

Life Is On



by Schneider Electric

Space-saving I-Line Smart Cell

Plug-on metering and communications
are as simple as adding a breaker.

schneider-electric.us/smartcell

Space-saving module for value-added digital solution

The modular Square D™ by Schneider Electric I-Line™ Smart Cell enables value-added solutions in I-Line panelboards in a variety of combinations. The space-saving, self-contained unit fits onto 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.

Modular design

- Space-saving design fits onto the I-Line bus in place of a circuit breaker,* eliminating the need for an I-Line panelboard box extension
- 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 to an I-Line panelboard anytime
- I-Line Smart Cell is available in factory-assembled panelboards as well as ready-to-install (RTI) for new and retrofit applications

Reduced exposure

- On models with Ethernet communications, front access makes checking breaker meter values and maintenance details quicker and safer than ever
- On meter models, branch level metering is integrated into the panelboard, no need to remove trim in order to access meter points

Integration of value-added devices

- Easily integrate digital solutions without increasing equipment footprint
- Reduce retrofit installation costs with a quick install I-Line Smart Cell meter options

*Uses 6 inches of bus space, the same as an L-frame circuit breaker.



PM5563 / PM8244 Meter



Modbus Serial Communications

The I-Line Smart Cell is available with a variety of 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 with the IFE (Interface Ethernet) uses fast and reliable Ethernet connectivity to access breaker status, meter data, and energy trending. The IFE works along with IFM (Interface Modbus) serial interfaces to communicate with multiple circuit breakers in the same panelboard.



Ethernet Modbus
TCP/IP Communications

The **I-Line Smart Cell** can be included in your Square D I-Line factory-assembled equipment or ordered individually for retrofit or RTI installation.

Factory-assembled equipment: The I-Line Smart Cell can be configured via the distributor's product configuration tool and includes all necessary components. (For example: Ethernet interface for circuit breaker communication, CTs or LVCTs for metering, and all associated connectors).

Field installation (Retrofit or RTI): Individual I-Line Smart Cells can be ordered using the catalog number configurations below. All configurations include required disconnects, power supplies, and connections. For some applications, additional components will be required (IFMs for additional circuit breaker communications and CTs or LVCTs for metering solutions). Additional components may be ordered separately. See the tables below for configuration and catalog number information.

The I-Line Smart Cell assemblies listed are intended for use in HCP, HCPSU, and HCR-U I-Line panelboards.

Catalog number	Voltage	Feature	Additional circuit breaker notes
ICW*2222E1M1	120 VAC – 240 VAC	One IFE Ethernet modbus TCP interface with basic web pages	Contains one IFE and one IFM, with space for five additional IFMs (see below for IFM ordering information)
ICW*2422E1M1	277 VAC – 480 VAC		
ICW*2222M01	120 VAC – 240 VAC	One IFM modbus serial interface; serial communication only	Contains one IFM, optional eight additional IFMs, for a total of nine monitored circuit breakers (see below for IFM ordering information)
ICW*2422M01	277 VAC – 480 VAC		
ICW*263X3555	120 VAC – 600 VAC	EM3555 meter	Contains one power meter (LVCTs or CTs ordered separately)
ICW*263X3560	120 VAC – 600 VAC	EM3560 meter	
ICW*263X5563	120 VAC – 600 VAC	PM5563 meter	
ICW*263X8244	120 VAC – 600 VAC	PM8244 meter	

For additional configurations, contact your Square D distributor.

* for Left side mounting add L in fourth position (Bottom Feed); for right side mounting add R in fourth position (Top Feed)

Power Monitoring with the EM3555 (Modbus) or EM3560 (BACnet) meter can be easily and conveniently installed in an I-Line panelboard. The EM3500 series DIN rail meters have ANSI 12.20 0.5% accuracy, rated up to 600 VAC, and use LVCTs. 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 and reduces arc energy during maintenance to improve electrical personnel safety. ERMS trip setting offers electronic adjustability for coordination (factory-assembled only).



EM3555 / EM3560 Meter



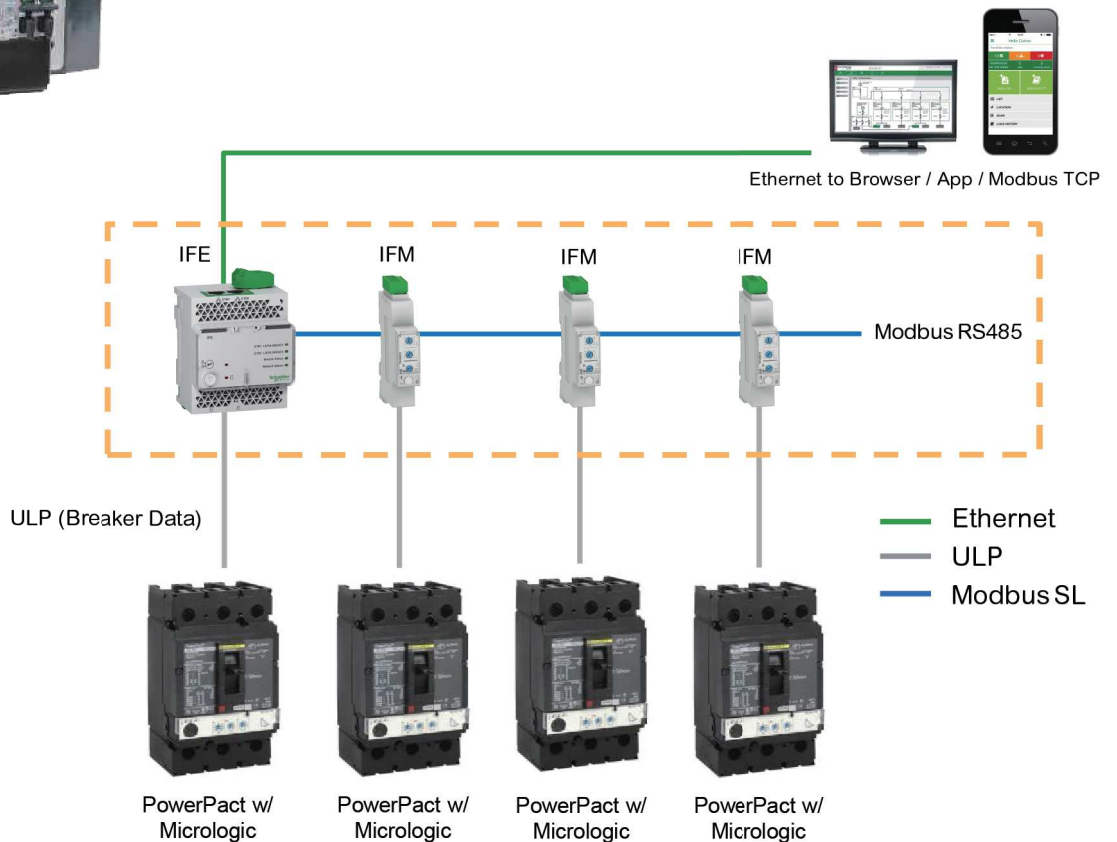
Energy Reduction Maintenance Setting

Communicating with multiple circuit breakers



Ethernet Modbus TCP/IP Communications

One IFE and up to 6 IFMs are housed in the Smart Cell with interface for Ethernet



For addition to existing or retrofit applications

I-Line Smart Cells equipped with an IFE or IFM have space for additional IFMs. If the I-Line Smart Cell selected is:

- IFE model (Ethernet comms) — includes 1 IFE and 1 IFM; up to five additional IFMs may be added (for seven total breaker connections)
- IFM model (serial comms) — Eight additional IFMs may be added (for up to nine total breaker connections)

If additional IFMs are required in a panelboard, more than one I-Line Smart Cell may be added if space is available.

Each additional communicating circuit breaker will require the following components:

- STRV00211 IFM module
- TRV00217 stacking accessory (ships in pack of 10)
- TRV00880 ULP line terminator (ships in pack of 10)
- Ethernet patch cable
*L-com TRD855SCR-1**
- Cat 5 coupler for connector plate.
*CommScope 2111122-1 SL Series Cat 5 Coupler**

* Not included with Smart Cell. Available from your local distributor.
For additional information please consult instruction bulletin # NHA999570.

For retrofit applications, I-Line Smart Cells with metering capabilities require the installation of up to 3 or 4 current transformers. CTs are not included with the I-Line Smart Cell and should be purchased separately.*

Low Voltage (Split Core) Current Transformers for EM3555/EM3560 Meters

Up to 3 required per meter based on panelboard configuration.

Catalog Number	Amps	Internal Diameter (in.)
LVCT00050S	50 A	.39 x .43
LVCT00102S	100 A	.63 x .79
LVCT00202S	200 A	1.2 x 3.9
LVCT00302S	300 A	1.2 x 3.9
LVCT00403S	400 A	2.4 x 5.2
LVCT00603S	600 A	2.4 x 5.2

Current Transformers (Split Core) for PM5563 / PM5563 / PM8244 Meters

5 Amp Secondary CTs. Up to 3 or 4 are required per meter based on panelboard configuration.

Catalog Number	Amps	Internal Diameter (in.)
3090SCCT022	200 A	1.25 x 1.51
3090SCCT032	300 A	1.25 x 1.51
3090SCCT043	400 A	2.45 x 2.89
3090SCCT063	600 A	2.45 x 2.89
3090SCCT083	800 A	2.45 x 2.89
3090SCCT084	800 A	2.45 x 5.05
3090SCCT124	1200 A	2.45 x 5.50

* NOTE: Factory assembled I-Line panelboards with I-Line Smart Cell metering include the necessary CTs.

For more information, ask your authorized Schneider Electric Distributor, visit schneider-electric.com/us, or call **888-SQUARED**.

Schneider Electric USA, Inc.

Boston One Campus,
800 Federal St.
Andover, MA 01810
888-778-2733

schneider-electric.us/smartcell

June 2017
Document Number 2700HO1501 Rev 6/2017

This document has been
printed on recycled paper 