Hammond HPS Drive Isolation Transformers

Hammond Power Solutions

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.)

DM007JJ

DM063JJ

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: 150ºC typical (low rise options available).
- Insulation System: 220°C

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.***

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Hammond Drive Isolation Transformers Specifications Aluminum Wound, Three Phase – 460 Delta Primary Volts, 460Y Secondary Volts		
	 ***7.5 to 175 kVA***	 ***220 kVA***
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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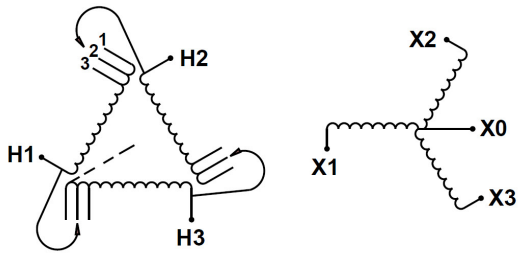
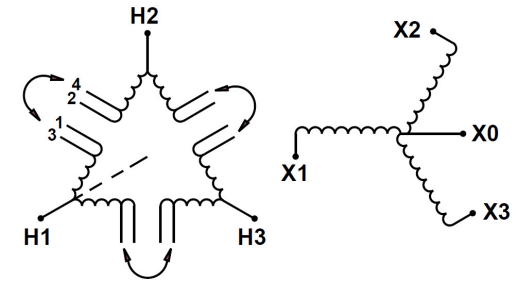
Wiring Diagrams

Schematic SCD7



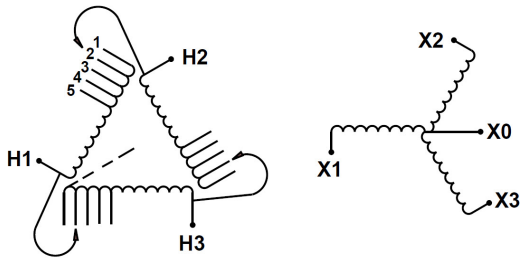
Connections		
Primary volts	***Connect lines to***	***Inter-connect***
208 218 242 252 437 480 483	H1, H2, H3	1
198 208 230 240 416 456 460	H1, H2, H3	2
187 198 219 228 395 432 437	H1, H2, H3	3
Secondary volts	***Connect lines to***	
208 230 240 380 416 460	X1, X2, X3	
120 133 139 220 240 265	X1, X0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

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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

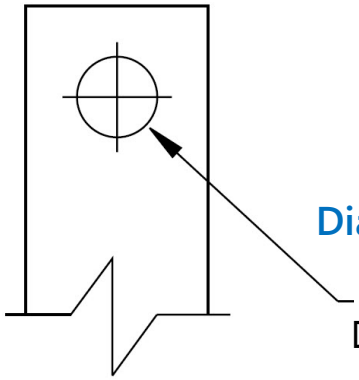

Diagram 1

Diameter 0.437 in [11.10 mm]

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