

Hammond HPS Drive Isolation Transformers



HPS Drive Isolation Transformers are designed to meet the rugged demands of AC and DC variable speed drives and also to provide the required voltage change. The separate primary and secondary windings provide electrical isolation between the incoming line and the VFD input. The windings are designed to withstand over-current of 150% of the rated load for 60 seconds or 200% of the rated load for 30 seconds. (A duty cycle of one start for every two hours is permitted.)

Benefits

- Standard Type 3R enclosure suitable for indoor or outdoor applications.
- Standard integral floor mounting brackets up to 220kVA allow for faster installation.
- All units utilize a uniform 220°C insulation system with 80°C, 115°C, or 150°C temperature rise.
- Industry-leading design solutions, technology and materials continue the legacy of quality and reliability in all HPS products.

Features

- Winding monitoring thermostat included.
- Primary taps to compensate for voltage variations.
- Core & Coil Construction:
 - Manufactured from quality non-aging, cold-rolled, silicon steel laminations using state-of-the-art equipment.
 - Cores are precision cut to close tolerances which eliminates burrs and improves performance.
 - Core is coated to prevent the ingress of moisture.
 - Precision wound with copper or aluminum conductors that are electrically balanced to minimize axial forces during short-circuit conditions.
 - Robust interface between core and coils for better short-circuit performance.
- Conductor Material: Copper or aluminum (see transformer nameplate for details).
- Temperature Rise: 150°C typical (low rise options available).
- Insulation System: 220°C



DM007JJ



DM063JJ



Agency Approvals

- UL Listed: File 112313
- CSA Certified: File: LR3902





Hammond Drive Isolation Transformers Selection Guide Aluminum Wound, Three Phase 460 Delta Primary Volts, 460Y Secondary Volts, 60Hz

| Part Number | Price | kVA | Case Style | Weight (lb [kg]) | Mounting Type | Wiring Diagram | Drawing |
|-------------------------|------------|-----|------------|------------------|----------------|----------------|---------------------|
| DM007JJ | \$1,233.00 | 7.5 | NH5 | 150 [68.0] | Floor or Wall* | SCD8 | PDF |
| DM011JJ | \$1,371.00 | 11 | NH5 | 160 [72.0] | Floor or Wall* | SCD8 | PDF |
| DM014JJ | \$1,397.00 | 14 | NH5 | 170 [77.0] | Floor or Wall* | SCD8 | PDF |
| DM020JJ | \$1,742.00 | 20 | NH6 | 240 [108.0] | Floor or Wall* | SCD7 | PDF |
| DM027JJ | \$1,876.00 | 27 | NH6 | 300 [135.0] | Floor or Wall* | SCD7 | PDF |
| DM034JJ | \$2,031.00 | 34 | NH6 | 330 [149.0] | Floor or Wall* | SCD7 | PDF |
| DM040JJ | \$2,156.00 | 40 | NH6 | 350 [158.0] | Floor or Wall* | SCD7 | PDF |
| DM051JJ | \$2,371.00 | 51 | NH6 | 430 [194.0] | Floor or Wall* | SCD7 | PDF |
| DM063JJ | \$2,985.00 | 63 | NH3 | 530 [239.0] | Floor or Wall* | SCD7 | PDF |
| DM075JJ | \$3,037.00 | 75 | NH3 | 580 [261.0] | Floor or Wall* | SCD7 | PDF |
| DM093JJ | \$3,579.00 | 93 | NH3 | 630 [284.0] | Floor or Wall* | SCD7 | PDF |
| DM118JJ | \$3,993.00 | 118 | NH3 | 730 [329.0] | Floor or Wall* | SCD7 | PDF |
| DM145JJ | \$4,887.00 | 145 | NH4 | 830 [374.0] | Floor | SCD7 | PDF |
| DM175JJ | \$5,721.00 | 175 | NH4 | 930 [419.0] | Floor | SCD7 | PDF |
| DM220JJ | \$6,525.00 | 220 | NH4 | 1350 [610.0] | Floor | SCD9 | PDF |

* Integral wall mounting included on units up to 51 kVA (430lb [194.0 kg]). Additional wall mounting kits and or/drip plate kits not sold by AutomationDirect.com. Purchase from Hammond Power Solutions.

Hammond HPS Drive Isolation Transformers



| Hammond Drive Isolation Transformers Specifications Aluminum Wound, Three Phase – 460 Delta Primary Volts, 460Y Secondary Volts | | |
|--|---|--|
| |  <p>7.5 to 175 kVA</p> |  <p>220 kVA</p> |
| UL Listed | File: E112313 | File: E112313 |
| CSA Certified | File: LR3902 | File: LR3902 |
| Frequency | 60Hz | 60Hz |
| Insulation System | 220°C [150°C rise] 200°C (130°C rise) on some copper units up to 40kVA | 220°C [150°C rise] |
| Enclosure Type | Heavy-duty ventilated type 3R | Heavy-duty ventilated type 3R |
| Enclosure Finish | ANSI 61 Grey, UL50 | ANSI 61 Grey, UL50 |
| Neutral | Neutral terminal for field connection (on applicable units) | Neutral terminal for field connection (on applicable units) |
| Standard Primary Taps | Refer to wiring diagrams for details | Refer to wiring diagrams for details |
| Termination | Front accessible separate high- and low-voltage terminations suitable for copper and aluminum are provided for easy cable installation | Front accessible separate high- and low-voltage terminations suitable for copper and aluminum are provided for easy cable installation |
| Thermostat | Standard on all units (NC contacts rated 5.0 A / 120VAC 2.5 A / 240VAC) | Standard on all units (NC contacts rated 5.0 A / 120VAC 2.5 A / 240VAC) |
| Conduit Knock-Outs | Standard on all units (no knock-outs on stainless steel enclosures) | Standard on all units (no knock-outs on stainless steel enclosures) |
| Impedance | Typically 3% to 6% | Typically 3% to 6% |
| Mounting | Floor mounting available on all units. Wall and ceiling mount available on units up to 750lb [340.2 kg]. Purchase from Hammond Power Solutions. | Floor mounting only |
| Short-Circuit Withstand | Meets UL and CSA short-circuit withstand requirements | Meets UL and CSA short-circuit withstand requirements |

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Wiring Diagrams

| Schematic SCD7 | Connections | | |
|----------------|-----------------------------|----------------------------|---------------|
| | Primary volts | Connect lines to | Inter-connect |
| | 208 218 242 252 437 480 483 | H1, H2, H3 | 1 |
| | 198 208 230 240 416 456 460 | H1, H2, H3 | 2 |
| | 187 198 219 228 395 432 437 | H1, H2, H3 | 3 |
| | Secondary volts | Connect lines to | |
| | 208 230 240 380 416 460 | X1, X2, X3 | |
| | 120 133 139 220 240 265 | X1, X0 X2, X0 X3, X0 | |

| Schematic SCD8 | Connections | | |
|----------------|-------------------------|----------------------------|---------------|
| | Primary volts | Connect lines to | Inter-connect |
| | 218 242 252 437 483 | H1, H2, H3 | 1-2 |
| | 208 230 240 416 460 | H1, H2, H3 | 2-3 |
| | 198 219 228 395 437 | H1, H2, H3 | 3-4 |
| | Secondary volts | Connect lines to | |
| | 208 230 240 380 416 460 | X1, X2, X3 | |
| | 120 133 139 220 240 265 | X1, X0 X2, X0 X3, X0 | |

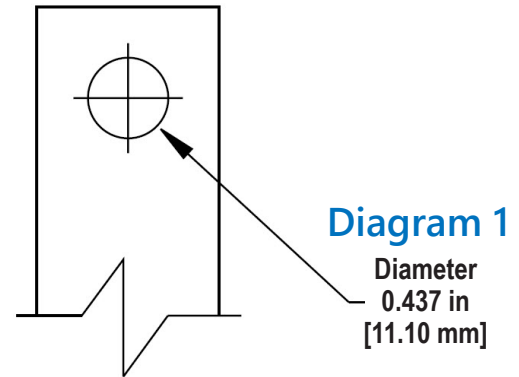
| Schematic SCD9 | Connections | | |
|----------------|---------------------|----------------------------|---------------|
| | Primary volts | Connect lines to | Inter-connect |
| | 218 242 252 437 483 | H1, H2, H3 | 1 |
| | 213 236 246 426 472 | H1, H2, H3 | 2 |
| | 208 230 240 416 460 | H1, H2, H3 | 3 |
| | 203 224 234 406 449 | H1, H2, H3 | 4 |
| | 198 219 228 395 437 | H1, H2, H3 | 5 |
| | Secondary volts | Connect lines to | Inter-connect |
| | 208 380 416 460 | X1, X2, X3 | – |
| | 120 220 240 266 | X1, X0 X2, X0 X3, X0 | – |

Hammond HPS Drive Isolation Transformers



Termination Type

| Three-Phase, Aluminum and Copper Termination (460V) | |
|---|-------------|
| kVA | Termination |
| 7.5 | Lugs |
| 11 | Lugs |
| 14 | Lugs |
| 20 | Lugs |
| 27 | Lugs |
| 34 | Lugs |
| 40 | Lugs |
| 51 | Lugs |
| 63 | Lugs |
| 75 | Lugs |
| 93 | Lugs |
| 118 | Lugs |
| 145 | Lugs |
| 175 | Lugs |
| 220 | Diagram 1 |



Selecting the Drive Isolation Transformer

Select the Drive Isolation Transformer according to the **recommendations from the motor drive system manufacturer or supplier**. If this information is unavailable, use the table below as a guide for selecting the transformer kVA for a required motor horsepower.

| Motor HP to Transformer kVA Selection Table | |
|---|-----------------|
| Motor HP | Transformer kVA |
| 5 | 7.5 |
| 7.5 | 11 |
| 10 | 14 |
| 15 | 20 |
| 20 | 27 |
| 25 | 34 |
| 30 | 40 |
| 40 | 51 |
| 50 | 63 |
| 60 | 75 |
| 75 | 93 |
| 100 | 118 |
| 125 | 145 |
| 150 | 175 |
| 200 | 220 |
| 250 | 275 |
| 300 | 330 |
| 400 | 440 |
| 500 | 550 |
| 600 | 660 |

Thermostat Contacts Connection

