

**Integrated Power and Control Solutions  
(IPaCS) Equipment**



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## Integrated Power and Control Solutions Equipment Overview

For over 30 years, the Schneider Electric Integrated Power and Control Solutions (IPaCS™) business has been providing integrated equipment solutions for retail construction, commercial, and industrial projects. The Square D™ brand IPaCS family of integrated equipment combines electrical distribution, building controls, and automation into a single, factory-assembled and pre-wired enclosure/lineup. Our innovative, cost-effective, integrated solutions save valuable floor space, shorten construction cycle times, and reduce installation and material handling costs.

### Modular Panelboard System—Pre-Engineered Solution

The Modular Panelboard System (MPS) is tailored to customer specifications and may include panels, transformers, and lighting control equipment. Special Powerlink™ lighting control and column-width panel interiors are available. Additional options include power and control cable wiring, contactors, terminal blocks, surge protective devices (SPDs), equipment spaces, and power metering/monitoring solutions. Seismically qualified MPS sections are also available.

Tailored to customer specifications, MPS sections are:

- 86 in. (2184 mm) high,
- 9.5 in. (241 mm) deep, and
- vary in width depending on customer specifications

### Integrated Power Center—Custom-Designed Solution

For more complex applications, the Integrated Power Center (IPC) allows for the integration of a variety of components, including electrical distribution equipment, HVAC controls, lighting controls, power quality and power conditioning products, SPDs, building management systems and power metering/monitoring solutions. As with all IPaCS integrated solutions, the IPC is designed to meet applicable codes and standards and is available as seismically qualified. Factory-assembled, pre-wired (based on shipping splits), and tested in a controlled environment, IPC sections are:

- 84 in. (2134 mm) high,
- 10.5 in. (267 mm) deep, and
- vary in width depending on customer specifications

### Standby Power Connection Solutions—UL Listed

The new family of Standby Power Connection Solutions are designed, tested, manufactured and listed to the UL standards providing you with a reliable solution to quickly and safely connect to a portable generator for standby power. The SPQ cam-lock (SPQCL) tap box design incorporates cam-lock receptacles for generator connection and the capabilities to be wired back to the standby power disconnect in the electrical distribution equipment. The SPQ lug-lug (SPQTB) tap box provides the capabilities to connect to a portable generator and the generator breaker cables using mechanical lugs in lieu of the cam-lock connectors.

The SPQ Cam-Lock Box is:

- 36 in. (915 mm) high
- 30 in. (762 mm) wide
- 16 in. (407 mm) deep

The SPQ Lug-Lug Box is:

- 36 in. (915 mm) high
- 30 in. (762 mm) wide
- 13 in. (330 mm) deep

### Submetering Integrated Power Center

The Submetering Integrated Power Center (IPC) is an ideal solution for multi-tenant or departmental metering applications within office towers, condominiums, apartment buildings, shopping centers, and other multi-user environments. The Submetering IPC combines the panel with breakers, the PowerLogic E4800 multi-circuit energy meter and the associated CTs in a factory-assembled and pre-wired solution saving significant space and on-site installation time. Submetering IPC sections are:

- 10.5 in. (267 mm) deep, and
- vary in width and height depending on the application

### Integrated Power Center 2

The newest addition to the family of Integrated solutions, the Integrated Power Center 2 (IPC2™) provides maximum flexibility to meet customers' specifications. Features include those found in the IPC and are provided in a free-standing enclosure that can be front and rear aligned when transformers are included. The IPC2 family is available as seismically-qualified. Enclosure options include NEMA 1, NEMA 1 with driphood and NEMA 3R. IPC2 sections are:

- 91.5 in. (2324 mm) high, and
- vary in width and depth depending on customer specifications

**NOTE:** Additional depths are available. Contact the Schneider Electric Integrated Power and Control Solutions business (1-800-868-9662) for more information.)

### Integrated Power Center 2 Transformer Combo

Ideally suited for projects having both 480Y/277V and 208Y/120V requirements. Available as a stand-alone solution or can be incorporated into an MPS, IPC or IPC2 lineup. The standard 42" wide x 24" deep footprint will decrease space requirements by 40% or more. A typical IPC2 Transformer Combo includes two panels in the upper cells and a transformer in the bottom cell. Other upper cell options include contactors, individually mounted circuit breakers, ATS's, equipment spaces and power metering/monitoring solutions. The IPC2 Transformer Combo is available as seismically qualified. Enclosure options include NEMA 1, NEMA 1 with driphood and NEMA 3R. IPC2 Transformer Combo sections are:

- 91.5 in. (2324 mm) high, and
- vary in width and depth depending on the transformer kVA

Additional savings are realized on installation, material costs and material handling, as shown in the table below.

**Table 10.1: IPC2 Transformer Combo—Estimated Savings ▲**

	Stick-Built	Transformer Combo	Savings Realized
Estimated Installation Hours	26–32	3–6	23–26
Materials	Associated pipe, wire and fittings	—	Associated pipe, wire and fittings
No. of Pieces Handled	20–30	1	19–29

▲ Based on an NF 480 V panel, 75 kVA transformer, NQ 240 V panel installation.

The IPC2 Transformer Combo has been recognized by the electrical industry by winning the following awards:

- 2006 INNOVATION Award given by the *Electrical Contracting Products* magazine
- 2006 Product of the Year Gold Medal Award given by the *Consulting/Specifying Engineer* magazine

## Modular Panelboard System



**Modular Panelboard System**

The pre-engineered Modular Panelboard System (MPS) bundles electrical distribution equipment into a single factory-assembled and wired integrated system. This approach replaces the traditional method of independently mounting each panelboard and lighting control system. MPS allows for the integration of a variety of components including:

- Panelboards: I-Line, NF, NQ, and Column-width
- Surge Suppression: SPD integral to panel and/or separately mounted
- Lighting Controls: Powerlink™ or lighting contactors
- Monitoring/Metering: Powerlogic™ power meters, circuit monitors, branch circuit monitoring, and system display meters

Equipment spaces including factory-installed lighting contactors are available in three configurations:

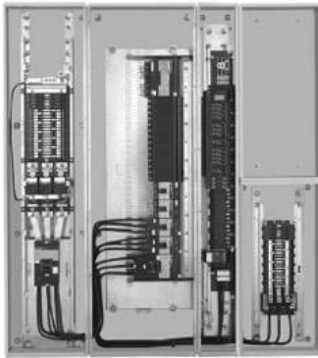
1. Unwired: Mounted in cell only
2. Line side wired: Line side of each pole is wired to a branch circuit breaker
3. Fully wired: Line side of each pole is wired to a branch circuit breaker, load side of each pole is wired to a terminal block

Built on a panelboard platform, Modular Panelboard System sections are NEMA 1-rated and meet the requirements of UL 67. Individual MPS configurations include panel sections in full-height, stacked or side-by-side arrangements. Individual sections measure:

- 86 in. (2184 mm) high
- 10–44 in. (254–1118 mm) wide
- 9.5 in. (241 mm) deep

Typical applications for MPS equipment include:

- Restaurants / Food service
- Office buildings / Public buildings
- Warehouses
- Schools / Universities



**MPS Interior**

## Integrated Power Center

The custom-designed Integrated Power Center (IPC) combines electrical distribution equipment and building management controls into a single factory-assembled and wired integrated system. IPC has much greater design flexibility for producing a fully customized solution integrating a variety of distribution and control components, including:

- Panelboards: I-Line, NF, NQ, and Column-width
- Surge Suppression: SPD integral to panel and/or separately mounted
- Lighting Controls: Powerlink™ or lighting contactors
- Monitoring/Metering: Powerlogic™ power meters, circuit monitors, branch circuit monitoring, and system display meters
- Power quality and power conditioning
- Building automation
- HVAC controls

Equipment spaces including factory-installed lighting contactors are available in three configurations:

1. Unwired: Mounted in cell only
2. Line side wired: Line side of each pole is wired to a branch circuit breaker
3. Fully wired: Line side of each pole is wired to a branch circuit breaker, load side of each pole is wired to a terminal block

Integrated Power Centers are NEMA 1 rated and meet the requirements of UL 891. As with all integrated solutions, IPCs are shipped to the site fully assembled, completely pre-tested and ready-to-install. Individual IPC configurations include panel sections in full height, stacked, or side-by-side arrangements. IPC sections measure:

- 84 in. (2134 mm) High
- 10.25 (260 mm) Deep
- Widths vary, depending upon customer specifications

Typical applications for IPC equipment include:

- Retail stores / Grocery stores
- Office buildings / Public buildings
- Shopping malls / Strip malls
- Schools/Universities
- Restaurants / Food service
- Hotels/Motels
- Warehouses
- Equipment rooms



**Integrated Power Center**



**IPC Interior**

## MPS and IPC Layout, Lead Time, and Pricing

Contact your local Schneider Electric representative or distributor.

## MPS and IPC Shipping

MPS and IPC lineups are shipped factory-assembled and pre-wired. Customers may specify single- or multiple-section shipping splits (some limitations apply). In addition, lineups may be ordered with or without factory-installed power cables.

*New!*

**Standby Power Connection Solutions**

The Standby Power Quick-Connect (SPQ) Tap Box provides a reliable solution to quickly and safely connect to a portable standby power generator. Two versions of the SPQ Tap Box have been designed and tested to the required UL standard and offer a wider range of solutions for our customers. All SPQ Tap Boxes are NEMA 3R-rated.



SPQ Cam-Lock Tap Box

**SPQ Cam-Lock Tap Box**

- UL listed - UL 1008 SB
  - NEMA Type 3R enclosure (can be used for NEMA Type 1 installations)
  - Lockable door for safety and control access
  - Mechanical lugs to standby power disconnect
  - Color-coded cam-lock connectors for generator connection
  - Hinged bottom access door for cam-lock connection
  - Barriers over mechanical lugs for safety
  - Application:
    - 400 A and 600 A available
    - 240 V and 480 V versions available
    - Three-phase + neutral + ground
- **SPQCL204RS** – 400 A, 208Y/120 V 3-phase, 4-wire + ground wire
  - **SPQCL404RS** – 400 A, 480Y/277 V 3-phase, 4-wire + ground wire
  - **SPQCL206RS** – 600 A, 208Y/120 V 3-phase, 4-wire + ground wire
  - **SPQCL406RS** – 600 A, 480Y/277 V 3-phase, 4-wire + ground wire



SPQ Lug-Lug Tap Box

**SPQ Lug-Lug Tap Box**

- UL listed—UL 1773 (cUL listed also)
  - NEMA Type 3R enclosure (can be used for NEMA Type 1 installations)
  - Lockable door for safety and control access
  - Mechanical lugs to standby power disconnect
  - Generator connection lugs rated for Type W cable
  - Application:
    - 400 A and 800 A available
    - 600 V maximum
    - Three-phase + neutral + ground
- **SPQTB604RS** – 400 A, 600 V max. 3-phase, 4-wire + ground wire
  - **SPQTB608RS** – 800 A, 600 V max. 3-phase, 4-wire + ground wire

*New!*

**Submetering Integrated Power Center**

The Submetering Integrated Power Center (IPC) is an ideal solution for multi-tenant or departmental metering applications. It combines the ability to meter multiple feeder breakers inside a pre-wired enclosure. The Submetering IPC offers significant space and labor savings by replacing individually enclosed, mounted, and wired panels and metering components and providing an integrated solution in one enclosure/lineup including:

- Panelboards
- PowerLogic™ E4800 Multi-Circuit Energy Meters and associated CTs
- Surge Suppression
- Factory-installed wiring between components

Submetering IPC width and height dimensions vary depending on the application. All sections are 10.5 in. (266.7 mm) deep.

Typical applications for Submetering IPC equipment include:

- Office towers
- Condominiums
- Apartment buildings
- Shopping centers
- Other multi-user environments
- Configurations with 2-PowerLogic E4800 meters plus Ethernet switch when required based on the number of metered points



Submetering Integrated Power Center

**Integrated Power Center 2**

The Integrated Power Center 2 (IPC2™) provides maximum design flexibility. In addition to the features found in the Integrated Power Center (IPC), IPC2 lineups are free-standing enclosures that can be front and rear-aligned. IPC2 has the ability to incorporate:

- Panelboards: I-Line, NF, and NQ
- Transformers: 300 Kva (max), EE
  - K-rated and HMT also available; may limit max kVA size of transformer
- Individually mounted circuit breakers
- Surge Suppression: SPD integral to panel and/or separately mounted
- Automatic Transfer Switch: Open type 400 A 3-pole maximum including a variety of options
- Lighting Controls: Powerlink™ or lighting contactors
- PowerLogic™ Monitoring / Metering: power meters, circuit monitors, branch circuit monitoring, and system display meters
- Building Management Systems

As a stand-alone solution, the IPC2 family provides the flexibility to enter and/or exit the section from either the top or bottom. IPC2 is offered in a variety of widths and depths:

- 24–48 in. (610–1219 mm) Wide
- 24–36 in. (610–915 mm) Deep

Typical applications for IPC2 equipment include:

- Schools/Universities
- Office buildings
- Data centers
- Industrial facilities
- Casinos
- Hotels
- Any project with panels and transformers

**IPC2 Layout, Lead Time, and Pricing**

Contact your local Schneider Electric representative or distributor.

**IPC2 Shipping**

IPC2 lineups are shipped fully assembled and ready-to-install. Customers may specify single- or multiple-section shipping splits (some limitations apply). In addition, lineups may be ordered with or without factory-installed power cables.



Integrated Power Center 2

10 INTEGRATED POWER AND CONTROL SOLUTIONS (IPACS)



**IPC2 Transformer Combo**

**Integrated Power Center 2 Transformer Combo**

For projects having both 480Y/277 V and 208Y/120 V requirements, the Integrated Power Center 2 (IPC2) Transformer Combo is the perfect solution. One of the most popular members of the IPC2 product family, the IPC2 Transformer Combo has been recognized by the industry multiple times for its innovative design.

As a stand-alone solution, the IPC2 Transformer Combo is appropriate when panelboards and transformers are installed in close proximity to each other. It provides the flexibility to enter and/or exit the section from either the top or the bottom. Catalog numbers have been created for some of the more typical configurations (see Table 10.2).

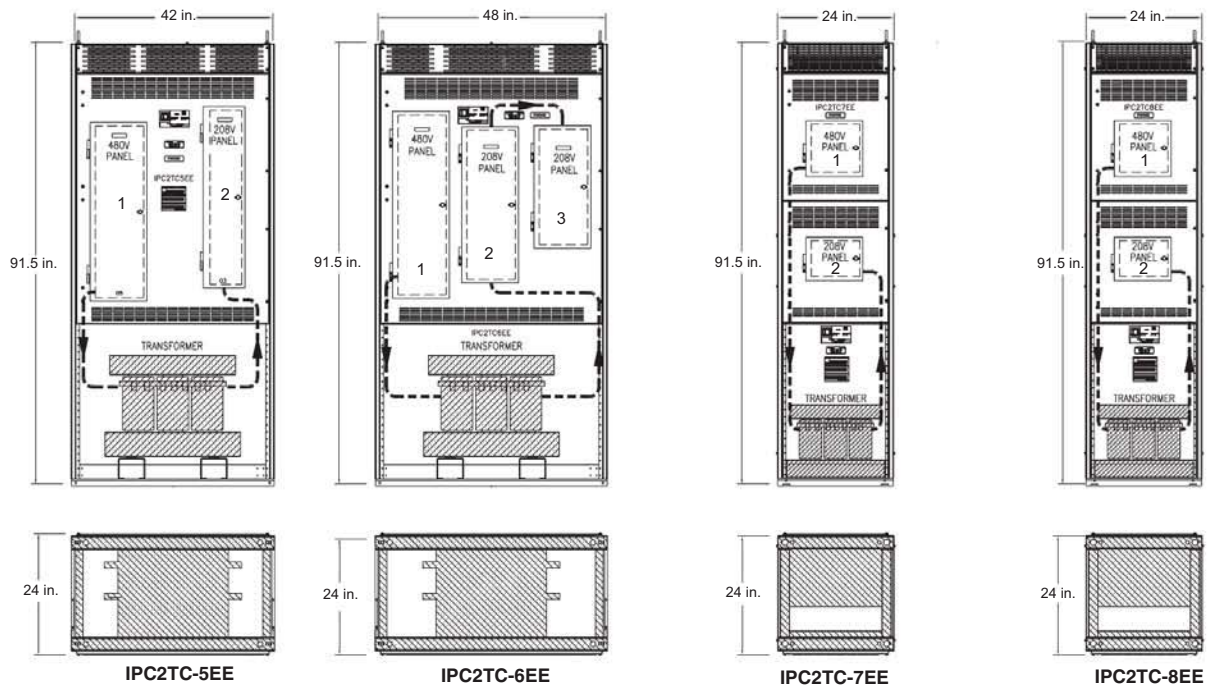
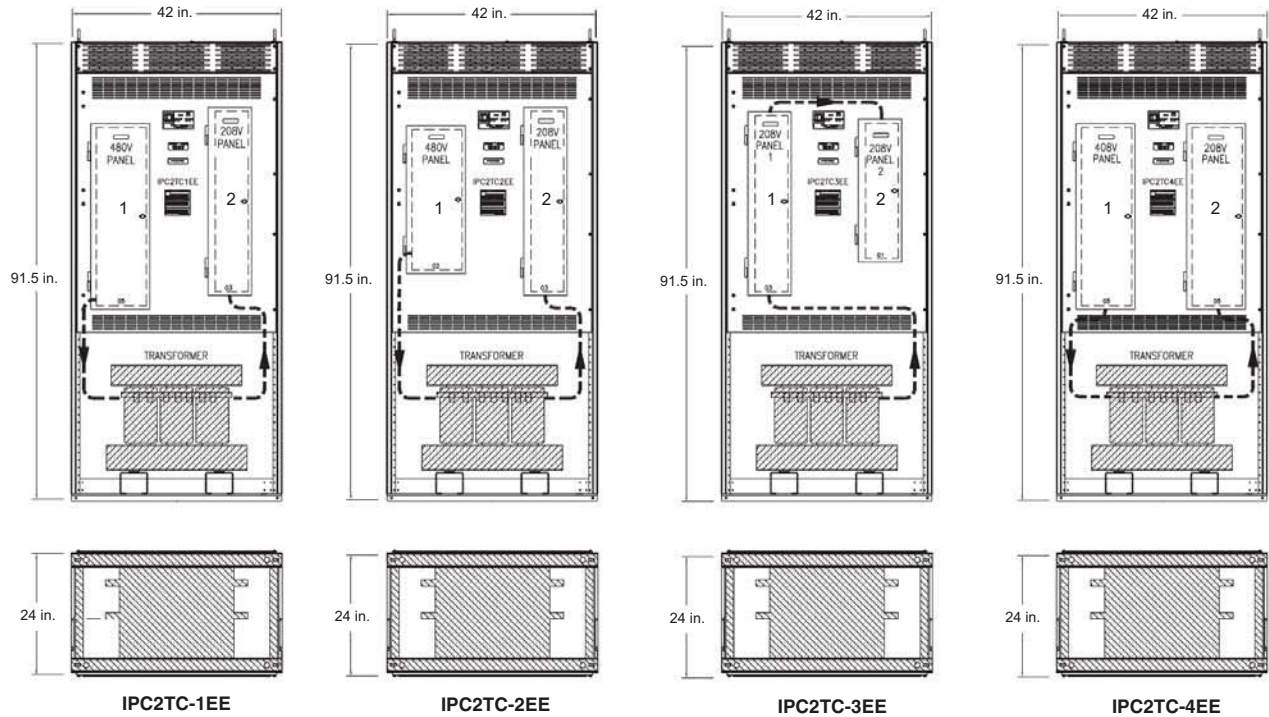
All IPC2 sections can be close-coupled to QED switchboard, MPS, and IPC products. Enclosure options for IPC2 include NEMA 1, NEMA 1 with driphood, and NEMA 3R-rated, and all meet the requirements of UL 891. These sections are also seismically qualified to meet IBC and ASCE7 requirements.

**Table 10.2: IPC2 Transformer Combo Merchandise Configuration Specifications**

Catalog No. IPC2TC-1EE			
NF Panelboard	NQ Panelboard	Transformer	
<ul style="list-style-type: none"> <li>480Y/277 V 3Ø 4W</li> <li>225/3 MB 18 k AIC</li> <li>1-125/3 (Transformer)</li> <li>39-1PSO</li> <li>Copper Bus / Ground Bus</li> <li>SUSE</li> </ul>	<ul style="list-style-type: none"> <li>208Y/120 V 3Ø 4W</li> <li>225/3 MB 10 k AIC</li> <li>42-1PSO</li> <li>Copper Bus / Ground Bus</li> </ul>	<ul style="list-style-type: none"> <li>480 V-208Y/120 V 3Ø</li> <li>75 kVA</li> <li>Energy Efficient transformers in compliance with the 2005 Energy Act</li> <li>150 °C Temp Rise</li> <li>Aluminum Windings</li> <li>6-2.5% Taps; 2+ 4-</li> </ul>	
Catalog No. IPC2TC-2EE			
NF Panelboard	NQ Panelboard	Transformer	
<ul style="list-style-type: none"> <li>480Y/277 V 3Ø 4W</li> <li>400 A MLO 18 k AIC</li> <li>1-125/3 (Transformer)</li> <li>39-1PSO</li> <li>Copper Bus / Ground Bus</li> <li>SUSE</li> </ul>	<ul style="list-style-type: none"> <li>208Y/120 V 3Ø 4W</li> <li>225/3 MB 10 k AIC</li> <li>42-1PSO</li> <li>Copper Bus / Ground Bus</li> </ul>	<ul style="list-style-type: none"> <li>480 V-208Y/120 V 3Ø</li> <li>75 kVA</li> <li>Energy Efficient transformers in compliance with the 2005 Energy Act</li> <li>150 °C Temp Rise</li> <li>Aluminum Windings</li> <li>6-2.5% Taps; 2+ 4-</li> </ul>	
Catalog No. IPC2TC-3EE			
NQ Panelboard	NQ Panelboard	Transformer	
<ul style="list-style-type: none"> <li>208Y/120 V 3Ø 4W</li> <li>225/3 MB 10 k AIC</li> <li>42-1PSO</li> <li>Copper Bus / Ground Bus</li> <li>FT Lugs</li> </ul>	<ul style="list-style-type: none"> <li>208Y/120 V 3Ø 4W</li> <li>225 A MLO 10 k AIC</li> <li>42-1PSO</li> <li>Copper Bus / Ground Bus</li> </ul>	<ul style="list-style-type: none"> <li>480 V-208Y/120 V 3Ø</li> <li>75 kVA</li> <li>Energy Efficient transformers in compliance with the 2005 Energy Act</li> <li>150 °C Temp Rise</li> <li>Aluminum Windings</li> <li>6-2.5% Taps; 2+ 4-</li> </ul>	
Catalog No. IPC2TC-4EE			
NF Panelboard	NQ Panelboard	Transformer	
<ul style="list-style-type: none"> <li>480Y/277 V 3Ø 4W</li> <li>400 A MLO 18 k AIC</li> <li>1-175/3 (Transformer)</li> <li>30-1PSO</li> <li>Copper Bus / Ground Bus</li> <li>SUSE</li> </ul>	<ul style="list-style-type: none"> <li>208Y/120 V 3Ø 4W</li> <li>400/3 MB 10 k AIC</li> <li>42-1PSO</li> <li>Copper Bus / Ground Bus</li> </ul>	<ul style="list-style-type: none"> <li>480 V-208Y/120 V 3Ø</li> <li>112½ kVA</li> <li>Energy Efficient transformers in compliance with the 2005 Energy Act</li> <li>150 °C Temp Rise</li> <li>Aluminum Windings</li> <li>6-2.5% Taps; 2+ 4-</li> </ul>	
Catalog No. IPC2TC-5EE			
NF Panelboard	NQ Panelboard	Transformer	
<ul style="list-style-type: none"> <li>480Y/277 V 3Ø 4W</li> <li>400/3 MB 18k AIC</li> <li>1-125/3 (Transformer)</li> <li>27-1PSO</li> <li>Copper Bus/Ground Bus</li> <li>SUSE</li> </ul>	<ul style="list-style-type: none"> <li>208Y/120V 3Ø 4W</li> <li>225/3 MB 10k AIC</li> <li>42-1PSO</li> <li>Copper Bus/Ground Bus</li> </ul>	<ul style="list-style-type: none"> <li>480V-208Y/120V 3Ø</li> <li>75kVA</li> <li>Energy Efficient transformers in compliance with the 2005 Energy Act</li> <li>150 °C Temp Rise</li> <li>Aluminum Windings</li> <li>6-2.5% Taps; 2+ 4-</li> </ul>	
Catalog No. IPC2TC-6EE			
NF Panelboard	NQ Panelboard	NQ Panelboard	Transformer
<ul style="list-style-type: none"> <li>480Y/277 V 3Ø 4W</li> <li>225/3 MB 18 k AIC</li> <li>1-125/3 (Transformer)</li> <li>39-1PSO</li> <li>Copper Bus / Ground Bus</li> <li>SUSE</li> </ul>	<ul style="list-style-type: none"> <li>208Y/120 V 3Ø 4W</li> <li>225/3 MB 10 k AIC</li> <li>42-1PSO</li> <li>Copper Bus / Ground Bus</li> <li>FT Lugs</li> </ul>	<ul style="list-style-type: none"> <li>208Y/120 V 3Ø 4W</li> <li>225 A MLO 10k AIC</li> <li>42-1PSO</li> <li>Copper Bus / Ground Bus</li> </ul>	<ul style="list-style-type: none"> <li>480 V-208Y/120 V 3Ø</li> <li>75 kVA</li> <li>Energy Efficient transformers in compliance with the 2005 Energy Act</li> <li>150 °C Temp Rise</li> <li>Aluminum Windings</li> <li>6-2.5% Taps; 2+ 4-</li> </ul>
Catalog No. IPC2TC-7EE			
NF Panelboard	NQ Panelboard	Transformer	
<ul style="list-style-type: none"> <li>480Y/277 V 3Ø 4W</li> <li>125 A MLO 18 k AIC</li> <li>1-60/3 (Transformer)</li> <li>15-1PSO</li> <li>Copper Bus / Ground Bus</li> <li>SUSE</li> </ul>	<ul style="list-style-type: none"> <li>208Y/120 V 3Ø 4W</li> <li>125/3 MB 10 k AIC</li> <li>12-1PSO</li> <li>Copper Bus / Ground Bus</li> </ul>	<ul style="list-style-type: none"> <li>480 V-208Y/120 V 3Ø</li> <li>45 kVA</li> <li>Energy Efficient transformers in compliance with the 2005 Energy Act</li> <li>150 °C Temp Rise</li> <li>Aluminum Windings</li> <li>6-2.5% Taps; 2+ 4-</li> </ul>	
Catalog No. IPC2TC-8EE			
NF Panelboard	NQ Panelboard	Transformer	
<ul style="list-style-type: none"> <li>480Y/277 V 3Ø 4W</li> <li>125 A MLO 18 k AIC</li> <li>1-40/3 (Transformer)</li> <li>15-1PSO</li> <li>Copper Bus / Ground Bus</li> <li>SUSE</li> </ul>	<ul style="list-style-type: none"> <li>208Y/120 V 3Ø 4W</li> <li>100/3 MB 10 k AIC</li> <li>15-1PSO</li> <li>Copper Bus / Ground Bus</li> </ul>	<ul style="list-style-type: none"> <li>480 V-208Y/120 V 3Ø</li> <li>30 kVA</li> <li>Energy Efficient transformers in compliance with the 2005 Energy Act</li> <li>150 °C Temp Rise</li> <li>Aluminum Windings</li> <li>6-2.5% Taps; 2+ 4-</li> </ul>	

**Integrated Power Center 2 Transformer Combo Standard Merchandise Configurations**

The IPC2™ Transformer Combo is available in eight standard merchandise configurations, as shown below (additional configurations are available; contact your local Schneider Electric representative or distributor).



**NOTE:** All sections have both top and bottom conduit entry/exit points.

10 INTEGRATED POWER AND CONTROL SOLUTIONS (IPaCS)