

HPS Sentinel

Energy Efficient Distribution Transformers

Specifications & Accessories - Copper or Aluminum



15 to 45 kVA



75 to 150 kVA



225 to 1000 kVA

STANDARD SPECIFICATIONS

| | |
|-------------------------------|---|
| kVA: | 15-1000kVA |
| UL Listed: | File: E112313 |
| CSA Certified: | File: LR3902 |
| Frequency: | 60 Hz (optional 50/60 Hz available) |
| Insulation System: | 220°C (150°C rise) (optional 115°C & 80°C rise available) |
| BIL Rating: | 10 kV |
| Enclosure Type: | Heavy duty ventilated Type 3R standard [optional Type 4, 4X (stainless steel) & 12 - outside of DOE/NRCan scope] |
| Enclosure Finish: | ANSI 61 Grey, UL50 |
| Neutral: | Neutral terminal for field connection (on applicable units) |
| Standard Primary Taps: | Refer to wiring diagrams for details |

Optional Accessories:

- Thermal sensing & indication
- Thermocouples
- Thermometers (analog/digital)
- Thermostat alarm / trip (N.O. /N.C. contacts)
- Electrostatic shielding
- Rated to handle current harmonics [K4] [K9] [K13]
- Strip heater (space heater to prevent condensation)
- Surge protection devices
- Type 3R or 4X available in stainless steel
- Type 3R enhanced with baffling for horizontal blowing rain and snow
- Optional infrared windows

| | |
|-----------------------|---|
| Termination: | Front accessible separate high and low voltage terminals; connectors suitable for aluminum and copper are provided for easy cable installation (exceptions apply). |
| Conduit Entry: | Side knock-outs standard on all units; Bottom entry provision (exceptions apply). |
| Impedance: | Typically 1.8% to 7.5% |
| Mounting: | Floor or wall/ceiling mounting available. Refer to selection tables for details. |
| Seismic: | Seismically qualified according to the International Building Code (IBC) 2018, and the American Society of Civil Engineers ASCE 7-16 specifications, with the following design parameters: Spectral acceleration: $S_{DS} \leq 2.0$ g Importance factor: $I_p = 1.5$ Attachment/Height ratio: $z/h = 1.0$ (up to and including DH4 enclosure). Attachment/Height ratio: $z/h = 0$ (for all other enclosures). O.S.H.P.D (optional). Please contact HPS for more information on seismic compliances. |
| Sound Level: | Meets NEMA ST-20 standards (optional low noise units available) |
| Warranty: | 10 years |

HPS Sentinel Part Number Guide

Example

| Family | Appl. Type | Generation | Phase | kVA | | | | Pri. Volt. | Sec. Volt. | K Rating | Winding Material/ Electrostatic Shield | Temp. Rise & Insul. Class | Enclosure | Sound Level | Special Duty |
|--------|------------|------------|-------|-----|---|---|---|------------|------------|----------|---|------------------------------|-----------|-------------|--------------|
| | | | | 0 | 0 | 4 | 5 | | | | | | | | |
| S | G | 3 | A | 0 | 0 | 4 | 5 | K | B | 0 | K | F | K | 3 | M |

Family:

S - Sentinel

Type:

G - General
K - K Rated
H - Harmonic Mitigation

Generation:

3 - current designs

Phase (Pri-Sec)¹:

A - 3PH Delta-Wye-N
B - 3PH Wye-N-Delta
C - 3PH Delta-Delta/CT²
D - 3PH Delta-Delta
Y - 3PH Wye-N-Wye-N
T - 3PH Delta Zig Zag- 0° PH Shift
U - 3PH Wye Zig Zag- -30°PH Shift
L - 1PH Single-Dual
N - 1PH Dual-Dual
M - 1PH Multiple-Dual

kVA:

kVA Rating

Primary Voltage:

| | |
|------------|----------------|
| 1PH | 3PH |
| B 208 | 208D, 208Y/120 |
| D 240 | 240D |
| F 277 | |
| H 416 | 416D |
| K 480 | 480D, 480Y/277 |
| L 240x480 | |
| P 600 | 600D, 600Y/347 |
| X multiple | |

Secondary Voltage:

| | |
|-----------|--|
| 1PH | 3PH |
| B 208 | 208D or 208Y/120 |
| D 240 | 240D, 240D/120CT or 240Y/139 |
| E 120/240 | |
| K 480 | 480D or 480Y/277 |
| P 600 | 600D or 600Y/347 |
| Y | 380Y/220V w taps at 400Y, 416Y and 430Y |

K Rating:

0 = None*
4 = K4
9 = K9
3 = K13
2 = K20 (max. 300 kVA)

Winding Material/Electrostatic Shield:

A - Aluminum*
S - AL + Shield
C - Copper
K - CU + Shield

Temperature Rise at standard 220°C

Insulation Class:

B - 80°C
F - 115°C
G - 130°C
H - 150°C*

Enclosure:

| | |
|--------------|----------------------------------|
| A - Type 1 | F - Type 4 ³ |
| B - Type 2 | G - Type 4X (304SS) ³ |
| C - Type 3R* | H - Type 4X (316SS) ³ |
| D - Type 3RE | K - Type 12 ³ |
| E - Type 3RX | X - None (Core & Coil) |

Sound Level:

0 = Standard*
3 = -3 dB
5 = -5 dB
8 = -8 dB⁴

Special Duty:

None = Default
D = Land Drilling
M = Marine Duty
W = IR Window
S = Solar Duty⁵

¹ Standard configurations winding vector per UL 1560

² Available standard only with 240D/120CT secondaries

³ Outside of DOE/NRCan scope - non-energy efficient product provided unless otherwise specified

⁴ -8dB is available only for 75kVA and above

⁵ -Solar duty option available with three phase and k rated transformers only

* Default options -ignore if all following characters are default values.

Support & Resources

No other transformer company can offer our service and quality in a full range of products.

Transformer Efficiency Calculator



The HPS Efficiency Calculator allows you to determine how much money and energy you can save by switching to a HPS Sentinel G, K, or H transformer. Visit the "Online Tools" area of the HPS website.

Extensive Inventory



We carry a complete inventory of Distribution Transformers throughout North America to quickly meet your needs.

Current Calculator



Calculate the Amps, Volts, or kVA of a transformer. Visit the "Online Tools" area of the HPS website.

Live Telephone Technical Support



Our inside sales team is available to quickly answer your questions. They are technically trained and able to answer most questions right over the phone.

Fast On-Site Response



On-site technicians are available to assist with any technical problems or issues that cannot be resolved over the phone.

Easy-To-Access Installation Manuals



All transformer installation manuals are conveniently located on our website so you can access them anywhere, anytime.

Selection Tables

HPS Sentinel G

Energy Efficient General Purpose Distribution



ALUMINUM WOUND, SINGLE PHASE

208 Primary Volts

120/240 Secondary Volts

60 Hz

| kVA | Catalog Number | Case Style | Approx. Dimensions (Inches) | | | Approx. Weight (Lbs.) | Mtg Type W - Wall F - Floor | Wiring Diagram |
|------|-------------------|------------|-----------------------------|-------|--------|-----------------------|-----------------------------------|----------------|
| | | | Width | Depth | Height | | | |
| 15 | SG3L0015BE | DH1-1 | 22.30 | 23.80 | 26.70 | 160 | F or W/C* | SCD 6 |
| 25 | SG3L0025BE | DH1-1 | 22.30 | 23.80 | 26.70 | 210 | F or W/C* | SCD 6 |
| 37.5 | SG3L0037BE | DH1-1 | 22.30 | 23.80 | 26.70 | 270 | F or W/C* | SCD 6 |
| 50 | SG3L0050BE | DH2 | 25.75 | 23.75 | 28.75 | 330 | F or W/C* | SCD 6 |
| 75 | SG3L0075BE | DH3 | 28.25 | 27.00 | 36.00 | 480 | F (Opt W/C) | SCD 6 |
| 100 | SG3L0100BE | DH3 | 28.25 | 27.00 | 36.00 | 540 | F (Opt W/C) | SCD 6 |
| 150 | SG3L0150BE | DH4 | 31.50 | 29.50 | 44.50 | 790 | F | SCD 68 |
| 167 | SG3L0167BE | DH4 | 31.50 | 29.50 | 44.50 | 880 | F | SCD 68 |

W/C: Built-in Wall Ceiling Mounting Opt W/C: Wall Ceiling Mounting Kit "DW3" Available

240 X 480 Primary Volts

120/240 Secondary Volts

60 Hz

| kVA | Catalog Number | Case Style | Approx. Dimensions (Inches) | | | Approx. Weight (Lbs.) | Mtg Type W - Wall F - Floor | Wiring Diagram |
|------|--|------------|-----------------------------|-------|--------|-----------------------|-----------------------------------|----------------|
| | | | Width | Depth | Height | | | |
| 15 | SG3N0015LE | DH1-1 | 22.30 | 23.80 | 26.70 | 160 | F or W/C* | SCD 17 |
| 25 | SG3N0025LE | DH1-1 | 22.30 | 23.80 | 26.70 | 210 | F or W/C* | SCD 17 |
| 37.5 | SG3N0037LE | DH1-1 | 22.30 | 23.80 | 26.70 | 270 | F or W/C* | SCD 17 |
| 50 | SG3N0050LE | DH2 | 25.75 | 23.75 | 28.75 | 330 | F or W/C* | SCD 17 |
| 75 | SG3N0075LE | DH3 | 28.25 | 27.00 | 36.00 | 480 | F (Opt W/C) | SCD 17 |
| 100 | SG3N0100LE | DH3 | 28.25 | 27.00 | 36.00 | 540 | F (Opt W/C) | SCD 17 |
| 150 | Available with 480V or 240V single primaries only. Please contact your HPS Sales Representative. | | | | | | | |
| 167 | Available with 480V or 240V single primaries only. Please contact your HPS Sales Representative. | | | | | | | |

W/C: Built-in Wall Ceiling Mounting Opt W/C: Wall Ceiling Mounting Kit "DW3" Available

277 Primary Volts

120/240 Secondary Volts

60 Hz

| kVA | Catalog Number | Case Style | Approx. Dimensions (Inches) | | | Approx. Weight (Lbs.) | Mtg Type W - Wall F - Floor | Wiring Diagram |
|------|-------------------|------------|-----------------------------|-------|--------|-----------------------|-----------------------------------|----------------|
| | | | Width | Depth | Height | | | |
| 15 | SG3L0015FE | DH1-1 | 22.30 | 23.80 | 26.70 | 160 | F or W/C* | SCD 6 |
| 25 | SG3L0025FE | DH1-1 | 22.30 | 23.80 | 26.70 | 210 | F or W/C* | SCD 6 |
| 37.5 | SG3L0037FE | DH1-1 | 22.30 | 23.80 | 26.70 | 270 | F or W/C* | SCD 6 |
| 50 | SG3L0050FE | DH2 | 25.75 | 23.75 | 28.75 | 330 | F or W/C* | SCD 6 |
| 75 | SG3L0075FE | DH3 | 28.25 | 27.00 | 36.00 | 480 | F (Opt W/C) | SCD 6 |
| 100 | SG3L0100FE | DH3 | 28.25 | 27.00 | 36.00 | 540 | F (Opt W/C) | SCD 6 |
| 150 | SG3L0150FE | DH4 | 31.50 | 29.50 | 44.50 | 790 | F | SCD 68 |
| 167 | SG3L0167FE | DH4 | 31.50 | 29.50 | 44.50 | 880 | F | SCD 68 |

W/C: Built-in Wall Ceiling Mounting Opt W/C: Wall Ceiling Mounting Kit "DW3" Available

416 Primary Volts

120/240 Secondary Volts

60 Hz

| kVA | Catalog Number | Case Style | Approx. Dimensions (Inches) | | | Approx. Weight (Lbs.) | Mtg Type W - Wall F - Floor | Wiring Diagram |
|------|-------------------|------------|-----------------------------|-------|--------|-----------------------|-----------------------------------|----------------|
| | | | Width | Depth | Height | | | |
| 15 | SG3L0015HE | DH1-1 | 22.30 | 23.80 | 26.70 | 160 | F or W/C* | SCD 6 |
| 25 | SG3L0025HE | DH1-1 | 22.30 | 23.80 | 26.70 | 210 | F or W/C* | SCD 6 |
| 37.5 | SG3L0037HE | DH1-1 | 22.30 | 23.80 | 26.70 | 270 | F or W/C* | SCD 6 |
| 50 | SG3L0050HE | DH2 | 25.75 | 23.75 | 28.75 | 330 | F or W/C* | SCD 6 |
| 75 | SG3L0075HE | DH3 | 28.25 | 27.00 | 36.00 | 480 | F (Opt W/C) | SCD 6 |
| 100 | SG3L0100HE | DH3 | 28.25 | 27.00 | 36.00 | 540 | F (Opt W/C) | SCD 6 |
| 150 | SG3L0150HE | DH4 | 31.50 | 29.50 | 44.50 | 790 | F | SCD 39 |
| 167 | SG3L0167HE | DH4 | 31.50 | 29.50 | 44.50 | 880 | F | SCD 39 |

W/C: Built-in Wall Ceiling Mounting Opt W/C: Wall Ceiling Mounting Kit "DW3" Available