Drive Isolation & Protection

SOLAHD



Drive Isolation Transformers

SLR Series Line Reactors	0
Drive Isolation Transformers5	1
Selection Table and Design Styles5 Electrical Connections	2 3
Frequently Asked Questions	7

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SLR Line Reactors

SolaHD introduces DIN Rail mounted line reactors as the latest addition to a family of power quality products with a reputation for increasing industrial automation system performance.

The SLR Series is a CE style, DIN Rail Mounted line reactor that provides safe, compact protection for high frequency drives and electronic equipment. The SLR inductive filter prevents damage to any three phase electronic system plagued by capacitor or large load switching. Other benefits include reduced harmonics and input line distortion.

For SCR drive protection, SolaHD recommends our Drive Isolation Transformers (from 7.5 to 440 kVA) to completely isolate the negative effects of SCR drive technology.

No matter what the drive protection, SolaHD has the complete solution.

Applications

- Variable Frequency Drives
- Any three phase electronic products subject to high current anomalies such as Power Factor Correction capacitor switching.
- SCR Drives

Related Products

Selection Table

50

- Drive Isolation Transformers
- K-13 Rated Transformers for Variable Speed Drives





Features

- Compact, IP 20 finger safe packaging
- 2-20 HP available
- DIN Rail mount through 20 HP
- Reduces stress on drive components keeping drives running longer
- Removes harmonics and helps keep line voltage smooth through notching
- Reduces nuisance tripping to provide stable system performance
- Eliminates drive cross-talk and interference
- 10-Year warranty

Ship Weight Output Impedance I/0 Dimensions **Catalog Number** Power mΗ Phase Mounting Amperage (%Z) Voltage $(H \times W \times D) - in (mm)$ lbs (kg) SLR-2H-480-3 2 HP 3.4 A 5513 6 (2.72) SLR-3H-480-3 3 HP 4.8 A 3675 6 (2.72) 4.84 x 4.80 x 4.56 5 HP SLR-5H-480-3 7.6 A 2757 6 (2.72) (123 x 122 x 116) 480 VAC З З **DIN Rail** SLR-7H-480-3 7.5 HP 11.0 A 1838 7 (3.17) SLR-10H-480-3 10 HP 14.0 A 1376 7 (3.17) SLR-15H-480-3 15 HP 21.0 A 1050 9 (4.08) 4.84 x 5.90 x 4.56 (123 x 150 x 116) SLR-20H-480-3 27.0 A 817 20 HP 16 (7.26)

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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.

Features

- Available from 7.5 thru 440 kVA, 3 Phase, 60 Hz.
- Isolation minimizes load disturbances caused by the SCR drive.
- UL-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 warranty

Related Products

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

Accessories

• Weather Shields

Applications

• SCR Variable Speed Drives

Design Styles





51

Sizing Information (from Selection Table)

To properly size a drive isolation transformer, follow the drive manufacturer's recommendations or, if you know the motor horsepower, select the proper kVA from the Selection Table on the next page. See the Transformer Sizing section of Chapter 6 (Distribution Transformers).

Note: Other voltage combinations available. Contact Technical Services.

Available upon special order:

- Totally enclosed, non-ventilated units (Non-UL Listed)
- Copper wound transformers



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U) Listed

Selection Table: Three Phase

									E2001	2
	Drive VA Horse Power	Group I Group II Group II Group II Catalog rive Catalog Number Catalog Number Number	Group III Catalog Number	NEMA 3R	Dimensions				Destina	
kVA		Horse Power	460 D Primary 460Y/266 Secondary 60 Hz	460 D Primary 230Y/133 Secondary 60 Hz	575 D Primary 230Y/133 Secondary 60 Hz	Weather Shield ⁽¹⁾	Height (inch)	Width (inch)	Depth (inch)	lbs (kg)
7.5(2)	5	DT651F7.5S	DT661F7.5S	DT631F7.5S	N/A ⁽²⁾	17	20	10	236 (107)	4
11 ⁽³⁾	7.5	DT651H11S	DT661H11S	DT631H11S	WS-02	23	18	14	166 (72)	1
14(3)	10	DT651H14S	DT661H14S	DT631H14S	WS-02	23	18	14	180 (82)	1
20	15	DT651H20S	DT661H20S	DT631H20S	WS-02	23	18	14	210 (95)	1
27	20	DT651H27S	DT661H27S	DT631H27S	WS-14	28	23	16	277 (126)	1
34	25	DT651H34S	DT661H34S	DT631H34S	WS-14	28	23	16	309 (140)	1
40	30	DT651H40S	DT661H40S	DT631H40S	WS-14	28	23	16	329 (149)	1
51	40	DT651H51S	DT661H51S	DT631H51S	WS-14	28	23	16	372 (169)	1
63	50	DT651H63S	DT661H63S	DT631H63S	WS-30	34	28	22	479 (217)	1
75	60	DT651H75S	DT661H75S	DT631H75S	WS-30	34	28	22	510 (231)	1
93	75	DT651H93S	DT661H93S	DT631H93S	WS-30	34	28	22	637 (289)	1
118	100	DT651H118S	DT661H118S	DT631H118S	WS-10	44	33	21	910 (413)	1
145	125	DT651H145S	DT661H145S	DT631H145S	WS-10	44	33	21	920 (417)	1
175	150	DT651H175S	DT661H175S	DT631H175S	WS-11	46	36	24	1150 (522)	1
220	200	DT651H220S	DT661H220S	DT631H220S	WS-11	46	36	24	1280 (581)	1
275	250	DT651H275S	DT661H275S	DT631H275S	WS-11	46	36	24	1415 (642)	1
330	300	DT651H330S	DT661H330S	DT631H330S	WS-11	46	36	24	1525 (692)	1
440	400	DT651H440S	DT661H440S	DT631H440S	WS-12	65	45	35	2450 (1111)	1

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 I	Electrical Connection Number
7.5 kVA	1
11-440 kVA	4
Group II 7.5 kVA 11-440 kVA	2 5
Group III	
7.5 kVA	3
11-440 kVA	6

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Electrical Connections





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		
Secondary Voltage 230		Line Leads X1, X2, X3		
Secondary Voltage 230 133		Line Leads X1, X2, X3 X0-X1, X2, X3		



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
Secondary Voltage 230		Line Leads X1, X2, X3





Voltage @ Tap		H1_H2_H3	Secondary Voltage			
		Voltage	X1, X2, X3	X0–X1, X2, X3		
	1	483				
	2	460	230	133		
	3	437				



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53

547

3

54

