

# 3-PHASE LINE REACTORS

HITRAN's standard line reactors are designed to minimize the problems associated with waveform distortion that occurs with equipment utilizing solid state switching devices.

Line Reactors are often used to... • Reduce harmonics • Extend solid state switching device life • Reduce motor noise and temperature • Improve power factor • Filter power line irregularities • Reduce surge currents

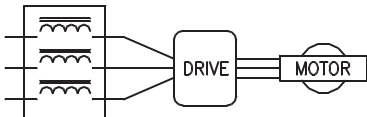
Reactors are available in either 3% or 5% ratings. Typically a 3% reactor will be sufficient to handle most solid state switching applications and will filter normal line spikes and surges. Nuisance circuit breaker tripping can usually be avoided. A 5% reactor should be used where considerably higher line disturbances exist and compliance with IEEE 519 is desired. The 5% reactor is also the most effective at improving motor life by reducing the effects of harmonic currents.

All Hitran line reactors can be used as either input or output reactors.



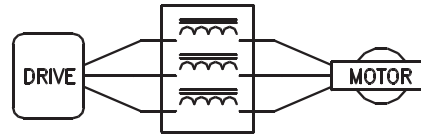
## INPUT SIDE OF DRIVE

When reactors are installed on the input side of drives, they reduce harmonic distortion from the drive onto the line. This installation setup will also limit voltage and current spikes and surges from the incoming line and reduces line notching.



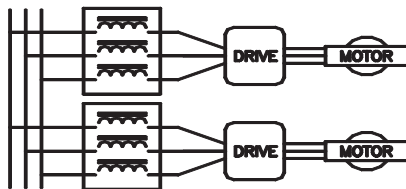
## OUTPUT SIDE OF DRIVE

By installing the reactor on the output side of the drive, the motor performance improves. This setup will improve the current and voltage waveforms from the supply, hence the noise emissions and motor overheating will be reduced. This installation will also protect the drive from short circuits at the load.



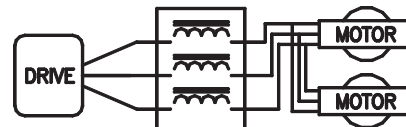
## MULTIPLE DRIVES

When multiple drives are installed on the power line, individual line reactors are recommended. Individual reactors provide isolated protection for each drive's own specific load and eliminates cross talk between multiple drives.



## MULTIPLE MOTORS

When there is a need for multiple motors on the same drive, a single reactor can be used. This application is for simultaneous operating motors only. The size of the reactor is based on the sum of horsepower of all motors.



Hitran Part #	i AMPS	L MH	VOLTAGE					
			208	240	380	415	480	600
AP2111	2	12.0			4% - 1HP		3% - 1-1½HP	
AP2112	2	20.1				4% - 1HP	5% - 1-1½HP	3% - 1 - 1½HP
AP2113	2	32.1						5% - 1 - 1½HP
AP2114	4	3.1	3% - 1HP	3% - 1HP				
AP2115	4	6.5	5% - 1HP	5% - 1HP			3% - 2-3HP	
AP2116	4	9.1			4% - 1½-2HP	4% - 2HP	5% - 2-3HP	3% - 3 - 5HP
AP2117	4	12.0				4% - 1½HP		5% - 2 - 3HP
AP2118	8	1.5	3% - 1½-2HP	3% - 1½-2HP				
AP2119	8	3.1	5% - 1½-2HP	5% - 1½-2HP			3% - 5HP	3% - 7½HP
AP2120	8	5.1			4% - 3HP		5% - 5HP	3% - 5HP / 5% - 7½HP
AP2121	8	7.5				4% - 3HP		5% - 5HP
AP2122	12	1.25	3% - 3HP	3% - 3HP				
AP2123	12	2.6	5% - 3HP	5% - 3HP		4% - 7½HP	3% - 7½HP	3% - 10HP
AP2124	12	4.25			4% - 5HP		5% - 7½HP	5% - 10HP
AP2125	18	0.81	3% - 5HP	3% - 5HP				
AP2126	18	1.6	5% - 5HP	5% - 5HP	4% - 10HP		3% - 10HP	3% - 15HP
AP2127	18	2.5				4% - 10HP	5% - 10HP	5% - 15HP
AP2128	25	0.5	3% - 7½HP	3% - 7½HP				
AP2129	25	1.2	5% - 7½HP	5% - 7½HP	4% - 15HP	4% - 15HP	3% - 15HP	3% - 20 - 25HP
AP2130	25	2.0					5% - 15HP	5% - 20 - 25HP
AP2131	35	0.40	3% - 10HP	3% - 10HP				
AP2132	35	0.81	5% - 10HP	5% - 10HP		4% - 25HP	3% - 20 - 25PH	3% - 30HP
AP2133	35	1.2			4% - 20HP	4% - 20HP	5% - 20 - 25HP	5% - 30HP
AP2134	45	0.30	3% - 15HP	3% - 15HP				
AP2135	45	0.71	5% - 15HP	5% - 15HP	4% - 25 - 30HP	4% - 30HP	3% - 30HP	3% - 40HP
AP2136	45	1.2					5% - 30HP	5% - 40HP
AP2137	55	0.25	3% - 20HP	3% - 20HP				
AP2138	55	0.51	5% - 20HP	5% - 20HP		4% - 40HP	3% - 40HP	3% - 50HP
AP2139	55	0.85					5% - 40HP	5% - 50HP
AP2140	80	0.20	3% - 25HP	3% - 25 - 30HP				
AP2141	80	0.41	5% - 25HP	5% - 25 - 30HP	4% - 40 - 50HP	4% - 50 - 60HP	3% - 50 - 60HP	3% - 60 - 75HP
AP2142	80	0.7					5% - 50 - 60HP	5% - 60 - 75HP
AP2143	100	0.15	3% - 30HP	3% - 40HP				
AP2144	100	0.31	5% - 30HP	5% - 40HP	4% - 60HP	4% - 75HP	3% - 75HP	3% - 100HP
AP2145	100	0.45					5% - 75HP	5% - 100HP
AP2146	130	0.10	3% - 40HP	3% - 50HP				
AP2147	130	0.21	5% - 40HP	5% - 50HP		4% - 100HP	3% - 100HP	3% - 125HP
AP2148	130	0.30			4% - 75HP		5% - 100HP	5% - 125HP
AP2149	160	0.75	3% - 50HP	3% - 60HP				
AP2150	160	0.16	5% - 50HP	5% - 60HP			3% - 125HP	3% - 150HP
AP2151	160	0.23			4% - 100HP		5% - 125HP	5% - 150HP
AP2152	200	0.055	3% - 60HP	3% - 75HP		4% - 125HP		
AP2153	200	0.12	5% - 60HP	5% - 75HP			3% - 150HP	3% - 200HP
AP2154	200	0.185			4% - 125HP	4% - 150HP	5% - 150HP	5% - 200HP
AP2155	250	0.045	3% - 75HP	3% - 100HP				
AP2156	250	0.095	5% - 75HP	5% - 100HP		4% - 200HP	3% - 200HP	3% - 250HP
AP2157	250	0.150			4% - 150HP		5% - 200HP	5% - 250HP
AP2158	320	0.040	3% - 100HP	3% - 125HP				
AP2159	320	0.080	5% - 100HP	5% - 125HP			3% - 250HP	3% - 300HP
AP2160	320	0.125			4% - 200HP		5% - 250HP	5% - 300HP
AP2161	400	0.030	3% - 125HP	3% - 150HP				
AP2162	400	0.060	5% - 125HP	5% - 150HP		4% - 300HP	3% - 300HP	3% - 350 - 400HP
AP2163	400	0.105			4% - 250HP	4% - 250HP	5% - 300HP	5% - 350 - 400HP
AP2164	500	0.025	3% - 150HP	3% - 200HP				
AP2165	500	0.050	5% - 150HP	5% - 200HP	4% - 350HP	4% - 350HP	3% - 350 - 400HP	3% - 500HP
AP2166	500	0.085			4% - 300HP		5% - 350 - 400HP	5% - 500HP
AP2167	600	0.020	3% - 200HP	3% - 250HP				
AP2168	600	0.040	5% - 200HP	5% - 250HP			3% - 500HP	3% - 600HP
AP2169	600	0.065			4% - 400HP	4% - 400HP	5% - 500HP	5% - 600HP
AP2170	750	0.015	3% - 250HP	3% - 300HP			3% - 600HP	
AP2171	750	0.029	5% - 750HP	5% - 300HP				3% - 750HP
AP2172	750	0.048			4% - 500HP	4% - 500HP	5% - 600HP	5% - 750HP

Standard 3 Phase Line Reactor Specifications:

Voltage -  
600 Volts Maximum

Cooling method -  
Natural convection

Enclosure - (optional)  
NEMA 1

Ratings -  
Nominal Inductance ± 10% @ rated current,  
95% of nominal inductance @ 150% rated current,  
50% of nominal inductance @ 350% of rated current

Temperature rise -  
130° Celsius

Overload -  
150% rated 60 Hz current overload continuous

Approvals -  
CUL approved

Sound level -  
2 to 18 amps: 58 dBA, 30 to 320 amps: 70 dBA,  
25 to 100 amps: 64 dBA, 400 to 750 amps: 75 dBA