

K-Star-D™ C2 Transformer

APPLICATIONS

Designed to improve power quality, the K-Star-D transformer treats harmonics that can disrupt electronic equipment. K-Star-D is ideal for high-tech manufacturing, call-in centers and telecommunications facilities where reliability is critically important.

DESCRIPTION AND CHARACTERISTICS

The K-Star-D is a dual output 3-phase, four wire transformer that treats the 3rd, 5th and 7th harmonics in the secondary windings. Factory built to suit your requirements, K-Star-D meets US DOE Candidate Standard Level 2 efficiency ensuring lower operating losses than competing transformers.

ADDITIONAL OPTIONS

To economize space and reduce the cost of purchasing multiple transformers, K-Star-D can be ordered with additional features including: electrostatic shielding, primary to secondary phase-shift, integrated surge protection and a third or fourth output to connect additional loads and treat additional higher order harmonic currents shared among the outputs.

OPTIONAL INTEGRATED METERING

Powersmiths SMART-2 energy monitor facilitates on-site commissioning and monitoring. When integrated onto the primary side of the K-Star-D, SMART-2 serves as a data acquisition system, providing on-going energy quality and usage data for the building's energy management systems and educational sustainability software. Designed to easily interface with Powersmiths' Cyberhawk™ energy monitoring and management systems, SMART-2 data can also be used by third party applications.

ENVIRONMENTAL BENEFIT

A continuous improvement "lean green" strategy guides Powersmiths' product design and manufacturing. Initiatives such



as increasing transformer efficiency, Easy Skid, the use of biodegradable product packaging and the reduction of harmful volatile organic compounds in production processes, are just a few examples of the extent to which Powersmiths takes its values seriously. Through these efforts Powersmiths has earned the prestigious ISO 14001 certification for its environmental management system. Our facility is also ISO 9001 (quality management) certified.

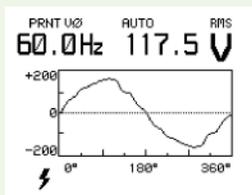
TESTING AND WARRANTY

During manufacturing and assembly, K-Star-D is subjected to rigorous testing to ensure: efficiency under various load profiles and loading conditions, quiet operation and insulation integrity. Powersmiths production-tests transformers with actual computer power loading in an ISO 9001 environment. Data can be provided for individual units by selecting the NLT option with your order.

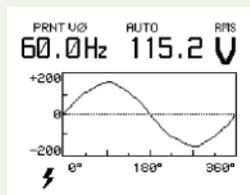
K-Star-D's long life and dependable performance is backed up by Powersmiths' industry leading 5 year pro-rated warranty. The warranty is automatically extended to 25 years when Powersmiths Cyberhawk MPC monitor, protection and control system is installed at the building entrance.

KEY FEATURES

- Delivers high quality power and conserves space
- Treats the 3rd, 5th, 7th, 9th and other harmonic currents in the secondary windings to facilitate compliance with IEEE-519
- Significantly exceeds NEMA TP-1 efficiency for low operating cost over the life of transformer
- Produced in an ISO 9001 and ISO 14001 environment, assuring high quality and low environmental impact



Voltage Waveform Before



Voltage Waveform with K-Star-D

STANDARD CONFIGURATION

Powersmiths K-Star-D is a multiple-output 3-phase common-core copper-wound dry type transformer, built in our ISO 9001 and ISO14001 facility to NEMA ST-20 and other applicable ANSI and IEEE standards. Secondary windings have low zero sequence impedance and reactance. Primary and secondary terminals and voltage taps are readily accessible by removing the front cover plate.

The K-Star-D has a 220 °C class insulation, 150 °C operating temperature rise, is rated for 60Hz and comes in a NEMA 2 ventilated indoor enclosure. It meets the efficiency requirements of US-DOE candidate Standard Level 2 (CSL 2).

SELECT

kVA: Rating of unit (15-1000 kVA, up to 5000 kVA)

PV: Primary voltage, (600, 480, 415, 400, 380, 208)

SV: Secondary voltage (208/120V, 480/277V, 600/347V, others available)

SAMPLE PART NUMBER

K-STAR-D-C2-75-480-208

TECHNICAL DATA

kVA	Impedance (+/- SEQ.)	Weight (lbs)	Case Size (Inches)
15	3.5 - 5.5%	220 - 260	A (18W x 17D x 27H)
30	3.0 - 5.0%	350 - 420	B (26W x 18D x 30H)
45	3.0 - 5.0%	500 - 600	B (26W x 18D x 30H)
75	3.0 - 5.0%	750 - 850	C (32W x 22D x 40H)
112.5	3.0 - 5.0%	950 - 1150	C (32W x 22D x 40H)
150	3.0 - 5.0%	1250 - 1450	D (38W x 27D x 48H)
225	3.0 - 5.0%	1750 - 1900	D+ (38W x 32D x 52H)
300	3.0 - 5.0%	1920 - 2200	D+ (38W x 32D x 52H)
500	3.0 - 6.0%	3000 - 3300	E+ (52W x 38D x 61H)
750	3.0 - 6.0%	3800 - 4800	F (64W x 47D x 67H)

The above data applies to configurations up to 600V, with NEMA 2 enclosure and standard temperature rise. Selection of some options may change enclosure size and weight. Consult factory for detailed product data sheet for these and other configurations.

*Specific case used determined by factory unless specified.

AVAILABLE OPTIONS

SMART2*: Integrated Power & Energy Meter, models A and C

SMART3*: Integrated Meter with Web access, model A

CYBERHAWK-TX: Efficiency & Power Meter

N3R: NEMA 3R, ventilated indoor enclosure

T130: 130 °C operating Temp. rise

T115: 115 °C operating Temp. rise

T80: 80 °C operating Temp. rise

F50: 50Hz design

1S: Single electrostatic shield

2S: Dual electrostatic shields

3S: Triple electrostatic shields

ECO: ECOLOGO certified

SPD: (120/208V, 480V OR 277/480V)

2 x 3-ph, 4-wire on secondary

PRO80: 80kA, 7 mode, Filter

PRO120: 120kA, 7 mode, Filter

or 1 x 3-ph, 3-wire on primary

PRO706: 4 mode, Filter

PRO906: 4 mode, Filter

PRO1506: 4 mode, Filter

SPDXX: Where xx is custom ID

LK: Lug kit, screw-type

COL: Color other than the factory standard

TSB: Terminal Safety Barrier

TS: Thermal Sensors at 170 °C and 200 °C

NLT: Nonlinear load test

SE: Sensitive Environment, extra low noise

PSxx: Primary to secondary phase-shift

A: Aluminum winding

C3: Meets DOE CSL3 efficiency

*Meter connected to transformer primary



Warranty: Our commitment to lasting performance is spelled out in the longest transformer warranty in the business – 5 years pro-rated. 25 year pro-rated warranty with the installation of the Cyberhawk MPC at the building entrance. K-Star-D is a trademark of Powersmiths International Corp.

Technical specifications subject to change without notice. Paper contains 50% recycled content including 25% post consumer waste.

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