

Life Is On

**SQUARE D**<sup>™</sup>

by Schneider Electric



**INNOVATIVE DESIGN,  
SMART BUS TECHNOLOGY,  
AND SIMPLE INSTALLATION**

I-Line panelboards



# SMART: DESIGNED FOR EFFICIENT INSTALLATION

## Simple: Efficient installation process

### • I-Line breakers

- **Main lugs:** Fixed-mounted main lugs are isolated from the branch breaker section for enhanced safety. Lugs are front-removable for ease of wiring. Mechanically connected main lugs mount in the branch circuit area.
- **Main breakers:** Main lug interiors may be converted to main breaker interiors by simply back feeding a branch-mounted device. All Square D™ by Schneider Electric™ I-Line™ circuit breakers are UL® listed for use as a branch or back feed main device.
- **Branch breakers:** I-Line breakers can be mounted independently, providing greater flexibility in breaker placement and future scalability. Branches may also be mounted anywhere on the bus stack, unlike conventional panel designs.

- **Breaker connections:** I-Line breaker connections are “blow-on” type, similar to medium-voltage equipment designs. The magnetic forces developed from high-level fault conditions force the jaws together, resulting in a firmer, more secure grip on the bus bar for improved uptime. Heavy-duty jaw connectors are plated to ensure good conductivity at the contact.

- **Breaker mounting:** A screwdriver is all that’s needed to mount 15 A through 1,200 A I-Line circuit breakers, making installation fast and easy. Breakers ratchet firmly onto the bus stack with captive retaining screws to secure the circuit breaker to the mounting pan.

## Delivery that works for you

I-Line panelboards are available custom assembled at the factory or ready to install from local distributor stock. Either way, you get the same time-proven design in a complete line of boxes, interiors, fronts, breakers, and accessories on hand when you need them.

- Fast delivery from the factory, and get approval drawings with your Square D quote
- For even faster service, ask your distributor about in-stock delivery options
- Available with main lugs or main breakers through 1,200 A
- Rated 600 Vac and 250 Vdc maximum
- UL-listed SCCR, suitable for use on systems up to 200,000 RMS symmetrical amps when assembled with appropriately rated main or branch breakers

## Cabinets

I-Line panelboard boxes are constructed of code-gauge steel with wiring gutters in accordance with UL and NEMA® standards. Boxes are made of galvanized steel in varying widths, while box sizes have removable end walls. Panelboard fronts are finished with gray baked enamel electrodeposited over clean phosphatized steel and attached with trim screws.

## Solid neutral

The solid neutral assembly mounts at the same end of the interior as the main lugs or main breaker, or to the side for panels requiring ground fault. Branch neutral connections are provided for a wide variety of breaker combinations and suitable for copper or aluminum wires. The solid neutral is insulated but can be bonded to the enclosure with a full-capacity bonding strap for service entrance requirements.

## Accessories

There is a wide variety of accessories available for field or factory installation into I-Line panelboards.

- Equipment ground bars for termination of equipment grounding conductors.
- Specifically designed QO™ distribution panels mount in I-Line panelboards allowing less expensive QO 15 A – 30 A breakers to feed lighting or receptacle circuits from I-Line panelboards applied on 240 V systems.
- UL-listed box extensions for additional wire bending space.
- Blank fillers and extensions are required to fill unused circuit breaker mounting space in I-Line panelboards and switchboards. Specially engineered blank fillers are used with PowerPact™ with Micrologic™ breakers to ensure easy visibility for metered data on the LCD screen.





# SMART: BUILT-IN COMMUNICATION CAPABILITIES

## PowerPact with Micrologic I-Line breakers

PowerPact with Micrologic breakers provide a smart, safe, and simple solution to the I-Line portfolio. These circuit breakers are available as a main breaker or branch breaker in Standard, Ammeter, and Energy electronic trip options.

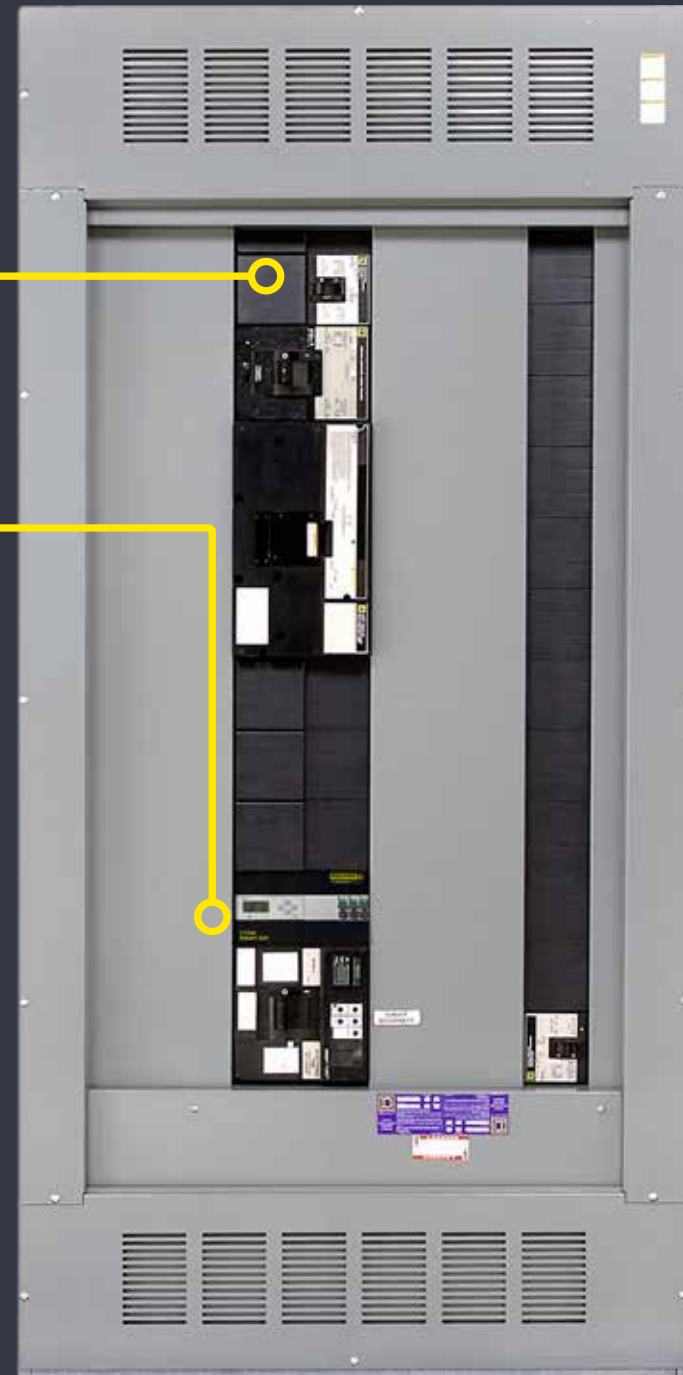
## Smart Systems for electrical distribution

Schneider Electric Smart Systems brings digital communications to Square D I-Line panelboards, providing robust communication to breakers for status, metering, and energy trending — both locally and remotely.

Smart Systems uses Ethernet connectivity to send and receive data from PowerPact with Micrologic molded case circuit breakers.

This energy and status data is essential for promoting uptime and energy monitoring in a wide variety of power applications. Preconfigured email alerts can warn of urgent building performance issues or simple circuit breaker maintenance events.

Embedded web pages give users the ability to monitor and troubleshoot electrical distribution panels with only a PC and a Web browser. Breaker data can also be integrated into enterprise-level software.



## I-LINE CIRCUIT BREAKERS — THE HEART OF ANY PANELBOARD

With a choice among thermal-magnetic circuit breakers and standard or advanced electronic trip unit circuit breakers, select the PowerPact circuit breakers that are right for the job.

### Thermal-magnetic molded case circuit breakers

- Most common design; automatically opens circuit when it's overloaded or short-circuited.
- Uses bimetals and electromagnetic assemblies to provide protection.
- Ideal for applications where overload conditions are concern.

### Standard electronic trip circuit breakers

- Provide long-time, short-time, and instantaneous trip protection.
- Allow the user to easily adjust settings of the circuit breaker per specific system requirements.

### Advanced electronic trip circuit breakers

- Add communications and power metering and monitoring capabilities.
- Trip units allow the circuit breaker to communicate over modbus serial and Ethernet systems. These advanced trip units gather power information, monitor events, and provide the ability for predictive maintenance. These actions can help you reduce electrical operating costs.

# SPACE-SAVING MODULE FOR VALUE-ADDED DIGITAL SOLUTIONS



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.

The space-saving design means neither the box extension nor a sidecar is required to add communications. The I-Line Smart Cell fits into the I-Line bus in place of a breaker, and a screwdriver is all that's needed to mount the modular device.

## The I-Line Smart Cell is available with these value-added solutions:

**Smart Systems Communications** facilitates 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, as well as a variety of other power distribution and monitoring devices.

The solution collects data in real time and can send configurable email alerts to allow remote monitoring. The data can be used to pinpoint and immediately address troublesome areas and help facilitate a predictive maintenance program.

Smart Systems includes the IFE Interface, which uses fast and reliable Ethernet connectivity to access breaker status, meter data, and energy trending, as well as send email alerts and control a breaker's on/off status (optional). The IFE works along with IFM serial interfaces to communicate with multiple circuit breakers.

**The EM3555 with modbus or EM3560 with BACnet™** can be easily and conveniently installed in an I-Line panelboard. The EM3500 series DIN Rail meters have ANSI 12.20 0.2% accuracy, 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. The EM3560 BACnet MS/TP with logging includes pulse inputs for WAGES.

**Energy Reduction Maintenance Setting (ERMS)** meets NEC 2014 code (Section 240.87) requirements to reduce arc energy during maintenance to improve electrical contractor safety. ERMS trip setting offers electronic adjustability for coordination.



EM3555 meter shown installed in I-Line. The larger I-Line Smart Cell is the new Smart Systems Communications.

Our mission is simple: To help electrical contractors deliver optimal solutions to their customers in an efficient, time-effective manner. We do that by offering innovative, world-class products of proven quality and reliability. You do business in a complex, ever-changing world. To stay competitive, you need to **THINK SQUARE D.**

**Learn more at:**



888-SquareD



Your authorized Square D Distributor



[www.schneider-electric.com/us](http://www.schneider-electric.com/us)

**Schneider Electric USA**

North American Division  
Boston One Campus  
800 Federal Street  
Andover, MA 01810  
888-SquareD (888-778-2733)  
[www.schneider-electric.com/us](http://www.schneider-electric.com/us)