GS1, GS2, and GS3/*DURA*PULSE Accessories – Fusing

Fusing Overview

Circuit protection devices are essential to prevent costly damage to your AC drive application equipment. Fuses and fuse kits are available from AUTOMATIONDIRECT for the GS1, GS2, and GS3/*DURA*PULSE AC drives.

The fuse specifications are shown in the table below. Each fuse kit consists of one fuse block and fuses sized to handle the inrush current while providing superior protection for the corresponding GS2 or *DURA*PULSE AC drive. The larger drives in the *DURA*PULSE family require three fuse kits (one per phase). Their part numbers are marked in the table with a double asterisk.

Replacement fuses are also available, and listed in the table next to their companion fuse kits.

Fuse Kit Specifications for GS1, GS2, and GS3/*DURA*pulse 115–460V Drives

Fuse Kit	Price	Fuse					Wire Range	SCCR	Replacement Fuses (5 fuses per package)	Price
		Block Type	Type	Rating	Bolt Torque (lb·in)	Block Dimensions				
GS-10P2-FKIT-1P*	Retired	Two-pole	A3T	300V@20A	n/a (spring clips)	Figure 1	Al/Cu #2-14	200 kA	GS-10P2-FUSE-1P	Retired
GS-10P5-FKIT-1P*	Retired			300V@30A					GS-10P5-FUSE-1P	Retired
GS-11P0-FKIT-1P*	Retired			300V@50A					GS-11P0-FUSE-1P	Retired
GS-20P2-FKIT-1P	Retired			300V@15A					GS-20P2-FUSE-1P	Retired
GS-20P2-FKIT-3P	Retired	Three-pole		300V@10A		Figure 2			GS-20P2-FUSE-3P	Retired
GS-20P5-FKIT-1P	Retired	Two-pole		300V@20A		Figure 1			GS-20P5-FUSE-1P	Retired
GS-20P5-FKIT-3P	Retired	Three-pole		300V@10A		Figure 2			GS-20P5-FUSE-3P	Retired
GS-21P0-FKIT-1P	Retired	Two-pole		300V@30A		Figure 1			GS-21P0-FUSE-1P	Retired
GS-21P0-FKIT-3P	Retired	Three-pole		300V@20A		Figure 2			GS-21P0-FUSE-3P	Retired
GS-22P0-FKIT-1P	Retired	Two-pole		300V@45A		Figure 1			GS-22P0-FUSE-1P	Retired
GS-22P0-FKIT-3P	Retired	Three-pole		300V@25A		Figure 2			GS-22P0-FUSE-3P	Retired
GS-23P0-FKIT-1P	Retired	Two-pole		300V@60A		Figure 1			GS-23P0-FUSE-1P	Retired
GS-23P0-FKIT-3P	Retired	Three-pole		300V@40A		Figure 2			GS-23P0-FUSE-3P	Retired
GS-25P0-FKIT	Retired			300V@60A					GS-25P0-FUSE	Retired
GS-27P5-FKIT †	Retired			300V@100A	72	Figure 9	Al/Cu 2/0-#6		GS-27P5-FUSE	Retired
– †				300V@125A			Al/Cu: 350kcmil-#699		GS-2010-FUSE	Retired
– †				300V@175A					GS-2015-FUSE	Retired
GS-2020-FKIT	Retired			300V@250A	228	Figure 5	Al/Cu: 600kcmil-#2		GS-2020-FUSE	Retired
GS-2025-FKIT	Retired			300V@300A	228				GS-2025-FUSE	Retired
GS-2030-FKIT	Retired			300V@350A	228				GS-2030-FUSE	Retired
GS-2040-FKIT **	Retired	One-pole		300V@450A	360	Figure 6 **	Al/Cu: (2) 600kcmil-#2		GS-2040-FUSE	Retired
GS-2050-FKIT **	Retired	One-pole		300V@500A	360				GS-2050-FUSE	Retired
GS-41P0-FKIT	Retired	Three-pole	A6T	600V@10A	n/a (spring clips)	Figure 7	Al/Cu #2-14		GS-41P0-FUSE	Retired
GS-42P0-FKIT	Retired			600V@15A					GS-42P0-FUSE	Retired
GS-43P0-FKIT	Retired			600V@20A					GS-43P0-FUSE	Retired
GS-45P0-FKIT	Retired			600V@30A					GS-45P0-FUSE	Retired
GS-47P5-FKIT	Retired			600V@50A		Figure 8			GS-47P5-FUSE	Retired
GS-4010-FKIT	Retired			600V@70A	72	Figure 9	Al/Cu: Al/Cu 2/0-#6		GS-4010-FUSE	Retired
GS-4015-FKIT	Retired			600V@90A	72				GS-4015-FUSE	Retired
GS-4020-FKIT	Retired			600V@125A	132	Figure 10	Al/Cu: 350kcmil-#6		GS-4020-FUSE	Retired
GS-4025-FKIT	Retired			600V@150A	132				GS-4025-FUSE	Retired
GS-4030-FKIT	Retired			600V@175A	132				GS-4030-FUSE	Retired
GS-4040-FKIT **	Retired	One-pole		600V@225A	228	Figure 11 **	Al/Cu: 600kcmil-#2		GS-4040-FUSE	Retired
GS-4050-FKIT **	Retired			600V@250A	228				GS-4050-FUSE	Retired
GS-4060-FKIT **	Retired			600V@350A	228				GS-4060-FUSE	Retired
GS-4075-FKIT **	Retired			600V@400A	228				GS-4075-FUSE	Retired
GS-4100-FKIT **	Retired			600V@600A	360	Figure 12 **	Al/Cu: (2) 600kcmil-#2		GS-4100-FUSE	Retired

NOTES:

** – Single phase 115V fuse kits are for use only with GS1 and GS2 drives.*

*** – Kit includes three single-pole fuse blocks and three fuses.*

† – GS-2010-FKIT and GS-2015-FKIT are no longer available. Please use GS-27P5-FKIT instead.

GS2 and GS3/*DURA*PULSE Accessories – Fusing

Fuse Block Dimensions

Units = inches

Figure 1

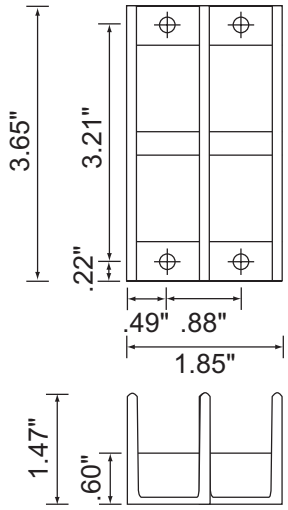


Figure 2

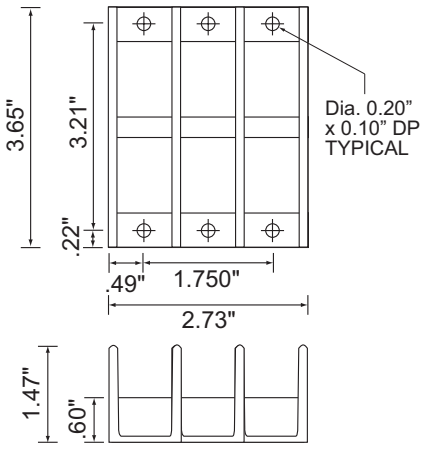


Figure 3

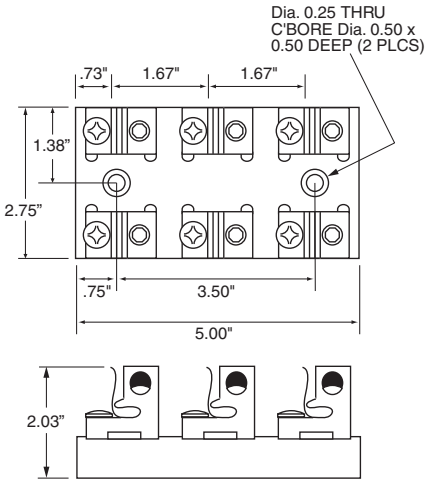


Figure 4

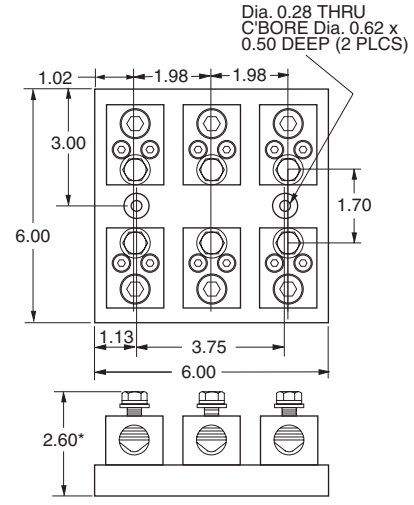


Figure 5

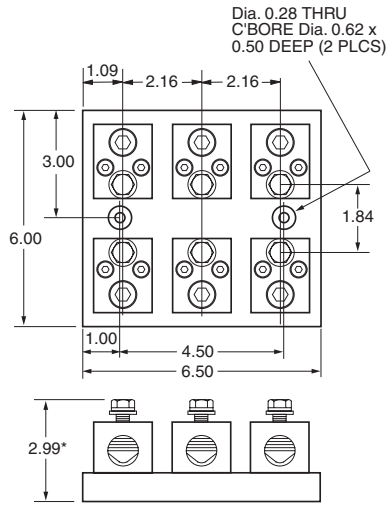
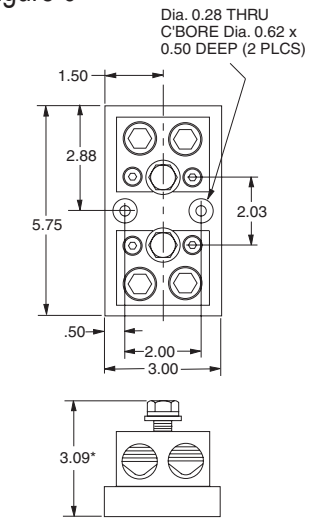


Figure 6



GS2 and GS3/*DURA*PULSE Accessories – Fusing

Fuse Block Dimensions

Units = inches

Figure 7

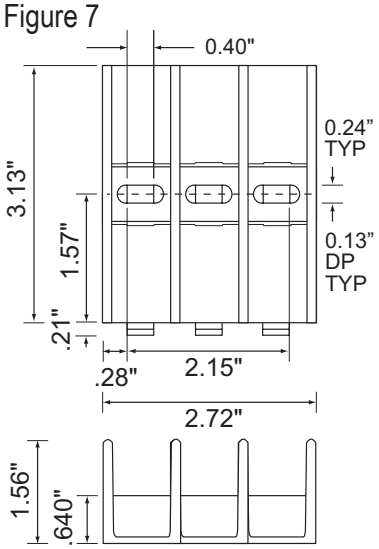


Figure 8

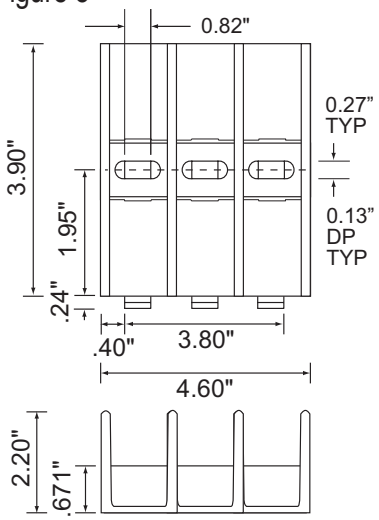


Figure 9

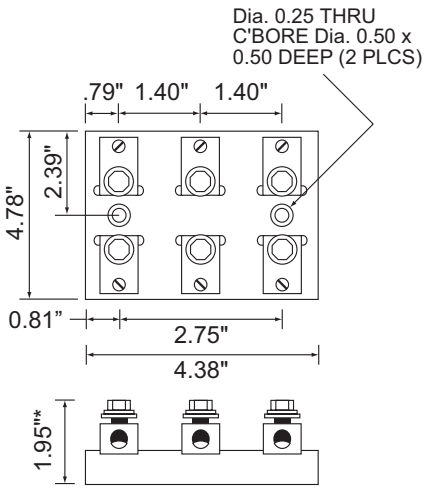


Figure 10

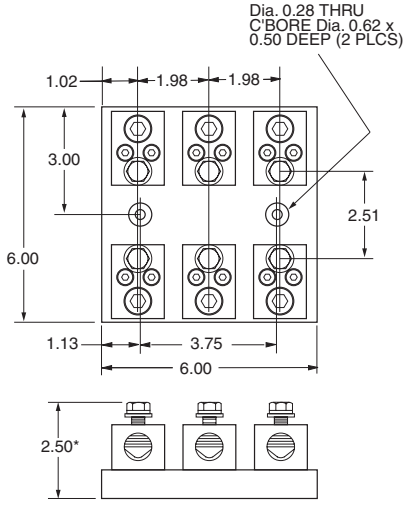


Figure 11

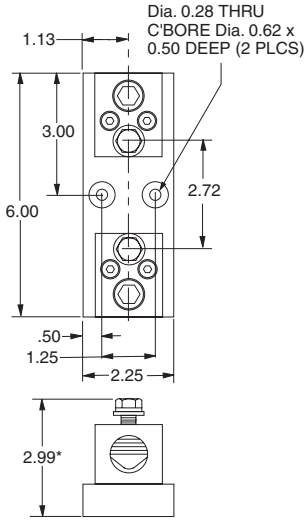
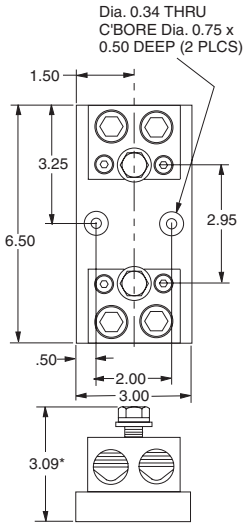


Figure 12



Height includes nominal fuse blade thickness.

GS4 *DURA*PULSE Accessories – Fusing

Fuse Selection for GS4 AC Drives

The fuses shown in the table below are available from AutomationDirect. Further information, including dimensional information, is available at AutomationDirect.com.

Fuse Specification Chart GS4 *DURA*PULSE Drives

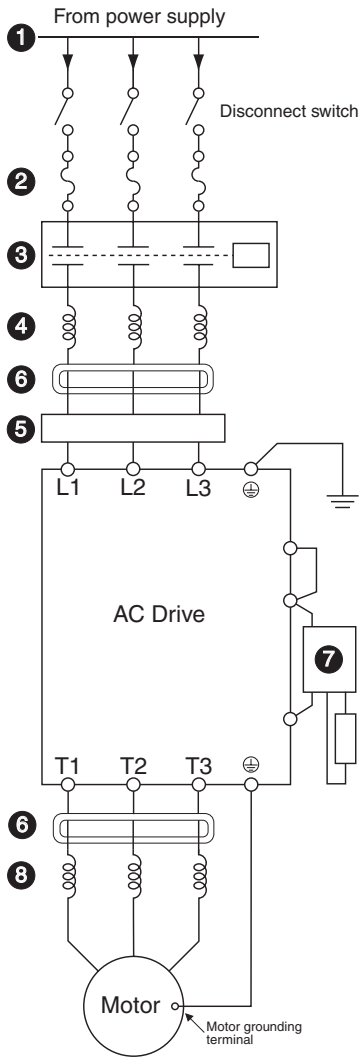
Drive Model	For Three-Phase Input Power							For Single-Phase Input Power						
	HP	Input Power			Input Fuse ***			HP	Input Power			Input Fuse ***		
		Ø	Volts	GS4 Amps	Fuse Amps	Fast Acting Class T	Edison Class J*		Ø	Volts	GS4 Amps	Fuse Amps	Fast Acting Class T	Edison Class J*
GS4-21P0	1	3	230	6.4	10	TJN10	JHL10	0.5	1	230	6.4	10	TJN10	JHL10
GS4-22P0	2	3	230	12	15	TJN15	JHL15	0.75	1	230	9.7	15	TJN15	JHL15
GS4-23P0	3	3	230	16	25	TJN25	JHL25	1	1	230	15	20	TJN20	JHL20
GS4-25P0	5	3	230	20	35	TJN35	JHL35	2	1	230	20	30	TJN30	JHL30
GS4-27P5	7.5	3	230	28	50	TJN50	JHL50	3	1	230	26	40	TJN40	JHL40
GS4-2010	10	3	230	36	70	TJN70	JHL70	3	1	230	26	40	TJN40	JHL40
GS4-2015	15	3	230	52	100	TJN100	JHL100	5	1	230	40	70	TJN70	JHL70
GS4-2020	20	3	230	72	125	TJN125	JHL125	7.5	1	230	58	100	TJN100	JHL100
GS4-2025	25	3	230	83	150	TJN150	JHL150	10	1	230	76	125	TJN125	JHL125
GS4-2030	30	3	230	99	175	TJN175	JHL175	10	1	230	76	125	TJN125	JHL125
GS4-2040**	40	3	230	124	175	TJN175	JHL175	10	1	230	63	90	TJN90	JHL90
GS4-2050**	50	3	230	143	200	TJN200	JHL200	10	1	230	63	90	TJN90	JHL90
GS4-2060	60	3	230	171	250	TJN250	JHL250	15	1	230	94	150	TJN150	JHL150
GS4-2075	75	3	230	206	300	TJN300	JHL300	20	1	230	124	175	TJN175	JHL175
GS4-2100	100	3	230	245	350	TJN350	JHL350	25	1	230	143	200	TJN200	JHL200
GS4-41P0	1	3	460	4.3	6	TJS6	JHL6							
GS4-42P0	2	3	460	5.9	10	TJS10	JHL10							
GS4-43P0	3	3	460	8.7	15	TJS15	JHL15							
GS4-45P0	5	3	460	14	20	TJS20	JHL20							
GS4-47P5	7.5	3	460	17	25	TJS25	JHL25							
GS4-4010	10	3	460	20	35	TJS35	JHL35							
GS4-4015	15	3	460	26	45	TJS45	JHL45							
GS4-4020	20	3	460	35	60	TJS60	JHL60							
GS4-4025	25	3	460	40	70	TJS70	JHL70							
GS4-4030	30	3	460	47	90	TJS90	JHL90							
GS4-4040**	40	3	460	63	125	TJS100	JHL100							
GS4-4050	50	3	460	74	100	TJS110	JHL110							
GS4-4060	60	3	460	101	125	TJS150	JHL150							
GS4-4075	75	3	460	114	150	TJS150	JHL150							
GS4-4100	100	3	460	157	200	TJS200	JHL200							
GS4-4125	125	3	460	167	250	TJS250	JHL250							
GS4-4150	150	3	460	207	300	TJS300	JHL300							
GS4-4175	175	3	460	240	350	TJS350	JHL350							
GS4-4200	200	3	460	300	450	TJS450	JHL450							
GS4-4250	250	3	460	380	500	TJS500	JHL500							
–	–					Fast Acting Current Limiting Class L								
GS4-4300	300	3	460	400	700	LCU700								

single-phase input power not applicable for 460V

** High-speed Class J*
*** Includes DC choke*
**** The fuses listed above are available from AutomationDirect.com. (Individual web links are associated with each part number listed above.)*

AC Drives Optional Accessories – Overview

Drive Accessories
(not all accessories are applicable for every drive model)



1 Power Supply

Please follow the specific power supply requirements as detailed in the specific drive manual.

2 Fuses

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.

3 Contactor (Optional)

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.

4 Input Line Reactor (Optional)

See the Line Reactors section at www.automationdirect.com 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.

5 EMI filter (Optional)

See the EMI Filters section at www.automationdirect.com 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.

6 RF filter (Optional)

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

7 Braking Unit and/or Braking Resistor (Optional)

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.

8 Output Load Reactor or Voltage Time (dV/dT) Filter (Optional)

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 "noninverter-duty" motors and when the length of wiring between the AC drive and motor is less than 100 feet.**

Voltage Time filters provide enhanced protection for motors with distances up to 1,000 feet.

Voltage Time filters provide even more protection against wave reflection and reduce common mode noise. They are recommended when the length of wiring between the AC drive and motor is from 100 feet up to 1,000 feet.

See www.automationdirect.com for specific product offerings.