

## Drive Isolation Transformers: 7.5–440 kVA, Three Phase

### Special Voltages and kVA Sizes for Drive Applications

For SCR (Silicon Control Rectifier) variable speed motor drive applications, a transformer is needed to magnetically isolate the incoming line from the motor drive. The transformer must also provide a voltage change to match the required voltage of the SCR Drive. Standard designs are delta primary and wye secondary to match the common power sources required in most three phase rectifier circuits.

SolaHD Drive Isolation Transformers are specifically designed to handle the mechanical stresses, voltage demands and harmonics associated with SCR applications.

### Applications


- SCR Variable Speed Drives

### Features



- Available from 7.5 thru 440 kVA, 3 Phase, 60 Hz
- Isolation minimizes load disturbances caused by the SCR drive
- UL Listed/NEMA Type 3R enclosures when used with optional weather shield
- Taps on all units for adjustments to incoming source voltage. Full capacity secondary neutral as required by the National Electric Code
- Shielding attenuates line to ground noise
- 10 year limited warranty

### Certifications and Compliances

#### All Models

-  Listed
  - E25872 (UL 1561) or E77014 (UL 5085)
  - RoHS Compliant

#### Selection Table 1: Three Phase

-  Listed (7.5kVA Models only)
-  Certified (11 and 14kVA Models only)

### Related Products

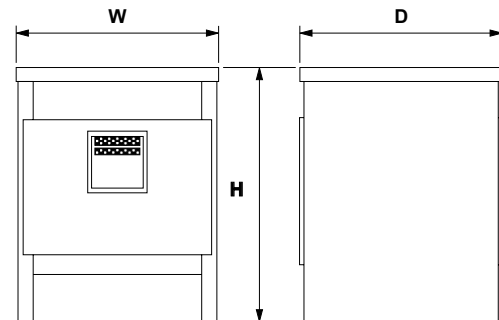
- Surge Protective Devices
- K-13 Rated Transformers for Variable Frequency Drives

### Accessories

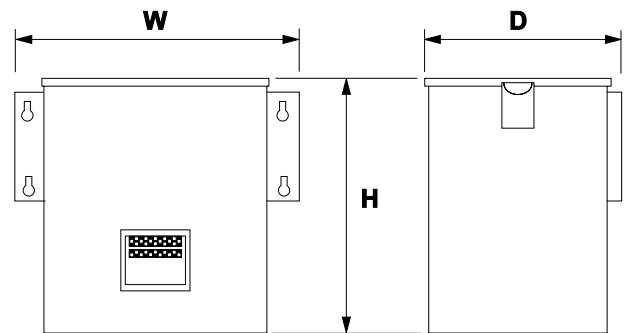
- Weather Shields



### Design Styles



Style 1 - Ventilated



Style 4 - Encapsulated

Selection Table 1: Three Phase

| kVA              | Drive Horse Power | Group I Catalog Number                       | Group II Catalog Number                      | Group III Catalog Number                     | NEMA 3R Weather Shield <sup>(1)</sup> | Dimensions     |                |               | Approx. Ship Weight lbs (kg) | Design Style |
|------------------|-------------------|--|--|--|---------------------------------------|----------------|----------------|---------------|------------------------------|--------------|
|                  |                   | 460 Δ Primary<br>460Y/266 Secondary<br>60 Hz | 460 Δ Primary<br>230Y/133 Secondary<br>60 Hz | 575 Δ Primary<br>230Y/133 Secondary<br>60 Hz |                                       | Height in (mm) | Width in (mm)  | Depth in (mm) |                              |              |
| 7.5 <sup>2</sup> | 5                 | DT651F7.5S                                   | DT661F7.5S                                   | DT631F7.5S                                   | N/A <sup>(2)</sup>                    | 17.00 (431.8)  | 20.00 (508.0)  | 10.00 (254.0) | 236.0 (107.00)               | 4            |
| 11 <sup>3</sup>  | 7.5               | DT651H11S                                    | DT661H11S                                    | DT631H11S                                    | WS-02                                 | 23.00 (584.2)  | 18.00 (457.2)  | 14.00 (355.6) | 166.0 (72.00)                | 1            |
| 14 <sup>3</sup>  | 10                | DT651H14S                                    | DT661H14S                                    | DT631H14S                                    | WS-02                                 | 23.00 (584.2)  | 18.00 (457.2)  | 14.00 (355.6) | 180.0 (82.00)                | 1            |
| 20               | 15                | DT651H20S                                    | DT661H20S                                    | DT631H20S                                    | WS-02                                 | 23.00 (584.2)  | 18.00 (457.2)  | 14.00 (355.6) | 210.0 (95.00)                | 1            |
| 27               | 20                | DT651H27S                                    | DT661H27S                                    | DT631H27S                                    | WS-14                                 | 28.00 (711.2)  | 23.00 (584.2)  | 16.00 (406.4) | 277.0 (126.00)               | 1            |
| 34               | 25                | DT651H34S                                    | DT661H34S                                    | DT631H34S                                    | WS-14                                 | 28.00 (711.2)  | 23.00 (584.2)  | 16.00 (406.4) | 309.0 (140.00)               | 1            |
| 40               | 30                | DT651H40S                                    | DT661H40S                                    | DT631H40S                                    | WS-14                                 | 28.00 (711.2)  | 23.00 (584.2)  | 16.00 (406.4) | 329.0 (149.00)               | 1            |
| 51               | 40                | DT651H51S                                    | DT661H51S                                    | DT631H51S                                    | WS-14                                 | 28.00 (711.2)  | 23.00 (584.2)  | 16.00 (406.4) | 372.0 (169.00)               | 1            |
| 63               | 50                | DT651H63S                                    | DT661H63S                                    | DT631H63S                                    | WS-30                                 | 34.00 (863.6)  | 28.00 (711.2)  | 22.00 (558.8) | 479.0 (217.00)               | 1            |
| 75               | 60                | DT651H75S                                    | DT661H75S                                    | DT631H75S                                    | WS-30                                 | 34.00 (863.6)  | 28.00 (711.2)  | 22.00 (558.8) | 510.0 (231.00)               | 1            |
| 93               | 75                | DT651H93S                                    | DT661H93S                                    | DT631H93S                                    | WS-30                                 | 34.00 (863.6)  | 28.00 (711.2)  | 22.00 (558.8) | 637.0 (289.00)               | 1            |
| 118              | 100               | DT651H118S                                   | DT661H118S                                   | DT631H118S                                   | WS-10                                 | 44.00 (1117.6) | 33.00 (838.2)  | 21.00 (533.4) | 910.0 (413.00)               | 1            |
| 145              | 125               | DT651H145S                                   | DT661H145S                                   | DT631H145S                                   | WS-10                                 | 44.00 (1117.6) | 33.00 (838.2)  | 21.00 (533.4) | 920.0 (417.00)               | 1            |
| 175              | 150               | DT651H175S                                   | DT661H175S                                   | DT631H175S                                   | WS-11                                 | 46.00 (1168.4) | 36.00 (914.4)  | 24.00 (609.6) | 1150.0 (522.00)              | 1            |
| 220              | 200               | DT651H220S                                   | DT661H220S                                   | DT631H220S                                   | WS-11                                 | 46.00 (1168.4) | 36.00 (914.4)  | 24.00 (609.6) | 1280.0 (581.00)              | 1            |
| 275              | 250               | DT651H275S                                   | DT661H275S                                   | DT631H275S                                   | WS-11                                 | 46.00 (1168.4) | 36.00 (914.4)  | 24.00 (609.6) | 1415.0 (642.00)              | 1            |
| 330              | 300               | DT651H330S                                   | DT661H330S                                   | DT631H330S                                   | WS-11                                 | 46.00 (1168.4) | 36.00 (914.4)  | 24.00 (609.6) | 1525.0 (692.00)              | 1            |
| 440              | 400               | DT651H440S                                   | DT661H440S                                   | DT631H440S                                   | WS-12                                 | 65.00 (1651.0) | 45.00 (1143.0) | 35.00 (889.0) | 2450.0 (1111.00)             | 1            |

Notes:

1. Weather shields come in a set of two and must be ordered separately.
2. Encapsulated. No weather shield required. cULus E77014.
3. Units are CSA marked.

Electrical Connection Key

| Group            | Electrical Connection Number |
|------------------|------------------------------|
| <b>Group I</b>   |                              |
| 7.5 kVA .....    | 1                            |
| 11-440 kVA ..... | 4                            |
| <b>Group II</b>  |                              |
| 7.5 kVA .....    | 2                            |
| 11-440 kVA ..... | 5                            |
| <b>Group III</b> |                              |
| 7.5 kVA .....    | 3                            |
| 11-440 kVA ..... | 6                            |

## Electrical Connections

460 Δ Primary, 460Y/266 Volt Secondary  
Taps: 1,5% FCAN; 1,5% FCBN **1**

| Primary Voltage   | Connect            | Line Leads    |
|-------------------|--------------------|---------------|
| 483               | 1-H1 & 2-H2 & 3-H3 | H1, H2, H3    |
| 460               | 4-H1 & 5-H2 & 6-H3 | H1, H2, H3    |
| 437               | 7-H1 & 8-H2 & 9-H3 | H1, H2, H3    |
| Secondary Voltage |                    | Line Leads    |
| 460               |                    | X1, X2, X3    |
| 266               |                    | X0-X1, X2, X3 |

460 Δ Primary, 230Y/133 Volt Secondary  
Taps: 1,5% FCAN; 1,5% FCBN **2**

| Primary Voltage   | Connect Taps       | Line Leads    |
|-------------------|--------------------|---------------|
| 483               | 1-H1 & 2-H2 & 3-H3 | H1, H2, H3    |
| 460               | 4-H1 & 5-H2 & 6-H3 | H1, H2, H3    |
| 437               | 7-H1 & 8-H2 & 9-H3 | H1, H2, H3    |
| Secondary Voltage |                    | Line Leads    |
| 230               |                    | X1, X2, X3    |
| 133               |                    | X0-X1, X2, X3 |

575 Δ Primary, 230Y/133 Volt Secondary  
Taps: 1,5% FCAN; 1,5% FCBN **3**

| Primary Voltage   | Connect Taps       | Line Leads    |
|-------------------|--------------------|---------------|
| 604               | 1-H1 & 2-H2 & 3-H3 | H1, H2, H3    |
| 575               | 4-H1 & 5-H2 & 6-H3 | H1, H2, H3    |
| 546               | 7-H1 & 8-H2 & 9-H3 | H1, H2, H3    |
| Secondary Voltage |                    | Line Leads    |
| 230               |                    | X1, X2, X3    |
| 133               |                    | X0-X1, X2, X3 |

Electrical Connections

