GS/*DURAPULSE* Drives Accessories – Line 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.
- 10-year warranty

Agency Approvals:

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

Line Reactors – LR Series

Part Number	Price	Rated Amps	Imped-ance	Inductance	Watt Loss	System Voltage	Phase – Use (1)	GS Drive Model	Drive hp
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

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.

**** TABLE CONTINUED NEXT PAGE ****

GS/*DURA*PULSE Drives Accessories – Line Reactors

*** TABLE CONTINUED FROM PREVIOUS PAGE ***

Line Reactors – LR Series

Part Number	Price	Rated Amps	Imped -ance	Inductance	Watt Loss	System Voltage	Phase – Use (1)	GS Drive Model	Drive hp
LR-2010	<--->	30.8	3%	0.342 mH	96	208/240	3 – I/O	GS3-2010	10
LR-2015	<--->	30.8		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
LR-41P0	<--->	2.1		8.927 mH	10.4	480		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.

GS/*DURAPULSE* Drives Accessories – Line Reactors

Line Reactors – LR Series – Additional Specifications						
Part Number	**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/*DURAPULSE* Drives Accessories – Line Reactors

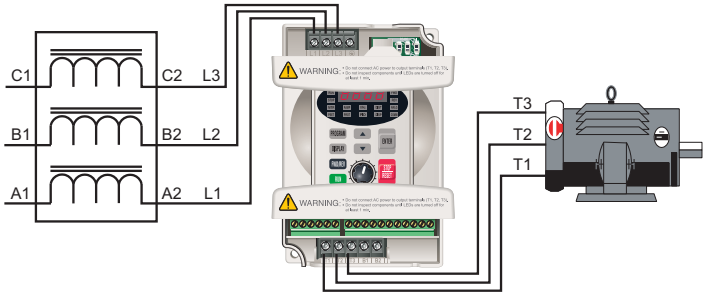
Line Reactor Part Number Cross Reference

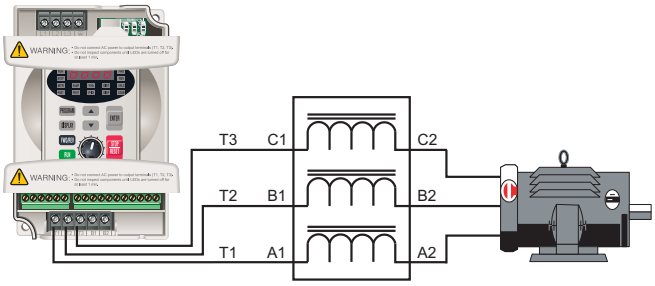
Line Reactors – LR Series – Part Number Cross Reference					
AutomationDirect LR Series	***AutomationDirect GS Series (legacy)***	***AB-1321***	***Hammond***	***MTE-RL***	***MTE-RLW***
LR-10P2-1PH	GS-10P2-LR	NA	NA	NA	NA
LR-10P5-1PH	GS-10P5-LR	NA	NA	NA	NA
LR-11P0-1PH	GS-11P0-LR	NA	NA	NA	NA
LR-20P5-1PH	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/*DURAPULSE* Drives Accessories – Line Reactors

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.





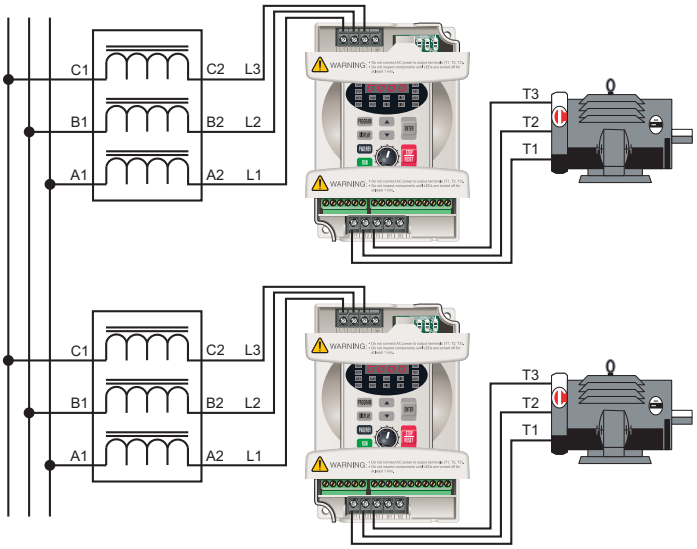
Output side of the drive

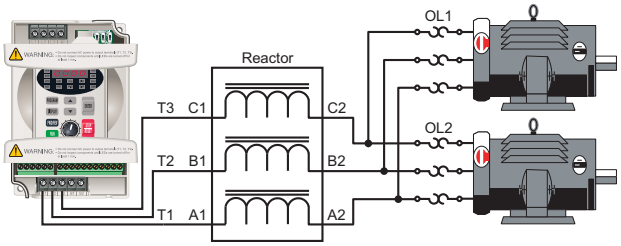
When installed on the output side of the drive, line reactors protect the drive from short circuits at the load. Voltage and current waveforms from the drive are enhanced, reducing motor overheating and noise emissions.

Note: 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.

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

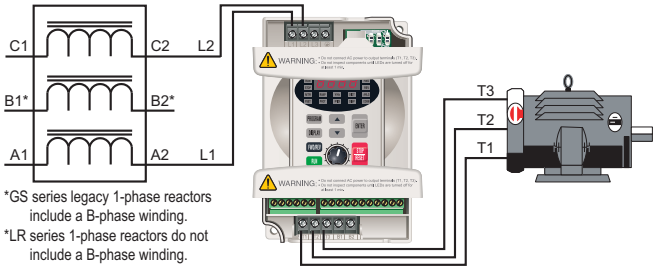
A single reactor can be used for multiple motors on the same drive, **if the motors operate simultaneously**. Size the reactor based upon the total horsepower of all the motors. Select a reactor with a current rating greater than the sum of the motor full-load currents. **Overload relays are recommended**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

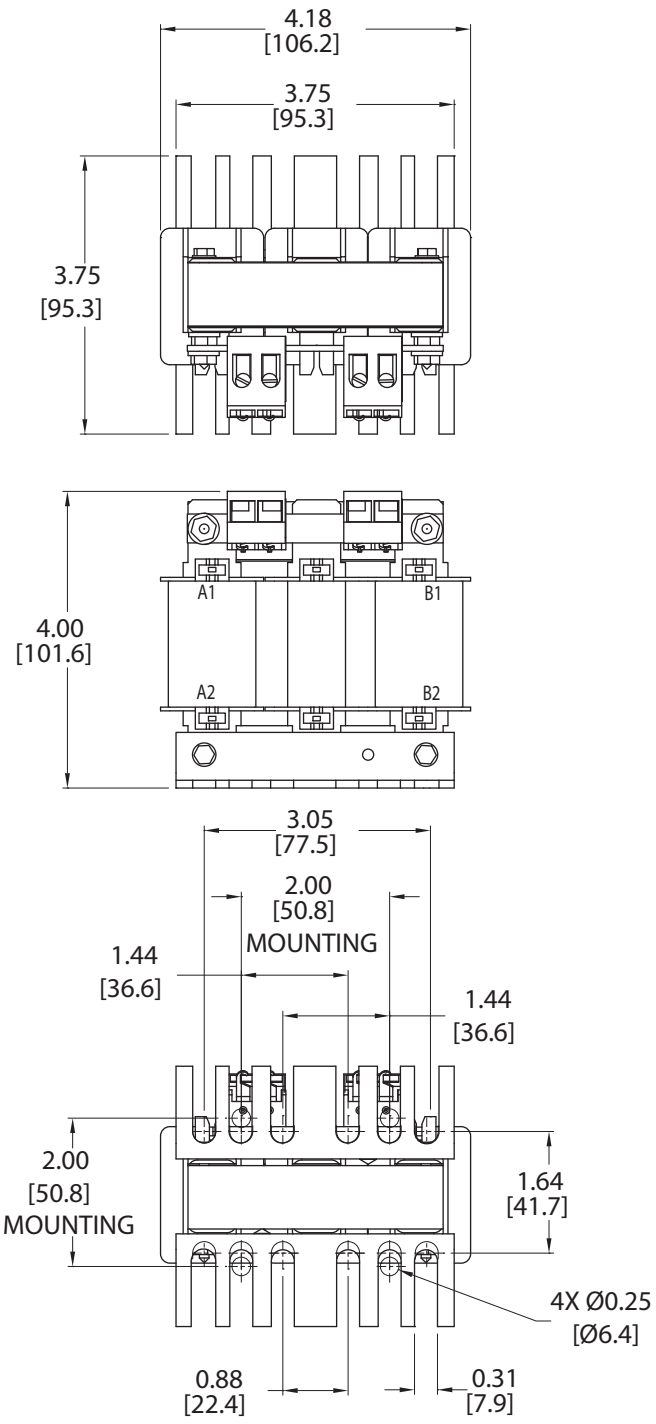
GS/*DURAPULSE* Drives Accessories – Line Reactors

Line Reactor Dimensions

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.

(Units = inches [mm])



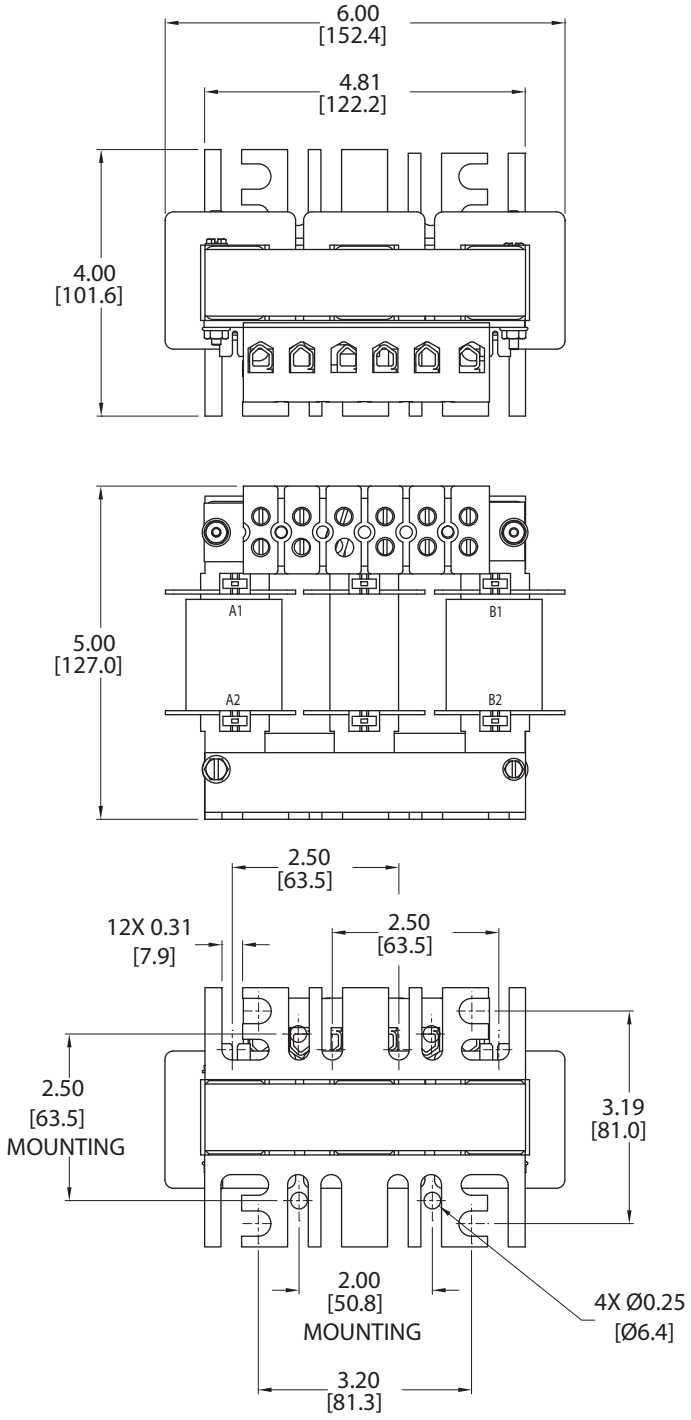
GS/*DURAPULSE* Drives Accessories – Line Reactors

Line Reactor Dimensions

LR-11P0-1, 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])



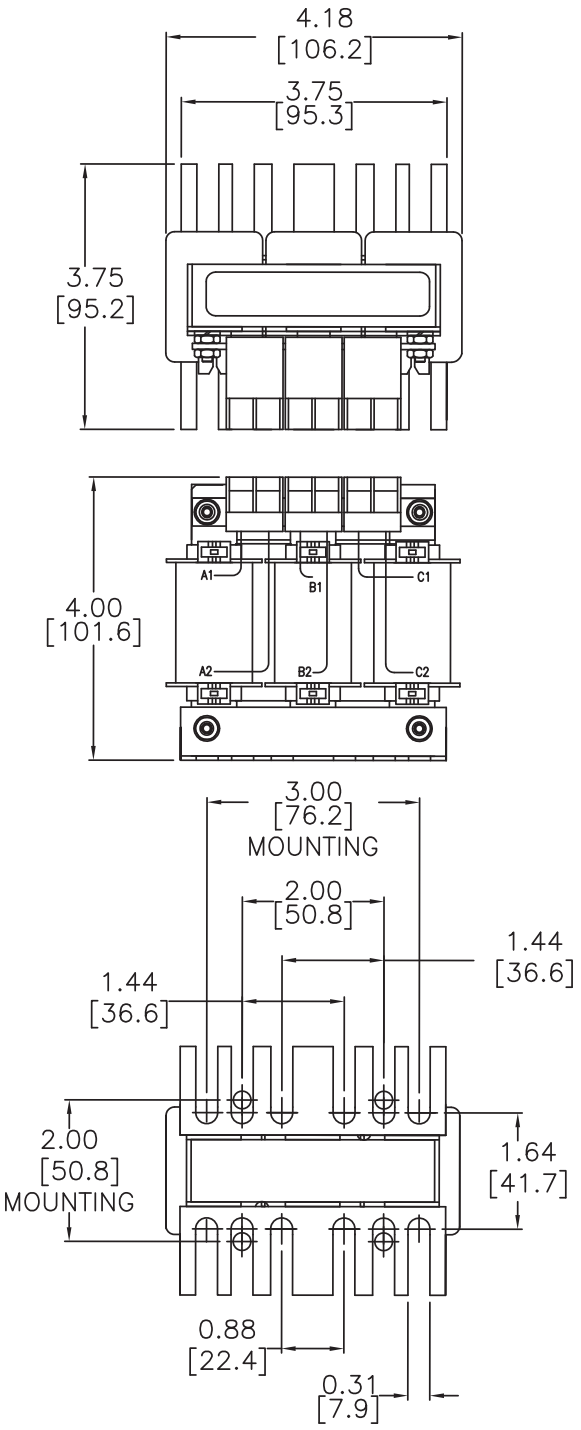
GS/*DURAPULSE* Drives Accessories – Line Reactors

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])



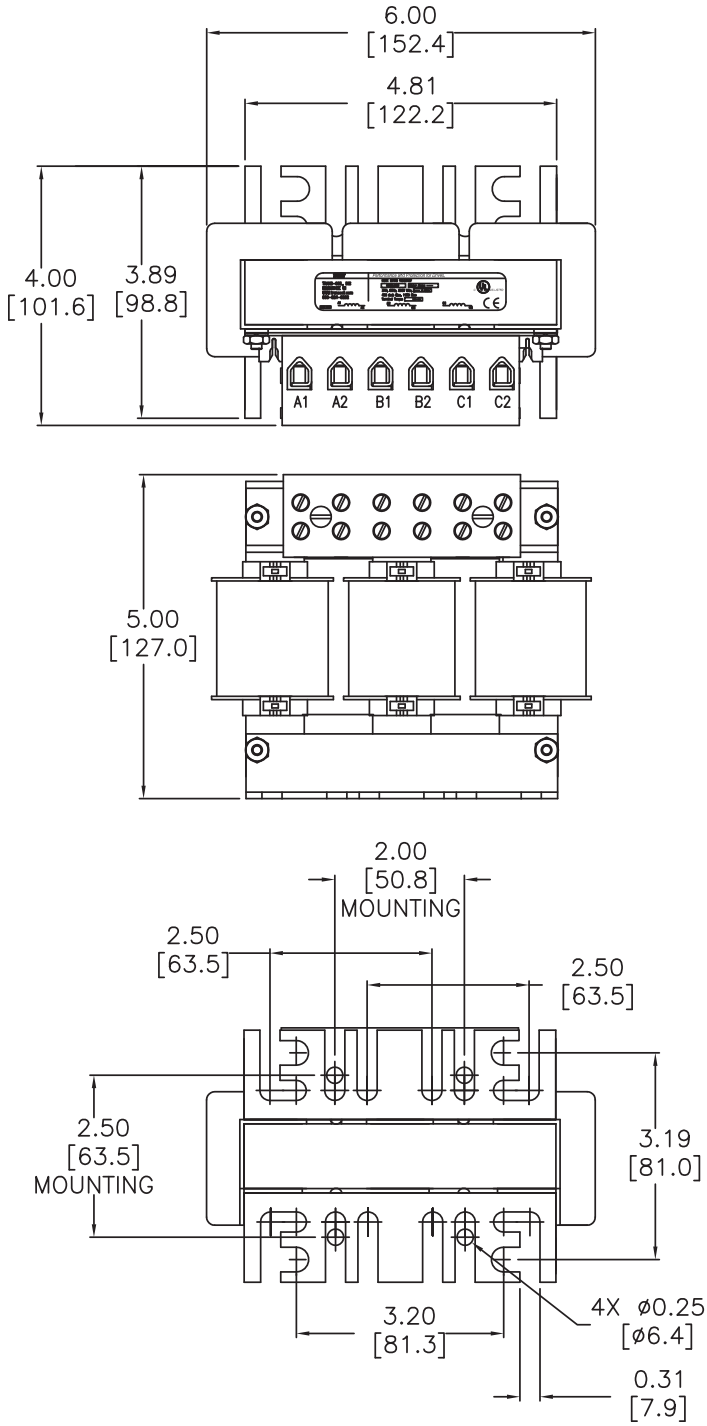
GS/*DURAPULSE* Drives Accessories – Line Reactors

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])



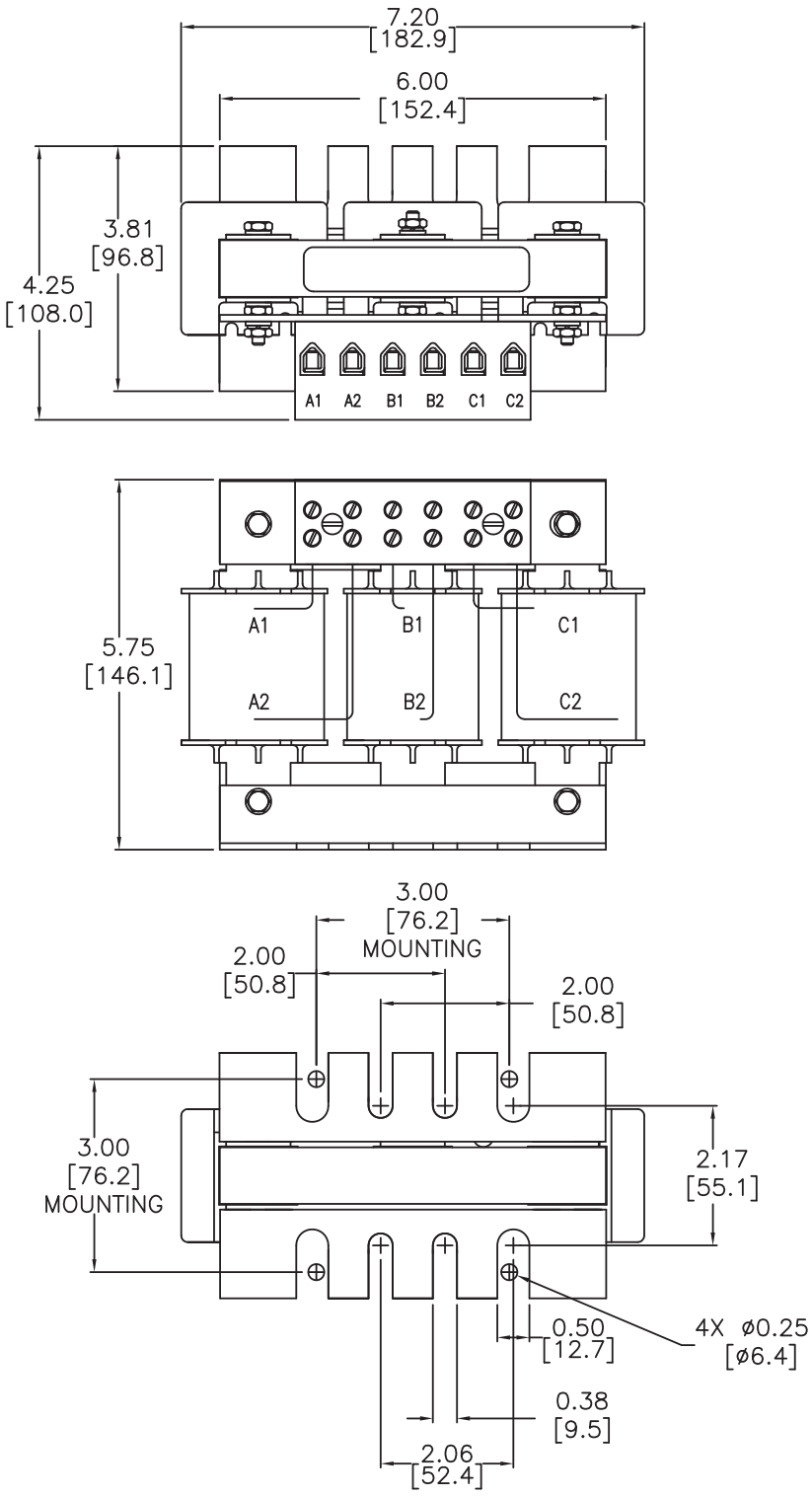
GS/*DURAPULSE* Drives Accessories – Line Reactors

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])



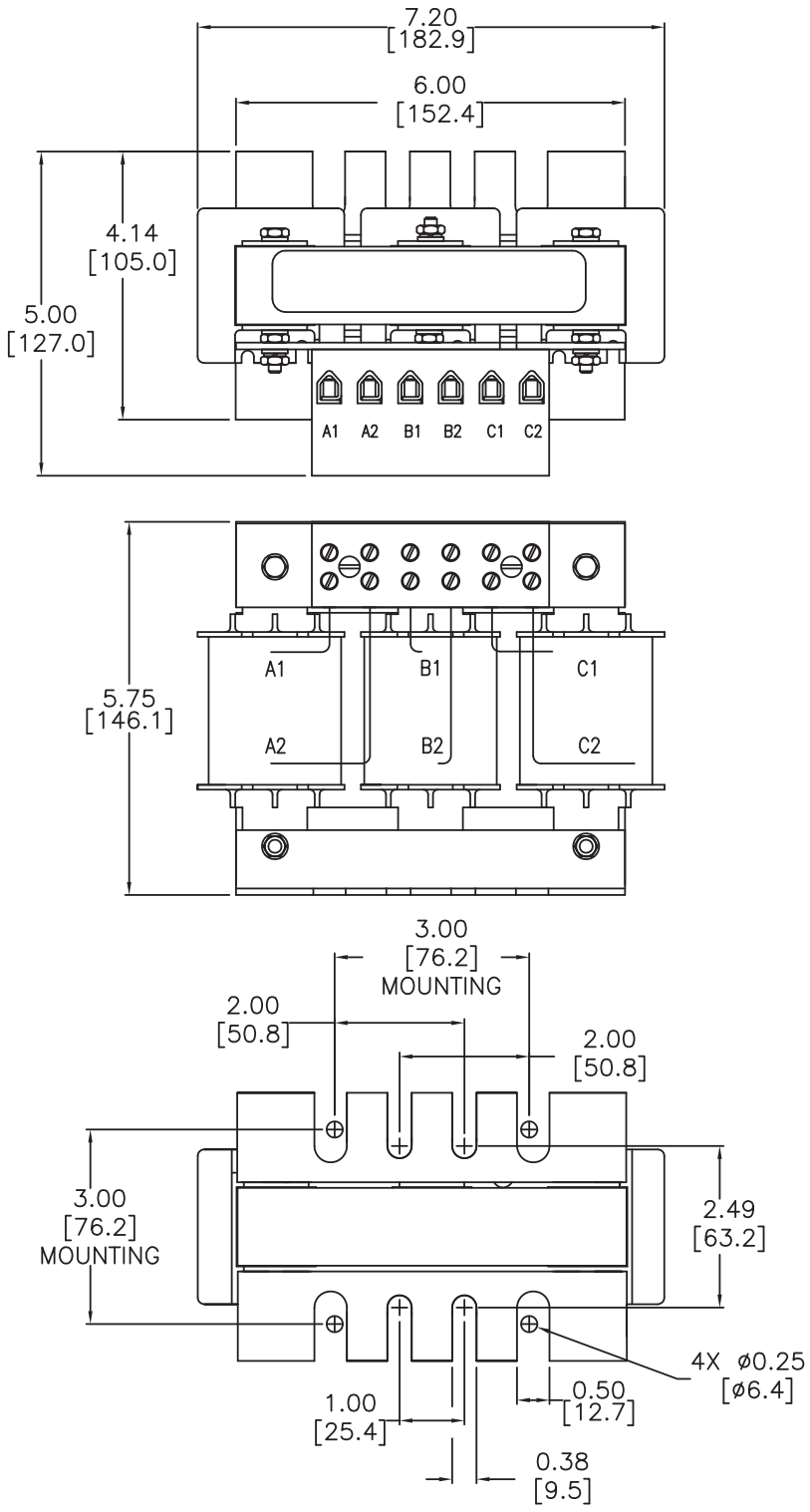
GS/*DURAPULSE* Drives Accessories – Line Reactors

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])



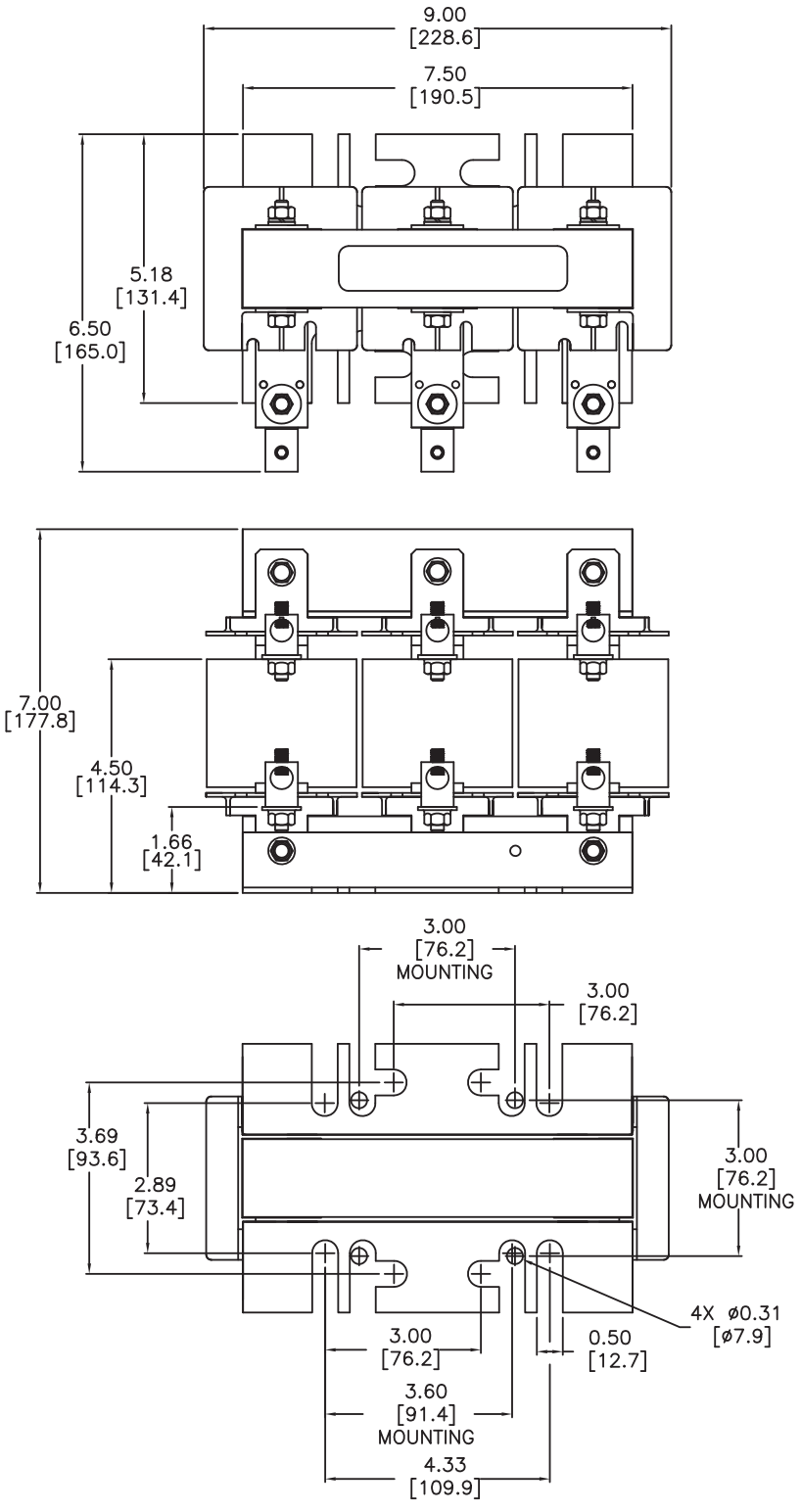
GS/*DURAPULSE* Drives Accessories – Line Reactors

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])



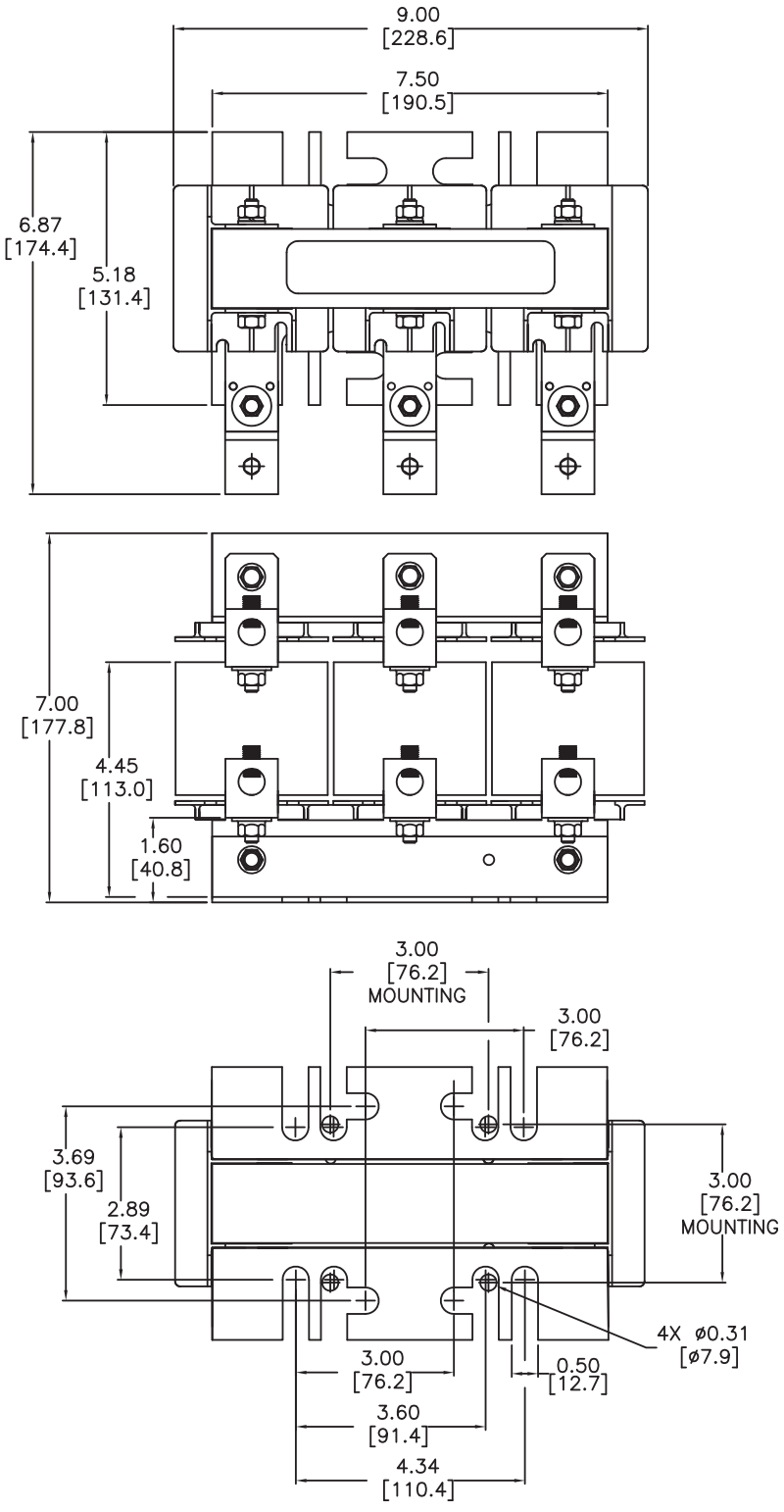
GS/*DURAPULSE* Drives Accessories – Line Reactors

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])



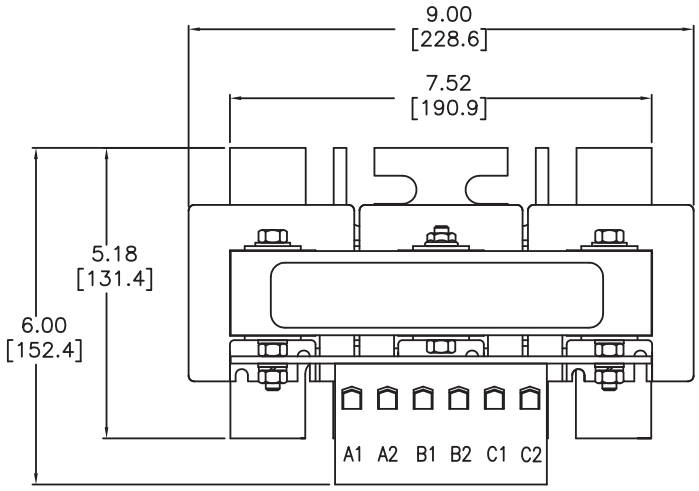
GS/*DURAPULSE* Drives Accessories – Line Reactors

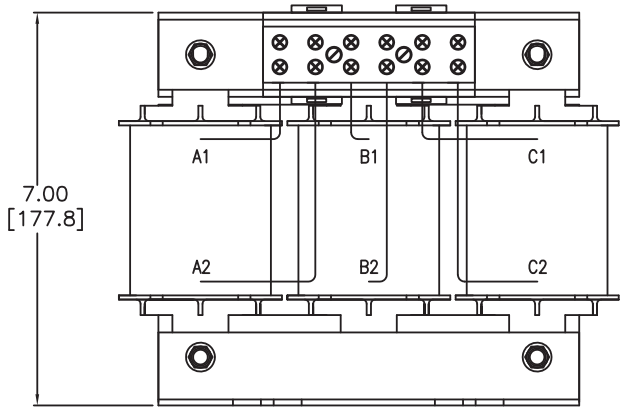
Line Reactor Dimensions

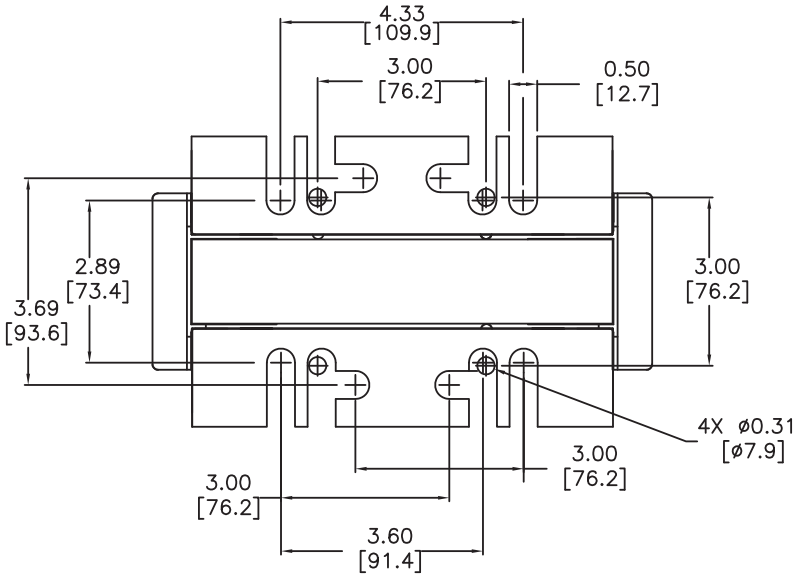
LR-4050, LR-4060

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])







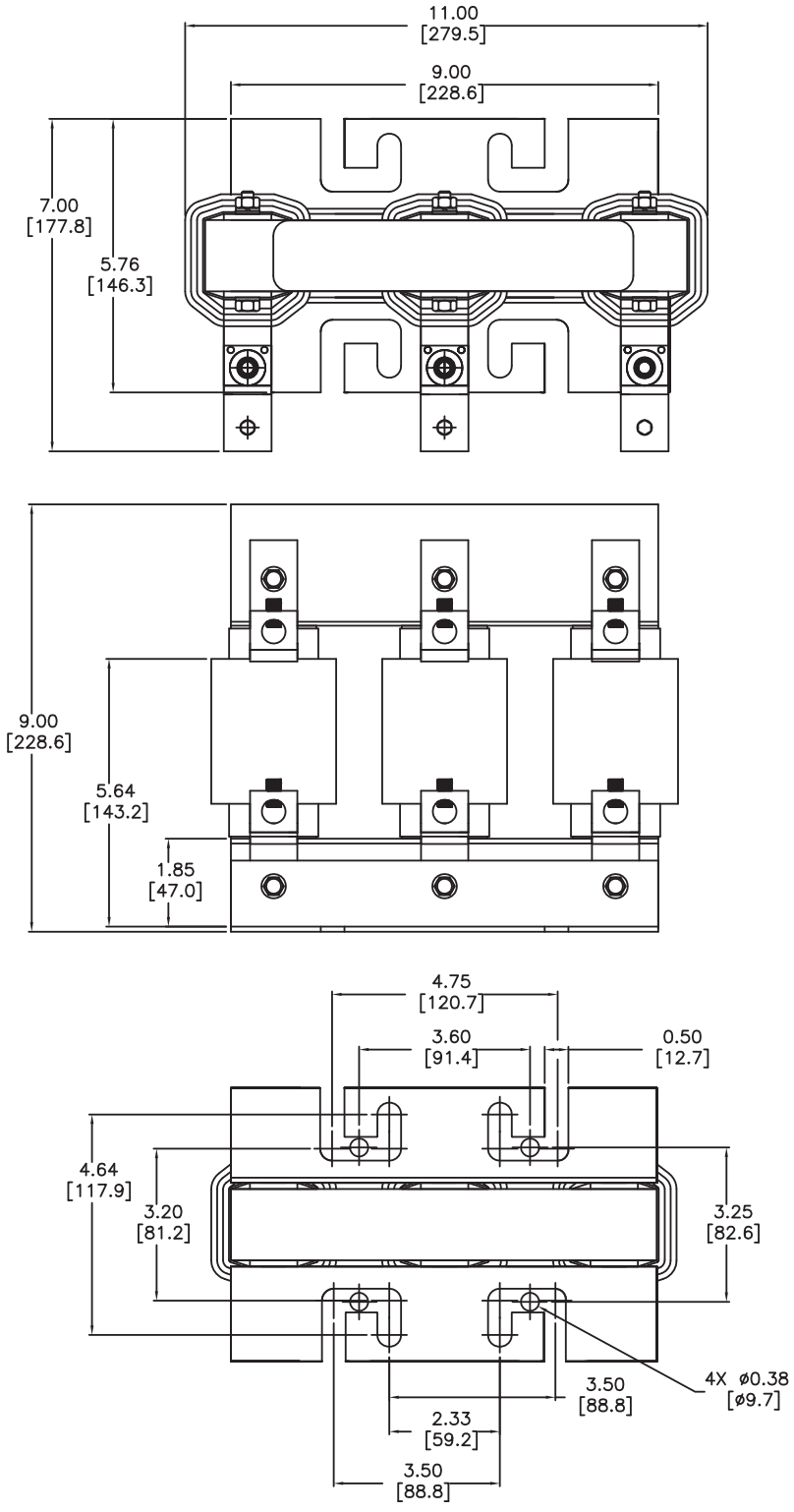
GS/*DURAPULSE* Drives Accessories – Line Reactors

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])



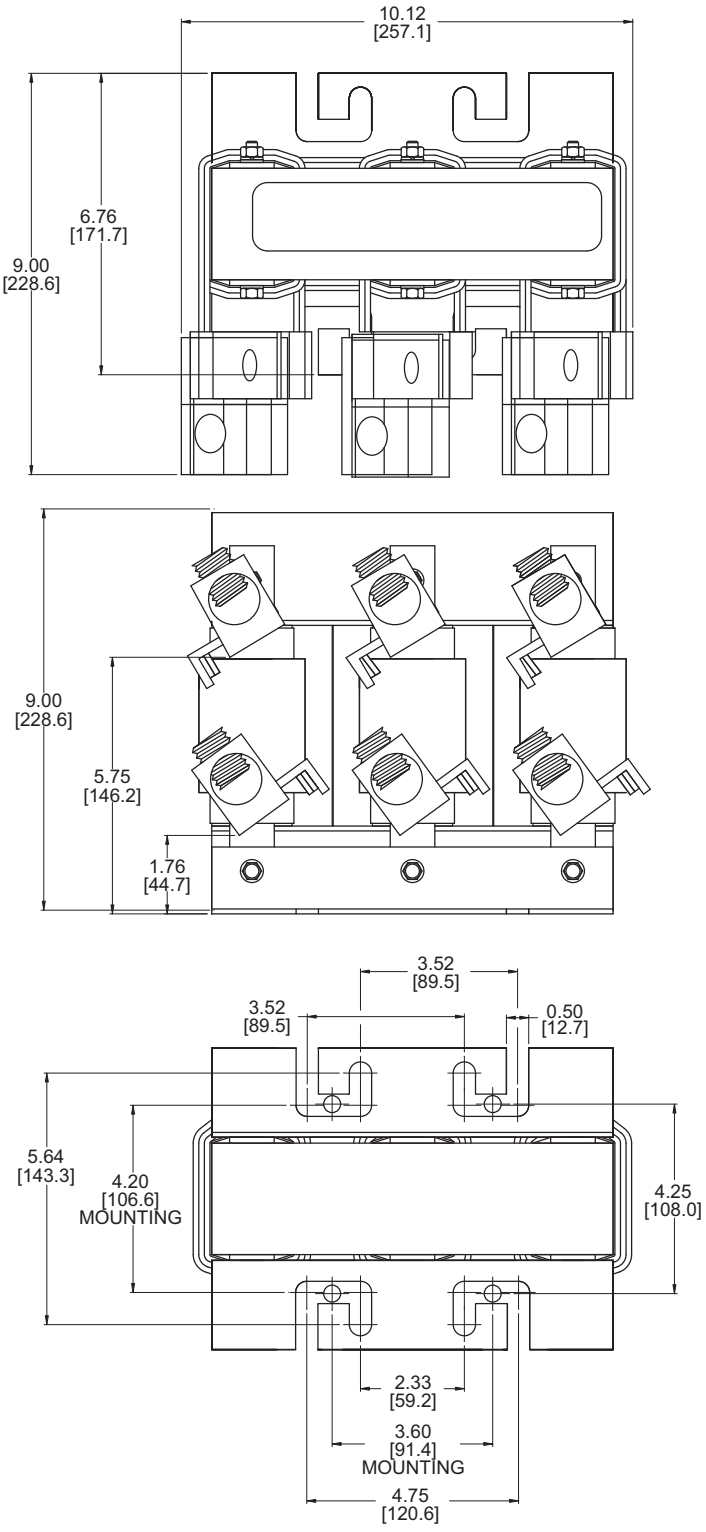
GS/*DURAPULSE* Drives Accessories – Line Reactors

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])



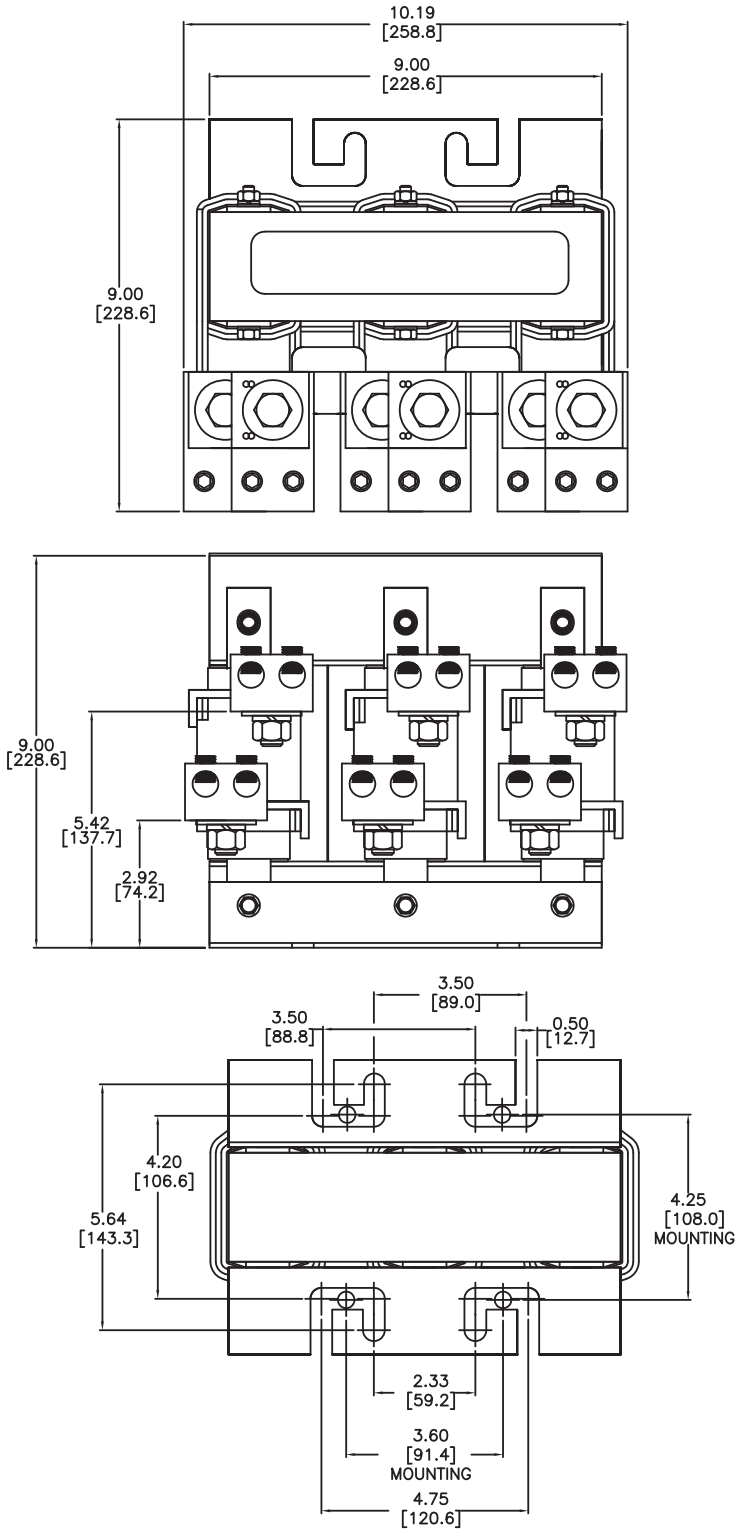
GS/*DURAPULSE* Drives Accessories – Line Reactors

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/*DURAPULSE* Accessories – Overview

Accessories – Part numbering system

Note: With the exception of the EMI filters, RF filters, and LR series line reactors, each accessory part number begins with GS, followed by the AC Drive rating, and then the relevant accessory code. Following the accessory code, you will find a description code when applicable. The diagram at right shows the accessory part numbering system.

GS - 22P0 - LR - 3PH

Description Code (optional)
1PH: Single phase **3PH**: Three phase **ENC**: Enclosure **Blank**: For reactor, blank = 3-phase

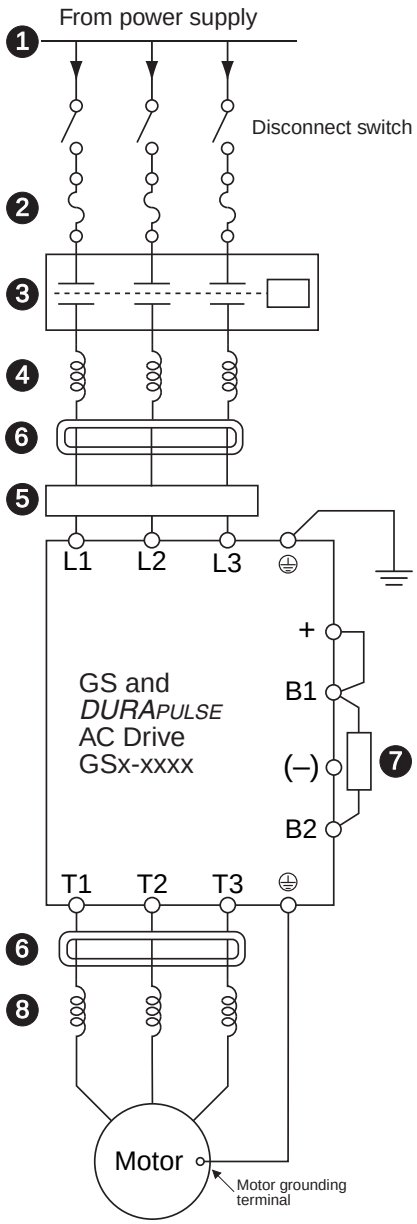
Accessory Code
BR: Braking resistor **BZL**: Bezel **CBL**: Cable **DBU**: Dynamic Brake Unit
EDRV: Ethernet board **FB**: Feedback board **FKIT**: Fuse Kit **FUSE**: Replacement fuses for FKIT
KPD: Keypad **LR**: Line reactor (legacy) **RS**: Recommended Standard

Horsepower Rating
Example: **2P0** = 2.0 hp **7P5** = 7.5 hp **010** = 10 hp

Voltage Rating
1: 115V **2**: 230V **4**: 460V **5**: 575V

Series
GS: All GS and DURApulse Series Drives
GS1: GS1 Series **GS2**: GS2 Series **GS3**: DURApulse Series **LR**: Newer line reactor series

Under 20hp



❶ Power Supply

Please follow the specific power supply requirements shown in Chapter 1 and the Warning section of the applicable GS or *DURAPULSE* AC Drives User Manual.

❷ Fuses (Refer to page 13–81.)

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. *(AutomationDirect fuses are not available for GS1 drives.)*

❸ Contactor (Optional) (Refer to the Motor Controls section.)

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) (Refer to page 13–50.)

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) (Refer to page 13–74.)

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. *(Separate EMI filters are not neccessary for GS1 drives.)*

❻ RF filter (Optional) (Refer to page 13–80.)

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

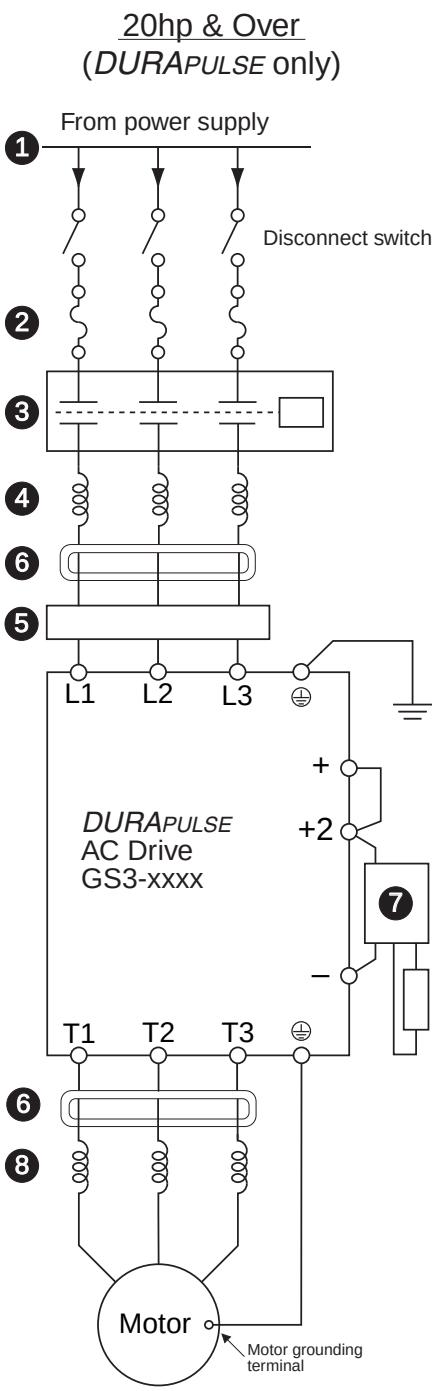
❼ Braking Resistor (Optional) (Refer to page 13–69.)

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. *(Braking resistors are not available for GS1 drives.)*

❽ Output Line Reactor (Optional) (Refer to page 13–50.)

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**.

GS/*DURAPULSE* Accessories – Overview



❶ Power Supply

Please follow the specific power supply requirements shown in Chapter 1 of the *DURAPULSE* AC Drives User Manual.

❷ Fuses (Refer to page 13–81.)

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) (Refer to the Motor Controls section.)

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) (Refer to page 13–50.)

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) (Refer to page 13–74.)

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) (Refer to page 13–80.)

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

❼ Braking Unit & Braking Resistor (Optional) (pg 13–67)

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 Line Reactor (Optional) (Refer to page 13–50.)

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**.