

# Drive Performance and Protection

## DIN Rail Drive Reactors

### Easy Installation, Superior Performance



**UTILITY**



**KDR**



**DRIVE**



**KLR**



**MOTOR**



#### DIN Rail Mounted:

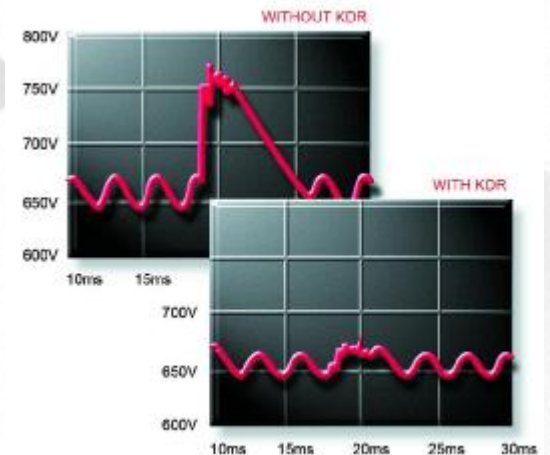
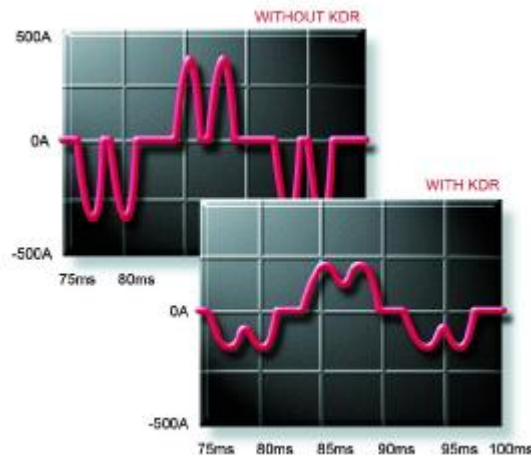
#### KDR™ Optimized Drive Reactors

#### KLR™ Line Reactors

- For smaller applications incorporate DIN Rail Drive Reactors to the input and output of PWM drives.
- Reduce your installation time and cost using our DIN Rail Drive Reactor compatible with any 35mm DIN Rail.
- Mounts to “Standard Steel High Profile” or “Heavy Duty Steel” DIN Rails.
- Reactor mounts horizontally on horizontal DIN Rail.
- Improve organization of reactors and their cabling.

#### KDR At The Input Of The Drive

KDR Optimized Drive Reactors applied to the line side of a PWM drive will greatly improve the overall performance of the drive. The additional circuit inductance will reduce AC voltage waveform line notching, DC bus overvoltage trips, inverter overvoltage, poor total power factor, and cross-talk.



**TRANS-COIL, INC**

480 VOLTS	PART NUMBER	NEC MOTOR HP	NEC MOTOR CURRENT	WATTS LOSS	STANDARD TERMS	DIMENSIONS			WEIGHT	
						HEIGHT	WIDTH	DEPTH		
	LOW-Z									
	KDRA6LDR	0.5	1.1	5.6	TB	4.31	4.18	4.75	4	
	KDRA7LDR	0.75	1.6	10	TB	4.31	4.18	4.75	4	
	KDRA8LDR	1	2.1	10.4	TB	4.31	4.18	4.75	4	
	KDRA9LDR	1.5	3	17	TB	4.31	4.18	4.75	4	
	KDRA1LDR	2	3.4	19	TB	4.31	4.18	4.75	4	
	KDRA2LDR	3	4.8	23	TB	4.31	4.18	4.75	4	
	KDRA3LDR	5	7.6	49	TB	4.31	4.18	4.75	4	
KDRA4LDR	7.5	11	40	TB	4.31	4.18	4.75	4		
KDRA5LDR	10	14	64	TB	4.31	4.18	4.75	5		
KDRB2LDR	15	21	65	TB	5.38	4.50	6.00	8		
KDRB1LDR	20	27	79	TB	5.38	4.50	6.00	8		
HIGH-Z										
KDRA6HDR	0.5	1.1	9	TB	4.31	4.18	4.75	4		
KDRA7HDR	0.75	1.6	15	TB	4.31	4.18	4.75	4		
KDRA8HDR	1	2.1	12	TB	4.31	4.18	4.75	4		
KDRA9HDR	1.5	3	23	TB	4.31	4.18	4.75	4		
KDRA1HDR	2	3.4	33	TB	4.31	4.18	4.75	4		
KDRA2HDR	3	4.8	38	TB	4.31	4.18	4.75	4		
KDRA3HDR	5	7.6	80	TB	4.31	4.18	4.75	4		
KDRA4HDR	7.5	11	77	TB	4.31	4.18	4.75	5		
KDRA5HDR	10	14	111	TB	4.31	4.18	4.75	5		
KDRB2HDR	15	21	133	TB	5.38	4.50	6.00	7		

575 VOLTS	LOW-Z									
	KDRA55LDR	0.5	0.9	6	TB	4.31	4.18	4.75	4	
	KDRA56LDR	0.75	1.3	9.3	TB	4.31	4.18	4.75	4	
	KDRA50LDR	1	1.7	12	TB	4.31	4.18	4.75	4	
	KDRA51LDR	1.5	2.4	19	TB	4.31	4.18	4.75	4	
	KDRA46LDR	2	2.7	22	TB	4.31	4.18	4.75	4	
	KDRA52LDR	3	3.9	23.3	TB	4.31	4.18	4.75	4	
	KDRA47LDR	5	6.1	34.7	TB	4.31	4.18	4.75	4	
	KDRA48LDR	7.5	9	42.9	TB	4.31	4.18	4.75	4	
	KDRA49LDR	10	11	43.8	TB	4.31	4.18	4.75	5	
KDRB45LDR	15	17	66.2	TB	5.38	4.50	6.00	8		
KDRB44LDR	20	22	71.2	TB	5.38	4.50	6.00	8		
KDRB43LDR	25	27	76.7	TB	5.38	4.50	6.00	8		
HIGH-Z										
KDRA55HDR	0.5	0.9	9	TB	4.31	4.18	4.75	4		
KDRA52HDR	0.75	1.3	13	TB	4.31	4.18	4.75	4		
KDRA50HDR	1	1.7	17	TB	4.31	4.18	4.75	4		
KDRA51HDR	1.5	2.4	26	TB	4.31	4.18	4.75	4		
KDRA43HDR	2	2.7	24	TB	4.31	4.18	4.75	4		
KDRA44HDR	3	3.9	35	TB	4.31	4.18	4.75	4		
KDRA45HDR	5	6.1	48	TB	4.31	4.18	4.75	4		
KDRB42HDR	7.5	9	61	TB	5.38	4.50	6.00	8		
KDRB43HDR	10	11	71	TB	5.38	4.50	6.00	8		
KDRB44HDR	15	17	73	TB	5.38	4.50	6.00	8		

240 VOLTS	LOW-Z									
	KDRA54LDR	0.5	2.4	7	TB	4.31	4.18	4.75	4	
	KDRA53LDR	0.75	3.5	12	TB	4.31	4.18	4.75	4	
	KDRA25LDR	1	4.6	11	TB	4.31	4.18	4.75	4	
	KDRA26LDR	1.5	6.6	18	TB	4.31	4.18	4.75	4	
	KDRA27LDR	2	7.5	21	TB	4.31	4.18	4.75	4	
	KDRA28LDR	3	10.6	29	TB	4.31	4.18	4.75	4	
	KDRB22LDR	5	16.7	38	TB	5.38	4.50	6.00	8	
	KDRB23LDR	7.5	24.2	48	TB	5.38	4.50	6.00	8	
	HIGH-Z									
KDRA54HDR	0.5	2.4	14	TB	4.31	4.18	4.75	4		
KDRA53HDR	0.75	3.5	16.8	TB	4.31	4.18	4.75	4		
KDRA25HDR	1	4.6	23.6	TB	4.31	4.18	4.75	4		
KDRA27HDR	1.5	6.6	30.6	TB	4.31	4.18	4.75	4		
KDRA26HDR	2	7.5	30.5	TB	4.31	4.18	4.75	4		
KDRA28HDR	3	10.6	43.1	TB	4.31	4.18	4.75	4		
KDRB25HDR	5	16.7	53.1	TB	5.38	4.50	6.00	8		
KDRB26HDR	7.5	24.2	66.5	TB	5.38	4.50	6.00	8		
PART NUMBER	NEC MOTOR HP	NEC MOTOR CURRENT	WATTS LOSS	STANDARD TERMS	HEIGHT	WIDTH	DEPTH	WEIGHT		

**KDR™**

480 VOLTS OUTPUT	PART NUMBER	NEC MOTOR HP	NEC MOTOR CURRENT	STANDARD TERMS	DIMENSIONS			WEIGHT
					HEIGHT	WIDTH	DEPTH	
	KDRA1PDR	2	3.4	TB	4.31	4.18	4.75	4
	KDRA2PDR	3	4.8	TB	4.31	4.18	4.75	4
	KDRA3PDR	5	7.6	TB	4.31	4.18	4.75	4
	KDRA4PDR	7.5	11	TB	4.31	4.18	4.75	5
	KDRB1PDR	10	14	TB	5.38	4.50	6.00	7

575 VOLTS OUTPUT	PART NUMBER	NEC MOTOR HP	NEC MOTOR CURRENT	STANDARD TERMS	DIMENSIONS			WEIGHT
					HEIGHT	WIDTH	DEPTH	
	KDRA31PDR	2	2.7	TB	4.31	4.18	4.75	4
	KDRA35PDR	3	3.9	TB	4.31	4.18	4.75	4
	KDRA33PDR	5	6.1	TB	4.31	4.18	4.75	4
	KDRA34PDR	7.5	9	TB	4.31	4.18	4.75	4
	KDRA36PDR	10	11	TB	4.31	4.18	4.75	5

**KLR™**

480V, 3% Z 575V, 2.4% Z 240V, 6% Z	PART NUMBER	480V HP†	Watts Loss	Inductance (uH)	DIMENSIONS			WEIGHT
					HEIGHT	WIDTH	DEPTH	
	KLR2ATBDR	1	8	11026	4.31	4.18	4.75	4
	KLR3ATBDR	1.5	9	7351	4.31	4.18	4.75	4
	KLR4ATBDR	2	15	5513	4.31	4.18	4.75	4
	KLR6ATBDR	3	17	3675	4.31	4.18	4.75	5
	KLR8ATBDR	5	27	2757	4.31	4.18	4.75	5
	KLR12ATBDR	7.5	31	1838	5.38	4.50	6.00	7
	KLR16ATBDR	10	38	1376	5.38	4.50	6.00	8

480V, 1.5% Z 240V, 3% Z	PART NUMBER	480V HP†	Watts Loss	Inductance (uH)	DIMENSIONS			WEIGHT
					HEIGHT	WIDTH	DEPTH	
	KLR2BTBDR	1	4	5513	4.31	4.18	4.75	4
	KLR3BTBDR	1.5	5	3667	4.31	4.18	4.75	4
	KLR4BTBDR	2	9	2757	4.31	4.18	4.75	4
	KLR6BTBDR	3	9	1836	4.31	4.18	4.75	4
	KLR8BTBDR	5	14	1378	4.31	4.18	4.75	4
	KLR12BTBDR	7.5	20	919	4.31	4.18	4.75	4
	KLR16BTBDR	10	20	689	5.38	4.50	6.00	7

480V, 5% Z	PART NUMBER	480V HP†	Watts Loss	Inductance (uH)	DIMENSIONS			WEIGHT
					HEIGHT	WIDTH	DEPTH	
	KLR2CTBDR	1	11	18377	4.31	4.18	4.75	4
	KLR3CTBDR	1.5	14	12251	4.31	4.18	4.75	5
	KLR4CTBDR	2	23	9189	4.31	4.18	4.75	5
	KLR6CTBDR	3	22	6126	5.38	4.50	6.00	7
	KLR8CTBDR	5	34	4594	5.38	4.50	6.00	7
	KLR12CTBDR	7.5	54	3063	5.38	4.50	6.00	8

575V, 3% Z	PART NUMBER	575V HP†	Watts Loss	Inductance (uH)	DIMENSIONS			WEIGHT
					HEIGHT	WIDTH	DEPTH	
	KLR2DTBDR	1	9	13784	4.31	4.18	4.75	4
	KLR3DTBDR	1.5-2	12	9189	4.31	4.18	4.75	4
	KLR4DTBDR	3	18	6892	4.31	4.18	4.75	4
	KLR6DTBDR	3	22	4595	4.31	4.18	4.75	5
	KLR8DTBDR	5	28	3446	5.38	4.50	6.00	7
	KLR12DTBDR	7.5	44	2297	5.38	4.50	6.00	7
	KLR16DTBDR	10	52	1723	5.38	4.50	6.00	8

575V, 5% Z	PART NUMBER	575V HP†	Watts Loss	Inductance (uH)	DIMENSIONS			WEIGHT
					HEIGHT	WIDTH	DEPTH	
	KLR2ETBDR	1	13	22973	4.31	4.18	4.75	4
	KLR3ETBDR	1.5-2	17	15315	4.31	4.18	4.75	5
	KLR4ETBDR	3	27	11486	4.31	4.18	4.75	5
	KLR6ETBDR	3	28	7658	5.38	4.50	6.00	7
	KLR8ETBDR	5	48	5743	5.38	4.50	6.00	7

# DIN Rail Drive Reactors

## Optimal Value

### Characteristics

Impedance Protection:	3% or 5% based on fundamental current rating
Tolerance:	Tolerate 200% rated I for a minimum of 3 minutes
System Voltage:	208/240 VAC, 480 VAC, 575/600 VAC
Insulation System:	Class H (180 C or better)
Temperature Rise:	115 C (average)
Ambient Temperature:	40 degrees C
Altitude (Maximum):	1000 meters (Derating necessary above 1000 meters)
Fundamental Frequency:	50/60 hz
Agency Approvals:	CE Marked, UL and CUL Recognized
Inductance Characteristics:	Minimum 95%L at 110% Load Minimum 80%L at 150% Load
Input and Output:	Available for either the line or load side of a PWM drive
Inductance:	Patented Bobbin Design
Harmonics Reduction:	KDR Optimized Drive Reactors will reduce RMS current through the reduction in harmonic content, thereby improving the total power factor
Input Voltage Unbalance:	KDR Optimized Drive Reactor to the input of every drive will help balance the drive input line currents

### Rated for Both Low "Z" (Low Impedance) and High "Z" (High Impedance)

Choose KLR Reactors from 3% and 5% versions or

KDR Optimized Drive Reactors from two ratings versions: Low "Z" and High "Z."

#### Use KLR 3% or KDR Low "Z" Units For:

Any applications where traditionally either a 1.5% or 3% reactor would be applied.

Reduction of nuisance tripping caused by:

- Transient voltages caused by capacitor switching
- Line notching
- DC bus overvoltage tripping
- Inverter overcurrent and overvoltage
- Lower injected percentage of harmonic current
- Improving true power factor
- Reducing cross-talk between drives

#### Use KLR 5% or KDR High "Z" Units For:

Any rugged application where traditionally a 5% reactor would be applied.

KDR High "Z" offers the same superior benefits as Low "Z" plus additional benefits which include:

- Helping prevent drive component damage
- Providing maximum harmonic mitigation without adding capacitance
- Further improving true power factor
- Adding impedance to drives with or without DC link chokes/reactors when more impedance is desired due to a relatively stiff source



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**Performance and Protection for Drives**