GS/*DURA*PULSE Drives Accessories – Line/Load Reactors

LR Series Line Reactors

Input line reactors protect the AC drive from transient overvoltage conditions typically caused by utility capacitor switching. Input line reactors also reduce the harmonics associated with AC drives, and are recommended for all installations.

Output line (load) reactors protect the motor insulation against AC drive short circuits and IGBT reflective wave damage, and also allow the motor to run cooler by "smoothing" the motor current waveform. They are recommended for operating "non-inverter-duty" motors, and for any motors where the length of wiring between the AC drive and motor exceeds 75 feet.

Features:

- Universal mounting feet with multiple mounting slots; can replace most reactors using existing mounting holes
- Short-term overload rating: 200% of rated current for 3 minutes maximum
- Overload inductance: 95% @ 110% load; 80% @ 150% load
- 10-year warranty

Agency Approvals:

- $_{C}UL_{US}$ listed (E197592)
- CE marked
- RoHS

Line/Load Reactors for GS1, GS2, GS3/*DURA*PULSE AC Drives – Selection Specifications

Line/Load Reactors – LR Series – for GS1, GS2, GS3/*DURA*PULSE								
Part Number	***Rated Amps***	***Impedance***	***Inductance***	***Watt Loss***	***System Voltage***	***Phase – Use (1)***	***GS Drive Model***	***Drive hp***
1) Use (side of drive): In = input only; Out = output only; I/O = input or output. *2) Single-phase line reactors should NOT be installed on the output side of AC drives.*								
LR-10P2-1PH (2)	5.8	3%	1.58 mH	8.0	120	1 – In 1 – In	***GS1-10P2*** ***GS2-10P2***	0.25 0.25
LR-10P5-1PH (2)	9.8		0.93 mH	11.7		1 – In 1 – In	***GS1-10P5*** ***GS2-10P5***	0.5 0.5
LR-11P0-1PH (2)	16		0.57 mH	17.4		1 – In	***GS2-11P0***	1
LR-20P5-1PH (2)	4.9		3.74 mH	11.2	240	1 – In 1 – In 1 – In	***GS1-20P2*** ***GS1-20P5*** ***GS2-20P5***	0.25 0.5 0.5
LR-20P5	2.4		4.2 mH	7	208/240	3 – Out 3 – Out 3 – Out 3 – Out 3 – I/O 3 – I/O 3 – I/O	***GS1-10P2*** ***GS1-10P5*** ***GS2-10P2*** ***GS2-10P5*** ***GS1-20P2*** ***GS1-20P5*** ***GS2-20P5***	0.25 0.5 0.25 0.5 0.25 0.5 0.5
LR-21P0-1PH (2)	8		2.29 mH	15.9	240	1 – In 1 – In 1 – In	***GS1-21P0*** ***GS2-21P0*** ***GS3-21P0***	1 1 1
LR-21P0	4.6		2.46 mH	11	208/240	3 – I/O 3 – I/O 3 – I/O 3 – Out	***GS1-21P0*** ***GS2-21P0*** ***GS3-21P0*** ***GS2-11P0***	1 1 1 1
LR-22P0-1PH (2)	12		1.53 mH	24.3	240	1 – In 1 – In 1 – In	***GS1-22P0*** ***GS2-22P0*** ***GS3-22P0***	2 2 2
LR-22P0	7.5		1.35 mH	21	208/240	3 – I/O 3 – I/O 3 – I/O	***GS1-22P0*** ***GS2-22P0*** ***GS3-22P0***	2 2 2
LR-23P0-1PH (2)	17		1.08 mH	27.3	240	1 – In 1 – In	***GS2-23P0*** ***GS3-23P0***	3 3
LR-23P0	10.6		0.97 mH	38	208/240	3 – I/O 3 – I/O	***GS2-23P0*** ***GS3-23P0***	3 3
LR-25P0	16.7		0.626 mH	48		3 – I/O 3 – I/O	***GS3-25P0*** ***GS2-25P0***	5 5
LR-27P5	24.2		0.434 mH	65		3 – I/O 3 – I/O	***GS2-27P5*** ***GS3-27P5***	7.5 7.5
LR-2010	30.8		0.342 mH	96	208/240	3 – I/O	***GS3-2010***	10
LR-2015	46.2		0.22 mH	64			***GS3-2015***	15
LR-2020	59.4		0.172 mH	85			***GS3-2020***	20
LR-2025	74.8		0.138 mH	94			***GS3-2025***	25
LR-2030	88		0.116 mH	135			***GS3-2030***	30
LR-2040	114		0.0886 mH	149			***GS3-2040***	40
LR-2050	143		0.0699 mH	154			***GS3-2050***	50

(table continued next page)

GS/*DURA*PULSE Drives Accessories – Line/Load Reactors

Line/Load Reactors for GS1, GS2, GS3/*DURA*PULSE AC Drives – Selection Specifications

LINE/LOAD REACTORS – LR SERIES – FOR GS1, GS2, GS3/DURAPULSE (continued)								
Part Number	***Rated Amps***	***Impedance***	***Inductance***	***Watt Loss***	***System Voltage***	***Phase – Use (1)***	***GS Drive Model***	***Drive hp***
LR-41P0	2.1	3%	8.927 mH	10.4	480	3 – I/O	***GS2-41P0*** ***GS3-41P0***	1 1
LR-42P0	3.4		5.79 mH	19			***GS2-42P0*** ***GS3-42P0***	2 2
LR-43P0	4.8		4.27 mH	23			***GS2-43P0*** ***GS3-43P0***	3 3
LR-45P0	7.6		2.77 mH	49			***GS2-45P0*** ***GS3-45P0***	5 5
LR-47P5	11		1.68 mH	40			***GS2-47P5*** ***GS3-47P5***	7.5 7.5
LR-4010	14		1.29 mH	64			***GS2-4010*** ***GS3-4010***	10 10
LR-4015	21		0.912 mH	65			***GS3-4015***	15
LR-4020	27		0.694 mH	79			***GS3-4020***	20
LR-4025	34		0.569 mH	96			***GS3-4025***	25
LR-4030	40		0.469 mH	105			***GS3-4030***	30
LR-4040	52		0.387 mH	114			***GS3-4040***	40
LR-4050	65		0.295 mH	114			***GS3-4050***	50
LR-4060	77		0.227 mH	169			***GS3-4060***	60
LR-4075	96		0.196 mH	193			***GS3-4075***	75
LR-4100	124		0.152 mH	225			***GS3-4100***	100
LR-4125	156		0.117 mH	254			–	125
LR-4150	180		0.103 mH	299				150
LR-4200	240		0.0839 mH	280				200
LR-4250	302		0.0654 mH	337				250
LR-4300	361		0.0565 mH	381				300
LR-51P0	1.7		15.9 mH	12	575/600		***GS2-51P0***	1
LR-52P0	2.7		9.29 mH	22			***GS2-52P0***	2
LR-53P0	3.9		6.74 mH	23.3			***GS2-53P0***	3
LR-55P0	6.1		4.51 mH	34.7			***GS2-55P0***	5
LR-5010	11		2.47 mH	43.8			***GS2-57P5***	7.5

1) Use (side of drive): In = input only; Out = output only; I/O = input or output.
2) Single-phase line reactors should NOT be installed on the output side of AC drives.

GS4 *DURA*PULSE Drives Accessories – Line-Side Reactors

Line-Side Reactors for GS4/*DURA*PULSE AC Drives – Selection Specifications

Supply: 230V, 1Ø, 50/60 Hz (*Constant* Torque; reactor installed *Line* Side)									
GS4 Model	Derated Output (hp)*	CT: 1Ø Input Amps (rms)**	Saturation Amps (rms)	Inductance (mH)		Max Motor kW	LR Model	Rated Amps	LR 3% Inductance
				3% Impedance	5% Impedance				
GS4-21P0	0.5	4.2	7.6	2.506	4.176	0.37	**LR-20P5-1PH**	4.9	3.74
GS4-22P0	0.75	5.6	10.1	1.879	3.132	0.55	**LR-21P0-1PH**	8	2.29
GS4-23P0	1	8.7	15.7	1.210	2.016	0.75	**LR-21P0-1PH**	8	2.29
GS4-25P0	2	14	25	0.752	1.253	1.5	**LR-22P0-1PH**	12.0	1.53
GS4-27P5	3	19	34	0.554	0.923	2.2	**LR-23P0-1PH**	17.0	1.08
GS4-2010	3	19	34	0.554	0.923	2.2	**LR-23P0-1PH**	17.0	1.08
GS4-2015	5	30	54	0.351	0.585	3.7	**LR-2010**	30.8	0.342
GS4-2020	7.5	43	77	0.245	0.408	5.5	**LR-2015**	46.2	0.220
GS4-2025	10	57	103	0.184	0.307	7.5	**LR-2020**	59.4	0.172
GS4-2030	10	57	103	0.184	0.307	7.5	**LR-2020**	59.4	0.172
GS4-2040	10	57	103	0.184	0.307	7.5	**LR-2020**	59.4	0.172
GS4-2050	10	57	103	0.184	0.307	7.5	**LR-2020**	59.4	0.172
GS4-2060	15	85	153	0.124	0.206	11	**LR-2025**	74.8	0.138
GS4-2075	20	113	203	0.093	0.155	15	**LR-2040**	114	0.0886
GS4-2100	25	130	234	0.081	0.135	18.5	**LR-2050**	143	0.0699

** Drive output HP is derated when supplied single phase.*

** * Amperage ratings expressed in the column CT: 1Ph Input Amps (rms) are with a line reactor installed on the line side of the drive.*

GS4 *DURA*PULSE Drives Accessories – Load-Side Reactors

Load-Side Reactors for GS4/*DURA*PULSE AC Drives – Selection Specifications

Supply: 230V, 1Ø, 50/60 Hz (*Constant* Torque; reactor installed *Load* Side)									
GS4 Model	HP	CT: 3Ø Output Amps (rms)*	Saturation Amps (rms)	Inductance (mH)		Max Motor kW	LR Model	Rated Amps	LR 3% Inductance
				3% Impedance	5% Impedance				
GS4-21P0	0.5	2.4	4.3	2.893	4.822	0.37	**LR-20P5**	2.4	4.2
GS4-22P0	0.75	3.2	5.8	2.170	3.617	0.55	**LR-21P0**	4.6	2.46
GS4-23P0	1	5.0	9.0	1.397	2.328	0.75	**LR-21P0**	4.6	2.46
GS4-25P0	2	8	14	0.868	1.447	1.5	**LR-23P0**	10.6	0.97
GS4-27P5	3	11	20	0.640	1.066	2.2	**LR-23P0**	10.6	0.97
GS4-2010	3	11	20	0.640	1.066	2.2	**LR-23P0**	10.6	0.97
GS4-2015	5	17	31	0.405	0.675	3.7	**LR-25P0**	16.7	0.626
GS4-2020	7.5	25	45	0.283	0.471	5.5	**LR-27P5**	24.2	0.434
GS4-2025	10	33	59	0.213	0.354	7.5	**LR-2010**	30.8	0.342
GS4-2030	10	33	59	0.213	0.354	7.5	**LR-2010**	30.8	0.342
GS4-2040	10	33	59	0.213	0.354	7.5	**LR-2010**	30.8	0.342
GS4-2050	10	33	59	0.213	0.354	7.5	**LR-2010**	30.8	0.342
GS4-2060	15	49	88	0.143	0.238	11	**LR-2015**	46.2	0.22
GS4-2075	20	65	117	0.108	0.179	15	**LR-2020**	59.4	0.172
GS4-2100	25	75	135	0.093	0.156	18.5	**LR-2025**	74.8	0.138

** Amperage ratings are 3-phase output reactor ratings when the drive is supplied with a single-phase input.*

GS4 *DURA*PULSE Drives Accessories – Line/Load Reactors

Line/Load Reactors for GS4/*DURA*PULSE AC Drives – Selection Specifications

Supply: 230V, 3Ø, 50/60 Hz (*Variable* Torque; reactor installed *Line* or *Load* Side)									
GS4 Model	hp	VT: 3Ø Output Amps (rms)	Saturation Amps (rms)	Inductance (mH)		Max Motor kW	LR Model*	Rated Amps	LR 3% Inductance
				3% Impedance	5% Impedance				
GS4-21P0	1	5	8.7	2.536	4.226	0.75	LR-21P0	4.6	2.46
GS4-22P0	2	8	12.8	1.585	2.641	1.5	LR-23P0*	10.6	0 .97
GS4-23P0	3	11	18	1.152	1.921	2.2	LR-23P0	10.6	0.97
GS4-25P0	5	17	29	0.746	1.244	3.7	LR-25P0	16.7	0.626
GS4-27P5	7.5	25	43	0.507	0.845	5.5	LR-27P5	24.2	0.434
GS4-2010	10	33	56	0.320	0.534	7.5	LR-2010	30.8	0.342
GS4-2015	15	49	85	0.216	0.359	11	LR-2015	46.2	0.22
GS4-2020	20	65	112	0.163	0.271	15	LR-2020	59.4	0.172
GS4-2025	25	75	128	0.169	0.282	18.5	LR-2025	74.8	0.138
GS4-2030	30	90	155	0.141	0.236	22	LR-2040*	114	0.0886
GS4-2040	40	120	205	0.106	0.176	30	LR-2040	114	0.0886
GS4-2050	50	146	250	0.087	0.146	37	LR-2050	143	0.0699
GS4-2060	60	180	308	0.070	0.117	45	not available*	169	0.0624
GS4-2075	75	215	367	0.059	0.098	55		211	0.0487
GS4-2100	100	255	436	0.049	0.082	75		273	0.0364

** Some GS4 drive and reactor combinations do not fit the typical "pattern" of having similar part numbers, due to some GS4 models having higher outputs than previous GS DURApulse drives.*

Supply: *460V*, 3Ø, 50/60 Hz (*Variable* Torque; reactor installed *Line* or *Load* Side)									
GS4 Model	hp	VT: 3Ø Output Amps (rms)	Saturation Amps (rms)	Inductance (mH)		Max Motor kW	LR Model	Rated Amps	LR 3% Inductance
				3% Impedance	5% Impedance				
GS4-41P0	1	3	5.2	8.102	13.503	0.75	LR-41P0	2.1	8.927
GS4-42P0	2	4	6.8	6.077	10.128	1.5	LR-42P0	3.4	5.790
GS4-43P0	3	6	10.3	4.050	6.751	2.2	LR-43P0	4.8	4.270
GS4-45P0	5	9	14.6	2.700	4.500	3.7	LR-45P0	7.6	2.770
GS4-47P5	7.5	12	20	2.025	3.375	5.5	LR-47P5	11	1.680
GS4-4010	10	18	31	1.174	1.957	7.5	LR-4010	14	1.290
GS4-4015	15	24	41	0.881	1.468	11	LR-4015	21	0.912
GS4-4020	20	32	54	0.660	1.101	15	LR-4020	27	0.694
GS4-4025	25	38	65	0.639	1.066	18.5	LR-4025	34	0.569
GS4-4030	30	45	77	0.541	0.901	22	LR-4030	40	0.469
GS4-4040	40	60	103	0.405	0.675	30	LR-4040	52	0.387
GS4-4050	50	73	124	0.334	0.556	37	LR-4050	65	0.295
GS4-4060	60	91	155	0.267	0.445	45	LR-4060	77	0.227
GS4-4075	75	110	189	0.221	0.368	55	LR-4075	96	0.196
GS4-4100	100	150	257	0.162	0.270	75	LR-4100	124	0.152
GS4-4125	125	180	308	0.135	0.224	90	LR-4125	156	0.117
GS4-4150	150	220	376	0.110	0.184	110	LR-4150	180	0.103
GS4-4175	175	260	445	0.098	0.163	132	LR-4200	240	0.0839
GS4-4200	215	310	531	0.078	0.130	160	LR-4250	302	0.0654
GS4-4250	250	370	634	0.066	0.109	185	LR-4250	302	0.0654
GS4-4300	300	460	787	0.054	0.090	220	LR-4300	361	0.0565

GS/*DURA*PULSE Drives Accessories – Line/Load Reactors

Line/Load Reactors for GS/*DURA*PULSE AC Drives – Additional Specifications

Line Reactors – LR Series – Additional Specifications							
Part Number	**Price**	**Product Weight**	**Wire Range**	**Terminal Torque**	**Temperature Range**		**Environment**
					Operating	**Storage**	
LR-10P2-1PH		2.6 lb [1.2 kg]	#12–#18 AWG	10 lb·in	-40 – 104 °F [-40 – 40 °C]	-40 – 149 °F [-40 – 65 °C]	NEMA: open IP00 no corrosive gases
LR-10P5-1PH		2.7 lb [1.2 kg]	#12–#18 AWG	10 lb·in			
LR-11P0-1PH		4.2 lb [1.9 kg]	#12–#18 AWG	20 lb·in			
LR-20P5-1PH		2.8 lb [1.3 kg]	#12–#18 AWG	10 lb·in			
LR-20P5		4.0 lb [1.8 kg]	#12–#18 AWG	10 lb·in			
LR-21P0-1PH		2.8 lb [1.3 kg]	#12–#18 AWG	10 lb·in			
LR-21P0		4.0 lb [1.8 kg]	#12–#18 AWG	10 lb·in			
LR-22P0-1PH		4.3 lb [2.0 kg]	#12–#18 AWG	20 lb·in			
LR-22P0		4.0 lb [1.8 kg]	#12–#18 AWG	10 lb·in			
LR-23P0-1PH		4.3 lb [2.0 kg]	#12–#18 AWG	20 lb·in			
LR-23P0		4.0 lb [1.8 kg]	#12–#18 AWG	10 lb·in			
LR-25P0		8.0 lb [3.6 kg]	#18–#4 AWG	20 lb·in			
LR-27P5		8.0 lb [3.6 kg]	#18–#4 AWG	20 lb·in			
LR-2010		12 lb [5.4 kg]	#18–#4 AWG	20 lb·in			
LR-2015		12 lb [5.4 kg]	#18–#4 AWG	20 lb·in			
LR-2020		12 lb [5.4 kg]	#18–#4 AWG	20 lb·in			
LR-2025		15 lb [6.8 kg]	#18–#4 AWG	#18–#16 AWG: 25 lb·in #14–#6 AWG: 30 lb·in #4 AWG: 35 lb·in			
LR-2030		33 lb [15 kg]	2/0 – #6AWG (AL or CU)	120			
LR-2040		33 lb [15 kg]	2/0 – #6AWG (AL or CU)	120			
LR-2050		36 lb [16 kg]	250kcmil – #6AWG (AL or CU)	275			
LR-41P0		4.0 lb [1.8 kg]	#12–#18 AWG	10 lb·in			
LR-42P0		4.0 lb [1.8 kg]	#12–#18 AWG	10 lb·in			
LR-43P0		4.0 lb [1.8 kg]	#12–#18 AWG	10 lb·in			
LR-45P0		4.0 lb [1.8 kg]	#12–#18 AWG	10 lb·in			
LR-47P5		4.0 lb [1.8 kg]	#12–#18 AWG	10 lb·in			
LR-4010		4.0 lb [1.8 kg]	#12–#18 AWG	10 lb·in			
LR-4015		8.0 lb [3.6 kg]	#18–#4 AWG	20 lb·in			
LR-4020		8.0 lb [3.6 kg]	#18–#4 AWG	20 lb·in			
LR-4025		10 lb [4.5 kg]	#18–#4 AWG	20 lb·in			
LR-4030		10 lb [4.5 kg]	#18–#4 AWG	20 lb·in			
LR-4040		15 lb [6.8 kg]	#18–#4 AWG	20 lb·in			
LR-4050		25 lb [11 kg]	#22–#4 AWG	#22–#16 AWG: 25 lb·in #14–#6 AWG: 30 lb·in #4 AWG: 35 lb·in			
LR-4060							
LR-4075		33 lb [15 kg]	2/0 – #6AWG (AL or CU)	120 lb·in			
LR-4100		46 lb [21 kg]	250kcmil – #6AWG (AL or CU)	275 lb·in			
LR-4125		46 lb [21 kg]	250kcmil – #6AWG (AL or CU)	275 lb·in			
LR-4150		46 lb [21 kg]	250kcmil – #6AWG (AL or CU)	275 lb·in			
LR-4200		74 lb [34 kg]	(1) 600kcmil – #4 AWG (2) 250kcmil – 1/0	500 lb·in			
LR-4250		74 lb [34 kg]	(2)* 350kcmil – #4 AWG (AL or CU)	275 lb·in			
LR-4300		74 lb [34 kg]	(2)* 350kcmil – #4 AWG (AL or CU)	275 lb·in			
LR-51P0		4.0 lb [1.8 kg]	#12–#18 AWG	10 lb·in			
LR-52P0							
LR-53P0							
LR-55P0							
LR-5010							

** LR-4250 & LR-4300 have dual-connector lugs, and will require multiple conductors per phase of the appropriate size to fit the lugs.*

GS/*DURA*PULSE Drives Accessories – Line/Load Reactors

Line/Load Reactors Part Number Cross Reference for GS/*DURA*PULSE AC Drives

Line Reactors – LR Series – Part Number Cross Reference					
AutomationDirect LR Series	***AutomationDirect GS Series (legacy)***	***AB-1321***	***Hammond***	***MTE-RL***	***MTE-RLW***
LR-10P2-1PH	GS-10P2-LR	NA	NA	NA	NA
LR-10P5-1PH	GS-10P5-LR	NA	NA	NA	NA
LR-11P0-1PH	GS-11P0-LR	NA	NA	NA	NA
LR-20P5-1PH	GS-20P5-LR-1PH	NA	NA	NA	NA
LR-20P5	GS-20P5-LR-3PH	NA	NA	NA	NA
LR-21P0-1PH	GS-21P0-LR-1PH	NA	NA	NA	NA
LR-21P0	GS-21P0-LR-3PH	1321-3R4-A	RM0004N30	RL-00401	RLW-04P801
LR-22P0-1PH	GS-22P0-LR-1PH	NA	NA	NA	NA
LR-22P0	GS-22P0-LR-3PH	1321-3R8-A	RM0008N15	RL-00801	RLW-07P601
LR-23P0-1PH	GS-23P0-LR-1PH	NA	NA	NA	NA
LR-23P0	GS-23P0-LR-3PH	1321-3R12-A	RM0012N13	RL-01201	RLW-001101
LR-25P0	GS-25P0-LR	1321-3R18-A	RM0018P80	RL-01801	RLW-001401
LR-27P5	GS-27P5-LR	1321-3R25-A	RM0025P50	RL-02501	RLW-002101
LR-2010	GS-2010-LR	1321-3R35-A	RM0035P40	RL-03501	RLW-003501
LR-2015	GS-2015-LR	1321-3R45-A	RM0045P30	RL-04501	RLW-004601
LR-2020	GS-2020-LR	1321-3R55-A	RM0055P25	RL-05501	RLW-005501
LR-2025	GS-2025-LR	1321-3R80-A	RM0080P20	RL-08001	RLW-008301
LR-2030	GS-2030-LR	1321-3R100-A	RM0080P20	RL-10001	RLW-010401
LR-2040	GS-2040-LR	1321-3R130-A	RM0130P10	RL-13001	RLW-013001
LR-2050	GS-2050-LR	1321-3R130-A	RM0130P10	RL-13001	RLW-013001
LR-41P0	GS-41P0-LR	1321-3R1-B	RM0002M12	RL-00201	RLW-02P103
LR-42P0	GS-42P0-LR	1321-3R4-B	RM0004N65	RL-00402	RLW-04P805
LR-43P0	GS-43P0-LR	1321-3R4-B	RM0008N50	RL-00402	RLW-04P805
LR-45P0	GS-45P0-LR	1321-3R8-B	RM0008N30	RL-00802	RLW-07P603
LR-47P5	GS-47P5-LR	1321-3R12-B	RM0012N25	RL-01202	RLW-001103
LR-4010	GS-4010-LR	1321-3R18-B	RM0018N15	RL-01802	RLW-001403
LR-4015	GS-4015-LR	1321-3R25-B	RM0025N12	RL-02502	RLW-002103
LR-4020	GS-4020-LR	1321-3R35-B	RM0035P80	RL-03502	RLW-003503
LR-4025	GS-4025-LR	1321-3R35-B	RM0035P80	RL-03502	RLW-003503
LR-4030	GS-4030-LR	1321-3R45-B	RM0045P70	RL-04502	RLW-004603
LR-4040	GS-4040-LR	1321-3R55-B	RM0055P50	RL-05502	RLW-005503
LR-4050	GS-4050-LR	1321-3R80-B	RM0080P40	RL-08002	RLW-008305
LR-4060	GS-4060-LR	1321-3R80-B	RM0080P40	RL-08002	RLW-008305
LR-4075	GS-4075-LR	1321-3R100-B	RM0110P30	RL-10002	RLW-010403
LR-4100	GS-4100-LR	1321-3R130-B	RM0130P20	RL-13002	RLW-013003
LR-51P0	GS-51P0-LR	1321-3R2-B	RM0002M20	RL-00202	RLW-02P105
LR-52P0	GS-52P0-LR	1321-3R4-C	RM0004M12	RL-00403	RLW-04P806
LR-53P0	N/A	1321-3R4-C	RM0004N91	RL-00403	RLW-04P806
LR-55P0	N/A	1321-3R8-C	RM0008N50	RL-00803	RLW-07P605
LR-5010	N/A	1321-3R12-B	RM0012N25	RL-01202	RLW-001103
LR-4125	N/A	1321-3R160-B	RM0160P15	RL-16002	RLW-016003
LR-4150	N/A	1321-3R200-B	RM0200P11	RL-20002B14	RLW-020003
LR-4200	N/A	1321-3RB250-B	RM0250U90	RL-25002B14	RLW-025003
LR-4250	N/A	1321-3RB320-B	RM0320U75	RL-32002B14	RLW-032203
LR-4300	N/A	1321-3RB400-B	RM0400U61	RL-40002B14	RLW-041403

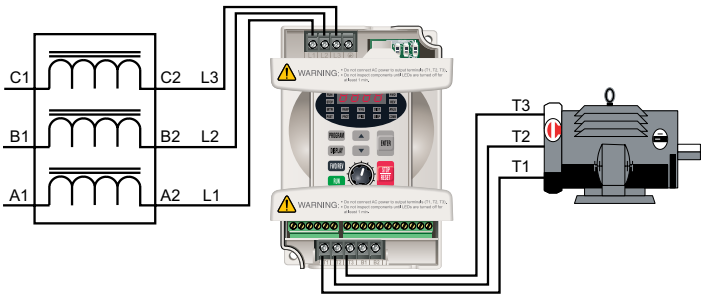
GS/*DURA*PULSE Drives Accessories – Line/Load Reactors

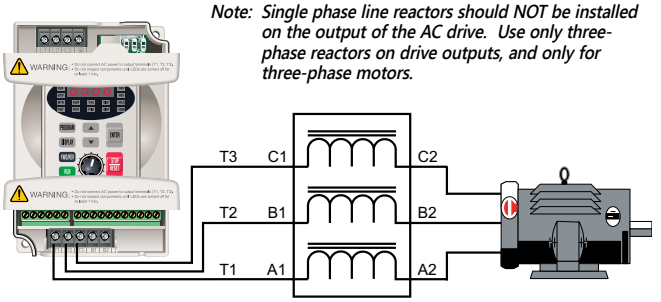
Line/Load Reactors for GS/*DURA*PULSE AC Drives – Generic One-Line Wiring Examples

WARNING: CONSULT THE APPLICABLE GS DRIVE USER MANUAL BEFORE ACTUALLY WIRING THE DRIVE!

Input side of the drive

When installed on the input side of the AC drive, line reactors will reduce line notching, and limit current and voltage spikes and surges from the incoming line. The line reactor will also reduce harmonic distortion from the drive onto the line. Units are installed in front of the AC drive as shown.





Note: Single phase line reactors should NOT be installed on the output of the AC drive. Use only three-phase reactors on drive outputs, and only for three-phase motors.

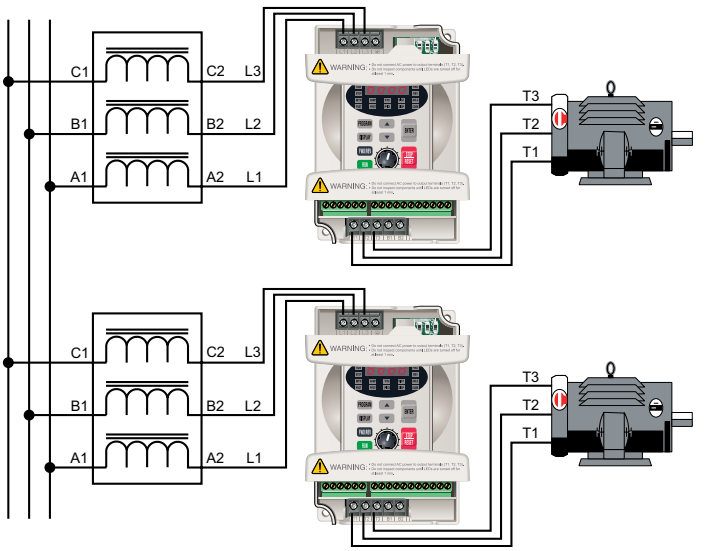
Output side of the drive

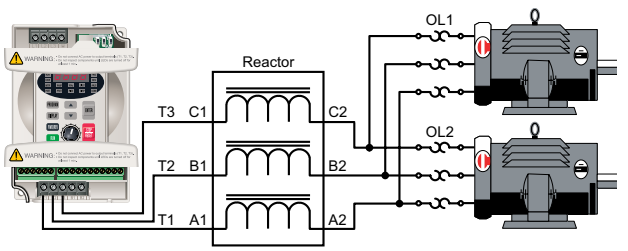
When installed on the output side of the drive, line reactors protect the drive from short circuits at the load. Voltage and current waveforms from the drive are enhanced, reducing motor overheating and noise emissions.

Note: If installing a line reactor on the output side of the drive, especially with motor lead lengths in excess of 75 feet, lower the drive PWM output carrier frequency to 4kHz in order to protect the line reactor from excess heating and possible damage.

Multiple drives

Individual line reactors are recommended when installing multiple drives on the same power line. Individual line reactors eliminate crosstalk between multiple drives and provide isolated protection for each drive for its own specific load.





Multiple motors

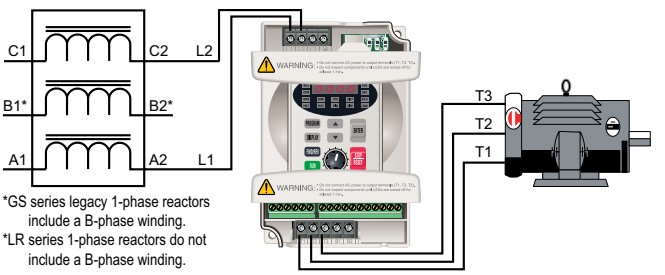
A single reactor can be used for multiple motors on the same drive, **if the motors operate simultaneously**. Size the reactor based upon the total horsepower of all the motors. Select a reactor with a current rating greater than the sum of the motor full-load currents. **Overload relays are recommended** for use in multi-motor applications.

Note: A single reactor should be used with multiple motors only when the motors will always operate simultaneously.

Single phase applications

Some of the line reactors are listed for use with single-phase input power. Make sure that terminals B1 and B2, if present, are properly insulated before any connections are made.

WARNING: Ensure that terminals B1 and B2 are properly insulated before making any connections to single-phase power.



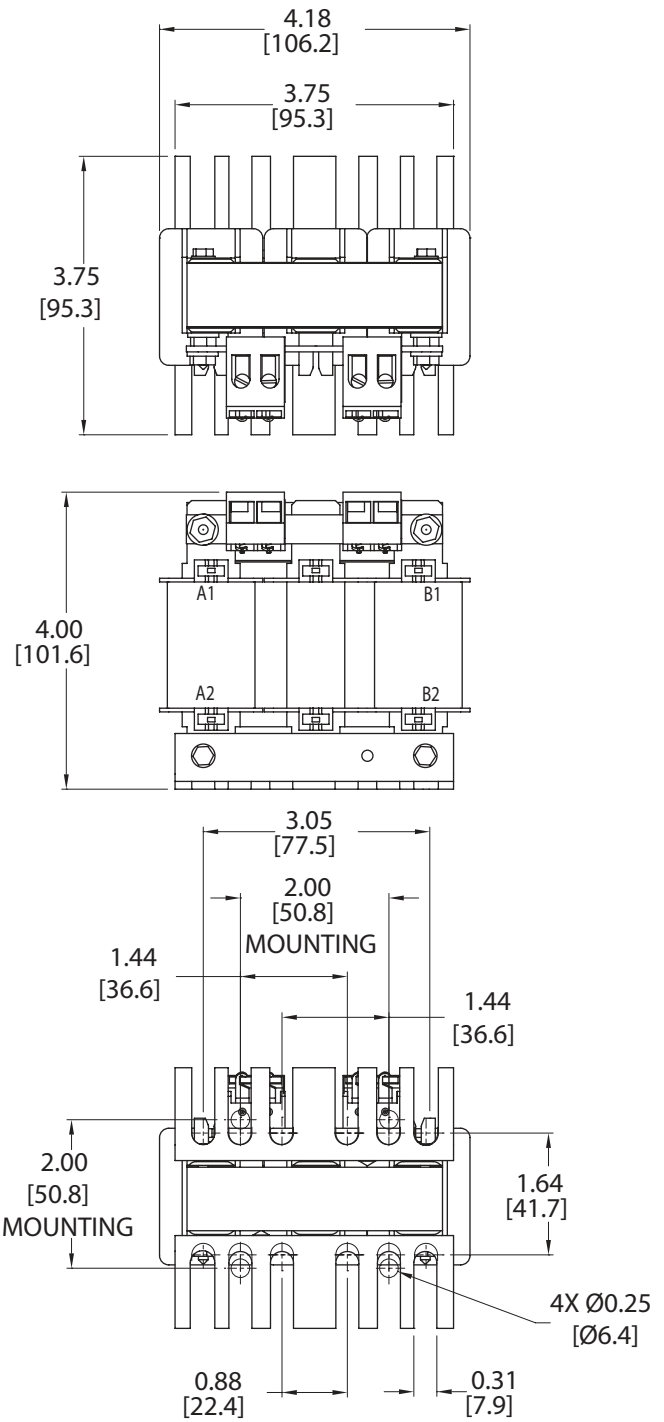
*GS series legacy 1-phase reactors include a B-phase winding.
*LR series 1-phase reactors do not include a B-phase winding.

GS/*DURA*PULSE Drives Accessories – Line/Load Reactors

Line/Load Reactor Dimensions (Units = in [mm])

LR-10P2-1PH, LR-10P5-1PH, LR-20P5-1PH, LR-21P0-1PH

LR series reactors have universal mounting feet with multiple mounting slots, and they can replace most reactors using the existing mounting holes. Use four bolts to mount the reactors to the mounting panel.

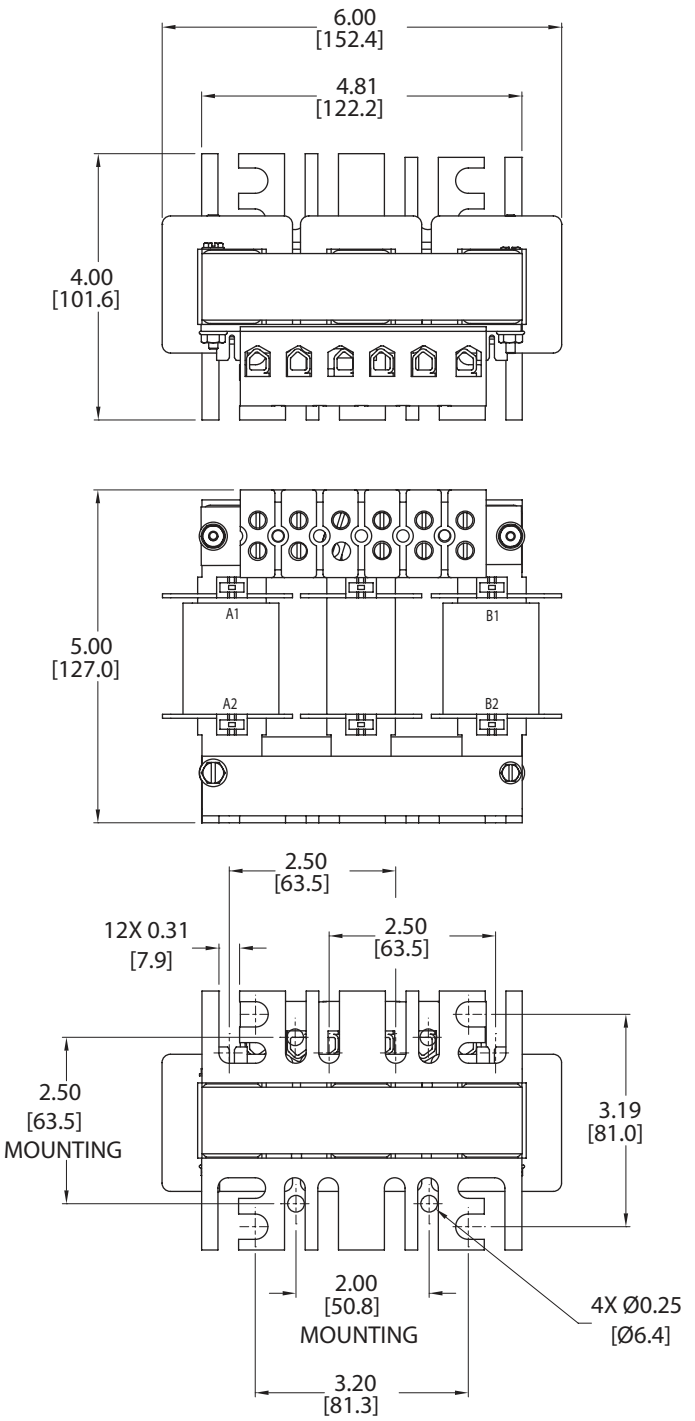


Line Reactor Dimensions

LR-11P0-1PH, LR-22P0-1PH, LR-23P0-1PH

LR series reactors have universal mounting feet with multiple mounting slots, and they can replace most reactors using the existing mounting holes. Use four bolts to mount the reactors to the mounting panel.

(Units = inches [mm])



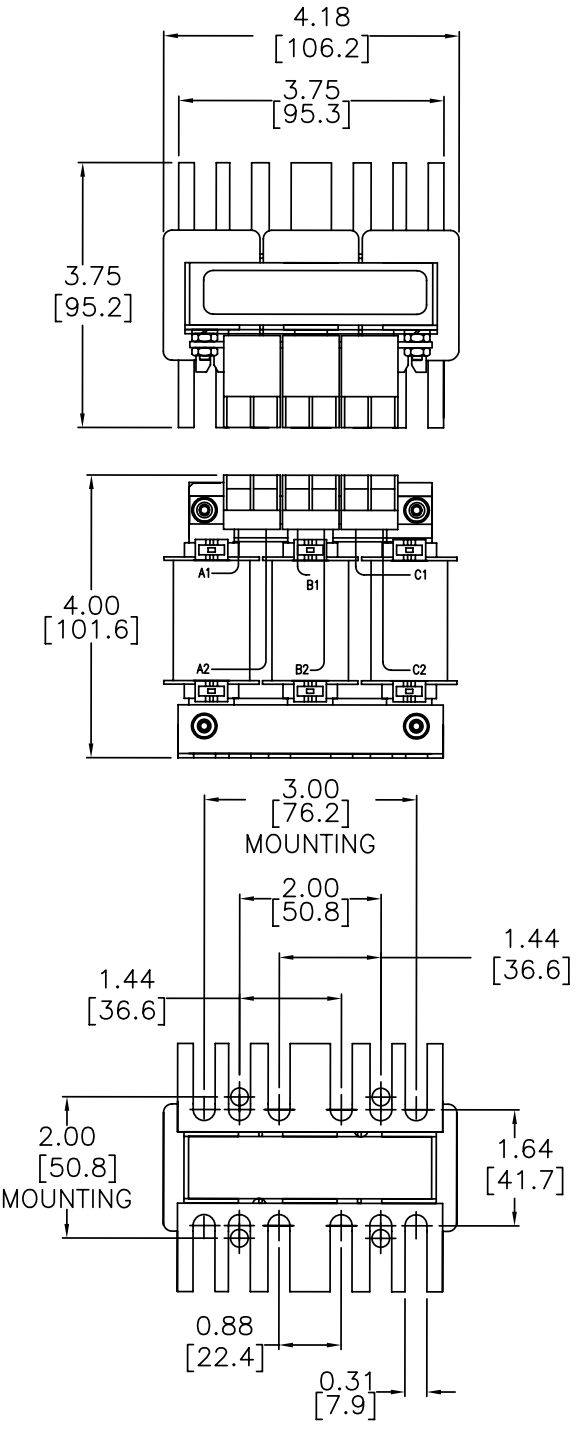
GS/*DURAPULSE* Drives Accessories – Line Reactors

Line Reactor Dimensions

LR-20P5, LR-21P0, LR-22P0, LR-23P0, LR-41P0, LR-42P0, LR-43P0, LR-45P0, LR-47P5, LR-4010, LR-51P0, LR-52P0, LR-53P0, LR-55P0, LR-5010

LR series reactors have universal mounting feet with multiple mounting slots, and they can replace most reactors using the existing mounting holes. Use four bolts to mount the reactors to the mounting panel.

(Units = inches [mm])



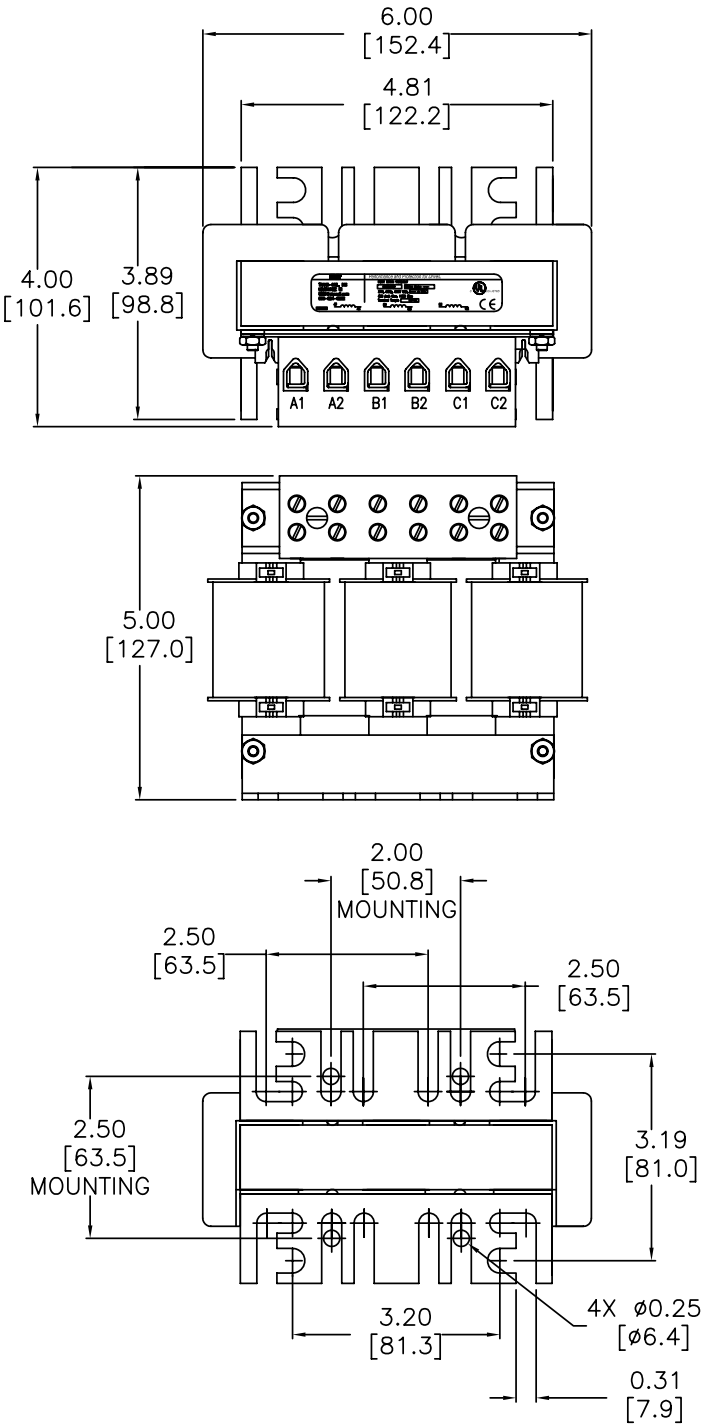
GS/*DURAPULSE* Drives Accessories – Line Reactors

Line Reactor Dimensions

LR-25P0, LR-27P5, LR-4015, LR-4020

LR series reactors have universal mounting feet with multiple mounting slots, and they can replace most reactors using the existing mounting holes. Use four bolts to mount the reactors to the mounting panel.

(Units = inches [mm])



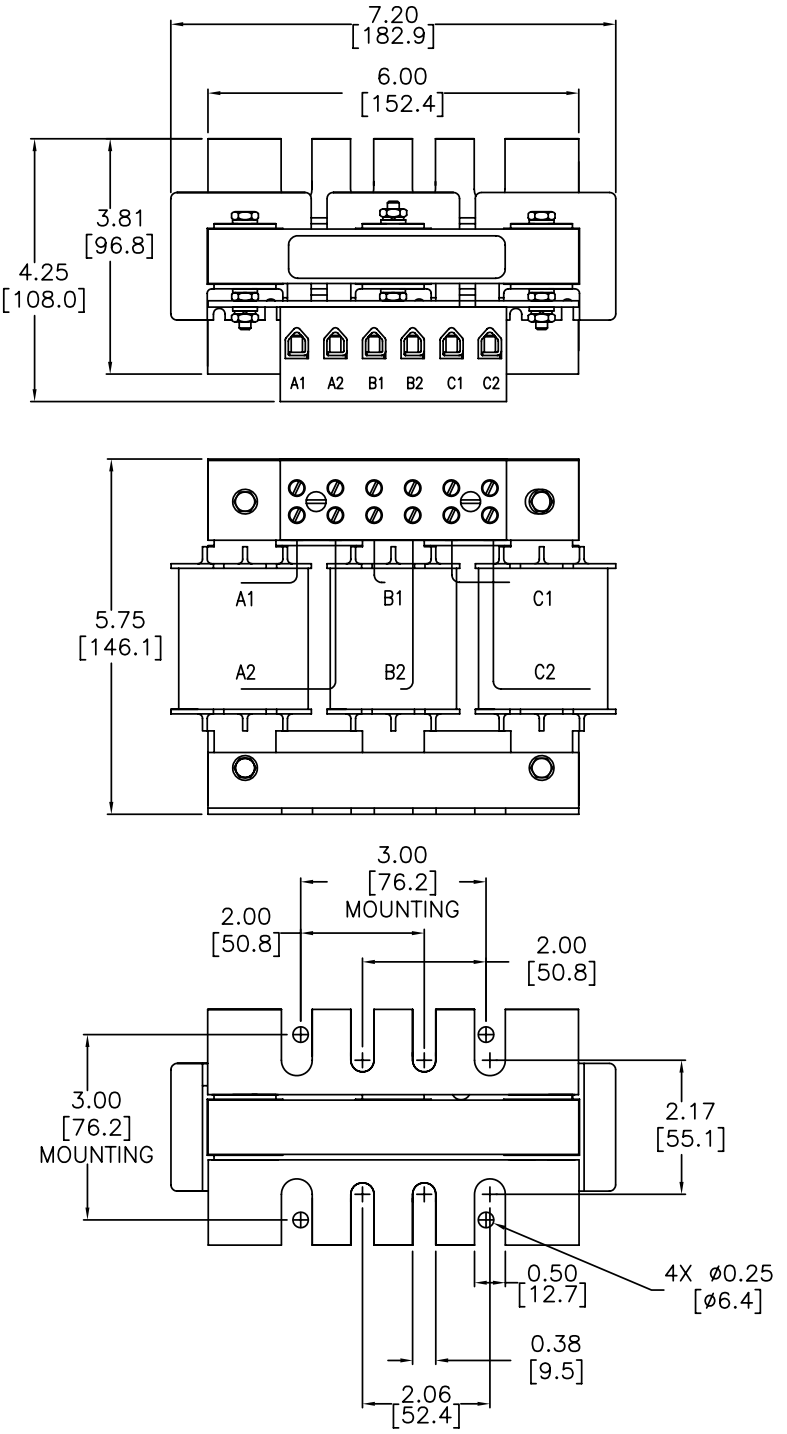
GS/*DURAPULSE* Drives Accessories – Line Reactors

Line Reactor Dimensions

LR-2010, LR-2015, LR-2020, LR-4025, LR-4030

LR series reactors have universal mounting feet with multiple mounting slots, and they can replace most reactors using the existing mounting holes. Use four bolts to mount the reactors to the mounting panel.

(Units = inches [mm])



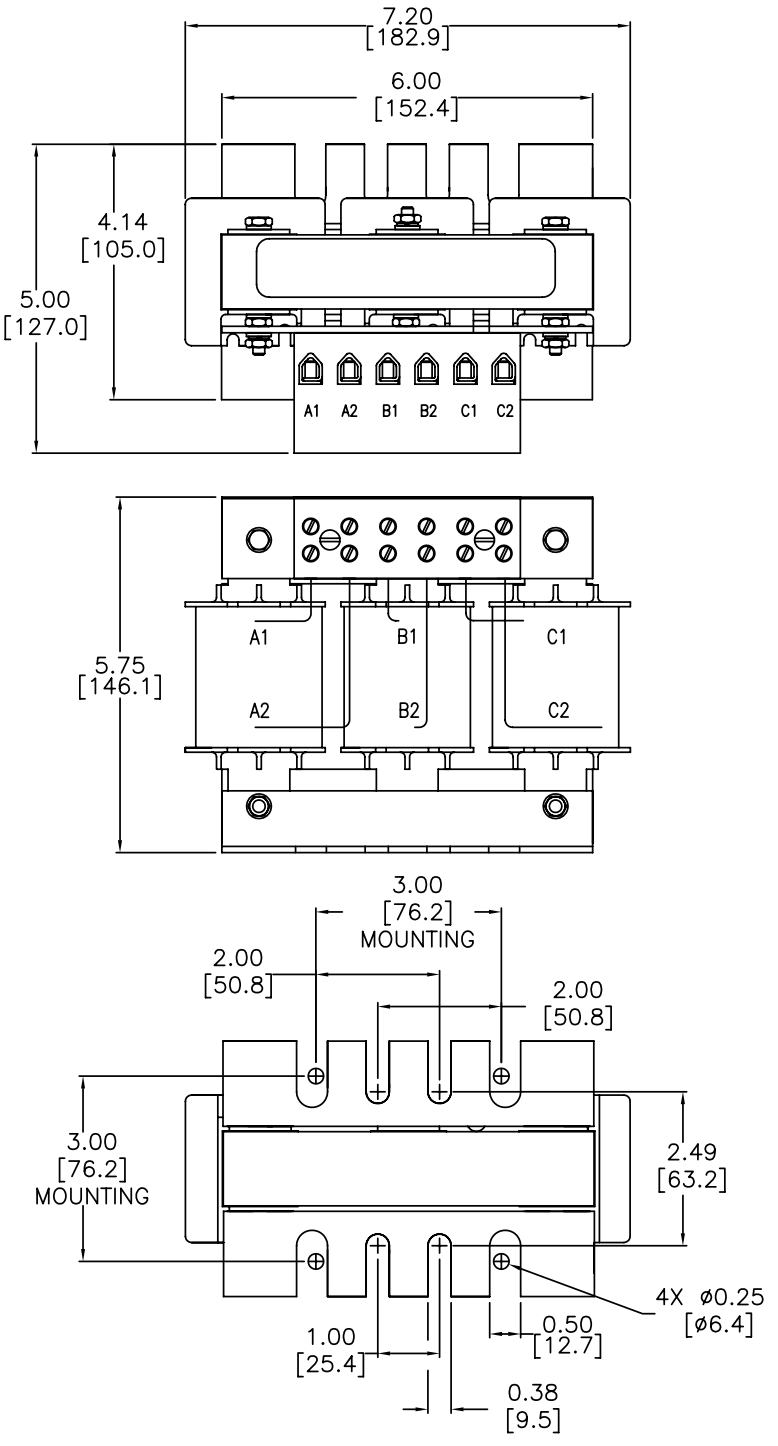
GS/*DURAPULSE* Drives Accessories – Line Reactors

Line Reactor Dimensions

LR-2025, LR-4040

LR series reactors have universal mounting feet with multiple mounting slots, and they can replace most reactors using the existing mounting holes. Use four bolts to mount the reactors to the mounting panel.

(Units = inches [mm])



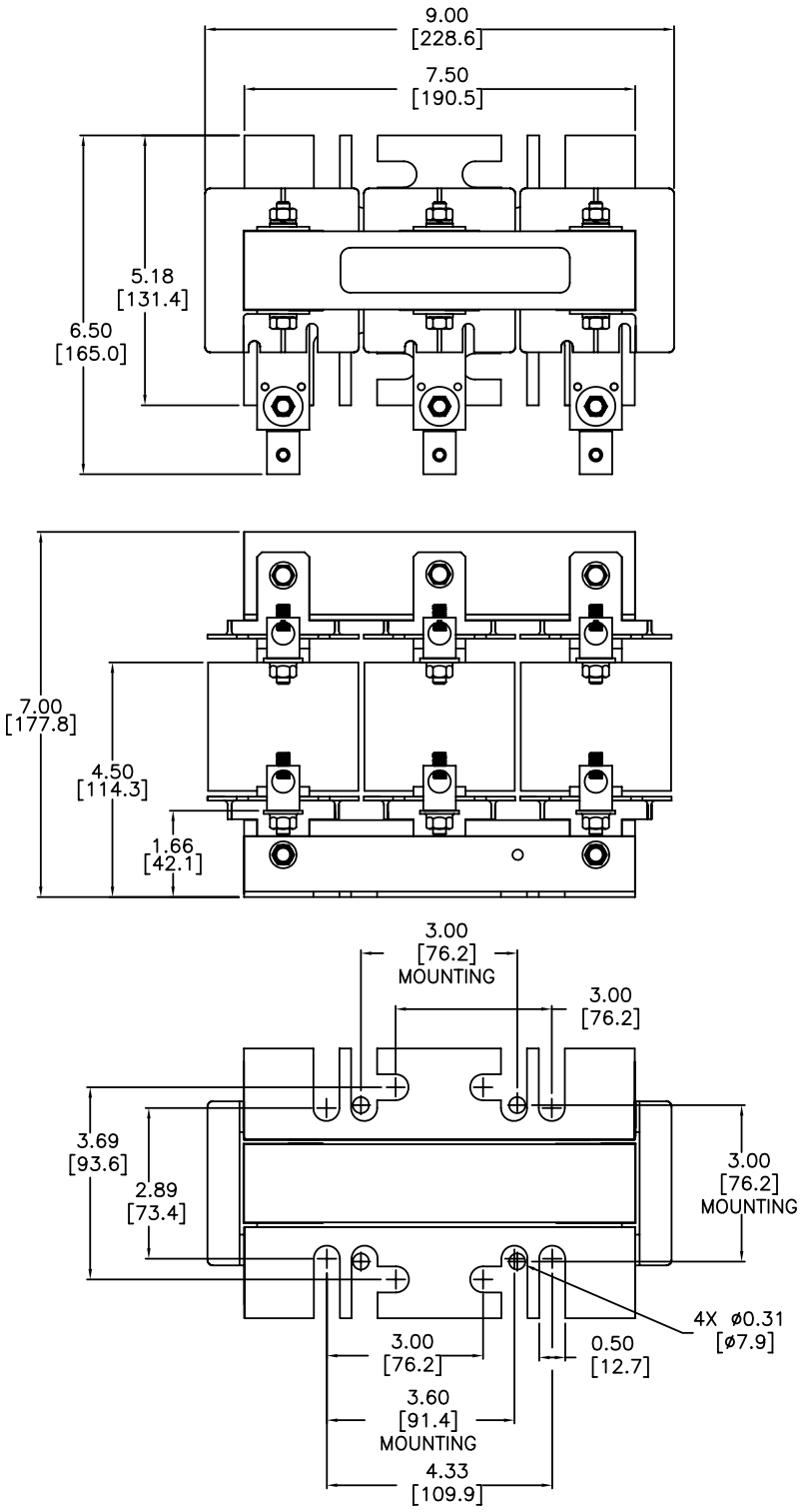
GS/*DURAPULSE* Drives Accessories – Line Reactors

Line Reactor Dimensions

LR-2030, LR-2040, LR-4075

LR series reactors have universal mounting feet with multiple mounting slots, and they can replace most reactors using the existing mounting holes. Use four bolts to mount the reactors to the mounting panel.

(Units = inches [mm])

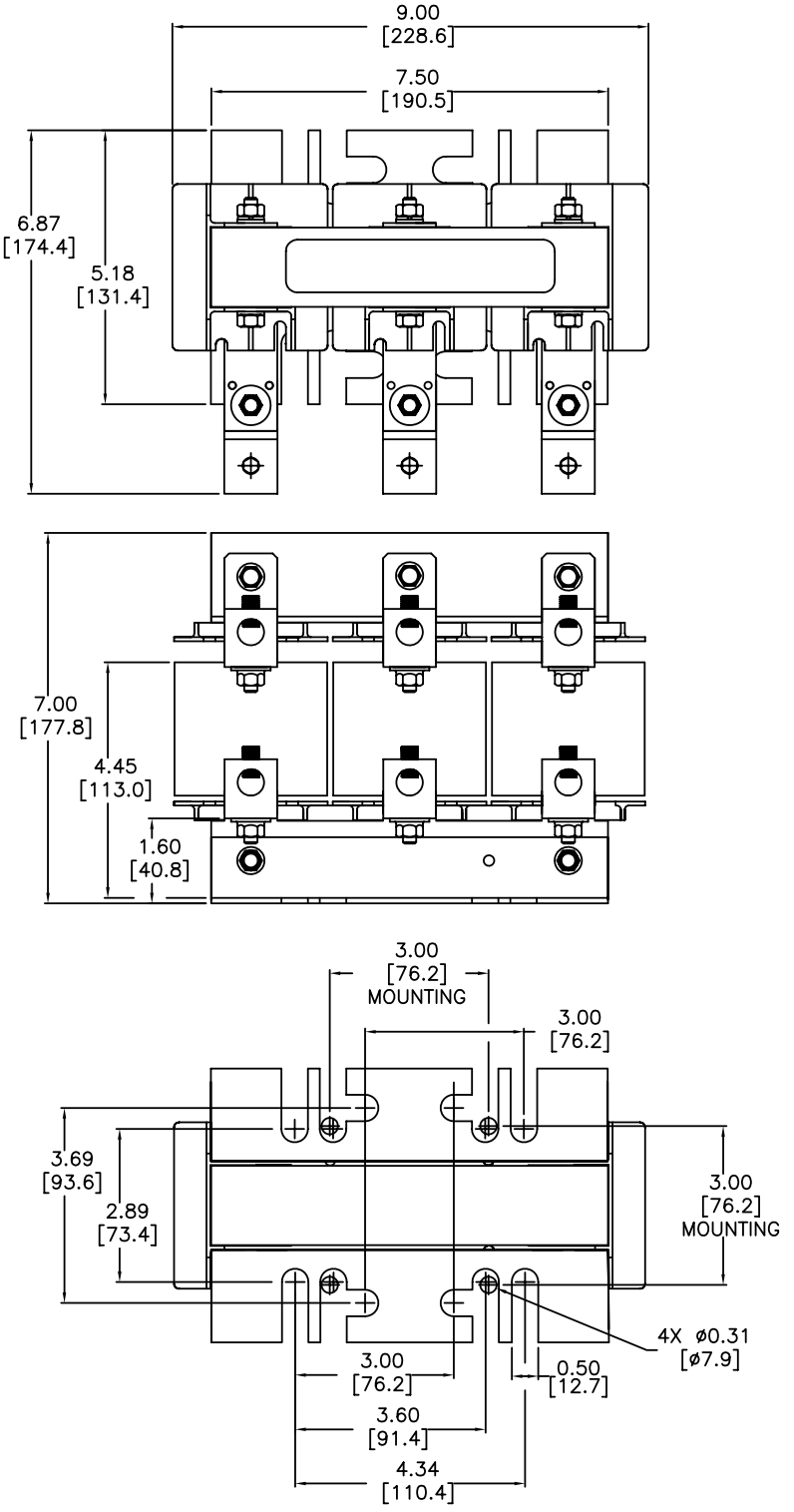


Line Reactor Dimensions

LR-2050

LR series reactors have universal mounting feet with multiple mounting slots, and they can replace most reactors using the existing mounting holes. Use four bolts to mount the reactors to the mounting panel.

(Units = inches [mm])



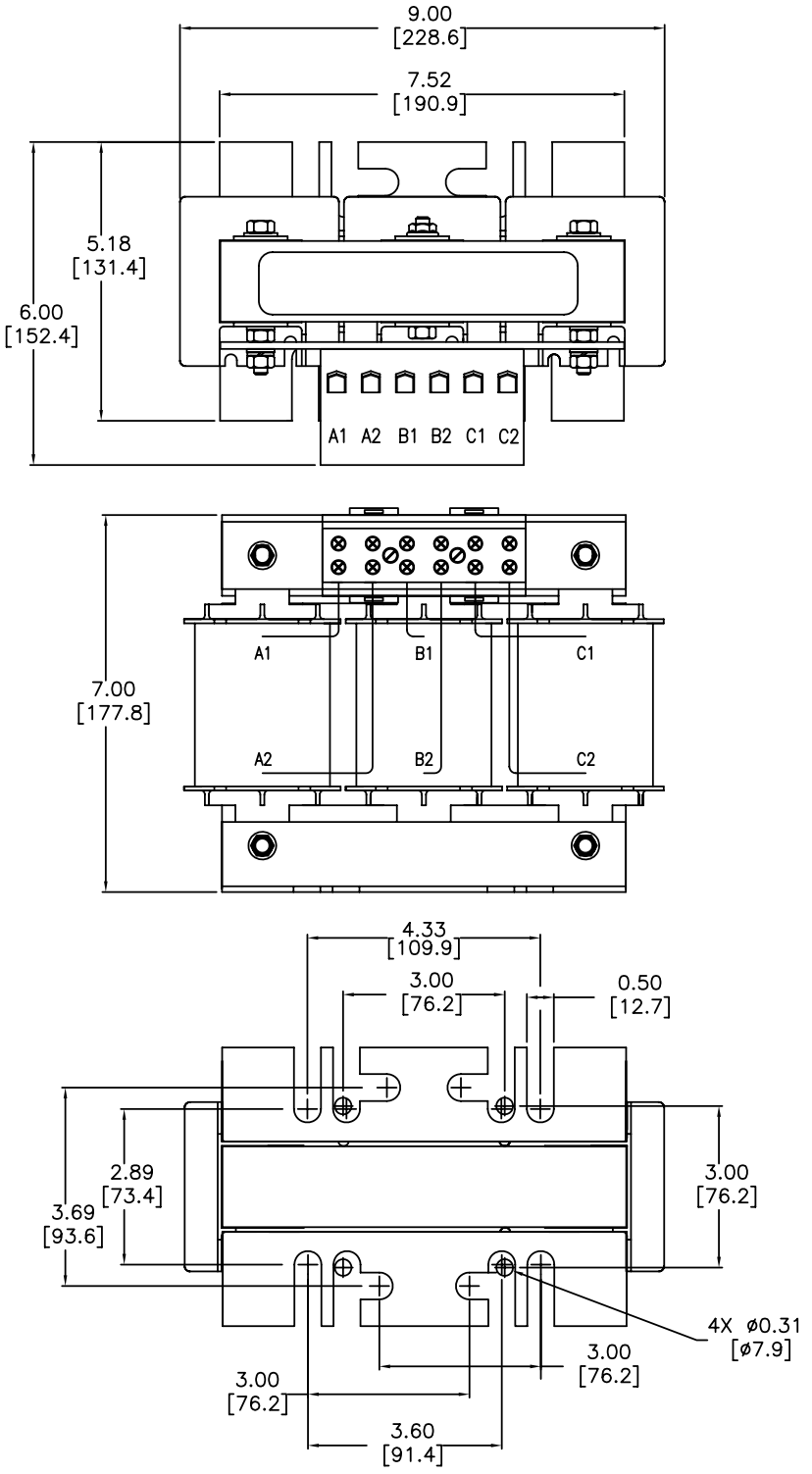
GS/*DURAPULSE* Drives Accessories – Line Reactors

Line Reactor Dimensions

LR-4050, LR-4060

LR series reactors have universal mounting feet with multiple mounting slots, and they can replace most reactors using the existing mounting holes. Use four bolts to mount the reactors to the mounting panel.

(Units = inches [mm])

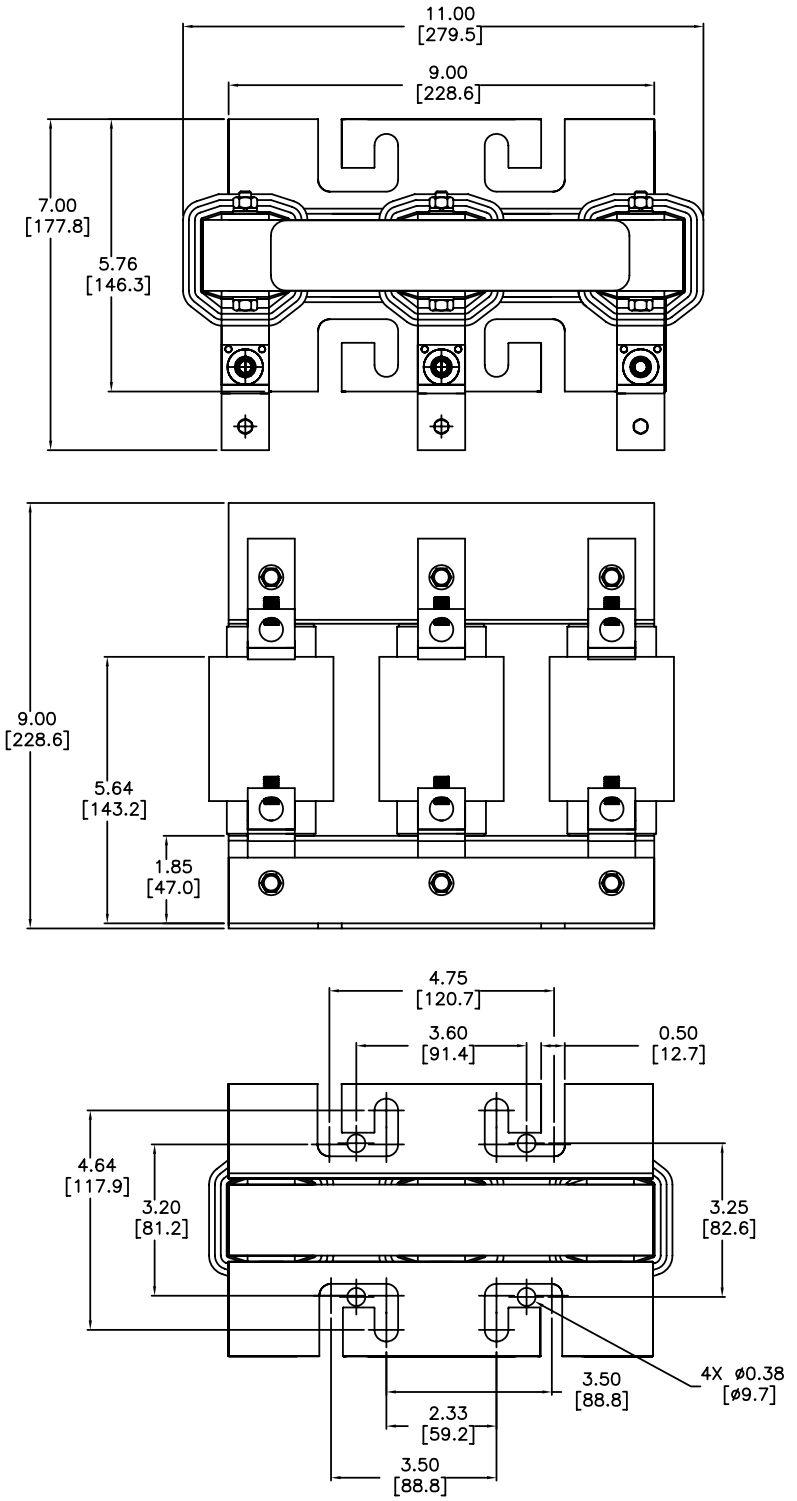


Line Reactor Dimensions

LR-4100, LR-4125, LR-4150

LR series reactors have universal mounting feet with multiple mounting slots, and they can replace most reactors using the existing mounting holes. Use four bolts to mount the reactors to the mounting panel.

(Units = inches [mm])



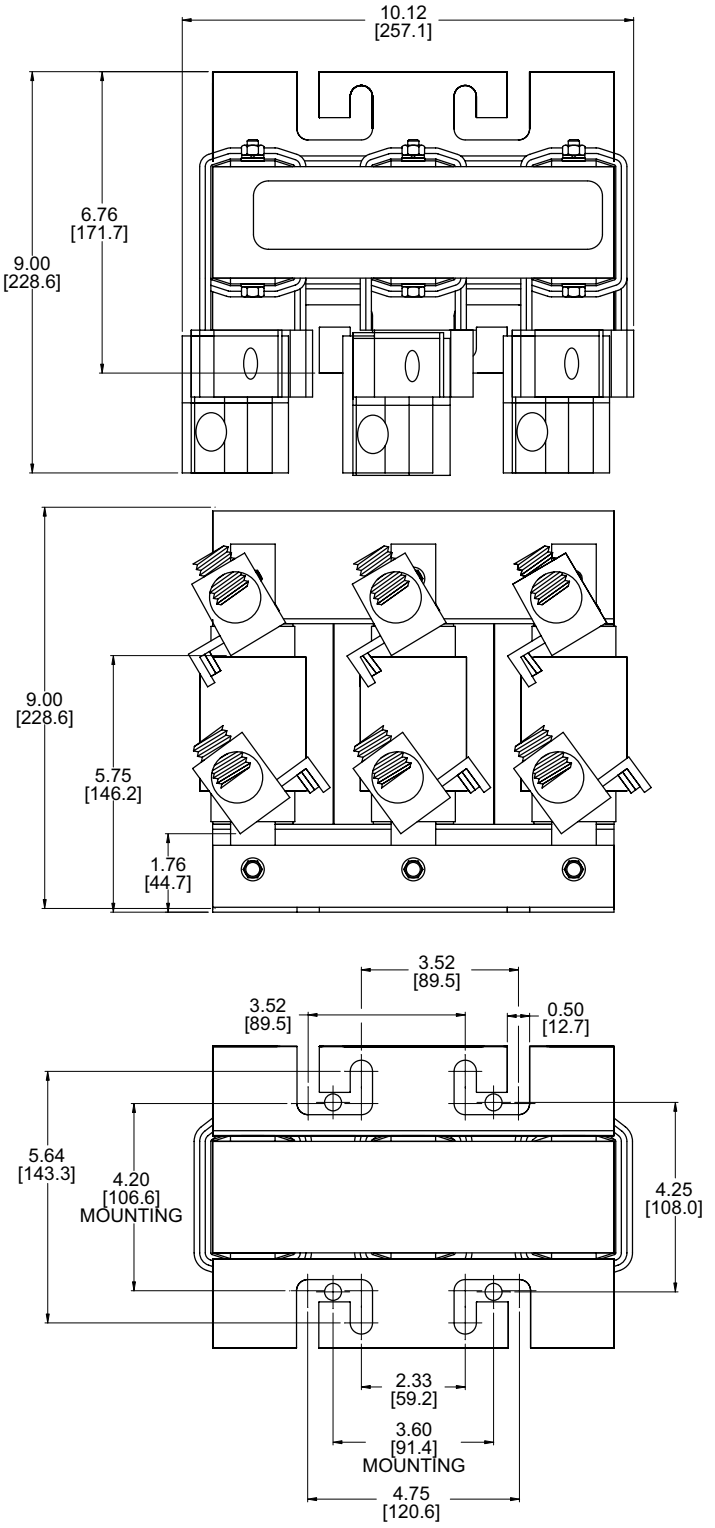
GS/*DURAPULSE* Drives Accessories – Line Reactors

Line Reactor Dimensions

LR-4200

LR series reactors have universal mounting feet with multiple mounting slots, and they can replace most reactors using the existing mounting holes. Use four bolts to mount the reactors to the mounting panel.

(Units = inches [mm])

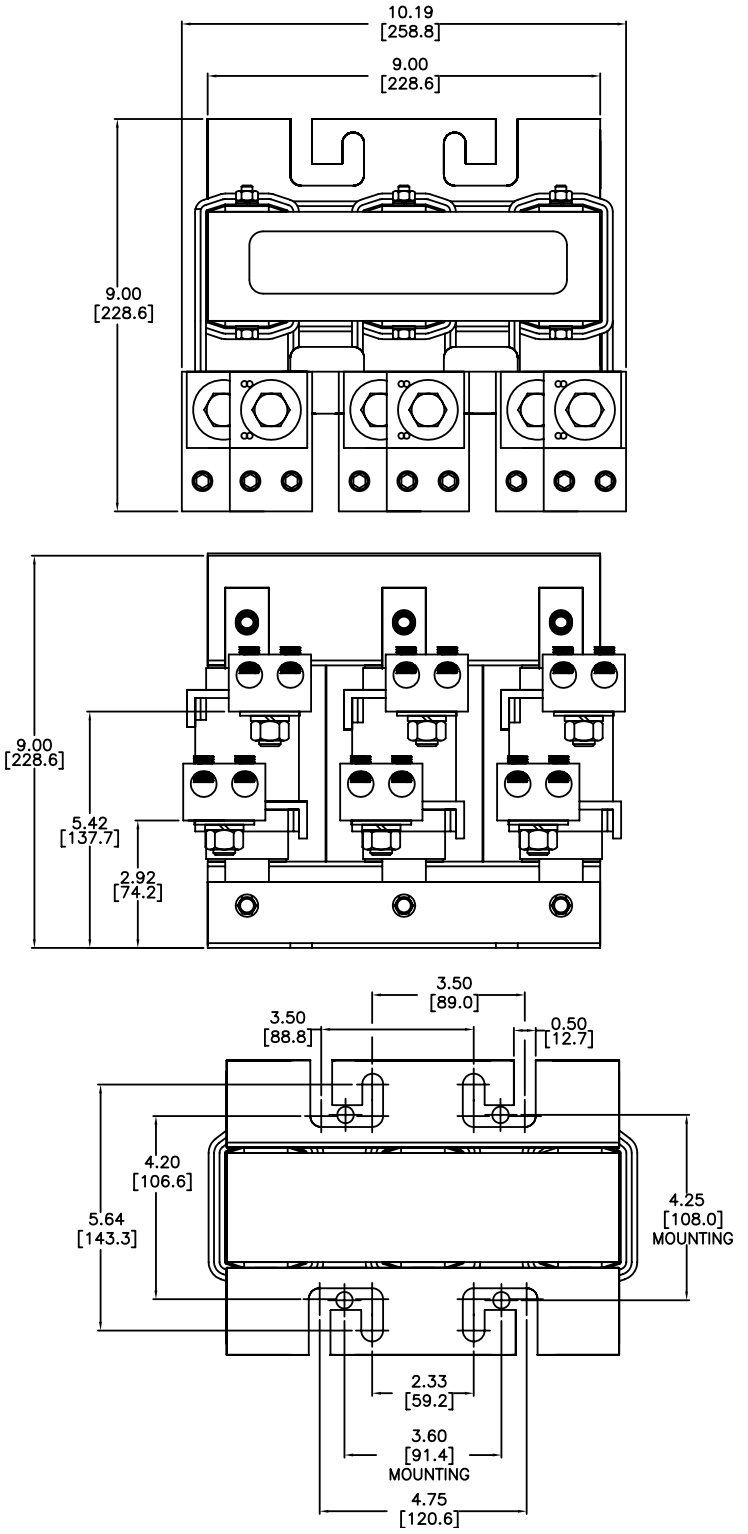


Line Reactor Dimensions

LR-4250, LR-4300

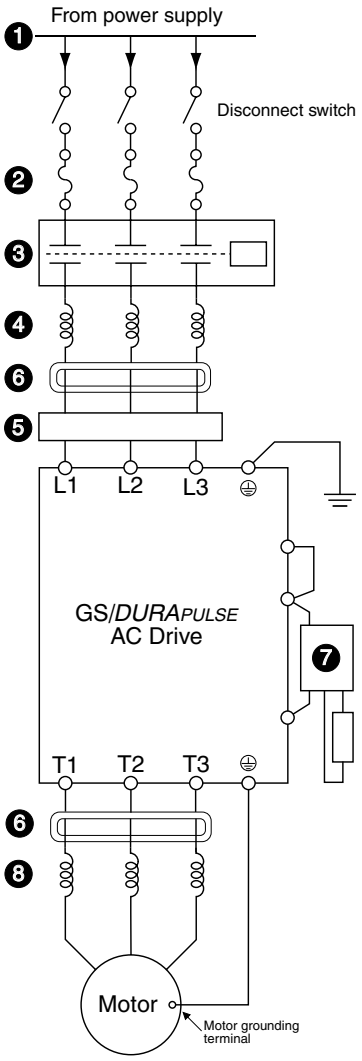
LR series reactors have universal mounting feet with multiple mounting slots, and they can replace most reactors using the existing mounting holes. Use four bolts to mount the reactors to the mounting panel.

(Units = inches [mm])



GS/*DURA*PULSE Series AC Drives Optional Accessories – Overview

GS/DURAPULSE Accessories
(not all accessories are applicable for every drive model)



❶ Power Supply

Please follow the specific power supply requirements shown in Chapter 1 of the applicable GS/*DURA*PULSE AC Drives User Manual (AutomationDirect.com).

❷ Fuses (See pages 112, 113, pg.115, for more information.)

Input fuses protect the AC drive from excessive input current due to line surges, short circuits, and ground faults. They are recommended for all installations and may be required for UL-listed installations.

❸ Contactor (Optional)

(Contactors are available from AutomationDirect.com)

Do not use a contactor or disconnect switch for run/stop control of the AC drive and motor. This will reduce the operating life cycle of the AC drive. Cycling a power circuit switching device while the AC drive is in run mode should be done only in emergency situations.

❹ Input Line Reactor (Optional)

(See pages 71, 73, and 74 for more information.)

Input line reactors protect the AC drive from transient overvoltage conditions, typically caused by utility capacitor switching. The input line reactor also reduces the harmonics associated with AC drives. Input line reactors are recommended for all installations.

❺ EMI filter (Optional) (See pages 102 and 108 for more information.)

Input EMI filters reduce electromagnetic interference or noise on the input side of the AC drive. They are required for CE compliance and recommended for installations prone to or sensitive to electromagnetic interference.

❻ RF filter (Optional) (See page 111 for more information.)

RF filters reduce the radio frequency interference or noise on the input or output side of the inverter.

❼ Braking Unit and/or Braking Resistor (Optional)

(See pages 90, 1, 92 for more information.)

Dynamic braking allows the AC drive to produce additional braking (stopping) torque. AC drives can typically produce between 15% & 20% braking torque without the addition of any external components. The addition of optional braking may be required for applications that require rapid deceleration or high inertia loads.

❽ Output Load Reactor (Optional)

(See pages 71, 73, and 74 for more information.)

Output line reactors protect the motor insulation against AC drive short circuits and IGBT reflective wave damage, and also "smooth" the motor current waveform, allowing the motor to run cooler. They are **recommended for operating "non-inverter-duty" motors and when the length of wiring between the AC drive and motor exceeds 75 feet**.