

PowerPact™ with Micrologic™ molded case circuit breakers

Direct access to energy management



by Schneider Electric



Smart, safe, and simple

Today, new-generation PowerPact with Micrologic circuit breakers set the standards of tomorrow with direct access to energy management. Integrated metering enhances their impeccable protective functions. For the first time, Schneider Electric users can monitor energy from 15 A to 3000 A, offering new performance in a remarkably compact device.

Your applications demand reliable operation and peak performance levels. Do not compromise on electrical protection. Select the industry's best range of molded case circuit breakers from the market leader — Schneider Electric™.

No other name in circuit protection is more trusted for reliability and performance than the Square D™ by Schneider Electric brand and our PowerPact with Micrologic molded case circuit breakers can become the first step in simplifying your operations. Through numerous design innovations, common accessories, and standardized ratings, PowerPact with Micrologic circuit breakers will save you time and money by streamlining your selection process, speeding up installations, and providing renowned operational performance.

Smart: a meter in every breaker

Choose a Schneider Electric ammeter or energy trip unit for cost-effective metering everywhere you have a circuit breaker. It's the most affordable way to help you maximize your energy efficiency, control your costs, and meet your environmental objectives and responsibilities. In a compact footprint with embedded current transformers, **Schneider Electric is the first to offer integrated energy metering down to 15 A applications.** At only a small incremental cost, the Micrologic ammeter or energy trip unit delivers all of the impeccable protection you rely on from the standard trip unit while delivering metering, maintenance assistance, and other capabilities you need to fully manage your electrical system.



PowerPact P-Frame
(I-line)



PowerPact H-Frame
(draw-out)



PowerPact L-Frame
(fixed mount, rear-connected)



PowerPact J-Frame
(fixed mount, motor operated)



PowerPact R-Frame
(fixed mount)



PowerPact H-Frame
(plug-in)



Going beyond metering

Other essential features include breaker maintenance data that will help you track the performance of your equipment, extend equipment life, and ensure the reliability of your power system. With the load profile feature, quickly identify circuits with additional capacity for new loads during your facility planning activities.

Knowing more means saving more

The energy data from the electronic trip unit (energy model) will help you study consumption patterns, compare the performance of different facilities, and isolate where energy is being wasted. Exposing the associated energy cost at the building, department, or machine level will drive efficiency. Having integrated metering in your breakers can also complement existing tenant metering systems, helping you validate utility billing, or verify that consumption at upstream feeders matches the sum of the associated tenant meters.

Accessibility of information

To keep costs under control and ensure service continuity, relevant information must be available in real time.

- A kilowatt-hour meter helps optimize costs and allocation
- Harmonic distortion rate shows the quality of electrical supply
- Alarm notification secures operational control and maintenance planning
- Event logs and tables, activated continuously, ensure the installed equipment base operates correctly, so energy efficiency is maximized.



The Micrologic energy trip unit is making intelligent energy measurement capable circuit breakers the new industry standard.



Preventive maintenance

Maintenance indicators provide information on the number of operations, level of wear on contacts, and total load rates. Maintenance is now preventive, avoiding faults.

Expert technology

A roto-active contact breaking principle provides better limitation and endurance performance.

- Very high breaking capacity in a very small device
- Exceptional fault current limitation for extended system life

Combine safety and performance

PowerPact with Micrologic is innovative — it reliably incorporates monitoring and communication functions, from 15 A upward, combined with impeccable protection.

All-in-one device

Protection, metering, and communications, reliably in one device. When power is critical, you need to trust that your breakers provide the highest level of protection available. That's why Schneider Electric has developed a unique, dual processing architecture that ensures the protection function operates completely independent of the measurement and communication functions.



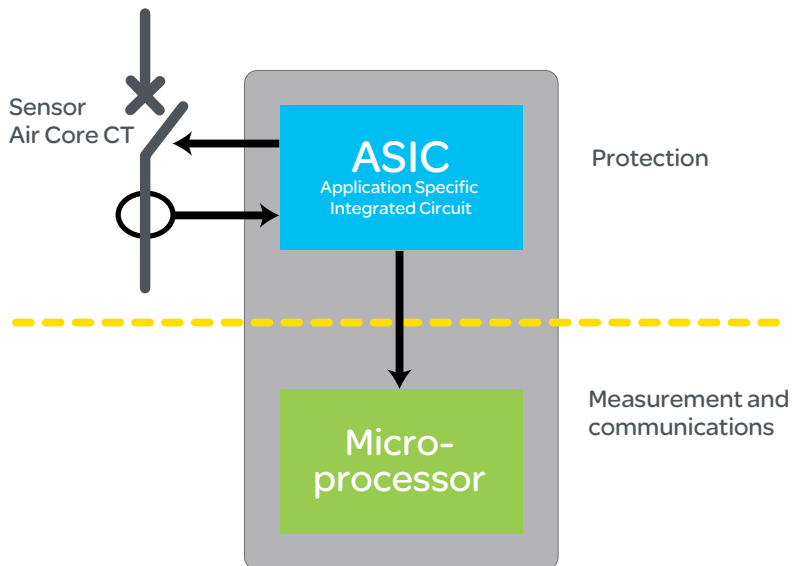
The green "Ready" LED flashes to show that all is well

Protection and measurement units are also tested and certified together, guaranteeing the quality of both the breaker and the metering capability.



Transparent protective cover

Isolation of the protection and measurement functions ensures a high level of reliability



>> Simple: easy to select, install and use

Simple to select

The entire range of PowerPact with Micrologic circuit breakers is defined by a common system of interrupting ratings and features to create catalog numbering that is easy to apply and understand.

Simple to use

- **Local data access:** Convenient, local data access through a high visibility front display module provides maintenance personnel convenient access to all Micrologic measurements, history, and circuit breaker maintenance indicators directly from the front of an electrical cabinet.
- **Remote data access:** Easy, remote data access to anyone that needs it, supporting energy management strategies, as well as remote maintenance and troubleshooting.
- **Customize alarms:** Users customize alarms for all parameters, assign them to indicator lights, choose display priorities, and configure time delay thresholds and modes.
- **Continuously activated event logs and tables:** A wealth of information enables users to ensure the installed equipment base operates correctly and settings are optimized.

PowerPact with Micrologic circuit breakers can be networked using open protocols to overlying system management programs for simple data management and analysis.

- **iRIO RTU or EGX300 gateway:** for data viewable using a standard web browser.
- **PowerLogic™ ION™ Enterprise software:** for advanced energy and power quality analysis.

Simple to install

- Standard plug-and-play connectivity makes it easy to network circuit breakers and other measurement or control devices across an entire building.
- A transparent, sealed flap protects access to protection setting dials and prevents settings from being changed.
- Start-up is fast and efficient using the pocket tester to set circuit protections prior to system power up, and a thermal inhibitor feature that shortens the testing process.



PowerPact with Micrologic takes the principles of easy installation and uses it to a higher level



LTS installation system



iRIO RTU or EGX300 gateway:



PowerLogic ION Enterprise software



The PowerPact with Micrologic circuit breakers will save you time, money, and streamline your selection process.

Micrologic trip units

The full range of PowerPact circuit breakers now feature Micrologic electronic trip units (energy model). Micrologic trip units are the intelligence behind a coordinated electrical distribution system that delivers improved operating efficiency and extended equipment life. All Micrologic trip units provide impeccable, electronic circuit protection with adjustable protection settings for maximum system coordination and flexibility. Sophisticated functionality, such as energy and power quality metering capabilities, is integrated in the more advanced trip units. Combined with quality PowerPact accessories, Micrologic trip units also enable circuit breakers to be networked and remotely controlled, leading to substantial savings in electrical system operating costs. These interchangeable, microprocessor-controlled devices provide the new generation of protection, measurement, and control functions, delivering not only greater electrical system safety but also improved system integration and coordination.



Micrologic P trip unit for PowerPact P and R



Micrologic H trip unit for PowerPact P and R



Micrologic E trip unit for PowerPact P and R



Standard Micrologic trip unit for PowerPact H, J, and L



Ammeter or Energy trip unit for PowerPact H, J, and L

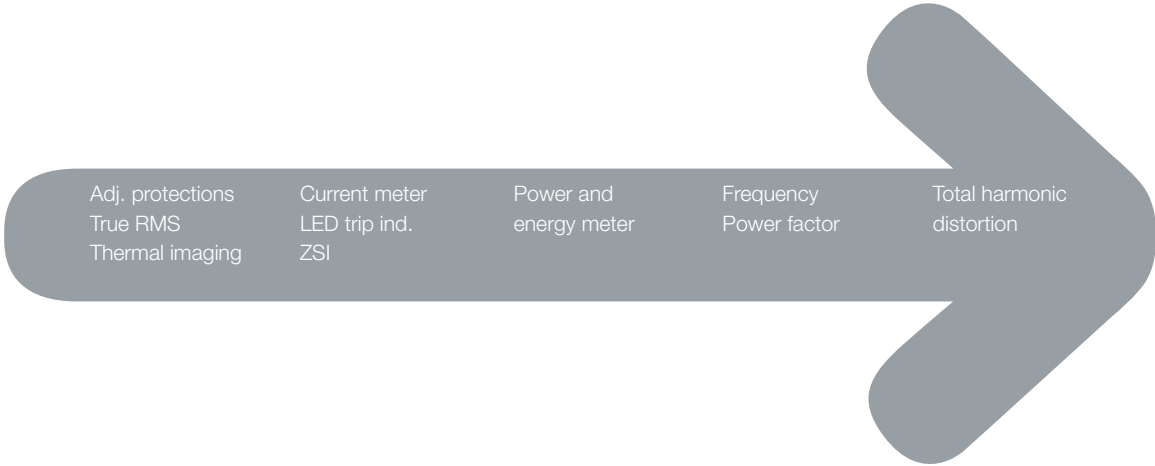
>> Simple: an easy installation and use

Choose the model that meets your needs

The Micrologic trip unit family includes five models with varying levels of functionality. The simplest units provide basic overcurrent protection including long-time, instantaneous, and optional short-time adjustments for overloads and short circuits. Advanced units offer sophisticated functions such as ground fault protection and zone selective interlocking. They also incorporate a variety of communications options and energy metering capabilities — right inside the circuit breaker. With advanced trip units, use a network to communicate breaker information, gather power information and energy usage patterns, monitor events, and remotely control breakers for increased efficiency and savings. The breakers become part of an integrated, coordinated electrical system. For maximum flexibility in product selection, Micrologic trip units consist of five models with progressively increasing levels of functionality.

Choose the right model for each application

PowerPact H-, J-, and L-Frame	Standard (S)	Ammeter (A)	Energy (E)		
15 – 600 A					
PowerPact P- and R-Frame	Standard (S)	Ammeter (A)	Energy (E)	Power (P)	Harmonic (H)
up to 3000 A					



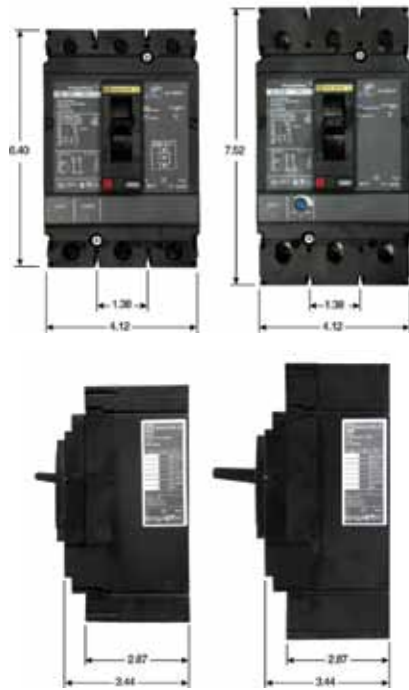
Motor protection trip units

Also available are Micrologic trip units dedicated to managing motor applications at 600 A or below. Three levels of functionality are available with the motor trip unit offer.

- **1.3 M:** Provides cable protection for short-circuits, and must be combined with an external thermal protection relay. This trip unit features an adjustable short-circuit protection threshold and fixed instantaneous protection.
- **2 M:** Provides thermal relay type protection in addition to short-circuit protection. Adjustable settings are included for the thermal protection threshold, the tripping class, and the short-circuit protection. Additional protections include phase unbalance and phase loss protection.
- **6 E-M:** Provides the same protection functions as the Micrologic 2 M units with the addition of ground fault, locked rotor protection, under-load protection, and long start protection. They also incorporate energy metering and maintenance indicators similar to the Micrologic Energy trip unit.

Mounting dimensions

Common mounting dimensions across the entire range means that the mounting pattern never has to change even when panel designs change.



H-Frame and a J-Frame PowerPact circuit breaker.

Choice of terminal options

Terminal options include unique snap-in lugs that make converting between bus bar and lug options easy. If the application calls for lugs on the line side, load side, or both, conversions are simple, making the PowerPact H- and J-Frame circuit breakers ideal for applications that require configuring products at the point of use.

The terminal nut or mechanical lug is set on a plastic retainer that slides and snaps into place, making it possible to easily convert to a distribution lug that provides multiple cable outputs for downstream components.



Bus bar option

Lug option

PowerPact H- and J-Frame with Micrologic circuit breakers – 15 A to 250 A

Well-suited to a wide range of applications, the PowerPact H- and J-Frame molded case circuit breakers feature a full complement of field installable accessories, field installable trip units, and improved interrupting ratings. These molded case circuit breakers deliver unmatched design flexibility and share identical mounting holes, handle locations, trim dimensions, and accessories, allowing customers to standardize equipment designs for 15 A to 250 A applications.

PowerPact H- and J-Frame circuit breakers come in many interrupting ratings and are designed to limit let-through currents to provide better protection for downstream components. Interrupting ratings (AIR) include D-18 kA, G-35 kA, J-65 kA, and L-100 kA at 480 Vac. Available as standard or 100 percent rated circuit breakers, the H-Frame ranges from 15 A to 150 A and the J-Frame from 70 A to 250 A.

Available trip units:

- **Thermal magnetic:** Circuit protection provided by individual thermal (overload) and magnetic (short circuit) sensing elements in each pole.
- **Standard electronic:** Adjustable overcurrent protection including long-time, instantaneous, and optional short-time.
- **Ammeter:** Adjustable long-time, short-time, instantaneous, and optional ground fault protection is coupled with integrated current metering and maintenance indicators.
- **Energy:** Power and energy metering is integrated with exceptional long-time, short-time, instantaneous, and optional ground fault protections. Beyond energy metering, this trip unit delivers many advanced functions including power quality (harmonics) measurement.

PowerPact L-Frame with Micrologic circuit breaker — 70 A to 600 A

Designed to accept common accessories and the full range of electronic trip options available for PowerPact H- and J-Frame, the newest addition to the PowerPact family of molded case circuit breakers delivers the same impeccable protection and flexibility. PowerPact L-Frame is also available as standard or 100 percent rated, and has a choice of many interrupting ratings to support different application needs. Interrupting ratings (AIR) include D-18 kA, G-35 kA, J-65 kA, and L-100 kA at 480 Vac.

Available trip units:

- **Standard electronic:** Adjustable overcurrent protection including long-time, instantaneous, and optional short-time.
- **Ammeter:** Adjustable long-time, short-time, instantaneous, and optional ground fault protection is coupled with integrated current metering and maintenance indicators.
- **Energy:** Power and energy metering is integrated with exceptional long-time, short-time, instantaneous, and optional ground fault protections. Beyond energy metering, this trip unit delivers many advanced functions including power quality (harmonics) measurement.

PowerPact P- and R-Frame with Micrologic circuit breakers — 100 A to 3000 A

The compact P- and R-Frame circuit breakers permit smaller footprint and higher density installations. These circuit breakers are available in standard and 100 percent rated construction up to 3000 A to meet a broad range of commercial and industrial application needs. Common accessories make stocking and installation easy.

Built-in Modbus® protocol provides an open communications platform and can be combined with a selection of four interchangeable Micrologic trip units.

- **Standard:** Adjustable overcurrent protection including long-time, instantaneous, and optional short-time.
- **Ammeter:** Adjustable long-time, short-time, instantaneous, and optional ground fault protection is coupled with integrated current metering and an optional Modbus communication interface.
- **Power:** Combines power monitoring and metering functions, with long-time, short-time, instantaneous/optional ground fault adjustments, and advanced relay functions, and has a standard Modbus communication interface.
- **Harmonics:** All of the functionality of the Power trip unit, plus enhanced monitoring and metering capabilities, basic power quality (harmonics) measurement, and waveform capture.



PowerPact L-Frame with Micrologic



PowerPact P-Frame with Micrologic



PowerPact R-Frame with Micrologic



Complementary PowerPact circuit breakers

Complement your selection of PowerPact with Micrologic circuit breakers with the basic protection of PowerPact Q- and PowerPact M-Frame circuit breakers.

- **PowerPact Q-Frame circuit breaker:** For applications requiring basic thermal magnetic protection, PowerPact Q-Frame circuit breakers are rated for 240 Vac and are available with UL® Listed interrupting ratings from 10 kA to 100 kA. These circuit breakers may be mounted in individual enclosures, metering devices, panelboards, or switchboards.
- **PowerPact M-Frame circuit breaker:** Provide a compact solution for up to 800 A applications. They complement the PowerPact with Micrologic circuit breakers by providing basic electronic protection with a small footprint and competitive cost. The ET 1.0 electronic trip unit provides a fixed long-time and adjustable instantaneous protection setting.

Global standards












While being optimized for the UL market, PowerPact with Micrologic circuit breakers also meet a variety of worldwide standards and ratings including UL 489/CSA standards, NOM/NMX, IEC 60947, CCC*, and CE marked. Also, metering systems qualify for Leadership in Energy and Environmental Design (LEED®) points by the US Green Building Council (USGBC®). PowerPact with Micrologic has been identified as a qualified metering system. Otherwise known as sustainable, “green” building construction, LEED certification demonstrates the ability to use resources more efficiently. The goal is to create more energy-efficient, healthier, and comfortable buildings.

* Confirm availability

Proven solutions for demanding applications

PowerPact with Micrologic circuit breakers set the standard for reliability and performance of molded case circuit breakers. As the Square D by Schneider Electric flagship breaker offering for commercial and industrial applications, PowerPact with Micrologic circuit breakers incorporate many common design elements and provide unmatched flexibility through multiple mounting configurations, operators, and standardized accessories. Available in six frame sizes in ratings from 15 A to 3000 A, PowerPact with Micrologic circuit breakers provide heavy-duty operation with interrupting performance as high as 200 kA at 240 Vac and 100 kA at 480 Vac. Designed to use less mounting space, the PowerPact with Micrologic range allows simplified installation with smaller footprints and higher density installations for panelboards and switchboards.

Common design elements and accessories

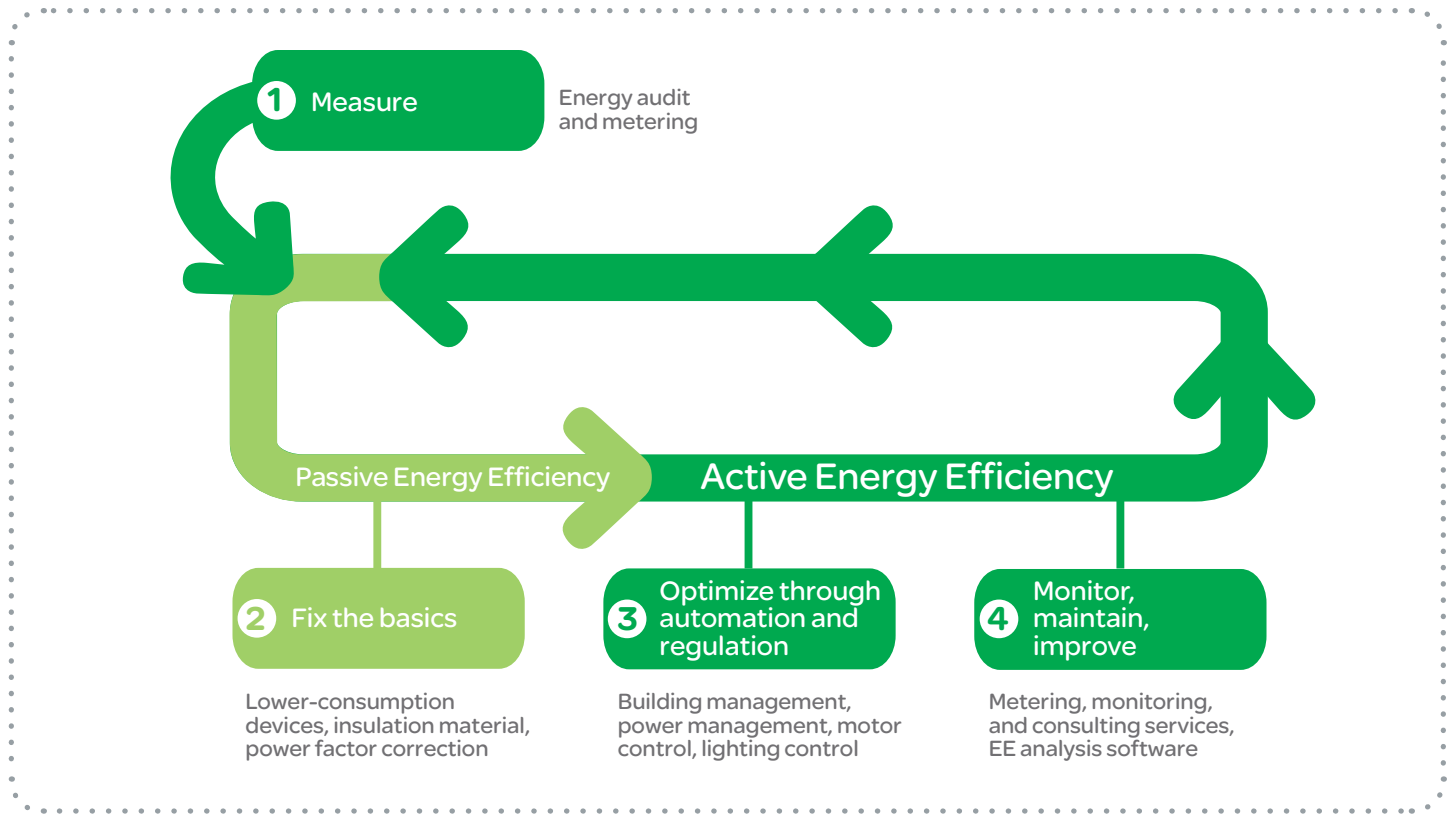
	H-Frame 150 A	J-Frame 250 A	L-Frame 600 A	P-Frame 800 A	P-Frame 1200 A	R-Frame 2500 A
Common design features*						
						
Auxiliary and alarm switches						
						
Shunt trip and undervoltage release						
						
Accessories						
Front display module						
						
Communication module						
						

* Design features include mounting holes, door trim, and handle accessories

Thinking ahead

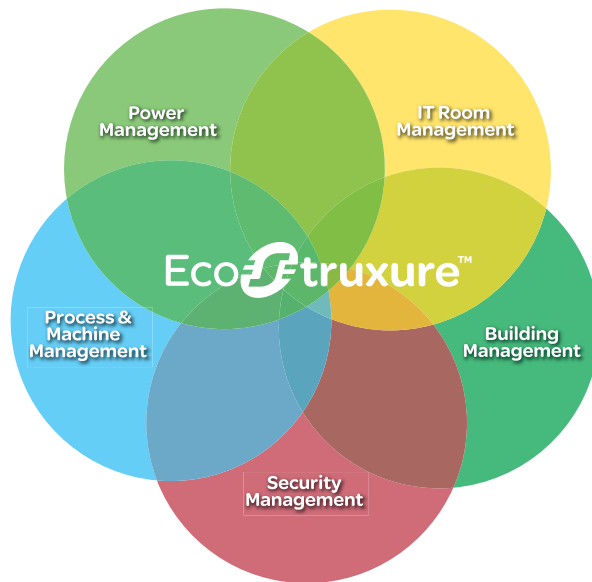
By including PowerPact with Micrologic circuit breakers, you're making an important first step toward improved energy efficiency, in a way that is smart, safe, and simple. Schneider Electric can help you take the next steps necessary to achieve maximum efficiency for your entire building. We are The Global Specialist in Energy Management™, providing an integrated approach to help you meet your efficiency targets.





The path to sustainable savings

The levels of efficiency required for effective energy management involve system dynamics across platforms and providers like never before. With our innovative EcoStruxure™ approach, we provide an Active Energy Management™ Architecture from Power Plant to Plug™ to create intelligent energy management systems. These systems are simplified, save money, and reduce waste by guaranteeing compatibility between the management of power, process and machines, IT rooms, buildings, and security.





World-class selection, service, and support

Choose PowerPact with Micrologic circuit breakers for your circuit protection solutions and you know you are choosing a respected brand you can trust – Schneider Electric. Our comprehensive PowerPact with Micrologic product line of molded case circuit breakers complements our full range of Schneider Electric electrical distribution products for a single source, one-stop, total solution of the highest quality and durability.

With Schneider Electric, you can be sure you will always be served by the industry's most qualified consultants who will help you choose the products that are best suited for your company's specific applications. Our service and support after the sale is unmatched in the industry, with fast on-time delivery and quick response to questions or problems after installation. With more than 5,000 sales and distribution locations in over 130 countries throughout the world, you can be sure to find a full range of Schneider Electric products, no matter where you or your applications are located.

For more information visit www.schneider-electric.us/go/PowerPactML or call **1-888-778-2733**.

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30%

Schneider Electric can help deliver up to 30% energy savings in industrial and commercial buildings.