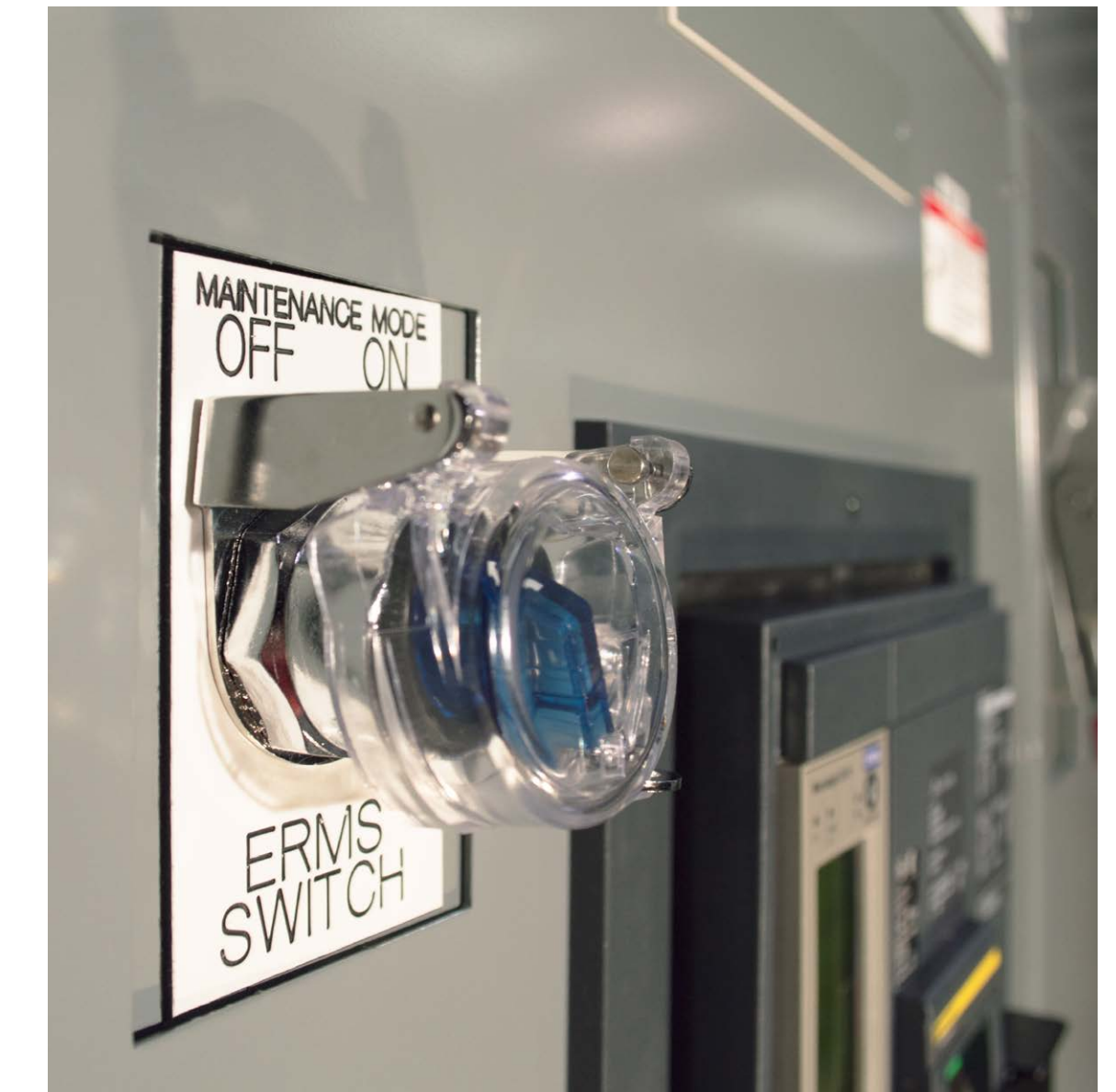
Power-Zone™ 4 Low Voltage Metal-Enclosed Drawout Switchgear

During day-to-day operation and maintenance of low voltage drawout switchgear, circumstances may exist where work must be done within the Limited Approach Boundary of energized conductors or components. In these cases, de-energizing the equipment may not be feasible due to electrical system design or operational limitations that introduce additional or increased hazards to personnel.

How does one decrease the hazard associated with potential arc flash? The use of an Energy Reduction Maintenance Setting (ERMS) Switch may be a desirable option for Low Voltage Drawout Switchgear.

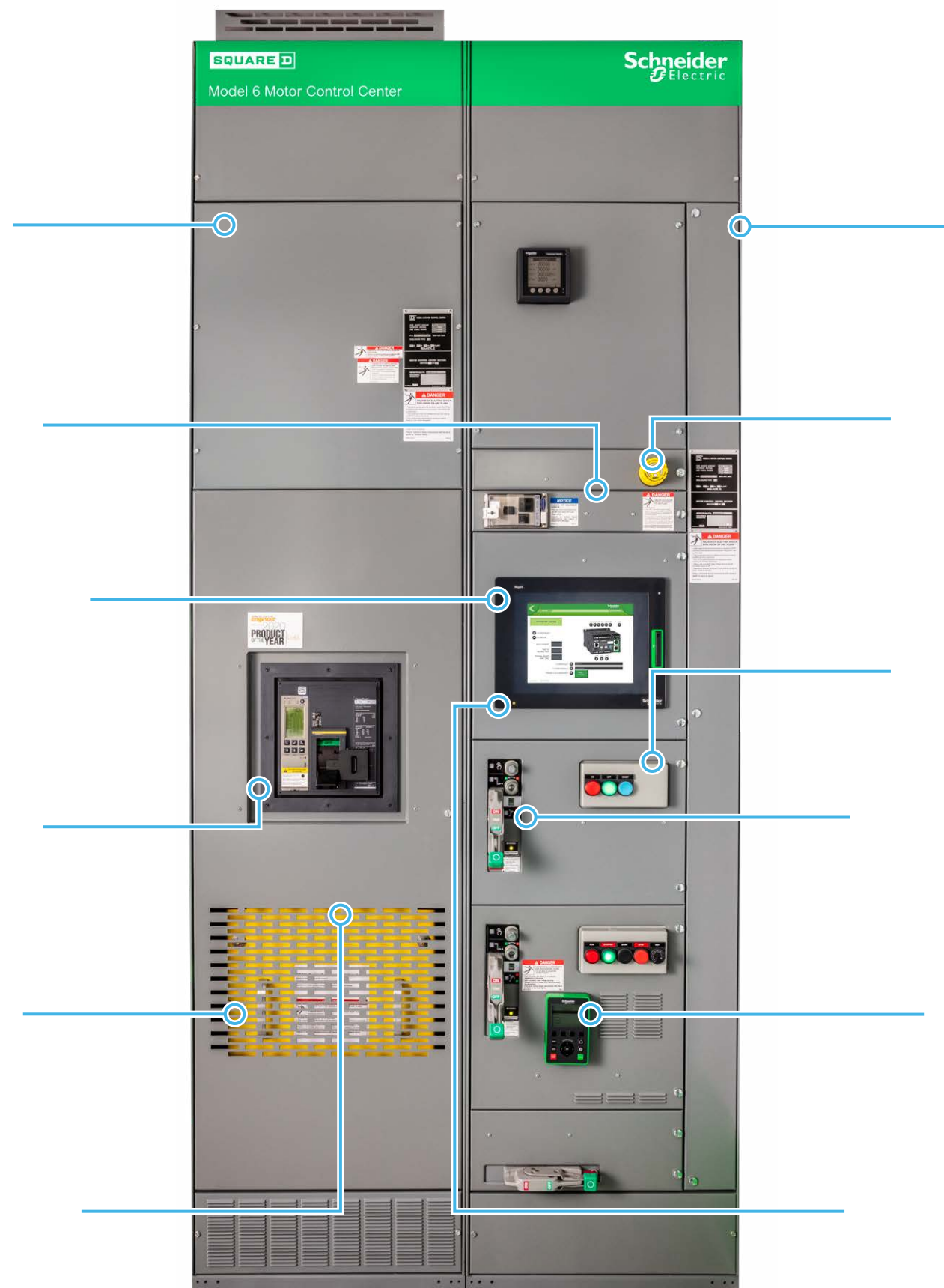
Combined with the MasterPacT™ low voltage drawout circuit breaker, an ERMS Switch option may significantly decrease the time an arcing fault is allowed to exist. Since the thermal incident energy from an electric arc exposure is directly proportional to the time duration of the arc, reduction in the reaction time of the upstream protective device will result in less arc-flash hazard to any nearby personnel. It is desirable to clear the arcing fault as quickly as possible while maintaining overcurrent coordination of the distribution system.

The ERMS Switch option provides a lockable switch that can be an integral part of your Lock Out/Tag Out (LOTO) procedure. Once the work has been performed, the switch can be returned to normal settings that provide the optimal protection and coordination.



Square D Model 6 Low Voltage Motor Control Centers

Standard & Industrial LVMCC (NEMA, ANSI, UL 845)



Square D™ brand motor control centers by Schneider Electric have served customers around the globe for more than 70 years in a wide variety of applications, keeping focus on quality, safety, and serviceability. As the rules have changed over these years, so have Square D brand motor control centers and the many features that make Model 6 the industry's choice for motor control.

From oil rigs and wastewater treatment plants, to auto manufacturing and mining, the Model 6 is a robust motor control center (MCC), designed for ruggedness, intelligence and flexibility. Backed by the industry's best engineering support, the Model 6 MCC provides unmatched reliability and performance at a competitive price for any application.

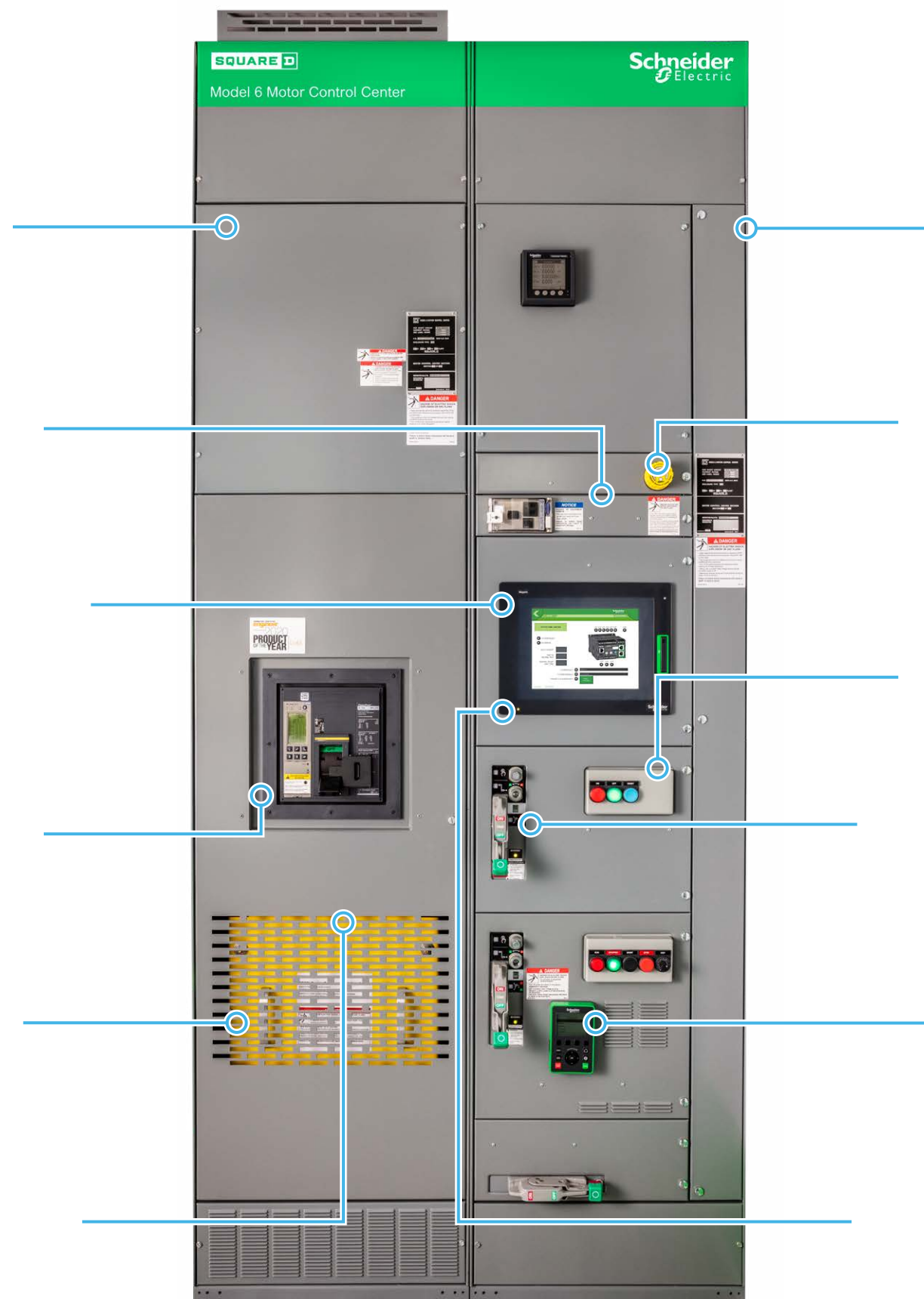
The Model 6 motor control centers in the EcoStruxure Power truck demo include two sections:

- One Model 6 LVMCC with ArcBlok
- One Model 6 MCC – with Comms



Square D Model 6 Low Voltage Motor Control Centers

Standard & Industrial LVMCC (NEMA, ANSI, UL 845)



Both sections together include:

- ArcBlok Line Side Isolation Technology
- System Voltage: 480V 3PH 3W 60Hz
- Max Available Fault Current (RMS) - 65kA
- Control Power - 120Vac
- TeSys T Handheld Display with Case
- Class 1 Type B Wiring
- 1200A Silver Plated Copper Horizontal Bus
- 20" Deep Construction
- General Purpose Type 1 Enclosure
- 65kA Bus Withstand Rating
- 1/4" x 2" Horizontal Ground Bus, Silver Plated Copper
- Closed Door Racking Handle Tool
- Standard Exterior Paint ANSI 49
- Equipment Mounting Height 72 inches
- Manual Vertical Bus Shutters
- Rodent Barriers
- 1 Section with no Vertical Bus
- Section with 300A Silver Plated Copper
- Vertical Bus



Square D Model 6 Low Voltage Motor Control Centers

Standard & Industrial LVMCC (NEMA, ANSI, UL 845)

Features

This Square D™ product offer has been serving its global customer base for more than 70 years while continuing to focus on quality, safety and serviceability. Backed by the industry's best engineering support, the Model 6 MCC provides unmatched reliability and performance at a competitive price for any application.

Model 6 MCCs can be custom designed with innovative features providing a tailored-fit solution to meet or exceed any project requirements.

- **Voltage Rating:** 208 through 600 volts; 3 phase; 3 or 4 wire
- **Enclosure Type:** NEMA Type 1, Type 1A (gaskets), Typ 1SR (sprinkler resistant), Type 12 & Type 3R
- **Horizontal Bus Rating:** 600, 800, 1200, 1600, 2000, 2500 & 3200 amps
- **Vertical Bus Rating:** 300 and 600 amps
- **Bus Withstand Rating:** 42kA, 65kA, 85kA, and 100kA



Square D Model 6 Low Voltage Motor Control Centers

Standard & Industrial LVMCC (NEMA, ANSI, UL 845)

Benefits

Discover

- Product training available 24/7 online or live classroom training on select dates
- Quality customer support seneca.tag@schneider-electric.com & 1-888-SQUARED (1-888-778-2733)

Design

- Exclusive top located horizontal bus, full depth wire way & captive splice bars for quick, easy installation
- Patented “Butterfly” Handles, Shrouded Power Stabs provide unmatched serviceability and added safety

Sell

- Arc Resistant and Intelligent (iMCC) models available including innovative Square D™ components
- Offer top to bottom electrical distribution package from the entire (MV & LV) Square D™ product family

Specify

- Customer driven, space saving design that meets all applicable UL and NEMA standards
- Over 70 years of service, supporting a global customer base

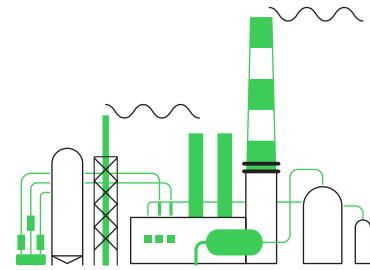
Innovate

- Closed Door Racking (CDR) solution available for standard, arc-resistant and iMCC models
- Energy Reduction Maintenance Switch (ERMS) for safety or used with lock out/tag out to reduce PPE
- Premium Fish Tape Isolation Barriers, Automatic Bus Shutters, Shorted Lead Time & more

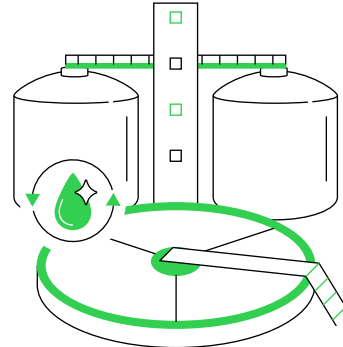
Square D Model 6 Low Voltage Motor Control Centers

Standard & Industrial LVMCC (NEMA, ANSI, UL 845)

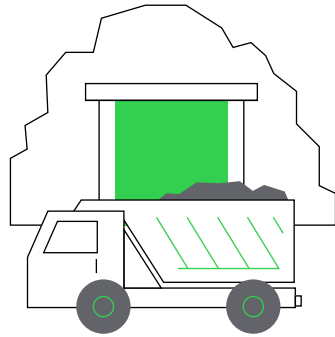
Applications



Oil & Gas Industry



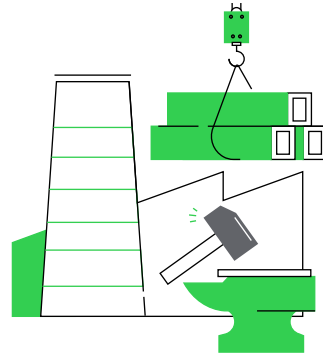
Water/Wastewater



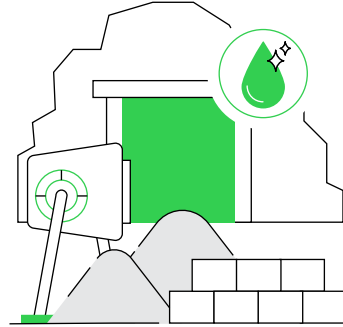
Mining Industry



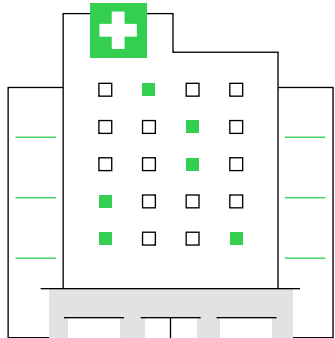
Food & Beverage



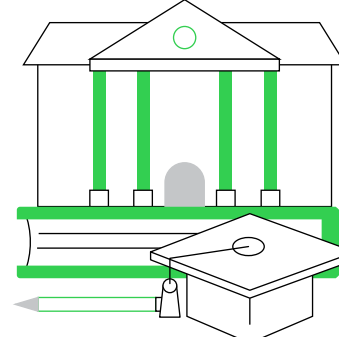
Metals



Minerals & Cement



Healthcare



Education



Square D Model 6 Low Voltage Motor Control Centers

Standard & Industrial LVMCC (NEMA, ANSI, UL 845)

Bill of Material

INCOMING

- Incoming Connection: Cable
- Absence of Voltage Tester (AVT)
- Service Port 120Vac

MAIN

- 100kA Interrupting Rating
- Main Breaker Bottom Entry 1200A
- 24Vdc Trip Unit Power Supply
- Electronic Trip Unit with Power Metering
- Long-time + Short-time + Instantaneous Protection

FULL VOLTAGE NON-REVERSING STARTERS

- 1 - 1 HP NEMA Size 1 FVNR Starter w/ Circuit Breaker
 - » Electronic Motor Circuit Protector
 - » No Overload Displays (HMI) or RJ45 Port

- » Power Terminal Blocks
- » 65kA Interrupting Rating
- » Closed Door Retractable Disconnect
- » Start/Stop Push Button
- » #16 AWG MTW Control Wire
- » Motor OFF Pilot Light Green
- » Thermal Monitoring Solution
- » TeSys T with Modbus 2-wire Comms
- » Transient Suppressor
- » Reset Button Control Panel Mounted
- » 22mm XB5 Pilot Devices
- » Motor On Pilot Light Red
- » Control Power Transformer 100VA

ADJUSTABLE SPEED DRIVES

- 1 - Altivar 630 Process AC Drive 5 HP w/Circuit Breaker
 - » Rated for Normal Duty (Overcurrent 110% (60 sec))

- » CAT# ATV630U40
- » 100VA Control Power Transformer
- » #16 AWG MTW Control Wire
- » Closed Door Retractable Disconnect
- » ASD 22mm XB5 Pilot Devices
- » Motor On Push-to-Test LED Pilot Light (Red)
- » Motor Off Push-to-Test LED Pilot Light (Green)
- » Stop/Start Push Buttons with Manual Speed
- » Potentiometer
- » System Impedance (3%)
- » Thermal Monitoring Solution

AUTOMATION DEVICES

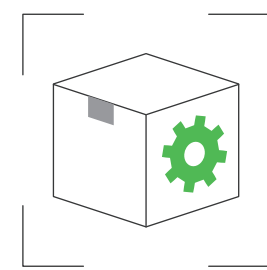
- » Programmable Logic Control Unit
- » 24Vdc 8A Power Supply 6"
- » HMI

ArcBlok

Electrical and arc isolation for Model 6 Low Voltage Motor Control Centers

ArcBlok™ is designed with features that help avoid an arc flash before it happens. Barriers keep foreign objects, such as a hand, a dropped nut or screwdriver from entering the energized line side. Sensors inside the compartment continuously take thermal readings and communicate those to a mobile device, while maintenance personnel stand outside the arc flash zone to review.

With ArcBlok arc isolation, the line side conductors are fully enclosed inside a cable vault, which has been tested for the ANSI/IEEE C37.20.7-2017 requirements for arc containment. Not just a barrier, ArcBlok reduces the chance that an arc flash could occur, reduces and contains the arc energy if it does.



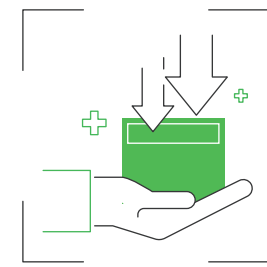
Features

- PowerPacT P Molded Case Circuit Breaker
- Steel barriers
- Lifting handles
- Bolts face outward for easy alignment
- Interior barriers separate phases to mitigate arc events
- Wireless Thermal sensors communicate data
- Vents direct arc flash energy to minimize impact



ArcBlok

Electrical and arc isolation for Model 6 Low Voltage Motor Control Centers



Benefits

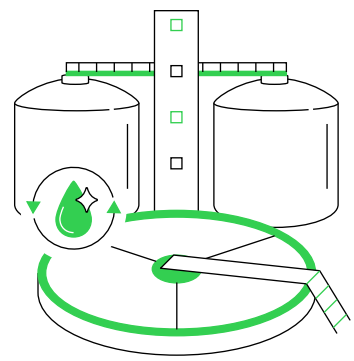
- Motor Control Center (MCC) with ArcBlok Technology
- 100 kA at 208, 240 and 480Vac, 50kA at 600Vac
- Listed to UL845 Standard, certified to Canadian Standard C22.2 No. 254 and Mexican Standard NOM-003-SCFI-2014 (NMX-J-515-ANCE)
- Line Side Testing
- UL[®] witnessed in accordance with ANSI/IEEE C37.20.7-2017
- PowerPacT P Molded Case Circuit Breakers with ArcBlok Technology
- Listed to UL489 Standard and Certified to Canadian Standard C22.2 No. 5
- Minimum Personal Protective Equipment (PPE)
- Line Side Incident Energy and Arc Risk Reduction



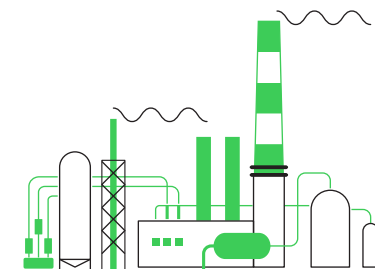
ArcBlok

Electrical and arc isolation for Model 6 Low Voltage Motor Control Centers

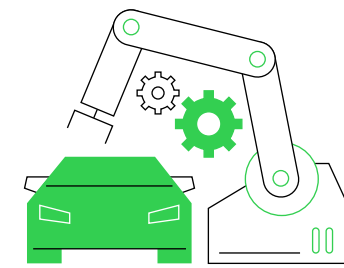
Industry Applications



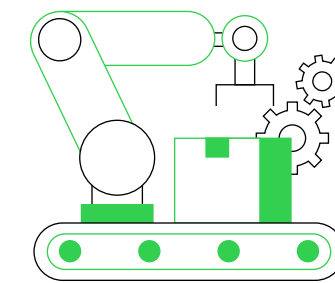
Water and Wastewater



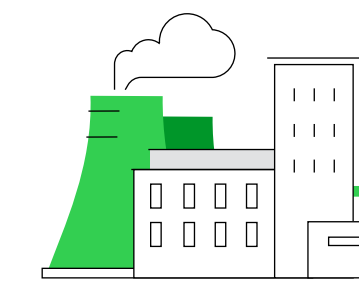
Oil and Gas



Automotive



Manufacturing



Industrial Buildings



Next »

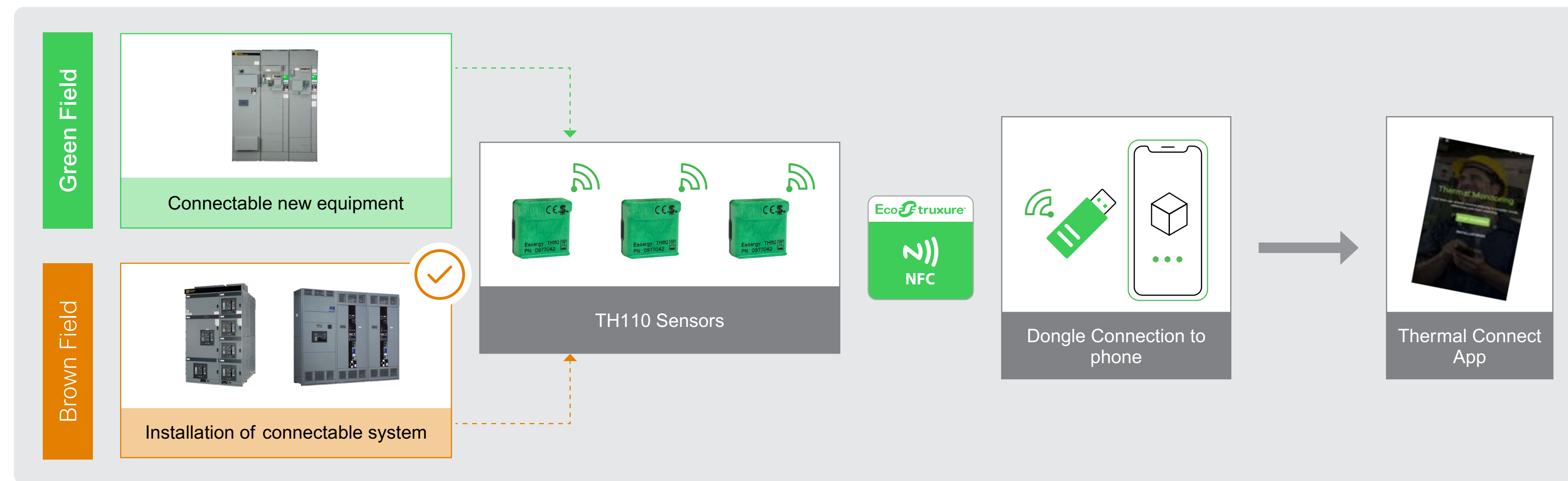
Easergy TH110

Wireless Thermal Sensors

Part of PowerLogic

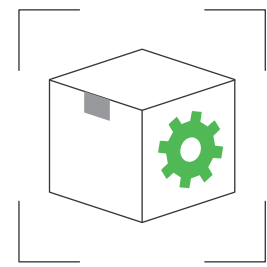


The Easergy TH110 Wireless Thermal Sensor is a battery-free, wireless smart sensor that detects and alerts you when your equipment overheats, preventing equipment damage and failure.



Easergy TH110

Wireless Thermal Sensors



Features

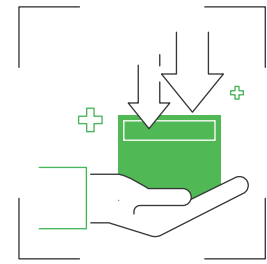
- The Easergy TH110 thermal sensor is a self-powered sensor (requires 5A min on attached conductor) using stray magnetic fields. The energy harvester is made with a ferromagnetic core (ribbon) installed around the electrical conductor to monitor passing through a solenoid coil. The stray 50-60Hz magnetic field surrounding electrical conductor induces a voltage on coil terminals. This wireless sensor transmits data by means of radio frequency protocol zigbee Green Power (2,4GHz).
- Embedded magnets for mounting
- Senses temperature
- UL and IEC standard conformance
- -25 °C to 115 °C temperature withstand
- Transmission every 2 minutes



Easergy TH110

Wireless Thermal Sensors

Part of **PowerLogic**



Benefits

Efficient monitoring of critical connections

- 24h/7d monitoring – Continuous and Real Time Status
- Based on Schneider expertise
- Immediate alarming

To reduce unscheduled down time

- Prevent major failure
- Speed up recovery
- Optimize maintenance

The electrical connections

- To ensure proper connection and that energy is not being dissipated through heat loss.
- Faulty or damaged connections will deteriorate and cause thermal issues.
- Sensors will constantly monitor the Temperature changes!



Next »

VeriSafe Absence of Voltage Tester (AVT)

In Square D Model 6 Motor Control Centers

The Square D™ Model 6 motor control center (MCC) with Panduit VeriSafe™ absence of voltage tester ensures that workers comply with safety regulations that require a voltage verification test to validate the absence of voltage. VeriSafe AVT device allows tests to be administered with the MCC doors closed, with no exposure to potentially energized parts inside the MCC.

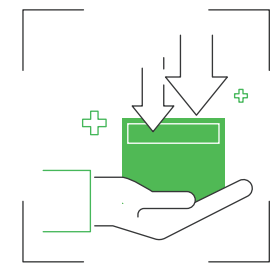
The voltage verification process includes a number of stages that can be complex and time-consuming when using hand-held portable test instruments. The VeriSafe absence of voltage tester is built into the MCC and simplifies the task by automating the voltage verification process.

One simple push of a button enables qualified electrical workers to verify the absence of voltage and see an active visual indication when the absence of voltage is confirmed. This provides a new and innovative way to efficiently, reliably, and safely verify the absence of voltage before accessing potentially dangerous electrical equipment.



VeriSafe Absence of Voltage Tester (AVT)

In Square D Model 6 Motor Control Centers



Benefits of a Built-in Voltage Testing System

- Reduces testing procedure time and complexity to improve productivity
- Reduces the risk of exposure of electrical hazards for improved worker safety
- Supports compliance when used as part of the lockout/tagout process described in NFPA 70E

The VeriSafe absence of voltage tester minimizes risk by verifying the absence of voltage before equipment is accessed, making it easier for qualified electrical workers to determine an electrically safe environment in a fraction of the time required by hand-held portable test instruments.



Next »

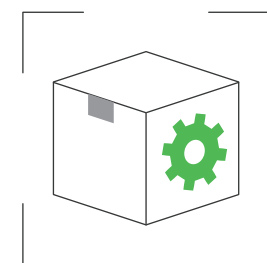
PowerPacT P-frame Molded Case Circuit Breakers

A flexible, high-performance offer, certified to global standards from 100 to 1200 A

The PowerPacT M-frame, P-frame, and R-frame circuit breakers are designed to protect electrical systems from damage caused by overloads and short circuits. These circuit breakers are available with Micrologic electronic trip units.

PowerPacT™ P-frame molded case circuit breakers are designed to use an electronic trip system to signal the circuit breaker to open automatically to help protect electrical systems from damage caused by overloads and short circuits.

Part of PacT Series



Features

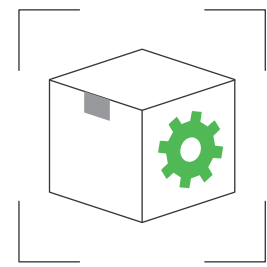
- Available in 2-3-4 pole design
- Available from 100 - 1200 A at up to 600 Vac
- Interrupting ratings (AIR) include G-35 kA, J-65 kA, K-50 kA and L-100 kA at 480Vac
- Available in standard (80%) and 100% rating
- Available with Micrologic® trip units with power metering and monitoring capabilities
- Common mounting holes, handle locations and trim dimensions across the range allow design standardization for PowerPacT M- and P-frame circuit breakers
- Common accessories across the range of PowerPacT molded case circuit breakers allow to make late specification changes
- A wide range of field-installable accessories allows customers to reduce inventory without sacrificing flexibility

« Previous



PowerPacT P-frame Molded Case Circuit Breakers

A flexible, high-performance offer, certified to global standards from 100 to 1200 A



Features *(cont.)*

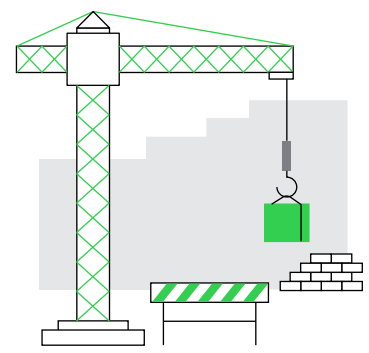
- Optional Ground Fault protection with nine adjustable ground fault pickup levels and five tripping delays using Micrologic 6.0 trip unit
- PG, PJ, PL have zone-selective interlocking capability (ZSI). Micrologic trip unit 5.0 has short-time ZSI and 6.0 has both short-time and ground-fault ZSI
- Broad offering of operating mechanisms and ratings specifically designed to be used as the main panel disconnect for control panel applications
- IEC Style Rotary Operating Handles
 - » [NEMA 9421 Door Mounted Rotary Operating Mechanism](#)
 - » [NEMA 9422 Flange Mounted Operating Mechanism](#) in two styles – bracket mounted or cable operated
- Available in Unit-mount, I-line, and drawout (factory-installed option only) constructions
- 2-3 pole automatic molded case switches available at up to 1200 A
- UL 489 Listed, CSA, NMX, IEC certified for world wide applications



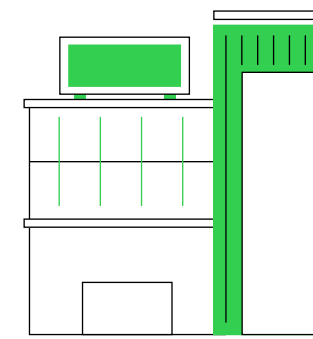
PowerPacT P-frame Molded Case Circuit Breakers

A flexible, high-performance offer, certified to global standards from 100 to 1200 A

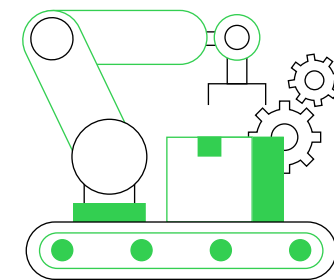
Applications



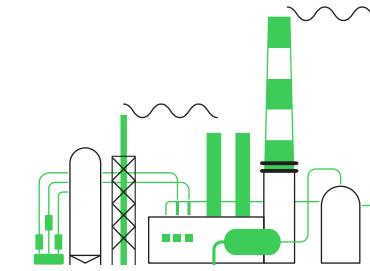
Construction



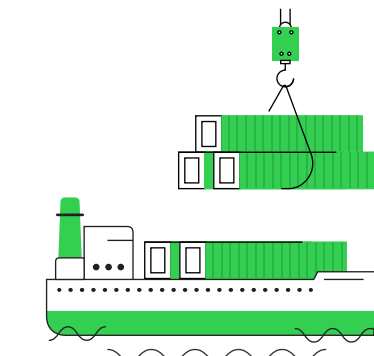
Commercial Buildings



Control & Monitoring



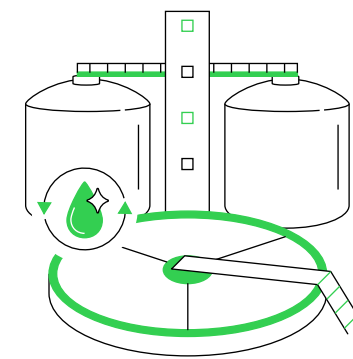
Oil & Gas



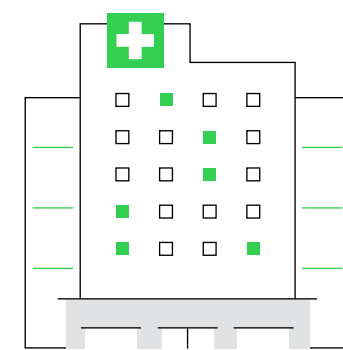
Marine



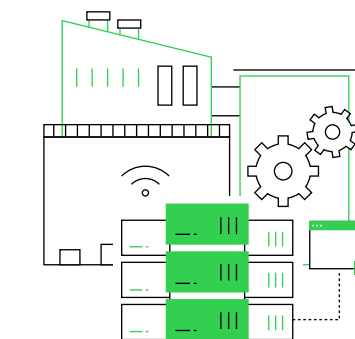
Industrial Buildings



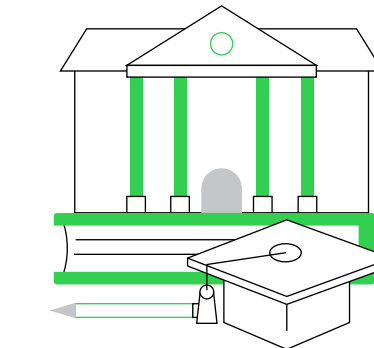
Water Wastewater



Healthcare Facilities



Data Centers



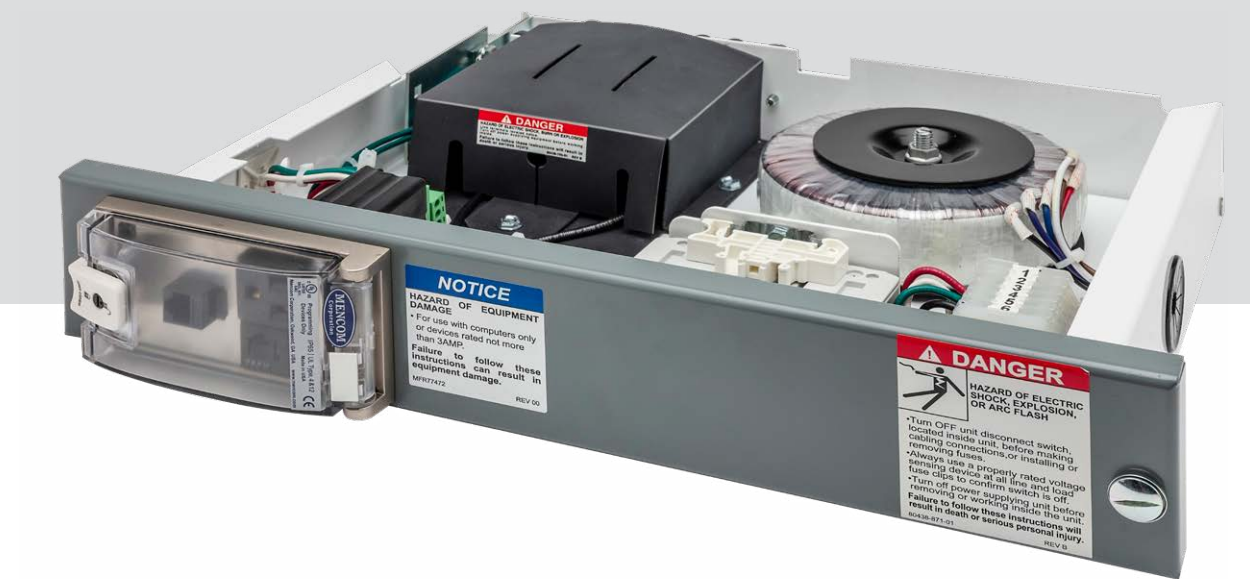
Educational Campuses



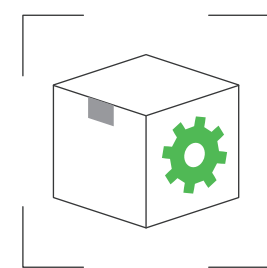
Next »

Three-inch Unit with Service Port

for Model 6 Motor Control Centers



The Square D by Schneider Electric three-inch unit with service port adds flexibility, efficiency, and innovation packed into a small footprint. This service unit was designed for Model 6 motor control centers (MCCs), so all parts are designed to fit cleanly into a Model 6 MCC 3-inch unit. The units are rigorously tested to current codes and standards. The UL Listed 3-inch service port minimizes the amount of space required while providing convenient power and network access.



Features

Service port access includes:

- NEMA 12 lockable cover
- 120 Vac simplex receptacle
- 3 Amp reset button
- RJ45 to RJ45 plug (Cat 6)
- 3-inch MCC steel cover
- Mounting tray (saddle) white powder coated for long life and visibility of components
- Two-pole stab assembly with ground stab
- Specially designed 300 VA toroidal transformer
 - » Input: 240 / 480 V
 - » Output: 120 V
 - » Recognized Device: E504889
- One-inch bushing for Cat 5e (Cat 6) cable
 - » Recognized Device: E15331
- Power terminal board assembly
 - » Max Volts: 600 Vac
 - » Max Amps: 30 A
 - » Recognized Device: E60616
- Two-pole fusible switch
 - » Max Volts: 600 Vac
 - » Max Amps: 30 A
 - » SCCR: 100 KA
 - » UL Listed E302370

Closed Door Racking for Model 6 Motor Control Centers

Solution for Worker Protection

In MCCs, most arc flash incidents occur when the power stabs of the MCC bucket are connected or disconnected from the bus. The Model 6 +CDR device allows the user to engage and disengage power stabs safely from the vertical bus at a distance and with the unit door closed.

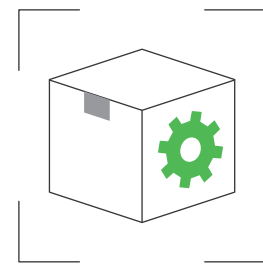
NFPA 70E safety standards note that one of the methods to reduce the exposure of high-level energy sources is remote racking. The **Model 6 CDR** solution coupled with the remote racking device allows the user to disengage or engage the bucket from outside of the flash boundary...up to 30 feet away. This allows the personnel to be clear of the arc flash boundary area.

The CDR unit is operated from the outside of the MCC (with the door closed and the circuit breaker operator mechanism in the OFF position). By pressing the CDR pushbutton and inserting the racking handle into the racking handle socket, the internal mechanism draws the stabs away from or into the vertical bus with a clean, direct movement in only 12 revolutions.



Closed Door Racking for Model 6 Motor Control Centers

Solution for Worker Protection



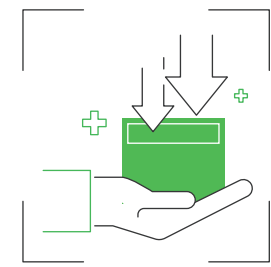
Features

- Interlocks to help avoid unintended operation
- Racking mechanism — Sealed all-metal construction for long, dependable life
- Color-coded “Stabs Disengaged” or “Stabs Engaged” symbols are visible through the indicator window
- On-front status indicator
- All metal handle clearly indicates status, including a tripped circuit breaker
- The interior walls of the solid bottom, side, and rear plates are painted white for optimal visibility
- IPXXB barrier to block access to live vertical bus when the CDR is engaged



Closed Door Racking for Model 6 Motor Control Centers

Solution for Worker Protection



Benefits

- 12 revolutions to engage or disengage
- No extra tools or tooling needed
- Same footprint/space requirements as standard bucket
- Rack with any power driver using any 10 mm hex bit
- No maintenance required on CDR racking mechanism, which means no regreasing



Optional Remote Racking Kit



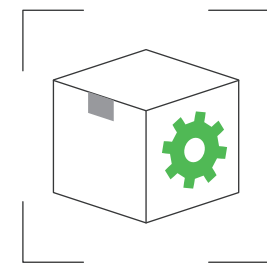
Next »

Altivar™ Process 630 Variable Frequency Drives VFD

ATV630 drives for process applications for 1 HP to 500 HP

Part of **Altivar**

Advanced drives for fluid and gas handling applications with embedded energy monitoring, information management and process optimization.



Features

Altivar Process is the first variable speed drive with embedded services. Designed from customer requests, the Altivar Process drives deliver added value services in industries that enable business and process optimization through improved life-cycle asset management and optimized energy consumption.

The Altivar Process drive provides:

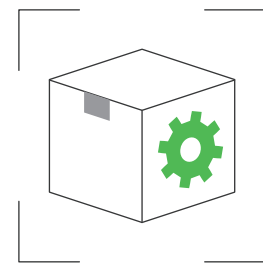
- Proactive operational intelligence so you can customize information, your way.
- Embedded guidance to serve you expertise, when you need it
- A reliable and sustainable platform, delivering on decades of experience.



Altivar™ Process 630 Variable Frequency Drives VFD

Part of PowerLogic

ATV630 drives for process applications for 1 HP to 500 HP



Features *(cont.)*

The specs on the unit in the EcoStruxure Power truck demo include:

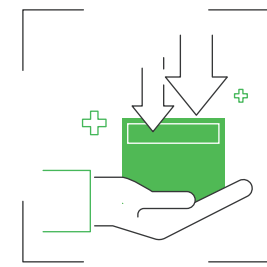
- Altivar 630 Process AC Drive 5 HP with Circuit Breaker
- Rated for Normal Duty (Overcurrent 110% (60 sec))
- CAT# ATV630U40
- 100VA Control Power Transformer
- #16 AWG MTW Control Wire
- Closed Door Retractable Disconnect
- ASD 22mm XB5 Pilot Devices
- Motor ON Push-to-Test LED Pilot Light (Red)
- Motor OFF Push-to-Test LED Pilot Light (Green)
- Stop/Start Push Buttons with Manual Speed Potentiometer
- System Impedance (3%)
- Thermal Monitoring Solution



Altivar™ Process 630 Variable Frequency Drives VFD

Part of PowerLogic

ATV630 drives for process applications for 1 HP to 500 HP



Benefits

Services Oriented Drives

This new concept of drives meets the major needs of the process and utilities in terms of over equipment efficiency and total cost of ownership by supporting the energy management, asset management and also the overall performances of the process.

- Sustainable cost savings thanks to predictive condition-based maintenance
- Up to 20% downtime reduction without additional investment

Unique Engineered Drives

Schneider Electric's expertise in design and application services delivers solution-specific designs dedicated to your process requirements for seamless plant integration.

- Minimize design and delivery risks
- Reduces the commissioning and adaptation time



Next »

Full Voltage Non-Reversing (FVNR) Starter with Circuit Breaker

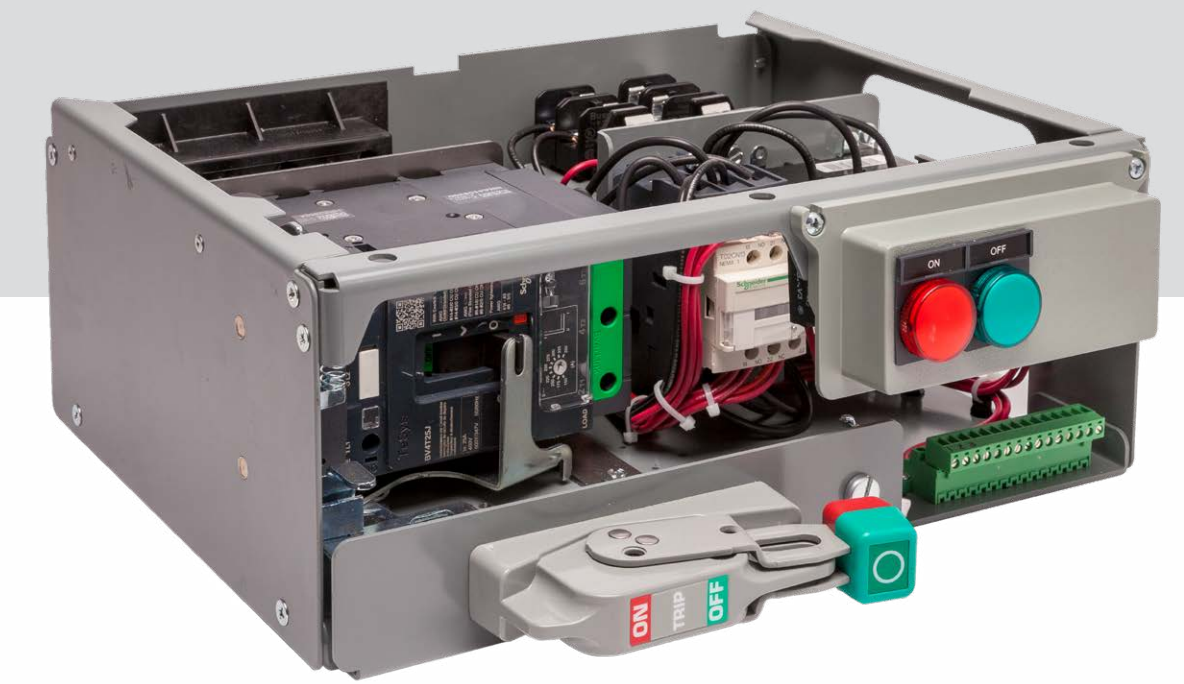
1 HP NEMA Size 1 FVNR

FVNR combination starters will mount in standard 20 in. wide by 15 in. or 20 in. deep sections.

All Compac 6, NEMA-rated, six-inch starters use GJL frame Mag-Gard™ motor circuit protectors (MCPs). All standard height starters with MCP frames through 250 A use PowerPacT electronic motor circuit protectors. All starters with MCP frames above 250A use L- and P-frame Mag-Gard motor circuit protectors. Thermal-magnetic circuit breakers may be substituted for motor circuit protectors on starter units. All units are UL Listed. Motor Control Center units are available with short circuit ratings up to 100,000 A.

The specs on the unit in the EcoStruxure Power truck demo include:

- 1 HP NEMA Size 1 FVNR Starter with Circuit Breaker
- Electronic Motor Circuit Protector
- No Overload Displays (HMI) or RJ45 Port
- Power Terminal Blocks
- 65 kA Interrupting Rating
- Closed Door Retractable Disconnect
- Start/Stop Push Button
- #16 AWG MTW Control Wire
- Motor OFF Pilot Light Green
- Motor ON Pilot Light Red
- Thermal Monitoring Solution
- TeSys T with Modbus 2-wire Comms
- Transient Suppressor
- Reset Button Control Panel Mounted
- 22 mm XB5 Pilot Devices
- Control Power Transformer 100 VA

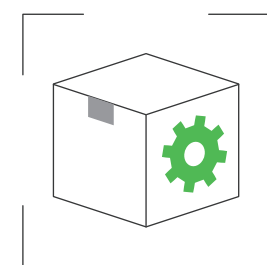


TeSys T Motor Management System

Advanced motor management system for critical processes

Part of PowerLogic

TeSys T is an advanced and green motor management system. When used with a short circuit protection device and a contactor, TeSys T will provide full motor monitoring, control and protection for electrical motors.



Features

TeSys T is designed for the management of critical processes for applications such as Water Wastewater, Oil & Gas and Mining.

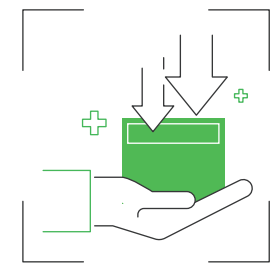
Reduce downtime and save energy with the TeSys T exclusive predictive capability and full sets of intuitive and easy to use commissioning tools.

TeSys T is composed of three components:

- The main controller provides communication features, current based protection and monitoring, statistics and control features.
- The optional expansion module adds voltage, power and energy monitoring/management features.
- The HMI is a flexible option to quickly monitor and commission a TeSys T system. Control features are also available through the HMI.

TeSys T Motor Management System

Advanced motor management system for critical processes



Benefits

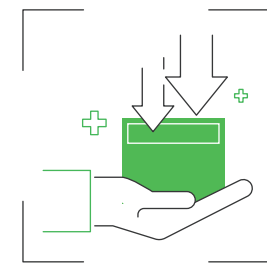
Flexibility

- Fully open, it communicates with commonly used Ethernet networks and protocols: Modbus/TCP and EtherNet/IP, and can also communicate via Modbus, CANopen, DeviceNet, PROFIBUS DP protocols.
- Fully integrated in the Advantys STB solution and therefore open to Ethernet IP communication.
- With only 3 product references, TeSys T covers a current range from 0.4A to 1000A. For current above 100A, the use of external Current Transformers is required.
- TeSys T has been designed to fit in IEC and NEMA applications
- Advanced control schemes. No less than 10 predefined control schemes are integrated in TeSys T. For more flexibility, TeSys T can be controlled through its terminal strip, through an HMI or its communication port. Having a central control in TeSys T will reduce the complexity of your installation, reduce the need of auxiliary equipment, save space and reduce costs.
- Fully integrated into the Model 6 iMCC.



TeSys T Motor Management System

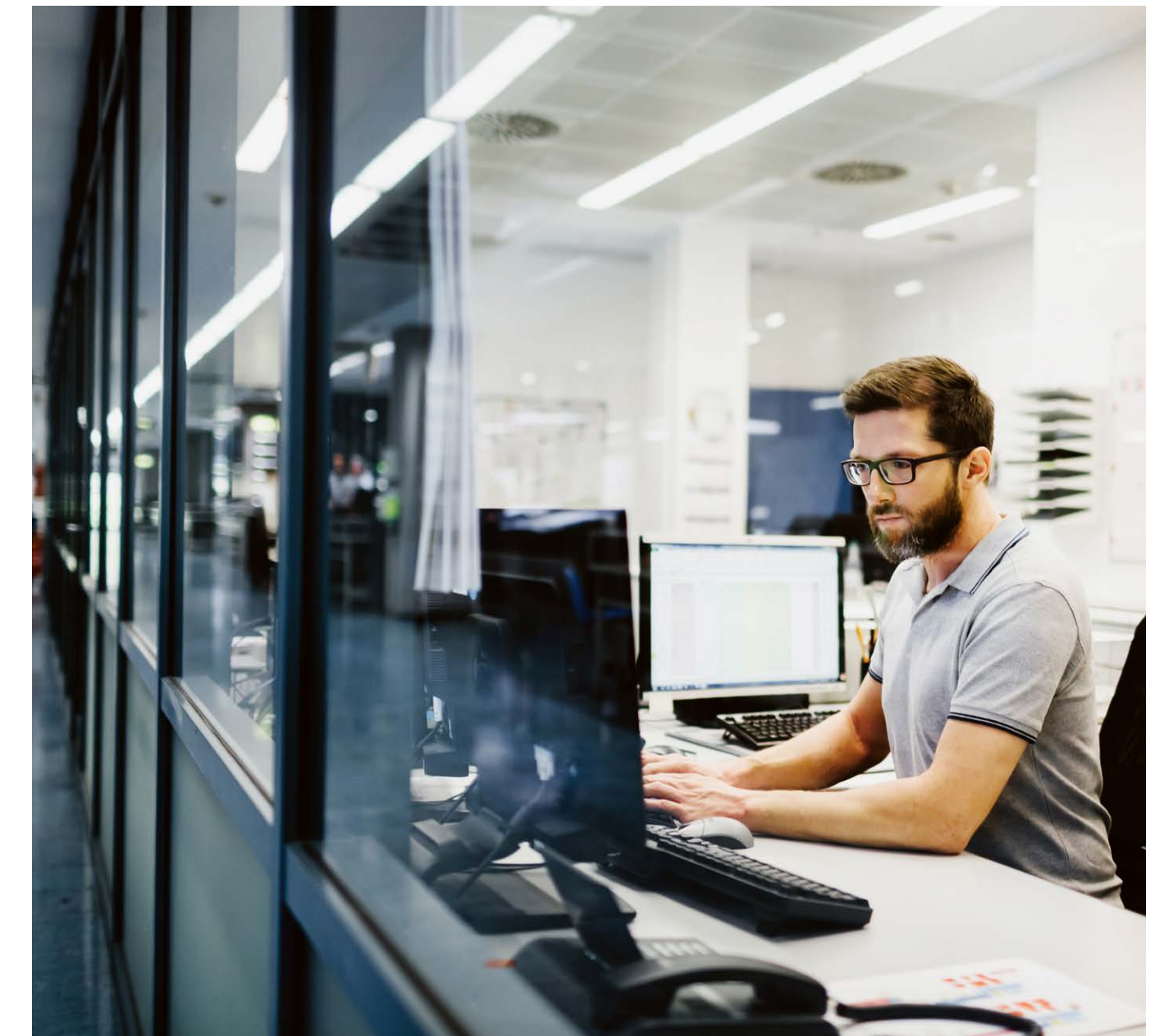
Advanced motor management system for critical processes



Benefits *(cont.)*

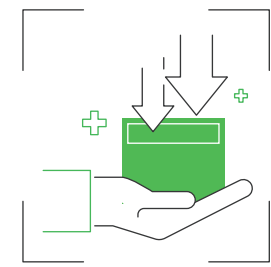
Trust

- TeSys T is quickly becoming a worldwide standard thanks to its flexibility. Lots of customers in Metal/Mining/Mineral, Oil & Gas, Water Wastewater and other types of applications trusted TeSys T to deliver.
- TeSys T is highly **reliable** and has a very **long product life** thanks to a state-of-the-art component selection, to the all in one design and to the advanced electronic protection. TeSys T can be integrated in many different types of harsh environment such as dusty atmospheres, marine applications, high vibration applications and corrosive atmospheres. This very high reliability will reduce machinery downtime and dramatically increase productivity.
- TeSys T is fitted with **removal terminal blocks** which simplifies maintenance tasks. The TeSys T Ethernet version enjoys a wide range of services which will make maintenance tasks even easier.



TeSys T Motor Management System

Advanced motor management system for critical processes



Benefits *(cont.)*

Prediction and Energy Management

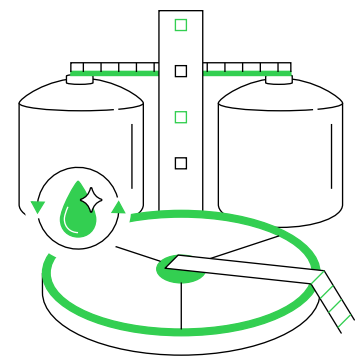
- TeSys T is able to **accurately monitor current, voltage and power** over a wide range and features advanced protection and warning functions. This accurate monitoring allows TeSys T to detect very small drifts in current, voltage or power which is key for an effective preventive maintenance. The advanced protection and warning functions will allow TeSys T to predict process shutdowns and manage processes more efficiently.
- TeSys T brings to applications and processes a full sense of **prediction** thanks to its powerful customization capabilities. Custom Logic capabilities in TeSys T help to fine tune monitoring and protection needs in order to ensure a perfect fit with any type of processes.
- The power monitoring capabilities makes TeSys T a green motor management system because it can help to **better manage energy consumption**. TeSys T is fully integrated in Powerlogic systems to fully utilize its power and energy monitoring capabilities.
- All of these great advanced monitoring, protection and energy management features will dramatically **increase process availability** (less downtime) and **reduce operation costs**.



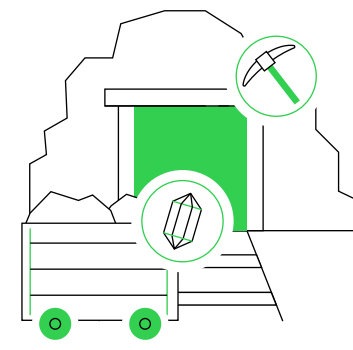
TeSys T Motor Management System

Advanced motor management system for critical processes

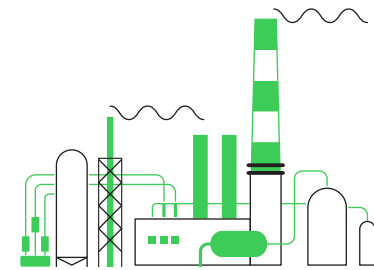
Applications



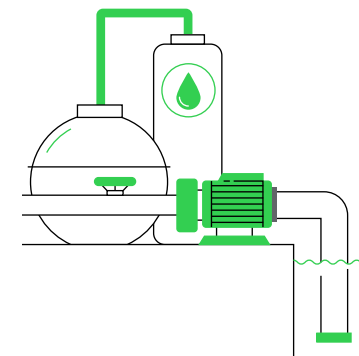
Water
Wastewater



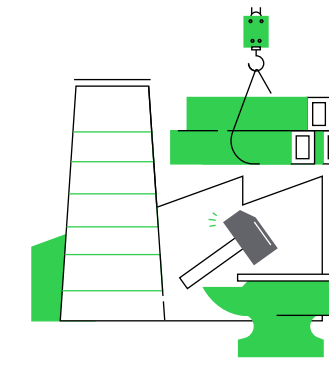
Mining and
Mineral



Oil & Gas



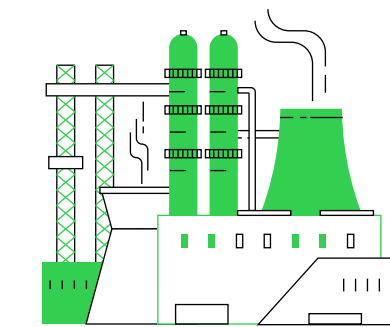
Pumping



Metals



Food &
Beverage



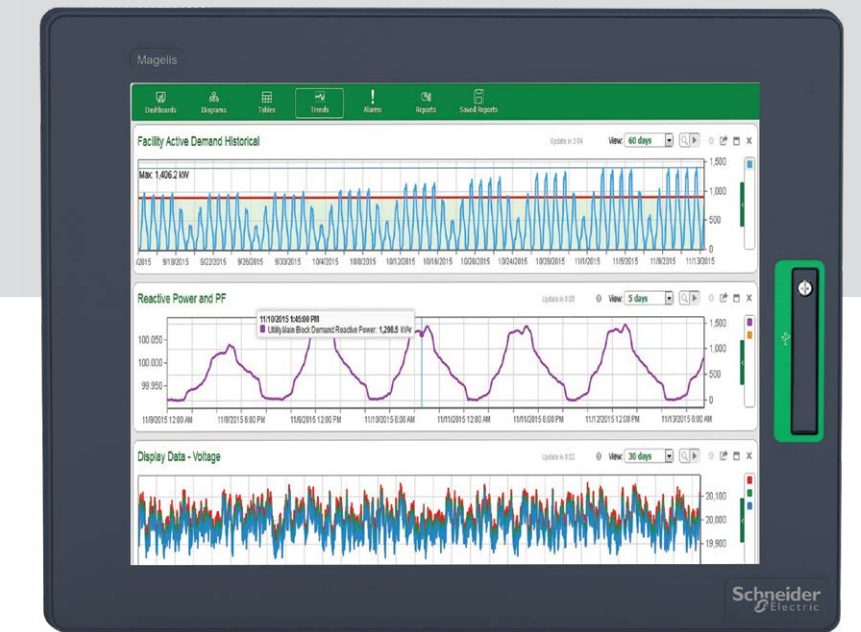
Harsh Environment



Next »

Harmony™ ST6 15-inch Touch Panel Display

2COM, 2Ethernet, USB Host Device, 24VDC



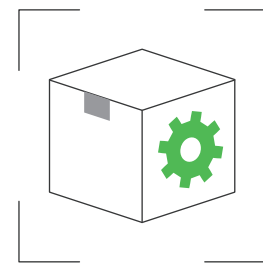
Product or Component Type	Touch panel screen
Software Designation	EcoStruxure Operator Terminal Expert
Processor Name	ARM Cortex-A8
Display Size	15 inch
Display Type	Color TFT LCD
Display Color	16 million colors
Display Resolution	1366 x 768 pixels FWXGA
Touch Panel	Single touch analogue resistive
Backlight Lifespan	50000 hours white
Brightness	16 levels

« Previous



Harmony™ ST6 15-inch Touch Panel Display

2COM, 2Ethernet, USB Host Device, 24VDC



Features

Integrated Connection Type	<ul style="list-style-type: none">• 1 COM1 serial link - 1 SUB-D 9-pin female - RS232C 2400...115200 bps)bottom• 1 COM2 serial link - female RJ45 - RS485 2400...115200 bps)back• COM2 serial link 2400...187500 bps) back• 1 USB 2.0 type A bottom• 1 USB 2.0 type micro B• 2 Ethernet
Supply	External supply
Realtime Clock	<ul style="list-style-type: none">• Built-in 0...50 °C• Built-in 10...90 % RH
Downloadable Protocols	<ul style="list-style-type: none">• Modbus• Uni-TE• Modbus Plus• Third party protocols



Next »

Open BOX for Universal Panel

HMIG5U2



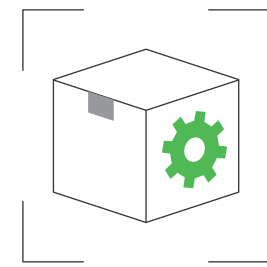
Product Range	Harmony GTU
Product or Component Type	Base Unit
Device Short Name	Open Box
Operating system	Windows Embedded 7
Software Package	<ul style="list-style-type: none">• Internet Explorer• Vijeo Citect Web Client• Vijeo Designer run time• .NET framework 4.0• Adobe PDF reader• Multimedia player• Office reader• VNC client/server

« Previous



Open BOX for Universal Panel

HMIG5U2



Features

Range Compatibility	Harmony GTU
Processor Name	Intel X86
Data Storage Equipment	32 GB CFast card
Port Ethernet	10BASE-T/100BASE-TX/1000BASE-T
Memory Description	<ul style="list-style-type: none"> • 512 kB NVRAM backup memory • 2 GB RAM internal
Type of Cooling	Natural convection
Rated Supply Voltage	12...24 V DC power supply
Depth	1.77 in (45 mm)
Maximum Height	5.16 in (131 mm)
Width	7.40 in (188 mm)
Net Weight	1.98 lb(US) (0.9 kg)
Number of Slots Available for Expansion	1 fieldbus card

Integrated Connection Type

- Ethernet TCP/IP 2 RJ45
- COM1 serial link RJ45 RS485 110...115200 bit/s
- COM2 serial link SUB-D 9 RS232C/RS422/RS485 110...115200 bit/s
- Auxiliary Port Terminal Block
- Expansion unit fieldbus card
- USB 2.0 port mini B USB
- DVI-D video port DVI-D
- Microphone mini-jack
- USB 2.0 port 3 USB type A

Communication Port Protocol

- Modbus
- Modbus TCP/IP
- Uni-Telway



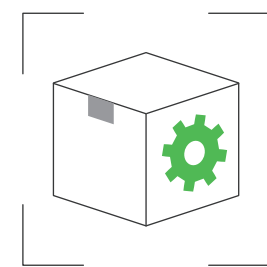
Next »

Programmable Logic Control Modicon™ M580 PAC Controller

Built-in Ethernet and the Highest Level of Cyber Security

Part of Modicon

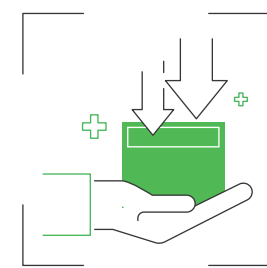
Modicon M580 ePAC is the innovative Ethernet Programmable Automation Controller that lets you drive productivity and boost performance while preparing for the future.



Features

The new high-end Modicon M580 Ethernet Programmable Automation Controller (ePAC) features Redundant Processors, native Ethernet, and cyber-security embedded in its core and brings:

- Native Ethernet capabilities
- High performance High availability for processors & networks
- Enhanced cyber-security More flexibility in design and greater agility for your operations
- Smooth modernization solutions



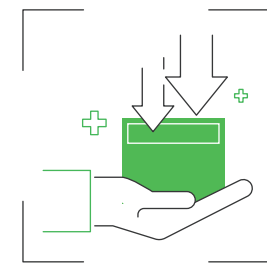
Benefits

Prepare your plant for the future:

- With a built-in Ethernet backbone, the M580 architecture interconnects all your devices and provides continuous communication flow to reap IIoT benefits.
- High level of computing power for increasingly data-intensive processes.

Programmable Logic Control Modicon™ M580 PAC Controller

Built-in Ethernet and the Highest Level of Cyber Security



Benefits *(cont.)*

Boost your productivity:

- End-to-end 100 Mbps speed, from top to bottom
- Application response time up by 10 times*
- 64 MB memory — data capacity of up by 8 times* (*compared with legacy ranges)

Reduce downtime:

- Availability rate up to 99.9996%
- Redundant CPUs
- Intelligent redundant power supply designed to dramatically extend life span (in Q2 2016)

Protect your know-how:

- IPsec communications protocol
- Cyber-security certified (Achilles Level 2)
- Encrypted password access
- Strict supervision of firmware and software integrity
- Easy to configure Cybersecurity features via the Unity Pro platform

Evolve and scale your architectures without stopping the process:

- Add new RIO drops or new modules in the architecture
- Hotswap your modules — with automatic reconfiguration
- Modify channel configuration parameters, application or change variables

Invest in the long term:

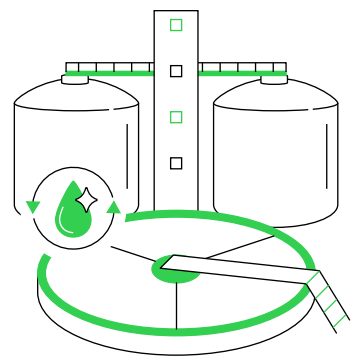
- Capitalize on Modicon's robust hardware platform and Unity Pro engineering software efficiency
- Migrate or modernize your installed base with a smooth transition to newer technology



Programmable Logic Control Modicon™ M580 PAC Controller

Built-in Ethernet and the Highest Level of Cyber Security

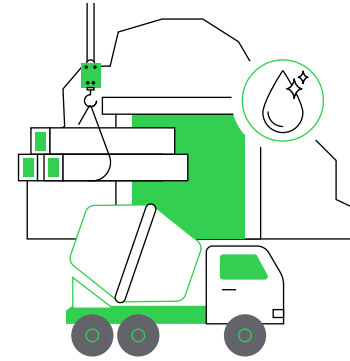
Applications



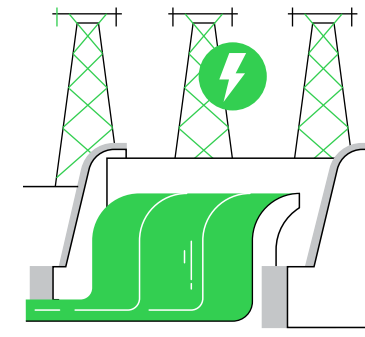
Water
Wastewater



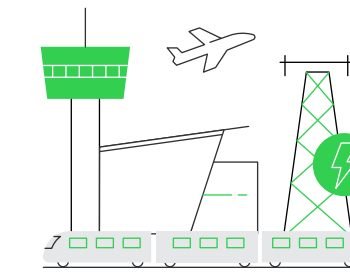
Food and
Beverage



MMM
(Especially Cement)



Hydro Power
Generation



Infrastructure



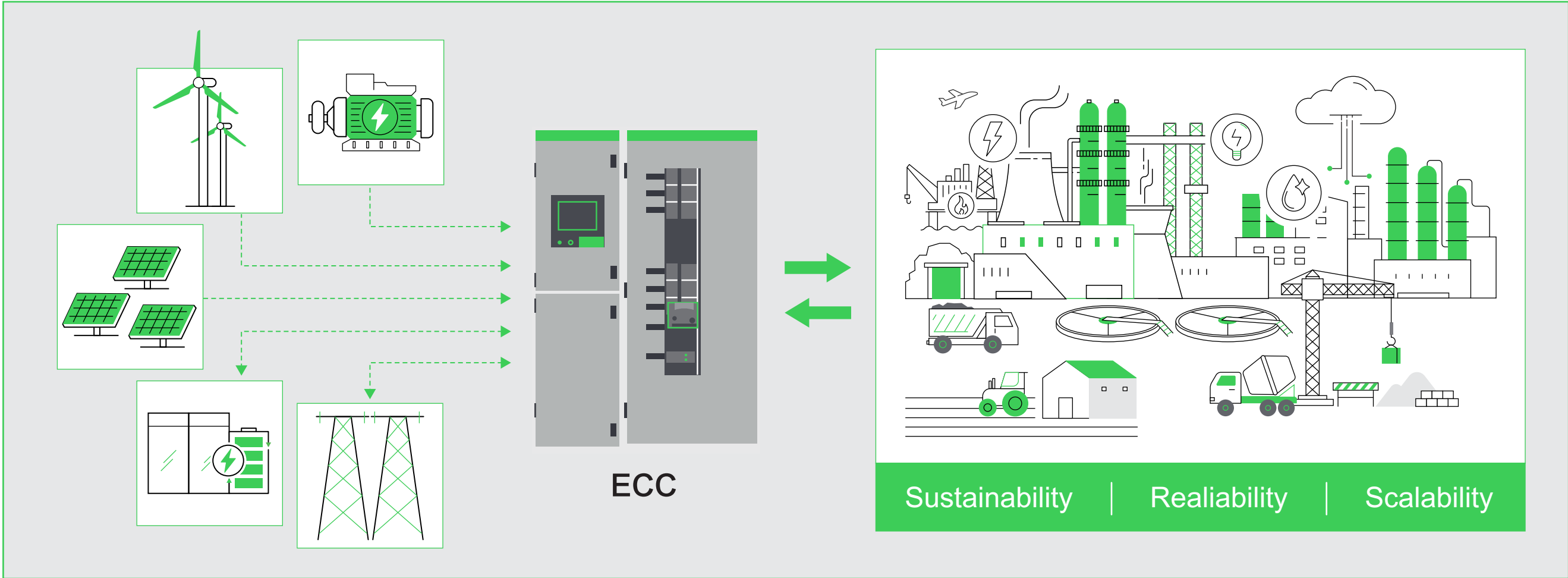
Next »

Energy Control Centers

ECC Micro – EcoStruxure Power Demo Version of the ECC 800



Combines electrical distribution equipment and industrial controls into an intelligent Power Management System (PMS) that is pre-wired, assembled and factory tested to deliver autonomous microgrid solutions managing multiple energy sources (called Distributed Energy Resources – DERs) and prioritized loads.



Energy Control Centers

ECC Micro – EcoStruxure Power Demo Version of the ECC 800

Features

Energy Control Centers (ECC) with EcoStruxure™ Microgrid Operation (EMO) and EcoStruxure™ Microgrid Advisor (EMA) are compelling examples of the EcoStruxure Power architecture.

- Connected products like **smart circuit breakers** operate autonomously in milliseconds to provide essential protection functions.
- **Consistent Uptime:** The EMO edge controller makes decisions in seconds to provide resiliency for the building. For example, if the utility grid goes down, the edge controller senses the loss of energy and disconnects from the utility grid by commanding the Energy Control Center's main breaker to open. The ECC then starts the genset and restores power to the loads.
- **Distributed Energy Resources Management:** The EMO edge controller also manages multiple Distributed Energy Resources (DERs). Solar power is a good example: When the utility is operating, solar inverters generally produce as much power as possible because sunlight is free. The ECC can even facilitate exporting excess PV power onto the utility grid if permitted by the local utility.
- **Emergency Solar PV Operation:** When a utility outage occurs, most solar PV systems do not operate during a utility outage (many people are shocked to hear this). However, an ECC can utilize solar PV systems during a utility outage.

⏪ Previous



Energy Control Centers

ECC Micro – EcoStruxure Power Demo Version of the ECC 800

Features *(cont.)*

- **Solar PV Inverters:** The EMO edge control enables PV to operate during an outage by using an alternate “anchor resource” (e.g. a genset or Li-ion storage system). The solar PV inverters connected to an ECC will see the stable voltage and frequency from the anchor resource and will resume normal power production.
- **Back-feed Prevention:** During a utility outage, if there is too much solar PV power, the EMO edge controller will automatically reduce PV power output in order to prevent back-feeding a genset or a storage battery that is full. Conversely, if there is not enough power available from the DERs, the EMO edge controller will shed load(s) intelligently.
- **The EcoStruxure Microgrid Advisor** maximizes the ROI of the DERs. For example, for a site with a Battery Energy Storage System (BESS), the EMA system can autonomously instruct the Energy Control Center to charge, discharge or idle the battery depending on the optimal use of energy throughout the day. Utility tariffs, peak demand charges and load spikes can all factor into the decisions that EMA will make regarding the best use of the BESS.



Next 



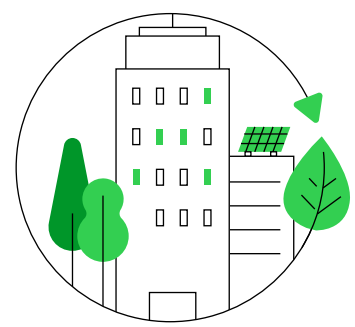
Energy Control Centers

ECC Micro – EcoStruxure Power Demo Version of the ECC 800

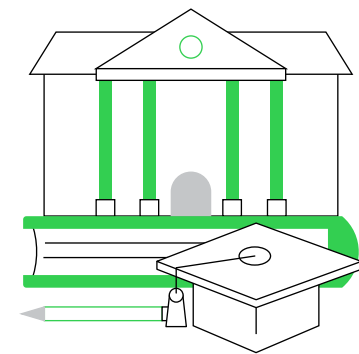
Benefits

- Provide resiliency to sites with challenges related to stable utility power
- Customize multiple DER sources and managed loads to drive a clear energy savings ROI versus traditional power distribution equipment

Applications



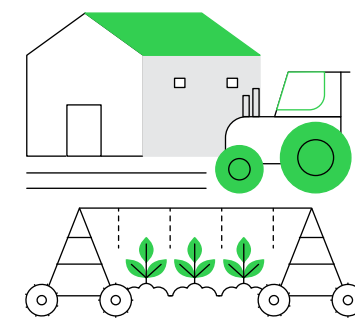
Sustainable Buildings



Educational Campuses



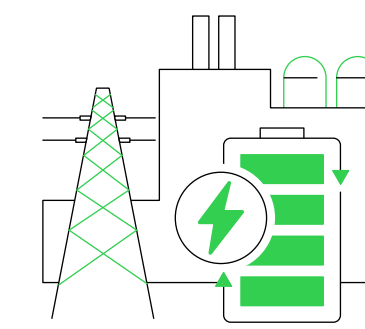
Convenience Stores with EV Charging Stations



Agricultural Sites



Locations with High Utility Tariffs and Peak Demand Charges

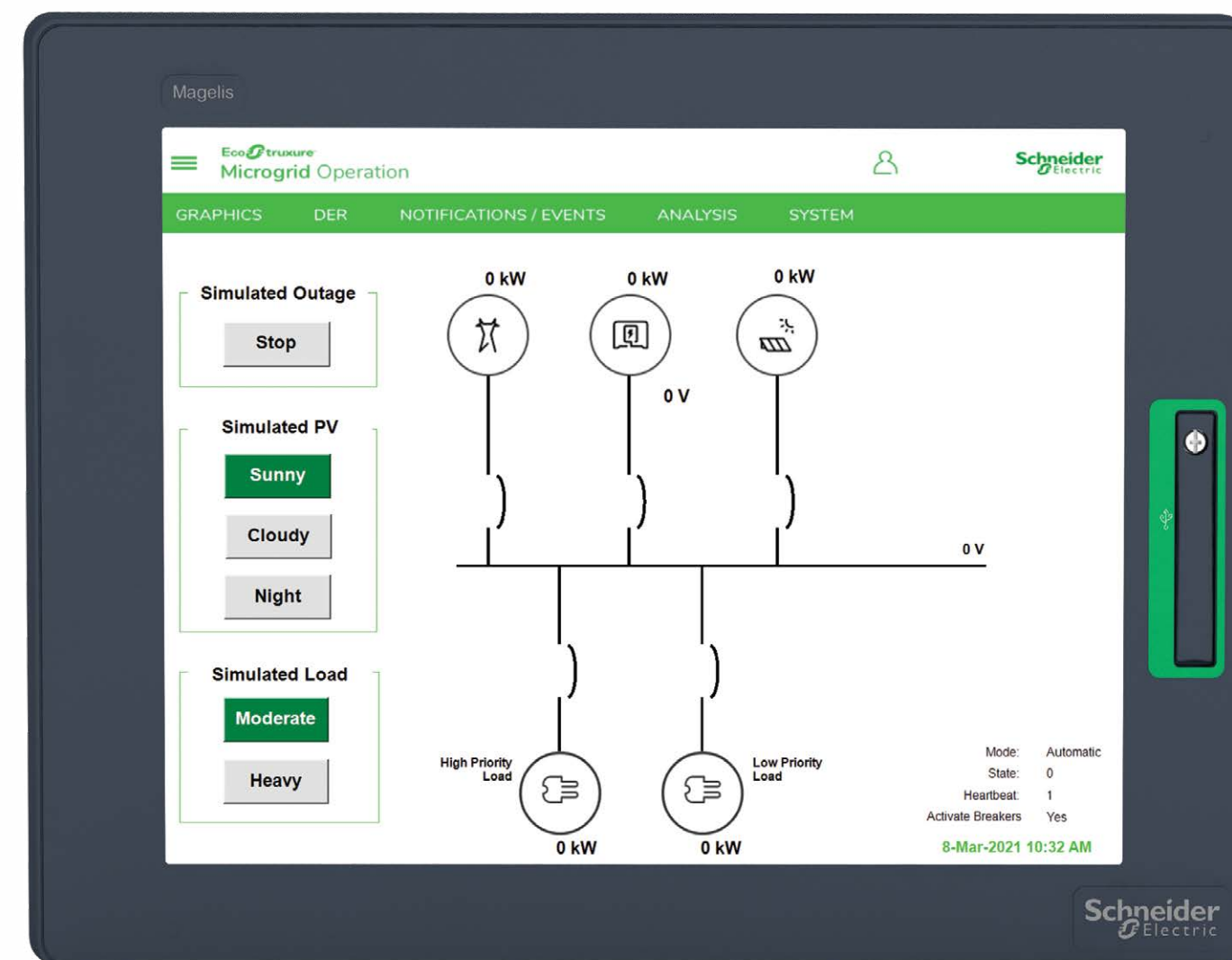


Locations with Utilities that Allow Exporting Power Back to the Grid



HMI

Magelis touchscreen panel for local interaction with ECC



The Energy Control Center onboard the EcoStruxure Power Mobile Lab is equipped with a Magelis™ touchscreen Panel PC for local HMI. When demoing the ECC, the presenter is able to simulate real world events, like a utility outage, and the HMI will display the current status of the Distributed Energy Resources (DERs) like the generator, Battery Energy Storage System (BESS), and solar inverters to demonstrate the ECCs ability to make critical decision, and physically make adjustments to power sources and loads to ensure energy reliability and resiliency.

The ECC provides several ways to configure and review data from the operations of the microgrid. The local HMI on the front panel of the ECC simplifies local monitoring and control of DERs. Microgrids need to balance energy generation and demand in real-time. This requires fast and accurate measurements of active and reactive powers, frequency, current and voltage levels, to enable proper power quality control and automated operation. The HMI enables the control commands/functions from the microgrid controller to the different actors of the microgrid structure. It displays information coming from the microgrid controller: machine status, notifications, power flows, switch status, etc... and it provides time-stamped sequence of event recording to enable event reconstruction and analysis.

Control and Diagnostics



EcoStruxure Power Monitoring Expert (PME)

Energy supply management software for large sites



Award-winning EcoStruxure Power Monitoring Expert is designed to help power-critical and energy-intensive facilities maximize uptime and operational efficiency.

As a key element of EcoStruxure Power, PME is the window to your digitized power network. It leverages IoT connectivity and distributed intelligence, provide the flexibility and adaptability needed for today and for the IoT-enabled future. As power grid technology becomes more dynamic, systems more complex, and regulations more challenging, PME brings unique new capabilities that make it simpler to protect people and assets, keep operations running, and save time and money.

Gain valuable insight into your power network

Power Monitoring Expert gives insight into electrical system health and energy efficiency so you can make informed decisions to improve performance. With its open, scalable architecture, PME connects to smart devices across your electrical system – power and energy meters, protective relays and circuit breakers, RTUs and PLCs, VSDs, UPS, and PQ mitigation equipment – and integrates with process control systems and many other enterprise platforms.

Convert data to action with a customizable and intuitive web interface, for real-time power and equipment monitoring. Use PME to track KPIs for energy and reliability, or share energy, sustainability, and PQ metrics with stakeholders. Apply advanced power quality analysis to ensure reliable network operation, equipment performance, and reduced network outages.



EcoStruxure Power Monitoring Expert (PME)

Energy supply management software for large sites



Benefits

- Unlock the full potential of your power distribution system
- Reinvented alarm management with smart events and alarms clustering for intuitive and powerful filtering, searching and categorization of events and alarms
- Graphical timeline analysis tools easily analyze events and alarms sequence, location and potential impact
- The most advanced energy visualization and analysis tools to calculate, model, forecast and track your main energy performance indicators (EnPIs)

Applications

- Keep people and assets safer
- Monitor breaker protection settings and ensure proper breaker operation and fault isolation to avoid safety hazards
- Operate breakers remotely to minimize exposure to arc-flash risk
- Detect abnormal conditions, such as rising busbar temperatures, that represent a risk to safety and operations
- Protect patient safety in hospital operating rooms by monitoring and locating circuit insulation faults



EcoStruxure Power Monitoring Expert (PME)

Energy supply management software for large sites



Optimize business reliability and continuity

- Understand the cause of events affecting your electrical system, using advanced power forensics including smart alarm clustering and graphical events timeline
- Identify power event patterns to avoid or mitigate future occurrences
- Monitor protection settings to ensure proper isolation of faults to avoid system wide power outages
- Analyze the aging of breaker contacts to avoid failures and enable proactive maintenance
- Track system capacity to avoid overloads and make sure backup power systems are able to handle loads in case of an outage

Maximize operational lifecycle efficiency

- Use energy benchmarking to reveal opportunities and baseline comparisons to validate savings
- Use trending and energy modeling to identify abnormal usage of energy and other utilities (WAGES)
- Avoid power factor and peak demand penalties
- Use shadow billing to identify errors in utility bills
- Enable participation in demand response programs by tracking consumption patterns and managing loads
- Create accountability by allocating costs to departments or processes
- Analyze equipment performance to support proactive maintenance and extend lifespan
- Reveal unused system capacity to avoid upgrading or overbuilding



EcoStruxure Power Monitoring Expert (PME)

Energy supply management software for large sites



Simplify reporting and compliance

- Align with energy efficiency and green building standards (e.g. ISO50001/2, SEP, LEED, NABERS)
- Track energy performance indicators (EnPI) as per ISO50006 (e.g. kWh/ton, kg of CO2/ton, kWh/m3 of water pumped)
- Verify utility/grid service and internal compliance to power quality standards (e.g. EN50160, IEEE519, ITIC)
- In healthcare facilities, ensure regulatory compliance with backup power system testing (e.g. NFPA110 and others)
- Comply with common IT practices (password management, whitelisting, preferred browser) and align with cybersecurity best practices (e.g. IEC62443 SL1)



EcoStruxure Power SCADA Operation

Energy supply management software for electro-intensive sites



No matter the size or complexity, every part of your electrical system needs to provide reliable power, 24/7. Your team requires continuous visibility into every risk, and the ability to react immediately.

As a key element of EcoStruxure Power, Power SCADA Operation is engineered to help facilities like data centers, hospitals, industrials, airports and electro-intensive operations maximize uptime. With rich data integration from connected devices, PSO's unique capabilities provide real-time situational awareness, and offer a high performance, cyber-resilient solution for your specialized power networks.

Manage and control your medium and low voltage networks with a flexible, secure, scalable, and redundant platform designed specifically for your needs.

Flexible, redundant architecture

With extensive communication and data exchange protocol support, connect to hundreds of smart devices, extracting rich data from meters, relays, circuit breakers, PLCs, RTUs, and more. Native architectural redundancy gives you the peace of mind that PSO will remain reliable even during a worst-case scenario. Generic SCADA platforms simply do not offer the depth of capability compared to a purpose-built Power SCADA.



EcoStruxure Power SCADA Operation

Energy supply management software for electro-intensive sites



Information and control exactly how you need it

Stay on top of power system status using patented animated one-line diagrams. Our graphical engine allows HMI and mobile views to be completely customized. Receive alarm notifications in real-time, use power events analysis tools to determine cause and effect, then re-establish normal operation using automated or manual control actions.

Benefits

- Purpose-built edge platform that adapts to your complex electrical networks: Now >35% faster to deploy!
- More open protocols with OPC Unified Architecture (OPC UA), bridging IT and production
- High availability mobile notifications
- Seamless integration with Schneider PLCs (including the M580) to monitor and control Compliance to IEC-62443 international cyber-security standards



EcoStruxure Power SCADA Operation

Energy supply management software for electro-intensive sites



Applications

Help protect people and assets

- Monitor circuit breaker protection settings and ensure proper breaker operation and fault isolation to avoid safety hazards
- Operate breakers remotely to minimize arc-flash risk
- Detect abnormal conditions, such as rising busbar temperatures, that represent a risk to safety and operations
- In hospital operating rooms, protect patient safety during operations by detecting circuit insulation faults

Maximize business continuity

- Quickly understand the real-time state of your power system
- Use real-time alarm notifications, filtering, sorting, and categorization to respond quickly to events
- Perform root cause analysis by tracing sequence of events, analyzing waveforms, then quickly and safely re-establish normal operation
- Perform fast, automatic fault isolation and power restoration
- Monitor protection settings to ensure proper isolation of faults to avoid system wide outages
- Analyze the aging of breaker contacts to avoid failures and enable proactive maintenance
- Track system capacity to avoid overloads and make sure backup power systems are able to handle loads in case of an outage



EcoStruxure Power SCADA Operation

Energy supply management software for electro-intensive sites



Applications *(cont.)*

Maximize operational efficiency

- Set energy reduction targets and adjust operations for continuous efficiency improvements
- Track how much energy and other utilities (WAGES) are generated, distributed, and consumed
- Avoid power factor and peak demand penalties
- Use shadow billing to identify errors in utility bills
- Create accountability by allocating costs to departments or processes
- Reveal unused system capacity to avoid upgrading or overbuilding
- Showcase energy performance to a broad group of stakeholders via energy kiosk displays

Simplify reporting, align with standards

- Comply with energy efficiency and green building standards (e.g. ISO50001/2, SEP, LEED, NABERS)
- Verify utility/grid service and internal compliance to power quality standards (e.g. EN50160, IEEE519, ITIC)
- Ensure regulatory compliance with backup power system testing (e.g. NFPA110 and others)
- Comply with common IT practices (password management, whitelisting, two-factor authentication). Align with cybersecurity global standards such as IEC 62443. Use an industrial-grade firewall to monitor traffic between IT, OT, and Internet network zones.



EcoStruxure Facility Expert

Boost building performance and operating efficiency while reducing energy costs

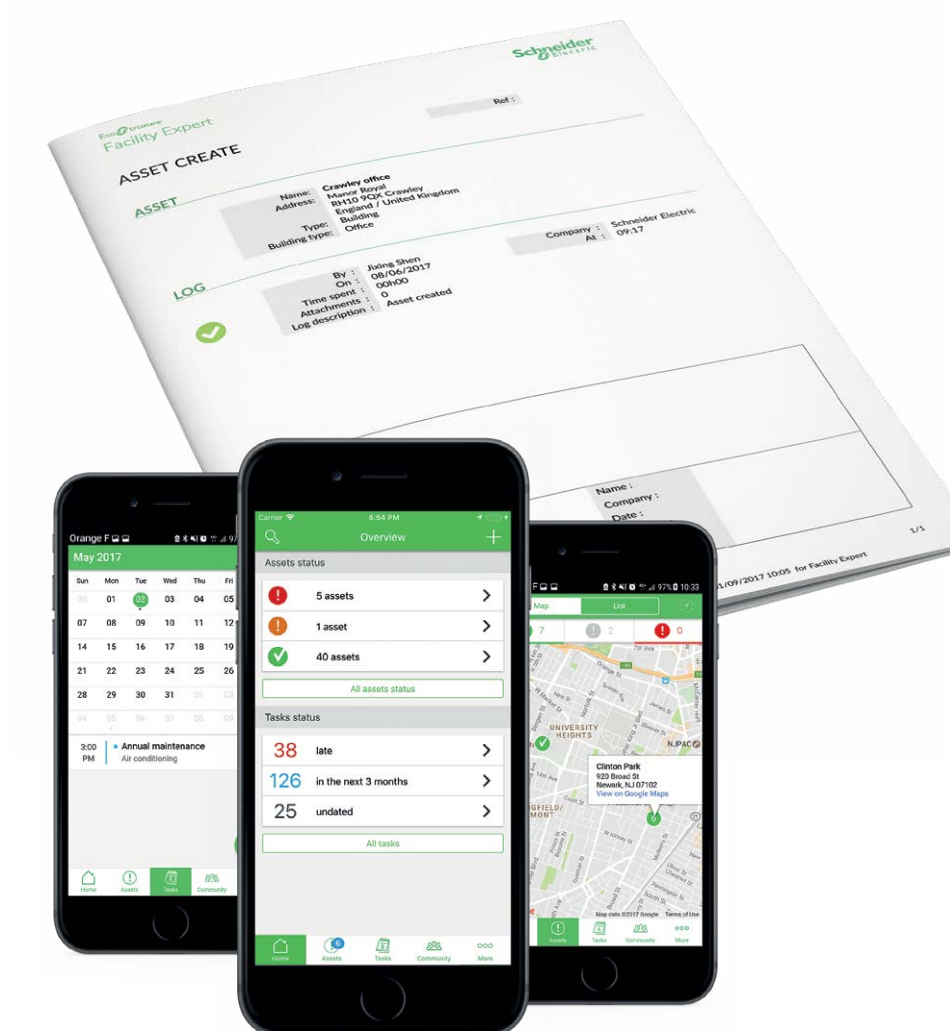


With EcoStruxure™ Facility Expert, you can leverage the latest cloud services and data acquisition technologies of your smart electrical distribution network to gain maximum control over your operations.

- Gain insights into energy consumption and asset status
- Improve control of energy costs
- Keep key assets up and running
- Increase maintenance efficiency
- Access your facility data 24/7

Reduce energy costs

- Monitor energy consumption and track deviations by comparing usage over different time periods, zones, or meters to identify contributors to peak consumption
- Track power factor and power demand and be alerted to avoid utility penalties
- Improve your energy purchase by comparing proposals and using data export capabilities for energy reporting or further in-depth analysis
- Simplify benchmarking with local energy performance scales and energy management standards



EcoStruxure Facility Expert

Boost building performance and operating efficiency while reducing energy costs



Improve operation efficiency

- Be alerted when issues arise
- View the status of all your critical assets and loads to reduce property damage and minimize business interruptions
- Share the facility logbook with your team in real time so everyone receives information and stays connected, even in the field
- Access all relevant information—dates, documentation, photos, voice memos, etc.—to share directly with field engineers on their mobile devices for faster troubleshooting and repairs
- Download preventive maintenance plans and receive task reminders to optimize operations
- Generate maintenance reports in a single click to document that the job is done and, at the same time, reduce administrative tasks



Life Is On



To learn more about Schneider Electric's
EcoStruxure Power offer, go to:

se.com/ecostruxure

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