

Automation Transformers - Non-Ventilated 50 VA to 45 kVA

SolaHD encapsulated transformers are rated for Hazardous Locations as well as harsh industrial environments. Encapsulation and rugged UL Listed/NEMA Type 3R enclosures protect the transformer from dust, moisture, and provide extra shock and vibration resistance. SolaHD transformers fully comply with the latest addition of the National Electrical Code for Class I, Division 2, Group A, B, C and D locations when installed in compliance with NEC 501.100 (B).

Features

Single Phase: .05 – .250 kVA

- UL Listed/NEMA Type 3R non encapsulated enclosure for indoor and outdoor service
- Low temperature rise, UL Class 130°C insulation system, 80°C temperature rise under full load
- Conduit knockouts for side entry into wiring compartment
- Copper lead wire terminations

Single Phase: 0.500 – 25 kVA

Three Phase: 3 – 45 kVA

- UL Listed/NEMA Type 3R encapsulated enclosure for indoor and outdoor service
- Electrostatically shielded for quality power on sizes 1 kVA and larger
- UL Class 200°C insulation system, 115°C temperature rise under full load
- Conduit knockouts for side entry into wiring compartment
- Copper lead wire terminations
- .500 - 45 kVA units are encapsulated with electrical grade silica and epoxy for industrial applications

Related Products

- Some SolaHD DC power supplies are available with Class I, Division 2 ratings or encapsulation.
- Surge Protective Devices

Certifications and Compliances

-  Listed: E25872, E77014
 - UL 1561 or UL 506
 - CSA C22.2 No. 47 or No. 66



Accessories and Optional Design Styles

- Stainless Steel Enclosures
- Copper Wound designs
- UL Listed/NEMA Type 4, 4X or 12 Encapsulated Enclosures
- Low temperature designs available

Note: Weights and dimensions may change and should not be used for construction purposes.

Selection Table: Single Phase

Group 1: 240 x 480 Primary, 120/240 Secondary, 60 Hz

| kVA | Catalog Number Group I Rolled Steel | Catalog Number Group II Stainless Steel | Height in (mm) | Width in (mm) | Depth in (mm) | Approx. Ship Weight lbs (kg) | Design Style * | Elec Conn * | Primary Amps | Secondary Amps |
|-------------------------|-------------------------------------|---|----------------|---------------|---------------|------------------------------|----------------|-------------|--------------|----------------|
| Non-Encapsulated | | | | | | | | | | |
| .050 | HS1B50 | N/A | 6.00 (152.4) | 4.00 (101.6) | 3.00 (76.2) | 3.00 (1.36) | 2 | 15 | .208/.104 | 0.416/0.208 |
| .075 | HS1B75 | | 6.00 (152.4) | 4.00 (101.6) | 3.00 (76.2) | 3.00 (1.36) | 2 | 15 | .312/.156 | 0.625/0.312 |
| .100 | HS1B100 | | 6.00 (152.4) | 4.00 (101.6) | 3.00 (76.2) | 4.00 (1.81) | 2 | 15 | .417/.208 | 0.833/0.417 |
| .150 | HS1B150 | | 8.00 (203.2) | 4.00 (101.6) | 4.00 (101.6) | 5.00 (2.27) | 2 | 15 | .625/.313 | 1.25/.625 |
| .250 | HS1B250 | | 8.00 (203.2) | 4.00 (101.6) | 4.00 (101.6) | 8.00 (3.63) | 2 | 15 | 1.04/.512 | 2.08/1.04 |
| Encapsulated | | | | | | | | | | |
| 0.5 | HS1F500B | HSS1F500B | 10.00 (254.0) | 6.00 (152.4) | 5.00 (127.0) | 22.0 (9.98) | 3 | 15 | 2.08/1.04 | 4.16/2.08 |
| 0.75 | HS1F750B | HSS1F750B | 10.00 (254.0) | 6.00 (152.4) | 5.00 (127.0) | 27.0 (12.25) | 3 | 15 | 3.13/1.56 | 6.25/3.13 |
| 1 | HS1F1BS | HSS1F1BS | 10.00 (254.0) | 6.00 (152.4) | 5.00 (127.0) | 28.0 (12.70) | 3 | 16 | 4.17/2.08 | 8.33/4.17 |
| 1.5 | HS1F1.5AS | HSS1F1.5AS | 12.00 (304.8) | 10.00 (254.0) | 7.00 (177.8) | 38.0 (17.24) | 4 | 16 | 6.25/3.13 | 12.5/6.25 |
| 2 | HS1F2AS | HSS1F2AS | 12.00 (304.8) | 10.00 (254.0) | 7.00 (177.8) | 45.0 (20.42) | 4 | 16 | 8.33/4.17 | 16.7/8.33 |
| 3 | HS5F3AS | HSS5F3AS | 12.00 (304.8) | 10.00 (254.0) | 7.00 (177.8) | 55.0 (24.95) | 4 | 17 | 12.5/6.25 | 25.0/12.5 |
| 5 | HS5F5AS | HSS5F5AS | 17.00 (431.8) | 14.00 (355.6) | 9.00 (228.6) | 131.0 (59.42) | 4 | 17 | 20.8/10.4 | 41.6/20.8 |
| 7.5 | HS5F7.5AS | HSS5F7.5AS | 17.00 (431.8) | 14.00 (355.6) | 9.00 (228.6) | 156.0 (70.76) | 4 | 18 | 31.3/15.6 | 62.5/31.3 |
| 10 | HS5F10AS | HSS5F10AS | 17.00 (431.8) | 14.00 (355.6) | 9.00 (228.6) | 156.0 (70.76) | 4 | 18 | 41.7/20.8 | 83.3/41.7 |
| 15 | HS5F15AS | HSS5F15AS | 30.00 (762.0) | 29.00 (736.6) | 12.00 (304.8) | 549.0 (249.02) | 4 | 18 | 62.5/31.2 | 125.0/62.5 |
| 25 | HS5F25AS | HSS5F25AS | 30.00 (762.0) | 29.00 (736.6) | 12.00 (304.8) | 637.0 (288.94) | 4 | 18 | 104.0/52.0 | 208.0/104.0 |

Group 2: 600 Volt Primary, 120/240 Secondary, 60 Hz

| kVA | Catalog Number Group 1 Rolled Steel | Catalog Number Group 2 Stainless Steel | Height in (mm) | Width in (mm) | Depth in (mm) | Approx. Ship Weight lbs (kg) | Design Style * | Elec Conn * | Primary Amps | Secondary Amps |
|-------------------------|-------------------------------------|--|----------------|---------------|---------------|------------------------------|----------------|-------------|--------------|----------------|
| Non-Encapsulated | | | | | | | | | | |
| .100 | HS10B100 | N/A | 6.00 (152.4) | 4.00 (101.6) | 3.00 (76.2) | 4.00 (1.81) | 2 | 21 | 0.167 | .833/.417 |
| .150 | HS10B150 | | 8.00 (203.2) | 4.00 (101.6) | 4.00 (101.6) | 5.00 (2.27) | 2 | 21 | 0.25 | 1.25/.625 |
| .250 | HS10B250 | | 8.00 (203.2) | 4.00 (101.6) | 4.00 (101.6) | 8.00 (3.63) | 2 | 21 | 0.417 | 2.08/1.04 |
| Encapsulated | | | | | | | | | | |
| .500 | HS10F500B | HSS10F500B | 10.00 (254.0) | 6.00 (152.4) | 5.00 (127.0) | 22.0 (9.98) | 3 | 21 | 0.833 | 4.16/2.08 |
| .750 | HS10F750B | HSS10F750B | 10.00 (254.0) | 6.00 (152.4) | 5.00 (127.0) | 23.0 (10.43) | 3 | 21 | 1.25 | 6.25/3.13 |
| 1 | HS10F1BS | HSS10F1BS | 10.00 (254.0) | 6.00 (152.4) | 5.00 (127.0) | 28.0 (12.70) | 3 | 21 | 1.67 | 8.33/4.17 |
| 1.5 | HS10F1.5AS | HSS10F1.5AS | 12.00 (304.8) | 10.00 (254.0) | 7.00 (177.8) | 38.0 (17.24) | 4 | 21 | 2.5 | 12.5/6.25 |
| 2 | HS10F2AS | HSS10F2AS | 12.00 (304.8) | 10.00 (254.0) | 7.00 (177.8) | 60.0 (27.22) | 4 | 21 | 3.33 | 16.7/8.33 |
| 3 | HS10F3AS | HSS10F3AS | 12.00 (304.8) | 10.00 (254.0) | 7.00 (177.8) | 66.0 (29.94) | 4 | 22 | 5.0 | 25.0/12.5 |
| 5 | HS10F5AS | HSS10F5AS | 17.00 (431.8) | 14.00 (355.6) | 9.00 (228.6) | 100.0 (45.36) | 4 | 22 | 8.3 | 41.6/20.8 |
| 7.5 | HS10F7.5AS | HSS10F7.5AS | 17.00 (431.8) | 14.00 (355.6) | 9.00 (228.6) | 135.0 (61.23) | 4 | 22 | 12.5 | 62.5/31.3 |
| 10 | HS10F10AS | HSS10F10AS | 17.00 (431.8) | 14.00 (355.6) | 9.00 (228.6) | 150.0 (68.04) | 4 | 22 | 16.7 | 83.3/41.7 |

* Note: Design Styles and Electrical Connections can be found at the end of the Non-Ventilated Distribution Transformers section.

Selection Table: Single Phase

Group 3: 120/208/240/277 Volt Primary, 120/240 Secondary, 60 Hz

| kVA | Catalog Number Group 1 Rolled Steel | Catalog Number Group 2 Stainless Steel | Height in (mm) | Width in (mm) | Depth in (mm) | Approx. Ship Weight lbs (kg) | Design Style ¹ | Elec Conn ¹ | Primary Amps @ 277 V | Secondary Amps |
|---------------------|---|--|-------------------|------------------|------------------|---------------------------------|------------------------------|---------------------------|----------------------------|-------------------|
| Encapsulated | | | | | | | | | | |
| 1 | HS12F1BS | HSS12F1BS | 10.00 (254.0) | 6.00 (152.4) | 5.00 (127.0) | 29.0 (13.15) | 3 | 19 | 3.6 | 8.33/4.17 |
| 1.5 | HS12F1.5AS | HSS12F1.5AS | 12.00 (304.8) | 10.00 (254.0) | 7.00 (177.8) | 40.0 (18.14) | 4 | 20 | 5.4 | 12.5/6.25 |
| 2 | HS12F2AS | HSS12F2AS | 12.00 (304.8) | 10.00 (254.0) | 7.00 (177.8) | 60.0 (27.22) | 4 | 20 | 7.2 | 16.7/8.33 |
| 3 | HS12F3AS | HSS12F3AS | 12.00 (304.8) | 10.00 (254.0) | 7.00 (177.8) | 66.0 (29.94) | 4 | 20 | 10.8 | 25.0/12.5 |
| 5 | HS12F5AS | HSS12F5AS | 17.00 (431.8) | 14.00 (355.6) | 9.00 (228.6) | 104.0 (47.17) | 4 | 20 | 18.0 | 41.6/20.8 |
| 7.5 | HS12F7.5AS | HSS12F7.5AS | 17.00 (431.8) | 14.00 (355.6) | 9.00 (228.6) | 135.0 (61.23) | 4 | 20 | 27.1 | 62.5/31.3 |
| 10 | HS12F10AS | HSS12F10AS | 17.00 (431.8) | 14.00 (355.6) | 9.00 (228.6) | 156.0 (70.76) | 4 | 20 | 36.1 | 83.3/41.7 |

Group 4: Export 190/200/208/220/380/400/415/440 Volt Primary, 110/220 Secondary, 50/60 Hz Copper wound
 Export 200/208/230/400/415/460 Volt Primary, 115/230 Secondary, 50/60 Hz Copper wound
 Export 208/240/415/480 Volt Primary, 120/240 Secondary, 60 Hz only Copper wound

| kVA | Catalog Number Group 1 Rolled Steel | Catalog Number Group 2 Stainless Steel | Height in (mm) | Width in (mm) | Depth in (mm) | Approx. Ship Weight lbs (kg) | Design Style ¹ | Elec Conn ¹ | Primary Amps ² | Secondary Amps |
|-----------------------------------|---|--|-------------------|------------------|------------------|---------------------------------|------------------------------|---------------------------|------------------------------|-------------------|
| Encapsulated, Copper Wound | | | | | | | | | | |
| 1 | HS14F1BS | HSS14F1BS | 10.00 (254.0) | 6.00 (152.4) | 5.00 (127.0) | 34.0 (15.42) | 3 | 23 | 4.5/2.3 | 9.1/4.5 |
| 1.5 | HS14F1.5BS | HSS14F1.5BS | 12.00 (304.8) | 10.00 (254.0) | 7.00 (177.8) | 40.0 (18.13) | 4 | 24 | 6.8/3.4 | 13.6/6.8 |
| 2 | HS14F2BS | HSS14F2BS | 12.00 (304.8) | 10.00 (254.0) | 7.00 (177.8) | 60.0 (27.21) | 4 | 24 | 9.1/4.5 | 18.2/9.1 |
| 3 | HS14F3BS | HSS14F3BS | 12.00 (304.8) | 10.00 (254.0) | 7.00 (177.8) | 73.0 (33.11) | 4 | 24 | 13.6/6.8 | 27.3/13.6 |
| 5 | HS14F5BS | HSS14F5BS | 17.00 (431.8) | 14.00 (355.6) | 9.00 (228.6) | 100.0 (45.36) | 4 | 24 | 22.7/11.4 | 45.5/22.7 |
| 7.5 | HS14F7.5BS | HSS14F7.5BS | 17.00 (431.8) | 14.00 (355.6) | 9.00 (228.6) | 140.0 (63.50) | 4 | 24 | 34.1/17.0 | 68.2/34.1 |
| 10 | HS14F10BS | HSS14F10BS | 17.00 (431.8) | 14.00 (355.6) | 9.00 (228.6) | 175.0 (79.38) | 4 | 24 | 45.5/22.7 | 90.9/45.5 |

Notes:

- Design Styles and Electrical Connections can be found at the end of the Non-Ventilated Distribution Transformers section.
- Amperage calculated at 220/440 Volts on primary. UL Listed, CSA Certified and CE Marked. 240 & 480 V not available at 50 Hz.

Selection Tables: Three Phase

Group A: 480 Volt Δ Primary, 208Y/120 Secondary, 60 Hz

| kVA | Catalog Number Group I Rolled Steel | Catalog Number Group II Stainless Steel | Height in (mm) | Width in (mm) | Depth in (mm) | Approx. Ship Weight lbs (kg) | Design Style ¹ | Elec Conn ¹ | Primary Amps | Secondary Amps |
|-----|-------------------------------------|---|----------------|---------------|---------------|------------------------------|---------------------------|------------------------|--------------|----------------|
| 3 | HT1F3AS | HTS1F3AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 105.0 (47.63) | 4 | 27 | 3.6 | 8.3 |
| 6 | HT1F6AS | HTS1F6AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 110.0 (49.90) | 4 | 27 | 7.2 | 16.6 |
| 9 | HT1F9AS | HTS1F9AS | 17.00 (431.8) | 20.00 (508.0) | 11.00 (279.4) | 250.0 (113.40) | 4 | 27 | 10.8 | 25.0 |
| 15 | HT1F15AS | HTS1F15AS | 17.00 (431.8) | 20.00 (508.0) | 11.00 (279.4) | 261.0 (118.39) | 4 | 27 | 18.1 | 41.7 |
| 30 | HT1F30AS | HTS1F30AS | 30.00 (762.0) | 29.00 (736.6) | 12.00 (304.8) | 696.0 (315.70) | 4 | 27 | 36.1 | 83.4 |
| 45 | HT1F45AS | HTS1F45AS | 30.00 (762.0) | 29.00 (736.6) | 12.00 (304.8) | 844.0 (382.83) | 4 | 27 | 54.2 | 125.0 |

Group B: 208 Volt Δ Primary, 208Y/120 Secondary, 60 Hz

| kVA | Catalog Number Group I Rolled Steel | Catalog Number Group II Stainless Steel | Height in (mm) | Width in (mm) | Depth in (mm) | Approx. Ship Weight lbs (kg) | Design Style ¹ | Elec Conn ¹ | Primary Amps | Secondary Amps |
|-----|-------------------------------------|---|----------------|---------------|---------------|------------------------------|---------------------------|------------------------|--------------|----------------|
| 3 | HT3F3AS | HTS3F3AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 97.0 (44.00) | 4 | 26 | 7.2 | 8.3 |
| 6 | HT3F6AS | HTS3F6AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 141.0 (63.96) | 4 | 26 | 14.4 | 16.6 |
| 9 | HT3F9AS | HTS3F9AS | 17.00 (431.8) | 20.00 (508.0) | 11.00 (279.4) | 256.0 (116.12) | 4 | 26 | 21.7 | 25.0 |

Group C: 480 Volt Δ Primary, 240 Volt Δ 120 Secondary with reduced capacity center tap, 60 Hz ²

| kVA | Catalog Number Group I Rolled Steel | Catalog Number Group II Stainless Steel | Height in (mm) | Width in (mm) | Depth in (mm) | Approx. Ship Weight lbs (kg) | Design Style ¹ | Elec Conn ¹ | Primary Amps | Secondary Amps |
|-----|-------------------------------------|---|----------------|---------------|---------------|------------------------------|---------------------------|------------------------|--------------|----------------|
| 3 | HT5F3AS | HTS5F3AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 105.0 (47.63) | 4 | 28 | 3.6 | 7.2 |
| 6 | HT5F6AS | HTS5F6AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 110.0 (49.90) | 4 | 28 | 7.2 | 14.4 |
| 9 | HT5F9AS | HTS5F9AS | 17.00 (431.8) | 20.00 (508.0) | 11.00 (279.4) | 250.0 (113.40) | 4 | 28 | 10.8 | 21.7 |
| 15 | HT5F15AS | HTS5F15AS | 17.00 (431.8) | 20.00 (508.0) | 11.00 (279.4) | 305.0 (138.35) | 4 | 28 | 18.1 | 36.1 |
| 30 | HT5F30AS | HTS5F30AS | 29.00 (736.6) | 25.00 (635.0) | 12.00 (304.8) | 698.0 (316.61) | 4 | 28 | 36.1 | 72.2 |
| 45 | HT5F45AS | HTS5F45AS | 29.00 (736.6) | 25.00 (635.0) | 12.00 (304.8) | 876.0 (397.35) | 4 | 28 | 54.2 | 108.3 |

Group D: 240 Volt Δ Primary, 208Y/120 Secondary, 60 Hz

| kVA | Catalog Number Group I Rolled Steel | Catalog Number Group II Stainless Steel | Height in (mm) | Width in (mm) | Depth in (mm) | Approx. Ship Weight lbs (kg) | Design Style ¹ | Elec Conn ¹ | Primary Amps | Secondary Amps |
|-----|-------------------------------------|---|----------------|---------------|---------------|------------------------------|---------------------------|------------------------|--------------|----------------|
| 3 | HT6F3AS | HTS6F3AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 97.0 (44.00) | 4 | 25 | 7.2 | 8.3 |
| 6 | HT6F6AS | HTS6F6AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 141.0 (63.96) | 4 | 25 | 14.4 | 16.6 |
| 9 | HT6F9AS | HTS6F9AS | 17.00 (431.8) | 20.00 (508.0) | 11.00 (279.4) | 256.0 (116.12) | 4 | 25 | 21.7 | 25.0 |

Notes:

- Design Styles and Electrical Connections can be found at the end of the Non-Ventilated Distribution Transformers section.
- Refer to *Capacity of Center Tap in Center Tap Delta Transformers* at the beginning of this section.

Selection Tables: Three Phase

Group E: 480 Volt Δ Primary, 380Y/220 Secondary, 60 Hz

| kVA | Catalog Number Group I Rolled Steel | Catalog Number Group II Stainless Steel | Height in (mm) | Width in (mm) | Depth in (mm) | Approx. Ship Weight lbs (kg) | Design Style * | Elec Conn * | Primary Amps | Secondary Amps |
|-----|-------------------------------------|---|----------------|---------------|---------------|------------------------------|----------------|-------------|--------------|----------------|
| 3 | HT79F3AS | HTS79F3AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 121.0 (54.88) | 4 | 29 | 3.6 | 4.6 |
| 6 | HT79F6AS | HTS79F6AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 141.0 (63.96) | 4 | 29 | 7.2 | 9.1 |
| 9 | HT79F9AS | HTS79F9AS | 17.00 (431.8) | 20.00 (508.0) | 11.00 (279.4) | 255.0 (115.7) | 4 | 29 | 10.8 | 13.6 |

Group F: 600 Volt Δ Primary, 208Y/120 Secondary, 60 Hz

| kVA | Catalog Number Group I Rolled Steel | Catalog Number Group II Stainless Steel | Height in (mm) | Width in (mm) | Depth in (mm) | Approx. Ship Weight lbs (kg) | Design Style * | Elec Conn * | Primary Amps | Secondary Amps |
|-----|-------------------------------------|---|----------------|---------------|---------------|------------------------------|----------------|-------------|--------------|----------------|
| 3 | HT7F3AS | HTS7F3AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 116.0 (52.62) | 4 | 30 | 2.9 | 8.3 |
| 6 | HT7F6AS | HTS7F6AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 145.0 (65.77) | 4 | 30 | 5.8 | 16.6 |
| 9 | HT7F9AS | HTS7F9AS | 17.00 (431.8) | 20.00 (508.0) | 11.00 (279.4) | 225.0 (115.67) | 4 | 30 | 8.7 | 25.0 |

Group G: 208 Volt Δ Primary, 480Y/277 Secondary, 60 Hz

| kVA | Catalog Number Group I Rolled Steel | Catalog Number Group II Stainless Steel | Height in (mm) | Width in (mm) | Depth in (mm) | Ship Weight Approx. (lbs) | Design Style * | Elec Conn * | Primary Amps | Secondary Amps |
|-----|-------------------------------------|---|----------------|---------------|---------------|---------------------------|----------------|-------------|--------------|----------------|
| 3 | HT84F3AS | HTS84F3AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 97.0 (44.00) | 4 | 31 | 8.3 | 3.6 |
| 6 | HT84F6AS | HTS84F6AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 141.0 (63.96) | 4 | 31 | 16.6 | 7.2 |
| 9 | HT84F9AS | HTS84F9AS | 17.00 (431.8) | 20.00 (508.0) | 11.00 (279.4) | 256.0 (116.12) | 4 | 31 | 25.0 | 10.8 |

Group H: 240 Volt Δ Primary, 480Y/277 Secondary, 60 Hz

| kVA | Catalog Number Group I Rolled Steel | Catalog Number Group II Stainless Steel | Height in (mm) | Width in (mm) | Depth in (mm) | Ship Weight Approx. (lbs) | Design Style * | Elec Conn * | Primary Amps | Secondary Amps |
|-----|-------------------------------------|---|----------------|---------------|---------------|---------------------------|----------------|-------------|--------------|----------------|
| 3 | HT85F3AS | HTS85F3AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 97.0 (44.00) | 4 | 32 | 7.2 | 3.6 |
| 6 | HT85F6AS | HTS85F6AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 141.0 (63.96) | 4 | 32 | 14.4 | 7.2 |
| 9 | HT85F9AS | HTS85F9AS | 17.00 (431.8) | 20.00 (508.0) | 11.00 (279.4) | 256.0 (116.12) | 4 | 32 | 21.6 | 10.8 |

* Notes: Design Styles and Electrical Connections can be found at the end of the Non-Ventilated Distribution Transformers section.

Design Styles



Style 2 - Non-Encapsulated



Style 3 - Encapsulated



Style 4 - Encapsulated

Customized Enclosures - Contact Technical Services



Style 5 - Encapsulated

Available for all encapsulated kVA sizes (For Type 4, 12 and 4X)

Electrical Connections (Single Phase)

240 X 480 Volt Primary
120/240 Volt Secondary
Taps: None

15

| Primary Voltage | Interconnect | Connect Lines to |
|-------------------|---------------------------|------------------|
| 480 | H2 to H3 | H1 & H4 |
| 240 | H1 to H3 H2 to H4 | H1 & H4 |
| Secondary Voltage | Interconnect | Connect Lines to |
| 240 | X2 to X3 | X1 & X4 |
| 120-0-120 | X2 to X3 X2 to \perp | X1-X2-X4 |
| 120 | X1 to X3 X2 to X4 | X1 & X4 |

HS1 Series

240 X 480 Volt Primary,
120/240 Volt Secondary
Taps: 2, 2½% FCAN; 4, 2½% FCBN

18

| Primary Voltage | Interconnect | Connect Lines to |
|-------------------|---------------------------|------------------|
| 504 | H5 to H6 | H1 & H10 |
| 492 | H4 to H6 | H1 & H10 |
| 480 | H4 to H7 | H1 & H10 |
| 468 | H3 to H7 | H1 & H10 |
| 456 | H3 to H8 | H1 & H10 |
| 444 | H2 to H8 | H1 & H10 |
| 432 | H2 to H9 | H1 & H10 |
| Secondary Voltage | Interconnect | Connect Lines to |
| 252 | H1 to H6 H5 to H10 | H1 & H10 |
| 240 | H1 to H7 H4 to H10 | H1 & H10 |
| 228 | H1 to H8 H3 to H10 | H1 & H10 |
| 216 | H1 to H9 H2 to H10 | H1 & H10 |
| Secondary Voltage | Interconnect | Connect Lines to |
| 240 | X2 to X3 | X1 & X4 |
| 120-0-120 | X2 to X3 X2 to \perp | X1-X2-X4 |
| 120 | X1 to X3 X2 to X4 | X1 & X4 |

HS5 Series

240 X 480 Volt Primary
120/240 Volt Secondary
Taps: None

16

| Primary Voltage | Interconnect | Connect Lines to |
|-------------------|---------------------------|------------------|
| 480 | H2 to H3 | H1 & H4 |
| 240 | H1 to H3 H2 to H4 | H1 & H4 |
| Secondary Voltage | Interconnect | Connect Lines to |
| 240 | X2 to X3 | X1 & X4 |
| 120-0-120 | X2 to X3 X2 to \perp | X1-X2-X4 |
| 120 | X1 to X3 X2 to X4 | X1 & X4 |

HS1 Series

120/208/240/277 Volt Primary
120/240 Volt Secondary
Taps: None

19

| Primary Voltage | Interconnect | Connect Lines to |
|-------------------|---------------------------|------------------|
| 277 | H2 to H3 | H1 & H6 |
| 240 | H2 to H3 | H1 & H5 |
| 208 | H2 to H3 | H1 & H4 |
| Secondary Voltage | Interconnect | Connect Lines to |
| 240 | X2 to X3 | X1 & X4 |
| 120-0-120 | X2 to X3 X2 to \perp | X1-X2-X4 |
| 120 | X1 to X3 X2 to X4 | X1 & X4 |

HS12 Series (1 kVA only)

\perp = Earth Ground

Note:

Connect the electrostatic shield to the equipment ground (green) or to both the equipment ground and the system ground (white). Specifications are subject to change without notice.

240 X 480 Volt Primary
120/240 Volt Secondary
Taps: 2, 2½% FCAN & FCBN

17

| Primary Voltage | Interconnect | Connect Lines to |
|-------------------|---------------------------|------------------|
| 504 | H4 to H5 | H1 & H8 |
| 492 | H3 to H5 | H1 & H8 |
| 480 | H3 to H6 | H1 & H8 |
| 468 | H2 to H6 | H1 & H8 |
| 456 | H2 to H7 | H1 & H8 |
| Secondary Voltage | Interconnect | Connect Lines to |
| 252 | H1 to H5 H4 to H8 | H1 & H8 |
| 240 | H1 to H6 H3 to H8 | H1 & H8 |
| 228 | H1 to H7 H2 to H8 | H1 & H8 |
| Secondary Voltage | Interconnect | Connect Lines to |
| 240 | X2 to X3 | X1 & X4 |
| 120-0-120 | X2 to X3 X2 to \perp | X1-X2-X4 |
| 120 | X1 to X3 X2 to X4 | X1 & X4 |

HS5 Series

120/208/240/277 Volt Primary
120/240 Volt Secondary
Taps: None

20

| Primary Voltage | Interconnect | Connect Lines to |
|-------------------|---------------------------|------------------|
| 277 | H4 to H5 | H1 & H8 |
| 240 | H3 to H6 | H1 & H8 |
| 208 | H2 to H7 | H1 & H8 |
| Secondary Voltage | Interconnect | Connect Lines to |
| 120 | H1 to H6 H3 to H8 | H1 & H8 |
| Secondary Voltage | Interconnect | Connect Lines to |
| 240 | X2 to X3 | X1 & X4 |
| 120-0-120 | X2 to X3 X2 to \perp | X1-X2-X4 |
| 120 | X1 to X3 X2 to X4 | X1 & X4 |

HS12 Series

Electrical Connections (Single Phase)

600 Volt Primary,
120/240 Volt Secondary
Taps: None

21

| Primary Voltage | Interconnect | Connect Lines to |
|-------------------|---------------------------|------------------|
| 600 | | H1 & H2 |
| Secondary Voltage | Interconnect | Connect Lines to |
| 240 | X2 to X3 | X1 & X4 |
| 120-0-120 | X2 to X3 X2 to \perp | X1, X2 & X4 |
| 120 | X1 to X3 X2 to X4 | X1 & X4 |

HS10 Series

Note: 1 through 2 kVA units have electrostatic shielding.

600 Volt Primary
120/240 Volt Secondary
Taps: 2, 5% FCBN

22

| Primary Voltage | Interconnect | Connect Lines to |
|-------------------|---------------------------|------------------|
| 600 | H3 to H4 | H1 & H6 |
| 570 | H2 to H4 | H1 & H6 |
| 540 | H2 to H5 | H1 & H6 |
| Secondary Voltage | Interconnect | Connect Lines to |
| 240 | X2 to X3 | X1 & X4 |
| 120-0-120 | X2 to X3 X2 to \perp | X1-X2-X4 |
| 120 | X1 to X3 X2 to X4 | X1 & X4 |

HS10 Series

190/200/208/220/380/400/415/440 Volt Pri.
110/220 Volt Secondary
Taps: None

23

| Primary Voltage | Interconnect | Connect Lines to |
|-------------------|---------------------------|------------------|
| 440 | H5 to H6 | H1 & H10 |
| 415 | H4 to H6 | H1 & H9 |
| 400 | H3 to H6 | H1 & H8 |
| 380 | H2 to H6 | H1 & H7 |
| 220 | H1 to H6 H5 to H10 | H1 & H10 |
| 208 | H1 to H6 H4 to H9 | H1 & H9 |
| 200 | H1 to H6 H3 to H8 | H1 & H8 |
| 190 | H1 to H6 H2 to H7 | H1 & H7 |
| Secondary Voltage | Interconnect | Connect Lines to |
| 220 | X2 to X3 | X1 & X4 |
| 110-0-110 | X2 to X3 X2 to \perp | X1, X2 & X4 |
| 110 | X1 to X3 X2 to X4 | X1 & X4 |

HS14 Series (1 kVA only)

190/200/208/220/380/400/415/440 Volt Pri.
110/220 Volt Secondary
Taps: None

24

| Primary Voltage | Interconnect | Connect Lines to |
|-------------------|---------------------------|------------------|
| 440 | H5 to H6 | H1 & H10 |
| 415 | H4 to H7 | H1 & H10 |
| 400 | H3 to H8 | H1 & H10 |
| 380 | H2 to H9 | H1 & H10 |
| 220 | H1 to H6, H5 to H10 | H1 & H10 |
| 208 | H1 to H7, H4 to H10 | H1 & H10 |
| 200 | H1 to H8, H3 to H10 | H1 & H10 |
| 190 | H1 to H9 H2 to H10 | H1 & H10 |
| Secondary Voltage | Interconnect | Connect Lines to |
| 220 | X2 to X3 | X1 & X4 |
| 110-0-110 | X2 to X3 X2 to \perp | X1, X2 & X4 |
| 110 | X1 to X3 X2 to X4 | X1 & X4 |

HS14 Series



Note:

Connect the electrostatic shield to the equipment ground (green) or to both the equipment ground and the system ground (white). Specifications are subject to change without notice.

Electrical Connections (Three Phase)

240 Δ Volt Primary 208Y/120 Volt Secondary
Taps: 2, 5% FCBN **25**

| Primary Voltage | Connect Taps | Connect Lines To |
|-------------------|--------------------|------------------|
| 240 | 1-H1 & 2-H2 & 3-H3 | H1, H2, H3 |
| 228 | 4-H1 & 5-H2 & 6-H3 | H1, H2, H3 |
| 216 | 7-H1 & 8-H2 & 9-H3 | H1, H2, H3 |
| Secondary Voltage | Interconnect | Connect Lines To |
| 208 | | X1, X2, & X3 |
| 120 | | X0, X1, X2, X3 |

HT6 Series

208 Δ Volt Primary 208Y/120 Volt Secondary
Taps: 2, 5% FCBN **26**

| Primary Voltage | Connect Taps | Connect Lines To |
|-------------------|--------------------|------------------|
| 208 | 1-H1 & 2-H2 & 3-H3 | H1, H2, H3 |
| 198 | 4-H1 & 5-H2 & 6-H3 | H1, H2, H3 |
| 187 | 7-H1 & 8-H2 & 9-H3 | H1, H2, H3 |
| Secondary Voltage | Interconnect | Connect Lines To |
| 208 | | X1, X2, & X3 |
| 120 | | X0, X1, X2, X3 |

HT3 Series

480 Δ Volt Primary 208Y/120 Volt Secondary
Taps: 2, 5% FCBN **27**

| Primary Voltage | Interconnect | Connect Lines to |
|-------------------|---------------------|------------------|
| 480 | 1-H1 & 2-H2 & 3- H3 | H1, H2, H3 |
| 456 | 4-H1 & 5-H2 & 6- H3 | H1, H2, H3 |
| 432 | 7-H1 & 8-H2 & 9- H3 | H1, H2, H3 |
| Secondary Voltage | Interconnect | Connect Lines to |
| 208 | | X1, X2, & X3 |
| 120 | | X0, X1, X2, X3 |

HT1 Series

480 Δ Volt Primary 240 Δ w/120 CT Volt Secondary
Taps: 2, 5% FCBN **28**

| Primary Voltage | Connect Taps | Connect Lines To |
|-------------------|--------------------|------------------|
| 480 | 1-H1 & 2-H2 & 3-H3 | H1, H2, H3 |
| 456 | 4-H1 & 5-H2 & 6-H3 | H1, H2, H3 |
| 432 | 7-H1 & 8-H2 & 9-H3 | H1, H2, H3 |
| Secondary Voltage | Interconnect | Connect Lines To |
| 240 | | X1, X2, X3 |
| 120-0-120 | X6 to | X1-X6-X3 |

HT5 Series

480 Δ Volt Primary 380Y/220 Volt Secondary
Taps: 2, 5% FCBN **29**

| Primary Voltage | Interconnect | Connect Lines to |
|-------------------|--------------------|------------------|
| 480 | 1-H1 & 2-H2 & 3-H3 | H1, H2 & H3 |
| 456 | 4-H1 & 5-H2 & 6-H3 | H1, H2 & H3 |
| 432 | 7-H1 & 8-H2 & 9-H3 | H1, H2 & H3 |
| Secondary Voltage | Interconnect | Connect Lines to |
| 380 | | X1, X2, X3 |
| 220 | | X0, X1, X2, X3 |

HT9 Series

= Earth Ground

Notes:

Connect the electrostatic shield to the equipment ground (green) or to both the equipment ground and the system ground (white). Specifications are subject to change without notice.

Electrical Connections (Three Phase)

600 Δ Volt Primary
208Y/120 Volt Secondary
Taps: 2, 5% FCBN

30

| Primary Voltage | Connect Taps | Line Leads |
|-------------------|--------------------|----------------|
| 600 | 1-H1 & 2-H2 & 3-H3 | H1, H2, H3 |
| 570 | 4-H1 & 5-H2 & 6-H3 | H1, H2, H3 |
| 540 | 7-H1 & 8-H2 & 9-H3 | H1, H2, H3 |
| Secondary Voltage | | Line Leads |
| 208 | | X1, X2, X3 |
| 120 | | X0, X1, X2, X3 |

HT7 Series

208 Δ Volt Primary
480Y/277 Volt Secondary
Taps: 2, 5% FCBN

31

| Primary Voltage | Connect Taps | Line Leads |
|-------------------|--------------------|----------------|
| 208 | 1-X1 & 2-X2 & 3-X3 | X1, X2, X3 |
| 198 | 4-X1 & 5-X2 & 6-X3 | X1, X2, X3 |
| 187 | 7-X1 & 8-X2 & 9-X3 | X1, X2, X3 |
| Secondary Voltage | | Line Leads |
| 480 | | H1, H2, H3 |
| 277 | | H0, H1, H2, H3 |

HT84 Series

240 Δ Volt Primary
480Y/277 Volt Secondary
Taps: 2, 5% FCBN

32

| Primary Voltage | Connect Taps | Line Leads |
|-------------------|--------------------|----------------|
| 240 | 1-X1 & 2-X2 & 3-X3 | X1, X2, X3 |
| 228 | 4-X1 & 5-X2 & 6-X3 | X1, X2, X3 |
| 216 | 7-X1 & 8-X2 & 9-X3 | X1, X2, X3 |
| Secondary Voltage | | Line Leads |
| 480 | | H1, H2, H3 |
| 277 | | H0, H1, H2, H3 |

HT85 Series

Notes:

Connect the electrostatic shield to the equipment ground (green) or to both the equipment ground and the system ground (white). Specifications are subject to change without notice.