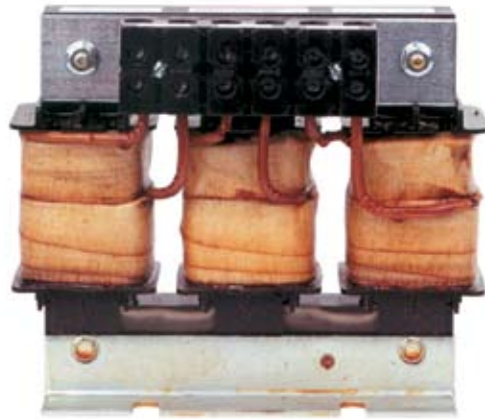


## LINE AND LOAD REACTORS

Line reactors (sometimes called line chokes) are a common power accessory for electronic variable speed drives. These components add an extra margin of protection for AC and DC drives. Load reactors are also used on the output of AC Drives to reduce the effects of high motor wiring capacitance and to “soften” the  $dv/dt$  (high rates of change of voltage) applied to the motor windings.



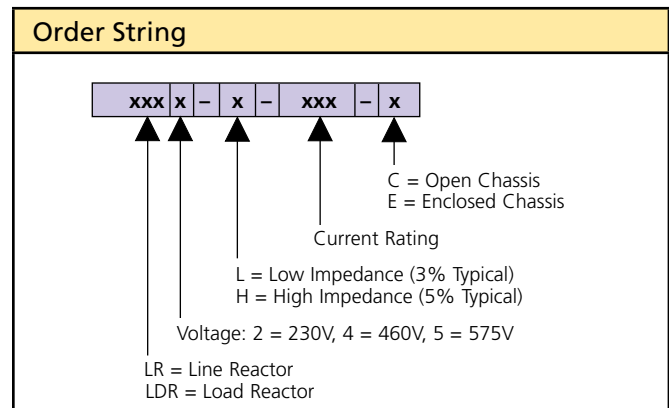
Voltage	600 VAC maximum
Ambient Temperature	40°C (104°F)
Overload	200% for 3 minutes
Standards	CSA UL / cUL Recognized

### Reactors in AC drive applications:

- Help meet IEEE 519 criteria by reducing harmonic distortion of the input line current.
- Improve input line current balance.
- Reduce nuisance drive over-voltage trips caused by transient voltage spikes and power line notches.
- Protect input rectifiers from in-rush current caused by sudden power line surges and sags.
- Extend the life of the DC bus capacitor bank by reducing the internal heating caused by ripple current.
- Protect motor windings from long lead effects when used on the drive output.

### Line Reactors in DC drive applications:

- Minimize crosstalk between multiple SCR drives by reducing line notching and subsequent  $dv/dt$  misfiring / bridge failures.
- Eliminate SCR failures caused by high  $dv/dt$  levels associated with stiff or power factor corrected power lines.
- Protect other line-powered sensitive electronic equipment by filtering electrical noise / interference caused by drives on the power line.



### Commander SK Line and Load Reactor Selection

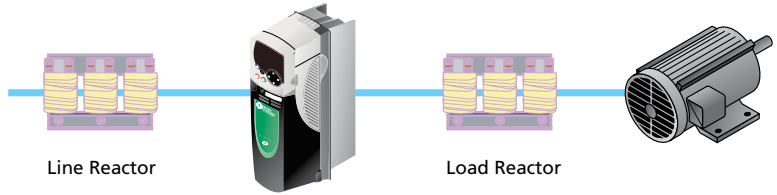


Motor Power (HP)	Order Code	Input Line Reactor Order Code	Current (A)	Output Load Reactor Order Code	Current (A)
<b>230V 1Ø</b>					
0.33	SKA1200025	4402-0224	6.5	LDR2-L-004-X	4.2
0.5	SKA1200037	4402-0224	6.5	LDR2-L-004-X	4.2
0.75	SKA1200055	4402-0225	15.1	LDR2-L-004-X	4.2
1.0	SKA1200075	4402-0225	15.1	LDR2-L-006-X	6
1.5	SKBD200110	4402-0225	15.1	LDR2-L-006-X	6
2.0	SKBD200150	4402-0226	26.2	LDR2-L-010-X	9.6
3.0	SKCD200220	4402-0226	26.2	LDR2-L-015-X	15.2
<b>230V 3Ø</b>					
1.5	SKBD200110	LR2-L-010-X	9.6	LDR2-L-006-X	6
2	SKBD200150	LR2-L-015-X	15.2	LDR2-L-010-X	9.6
3	SKCD200220	LR2-L-022-X	22	LDR2-L-015-X	15.2
5	SKD3200400	LR2-L-022-X	22	LDR2-L-022-X	22
<b>460V 3Ø</b>					
0.5	SKB3400037	LR4-L-005-X	4.8	LDR4-L-003-X	3.4
0.75	SKB3400055	LR4-L-005-X	4.8	LDR4-L-003-X	3.4
1	SKB3400075	LR4-L-005-X	4.8	LDR4-L-003-X	3.4
1.5	SKB3400110	LR4-L-005-X	4.8	LDR4-L-003-X	3.4
2	SKB3400150	LR4-L-008-X	7.6	LDR4-L-005-X	4.8
3	SKC3400220	LR4-L-011-X	11	LDR4-L-008-X	7.6
5	SKC3400400	LR4-L-014-X	14	LDR4-L-014-X	14
7.5	SKD3400550	LR4-L-014-X	14	LDR4-L-014-X	14
10	SKD3400750	LR4-L-021-X	21	LDR4-L-021-X	21

## Line and Load Reactor Selection

### DRIVE ORDER CODE LEGEND

w=SL for Commander SL, or SK for Commander SK  
 y= SK for Commander SK, or  
 CGP for Commander GP20, or SP for Unidrive SP  
 z= CGP for Commander GP20, or SP for Unidrive SP



Motor Power (HP)		Drive Order Code	Input Line Reactor Order Code	Current (A)	Output Load Reactor Order Code	Current (A)
Normal Duty	Heavy Duty					
<b>230 VAC 3Ø</b>						
1.5	1	z1201	LR2-L-010-X	9.6	LDR2-L-006-X	6
2	1.5	z1202	LR2-L-015-X	15.2	LDR2-L-010-X	9.6
3	2	z1203	LR2-L-022-X	22	LDR2-L-010-X	9.6
4	4	z1204	LR2-L-022-X	22	LDR2-L-015-X	15.2
5	4	y2201	LR2-L-022-X	22	LDR2-L-022-X	22
7.5	5	y2202	LR2-L-028-X	28	LDR2-L-022-X	22
10	7.5	y2203	LR2-L-042-X	42	LDR2-L-028-X	28
15	10	y3201	LR2-L-054-X	54	LDR2-L-042-X	42
20	15	y3202	LR2-L-068-X	68	LDR2-L-054-X	54
25	20	y4201	LR2-L-080-X	80	LDR2-L-077-X	77
30	25	y4202	LR2-L-080-X	80	LDR2-L-096-X	96
40	30	y4203	LR2-L-104-X	104	LDR2-L-130-X	130
50	40	y5201	LR2-L-130-X	130	LDR2-L-130-X	130
60	50	y5202	LR2-L-154-X	154	LDR2-L-154-X	154
<b>460 VAC 3Ø</b>						
1.5	1	z1401	LR4-L-005-X	4.8	LDR4-L-003-X	3.4
2	2	z1402	LR4-L-008-X	7.6	LDR4-L-005-X	4.8
3	3	z1403	LR4-L-008-X	7.6	LDR4-L-008-X	7.6
5	4	z1404	LR4-L-011-X	11	LDR4-L-008-X	7.6
5	5	z1405	LR4-L-011-X	11	LDR4-L-011-X	11
7.5	5	z1406	LR4-L-014-X	14	LDR4-L-011-X	11
10	10	y2401	LR4-L-021-X	21	LDR4-L-021-X	21
15	10	y2402	LR4-L-027-X	27	LDR4-L-021-X	21
20	15	y2403	LR4-L-034-X	34	LDR4-L-034-X	34
20	20	y2404	LR4-L-034-X	34	LDR4-L-034-X	34
25	25	y3401	LR4-L-040-X	40	LDR4-L-040-X	40
30	30	y3402	LR4-L-052-X	52	LDR4-L-052-X	52
40	30	y3403	LR4-L-065-X	65	LDR4-L-065-X	65
50	50	y4401	LR4-L-065-X	65	LDR4-L-077-X	77
60	60	y4402	LR4-L-096-X	96	LDR4-L-096-X	96
75	75	y4403	LR4-L-124-X	124	LDR4-L-124-X	124
100	100	y5401	LR4-L-156-X	156	LDR4-L-156-X	156
150	125	y5402	LR4-L-156-X	156	LDR4-L-180-X	180
150	150	y6401	LR4-L-240-X	240	LDR4-L-240-X	240
200	150	y6402	LR4-L-302-X	302	LDR4-L-240-X	240
<b>575 VAC 3Ø</b>						
5	3	y3501	LR5-L-009-X	9	LDR5-L-006-X	6.1
5	5	y3502	LR5-L-009-X	9	LDR5-L-006-X	6.1
7.5	5	y3503	LR5-L-011-X	11	LDR5-L-009-X	9
10	7.5	y3504	LR5-L-017-X	17	LDR5-L-011-X	11
15	10	y3505	LR5-L-022-X	22	LDR5-L-017-X	17
20	15	y3506	LR5-L-027-X	27	LDR5-L-022-X	22
25	20	y3507	LR5-L-027-X	27	LDR5-L-027-X	27
30	25	y4603	LR5-L-041-X	41	LDR5-L-041-X	41
40	30	y4604	LR5-L-041-X	41	LDR5-L-041-X	41
50	40	y4605	LR5-L-052-X	52	LDR5-L-052-X	52
60	50	y4606	LR5-L-062-X	62	LDR5-L-062-X	62
75	60	y5601	LR5-L-099-X	99	LDR5-L-099-X	99
100	75	y5602	LR5-L-099-X	99	LDR5-L-099-X	99
125	100	y6601	LR5-L-144-X	144	LDR5-L-144-X	144
150	125	y6602	LR5-L-192-X	192	LDR5-L-192-X	192

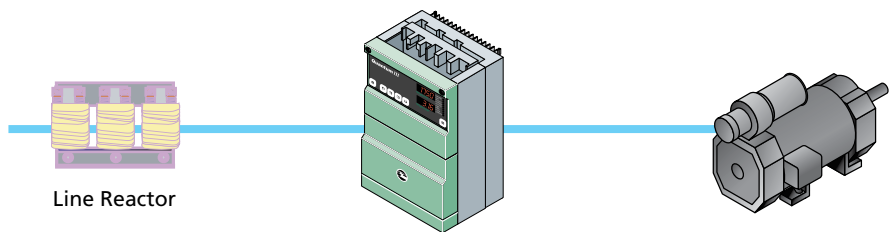
For larger horsepower Unidrive SP drives please consult factory.

### Mentor Line Reactor Selection



Drive Catalog Number	Input Line Reactor Catalog Number	Current (A)	Input Line Reactor Catalog Number	Current (A)
	230V		460V	
M25x-14M	LR2-L-022-X	22	LR4-L-021-X	21
M45x-14M	LR2-L-042-X	42	LR4-L-040-X	40
M75x-14M	LR2-L-068-X	68	LR4-L-065-X	65
M105x-14M	LR2-L-104-X	104	LR4-L-096-X	96
M155x-14M	LR2-L-130-X	130	LR4-L-156-X	156
M210x-14M	LR2-L-192-X	192	LR4-L-180-X	180
M350x-14M	LR2-L-312-X	312	LR4-L-302-X	302
M420x-14M	LR2-L-360-X	360	LR4-L-361-X	361
M550x-14M	LR2-L-480-X	480	LR4-L-477-X	477
M700x-14M thru M1850x-14M	Consult Factory			

### Quantum Line Reactor Selection



Drive Catalog Number	Input Line Reactor Catalog Number	Current (A)	Input Line Reactor Catalog Number	Current (A)
	230V		460V	
9500-8x02	LR2-L-042-X	42	LR4-L-034-X	34
9500-8x03	LR2-L-054-X	54	LR4-L-052-X	52
9500-8x05	LR2-L-104-X	104	LR4-L-096-X	96
9500-8x06	LR2-L-154-X	154	LR4-L-156-X	156
9500-8x07	LR2-L-248-X	248	LR4-L-240-X	240
9500-8x08	LR2-L-312-X	312	LR4-L-302-X	302
9500-8x09	LR2-L-360-X	360	LR4-L-361-X	361
9500-8x10	LR2-L-480-X	480	LR4-L-477-X	477
9500-8x11 thru 9500-8x20	Consult Factory			