

# Power and Energy Metering Panelboard Solutions

A compact energy management solution



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## Monitor energy use and improve efficiency with a compact solution

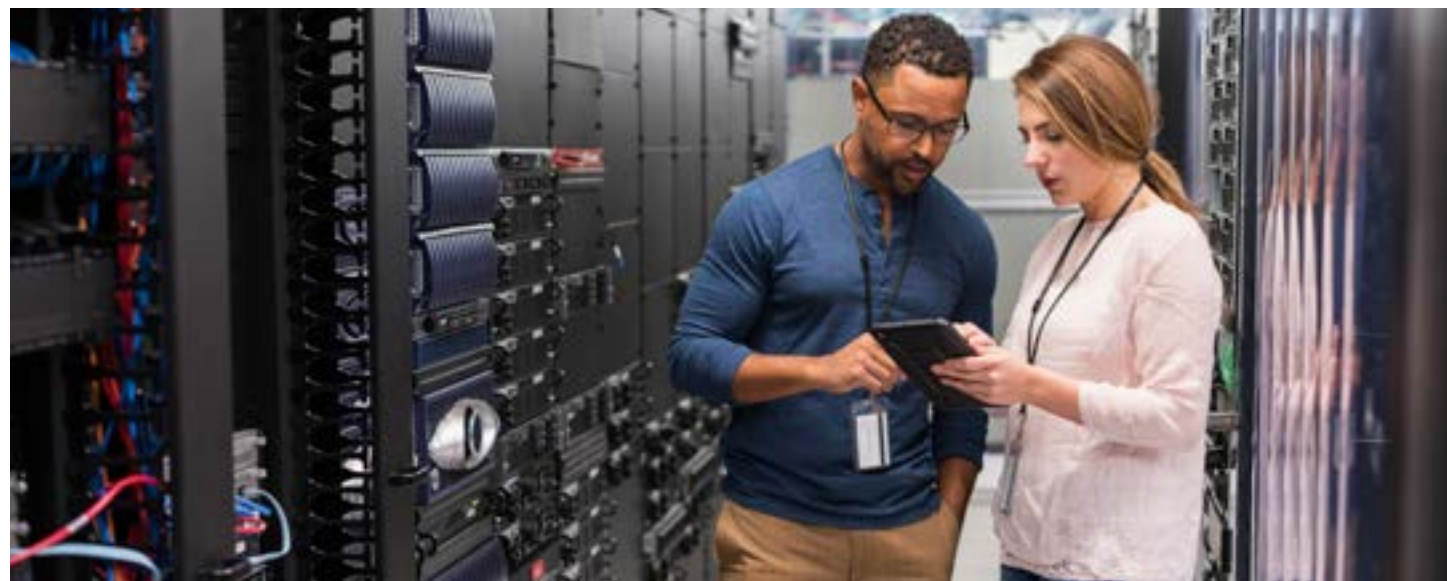
### Install a panelboard power and energy management solution

You can't change what you can't see. Installing a panelboard with an embedded energy meter allows you to easily start tracking energy use and work to improve energy efficiency. Plus, our panelboard solutions are compact, easy to install and use, and provide proven reliability and unrivaled monitoring capabilities. A panelboard with embedded energy meter eliminates the need to install additional equipment, saving space, time, and money. Installing an integrated energy metering panelboard solution not only allows you to reduce energy costs, but also meet required energy codes, support cost allocation and sub-billing, and improve operations.



### Applications

- Energy monitoring in building automation systems
- Energy management
- Electrical system monitoring
- Asset management
- Commercial submetering and tenant metering
- Cost allocation
- Renewable energy monitoring



## The advantage of integrated panelboard solutions from Schneider Electric

- Broadest range of factory assembled panelboard solutions with integrated energy metering, up to 1200A
- Bidirectional metering options for sources of renewable power
- Revenue grade accuracy
- Flexible integration options using pulse, Modbus or BACnet
- Compact, easy-to-install solutions

### Power and Energy Management Benefits

Enhance panelboards with an energy monitoring system:

- Gain power and energy data visibility
- Locate sources of energy waste
- Improve energy efficiency
- Meet sustainability goals
- Reduce costs and improve operations



Without energy improvements, the average firm faces a 20 - 30% energy loss

## NQ and NF Panelboards with Integrated Energy Meters

Lighting and power distribution plus energy management in one compact solution.

NQ and NF Panelboards are versatile panelboards that feature a wide selection of circuit breakers, accessories, and ready-to-install kits. Both panelboards can include integrated energy meters like the EM3555 meter or the EM3560 meter to provide energy monitoring and management capabilities.

### NQ Lighting Panelboards

With 100-600A bus capacities, and optional fingersafe IP2X construction, NQ panelboards offer compact, flexible protection for 10-150 A, 240 Vac maximum circuits.



#### Available Interiors

- 3P4W and 1P3W available
- Maximum 600 A Main Breaker or Main Lug available
- 18, 30, 42, 54, 72, and 84 circuits
- Main breaker or main lugs
- 10,000, 22,000, and 65,000 fully rated branches at 208Y/120 Vac

### NF Panelboard

The NF panelboard offers superior performance and application flexibility for commercial and industrial electrical systems up to 600Y/347 Vac. This versatile lighting and power distribution panelboard features 200% rated neutrals for non-linear loads. Available with integrated EM3500 series energy meters for a compact energy management solution.

#### Available Interiors

- 3P4W and 1P3W available
- Maximum 800 A Main Breaker or Main Lug available
- 18, 30, 42, 54, 66, and 84 circuits
- Main breaker (600 A) or main lug (800 A)
- Fully rated branches:
  - 480Y/277 Vac: 18,000 A, 35,000 A, and 65,000 A
  - 600Y/347 Vac: 14,000 A, 18,000 A, and 35,000 A



## Integrated Energy Meters for NQ/NF Panelboards

The EM3500 Series DIN Rail Meter combines exceptional performance and easy installation to deliver a cost-effective solution for power monitoring applications. It provides easy access to all measurement data. Pulse output and phase alarms provide versatility while data logging capability protects data in the event of a power failure.



### EM3555 Series Meter

Modbus enabled for system integration. Includes bi-directional monitoring feature designed expressly for renewable energy applications, allowing measurement of power imported from the utility grid as well as power exported from the renewable energy source (e.g. solar panels). In this way, a facility administrator can track all energy data, ensuring accuracy in billing and crediting.

### EM3560 Series Meter

BACnet enabled for simple connection to a building automation system. Includes additional pulse inputs that provide an easy way to incorporate simple flow sensors to track gas, water, steam, or other energy forms.

## Integral Metering Panelboards

### MVP Panelboard

Measurement and verification panelboards are an ideal fit for branch circuit metering to 100A applications. With a standard NF or NQ Panelboard interior, the MVP panelboard also includes individual branch circuit metering for detailed energy insight. Integral metering is accomplished using the PowerLogic™ branch circuit power meter, a highly accurate, full-featured, multi-branch circuit power meter that provides unrivalled low-current monitoring. Power distribution and protection plus detailed energy monitoring capabilities in one standard panelboard.

Available in a variety of panelboard configurations:

- NF Panelboards
- NQ Panelboards
- Powerlink™ Intelligent Panelboards



## I-Line Panelboard with Integrated Energy Meter

The I-Line® power distribution panelboard is the most versatile on the market and features 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. With smart cell, integrated smart systems, and embedded meters, an I-Line panelboard solution can provide a fully integrated and robust energy management solution for your facility.

### I-Line Panelboard 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.



## I-Line Smart Cell

The modular I-Line Smart Cell enables value-added solutions in I-Line panelboards in a variety of combinations. The space-saving unit fits into the I-Line bus in place of a breaker, and allows the I-Line panelboard to be transformed into a digital communication or metered electrical distribution solution.

I-Line Smart Cell is available with these solutions:

**Smart Systems Communications** facilitates Ethernet-connected electrical distribution devices to help you reduce downtime, manage energy use, and improve operational efficiency. Smart Systems features real-time monitoring of Square D PowerPact with Micrologic circuit breakers, as well as a variety of other power distribution and monitoring devices. It collects data in real time and can send configurable email alerts to allow remote monitoring.

### Integrated Energy Meters

The EM3555 with Modbus or EM3560 with BACnet can be included in an I-Line panelboard. The EM3500 series DIN Rail meters have ANSI 12.20 0.2% accuracy, are rated up to 600 Vac, and use Low-Voltage Current Transducers (LVCT). The EM3555 Modbus serial with logging includes bidirectional monitoring, real energy output, and phase loss alarm output while the EM3560 BACnet MS/TP with logging also includes pulse inputs for WAGES.



To learn how you can reduce energy costs and improve operations with a power and energy management solution, visit [www.schneider-electric.us/powerandenergy](http://www.schneider-electric.us/powerandenergy)

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