

## PRODUCT SHEET



### Type PC **e-Rated**® Power Center™ with Integrated Circuit Breakers and a Type TPM Transformer Performance Meter™

#### General Product Description

As an alternative to conventional distribution systems, which typically include a distribution transformer with primary and/or secondary panelboards, or a legacy power distribution unit, Type PC **e-Rated**® Power Centers™ provide a compact, cost-effective, ultra-efficient, load compatible power source that can be closely matched to a designer's specific requirements. Type PC Power Centers™ include integrated primary and/or secondary circuit breakers and Type TPM Transformer Performance Meters™, which determine the transformer's losses and efficiency, and provide a detailed load analysis.

#### Features and Benefits

##### Reduced Footprint

- Compact designs conserve valuable floor space
- Enclosures with side mounted circuit breakers are identical to standard transformer enclosures of the same kVA rating or one size up
- Enclosures with front mounted circuit breakers are identical to standard transformer enclosures with the same kVA rating in width and depth, but extended in height to accommodate the circuit breakers
- The maximum number of circuit breakers that can be accommodated in a standard enclosure is dependent on the transformer's rating and enclosure size
- Type PC Power Centers reduce a standard installation footprint, which includes a primary and secondary panelboard, by up to 58% (45kVA Power Center at 24.5" vs. conventional installation at 59")



Type PC Power Center™  
with three Side Mounted Feeder Circuit Breakers



#### Simplified Installation

- UL Listed and CSA Certified to meet safety requirements for hassle free inspections and building code approvals
- Eliminates the material and labor cost of installing a primary panel and secondary feeder breaker panel
- True front access for easy installation and maintenance
- NEC® 410.10A compliant, factory-installed ground bus
- Top/bottom cable entry allows the Power Center to be positioned near walls or other equipment, requiring less space and service clearances than similarly rated PDUs.
- Includes Input & Ground Compression Lugs

#### Power Source Flexibility

- All ratings between 15kVA and 1500kVA
- Provides a power source that can be closely matched to a designer's specific requirements
- Configurable and customizable to meet specific customer needs, with the shortest lead-times in the industry
- A wide selection of ultra-efficient Distribution Transformer and TransFilter™ types assures distribution system efficiency and load compatibility and efficiency

#### Transformer Performance Meter

- An Integrated Type TPM Transformer Performance Meter™ is available at no additional cost when specified
- The Type TPM Transformer Performance Meter's™ separate enclosure allows for its reprogramming, modification or replacement without the need to de-energize the transformer

#### Options

- Optional IR Scan Window
- Designs can be optimized to limit inrush, short-circuit and arc flash levels

#### Additional Financial Benefits

- Labor cost reduced by 35%
- Provides the most attractive payback & ROI in the industry
- Reduces energy & lifecycle costs for both new construction and retrofits (when replacing existing PDUs)
- To increase transformer efficiency, the Type PC's kVA rating can be matched to anticipated or measured peak loading, when replacing conventional PDUs with Power Centers™ per CSA C802.4 or **nationalgrid**® recommendations
- Reduces environmental impact consistent with Green Building™ initiatives

## Type PC e-Rated® Ultra-Efficient Power Center

### The PQI Solution™

Power Quality International's Application Engineers use IEEE Std. C57.110 and CSA C802.5 compliant engineering software (*The PQI Calculator™*) to quickly and accurately determine and compare the losses and efficiencies of any two transformers under any anticipated or measured load profile. The software can also be used to compare an existing and proposed transformer in a replacement scenario.

Given the comparative cost of each Power Center in a new construction or replacement scenario and the utility rates, the software calculates the annual energy savings, including A/C costs, payback on incremental or replacement costs, return-on-investment and EPA environmental benefits. PQI offers these analytical services, with recommendations, on a 'no charge' basis.

### Historical vs. PQI Energy Efficiencies [1]

kVA Rating	NEMA TP 1 2002 [2] CSA C802.2	NEMA Premium [2]	DOE 2016 [3]	PQI Z3 exceeds CSL 3 [4]	PQI Z3+ exceeds CSL 3 [4]	PQI Z4 exceeds CSL 4 [4]
15	97.00	97.90	97.89	97.97	98.25	98.43
30	97.50	98.25	98.23	98.29	98.52	98.68
45	97.70	98.39	98.40	98.45	98.66	98.81
75	98.00	98.60	98.60	98.64	98.82	98.95
112.5	98.20	98.74	98.74	98.77	98.93	99.05
150	98.30	98.81	98.83	98.86	99.01	99.12
225	98.50	98.95	98.94	98.97	99.10	99.20
300	98.60	99.02	99.02	99.04	99.16	99.26
500	98.70	99.09	99.14	99.16	99.26	99.35
750	98.80	99.16	99.23	99.24	99.33	99.41
1000	98.90	99.23	99.28	99.29	99.38	99.45



20kVA Power Center™  
with three Side Mounted Feeder Circuit Breakers

### Required vs. PQI Energy Efficiencies Notes:

- [1] Efficiency values are measured at 35% of nameplate rating.
- [2] The efficiency of transformers manufactured after January 1, 2007, but before January 1, 2016 met the efficiency requirements of NEMA TP 1-2002 (US) or CSA C802.2-12 (Canada).
- [3] The efficiency of transformers manufactured after January 1, 2016 must meet the US DOE 2016 efficiency requirements.
- [4] PQI Z3 & Z4 efficiencies exceed the requirements of DOE Candidate Standard Levels 3 & 4 (CSL 3 & CSL 4) respectively.

### Type PC Transformer Specifications

#### Transformer Type:

DV, EY, GY & SY

#### Primary-Secondary Phase-Shift:

0°, -15°, -20°, -30°, -40°, -45° (as required for Types DV, SY & GY only)

#### Voltage Class:

1.2kV

#### Insulation Class:

R (220°C) Nomex

#### BIL Rating:

10kV (Std. for Class)

#### Cooling:

ANN (Air, Internal/External Circ., Natural)

#### Seismic Withstand:

Per IBC & CBC requirements with OSHPD Seismic Certification (S<sub>DS</sub> = 2.1g)

#### Certifications:

Manufactured in an ISO 9001 facility, qualified by CSA International as a Testing Facility based on ISO/IEC 17025-2005.

#### Related Standards:

ANSI/UL 1560, ANSI/NFPA 70, ANSI/IEEE C57.110, NEMA ST 20, NEMA TP 1-2002, NEMA TP 2, NEMA TP 3, CSA C9-M1981, CSA C9-02, CSA No. 47-M90, CSA C802.2-12, IBC, CBC & OSHPD

#### Listings:

UL Listed and CSA Approved

#### Warranty:

10 Years Pro-rated

#### Product Selection

#### Frequency:

60Hz, 50Hz, 400Hz, Other

#### Rating:

15 – 1500kVA

#### Primary Voltage:

600, 480, 240, 208, Other

#### Secondary Voltage:

240/139, dual 240/139 & 208/120, 230/133, dual 230/133 & 208/120, Other

#### Temperature Rise:

150°C, 115°C, 105°C, 80°C (Transformer Type Dependent)

#### K-Rating:

K-4, K-9, K-13 (Type Dependent)

#### Taps:

4 Taps, ±2.5%, ±5% [1]  
6 Taps, ±2.5%, ±5%, +7.5%, +10% (6T)

#### Low Sound:

3dB below NEMA ST 20 (LS3)  
6dB below NEMA ST 20 (LS6)  
9dB below NEMA ST 20 (LS9)

#### Enclosure Color:

PQI White [1], ASA 61 Grey  
Black, Other

#### Winding Material:

Copper [1], Aluminum (AL)

#### Efficiency:

Exceeds DOE 2016  
Exceeds DOE CSL 3 (Z3) [1]  
Exceeds Z3 (Z3+)  
Exceeds DOE CSL 4 (Z4)

### Options

1. **Transformer Type:**  
DV, EY, GY or SY
2. **Electrostatic Shield:**  
Single (ES), Dual (2ES), Triple (3ES)
3. **Low Inrush:**  
Four times Full Load Current (4xIR)
4. **Thermal Sensors (TS)**
5. **K-Rating**
6. **ICB (Input Circuit Breaker)**
7. **OCB (Output Circuit Breaker)**

### Model Number Sequencing

PC-Hz-kVA-PV:SV-Temp. Rise-Taps-Trans. Type-Enclosure Color-Options (1 – 7)-Winding Material [1]-Efficiency

### Sample Model Number

PC-60-300-480:240/139-115-DV-ES-6T-1IBC-3OCB-AL-Z4

**Product Selection Note [1] – Selections that are identified as 'standard' are not required when creating a Model Number.**



All Specifications are subject to change without notice.

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