Appendix A
Accessories

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Circuit Protection Devices

Circuit protection devices are essential to prevent costly damage to your AC Drive application equipment. Fuse kits are available from Automation Direct for the GS1 Series AC Drives, and their specifications are found below. Specifications for other circuit protection devices used in conjunction with the GS1 AC Drives can be found on the next few pages.

Fuse Kits

The following fuse kits consist of one fuse block and fuses sized to match each GS1 Series AC Drive. Replacement fuses are also available, and their part numbers are listed in the table below.

Fuse Kit Specifications						
Part Number	Fuse Block	Wire Range	Fuse Type	Dimensions	Fuse Rating	Replacement Fuses
GS-10P2-FKIT-1PH	Two-pole	Al/Cu #2-14	A3T	Figure 1	300V@20A	GS-10P2-FUSE-1PH
GS-10P5-FKIT-1PH	Two-pole			Figure 1	300V@30A	GS-10P5-FUSE-1PH
GS-20P2-FKIT-1PH	Two-pole			Figure 1	300V@15A	GS-20P2-FUSE-1PH
GS-20P2-FKIT-3PH	Three-pole			Figure 2	300V@10A	GS-20P2-FUSE-3PH
GS-20P5-FKIT-1PH	Two-pole			Figure 1	300V@20A	GS-20P5-FUSE-1PH
GS-20P5-FKIT-3PH	Three-pole			Figure 2	300V@10A	GS-20P5-FUSE-3PH
GS-21P0-FKIT-1PH	Two-pole			Figure 1	300V@30A	GS-21P0-FUSE-1PH
GS-21P0-FKIT-3PH	Three-pole			Figure 2	300V@20A	GS-21P0-FUSE-3PH
GS-22P0-FKIT-3PH	Three-pole			Figure 2	300V@25A	GS-22P0-FUSE-3PH

Fuse Kit Dimensions

Figure 1

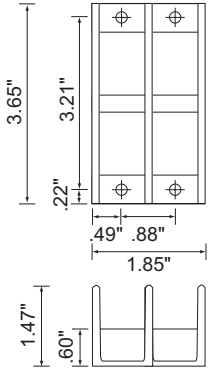
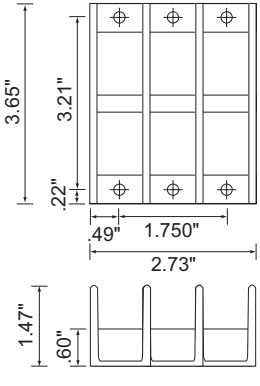


Figure 2



*Units = inches

Non-fuse Circuit Breaker Chart

If you choose to use a non-fuse circuit breaker in your application, refer to the chart below for sizing.

1. For 1-phase AC Drives with input currents of 100A or less, the current rating of the breaker shall be four times the maximum of **input** current rating.
2. For 3-phase AC Drives with output currents of 100A or less, the current rating of the breaker shall be four times the maximum of **output** current rating.

Non-fuse Circuit Breaker Chart			
Part Number	**Input Current**	**Output Current**	**Recommended Breaker Size**
GS1-10P2	6A	1.6A	20A
GS1-10P5	9A	2.5A	30A
GS1-20P2 (1 Ø/3 Ø)*	4.9A	1.6A	15A/10A
GS1-20P5 (1 Ø/3 Ø)*	6.5A	2.5A	25A/10A
GS1-21P0 (1 Ø/3 Ø)*	9.7A	4.2A	45A/20A
GS1-22P0	9.0A	7.0A	25A

* Ø=phase
Circuit breaker size is dependent on input power phase.

Fuse Specification Chart

The chart below gives the recommend fuse sizes for the GS1 Series AC Drives. Smaller fuses than those shown in the table are permitted.

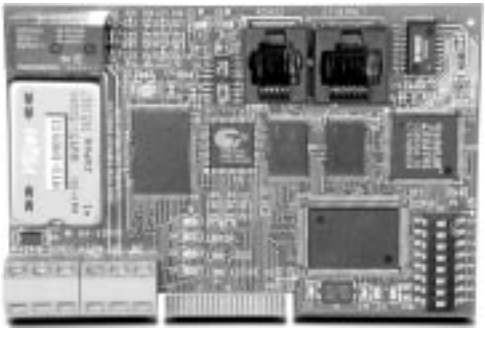
Fuse Specification Chart			
Part Number	**Input Current**	**Output Current**	**Recommended Fuse Size**
GS1-10P2	6A	1.6A	20A
GS1-10P5	9A	2.5A	30A
GS1-20P2 (1 Ø/3 Ø)*	4.9A	1.6A	15A/10A
GS1-20P5 (1 Ø/3 Ø)*	6.5A	2.5A	25A/10A
GS1-21P0 (1 Ø/3 Ø)*	9.7A	4.2A	45A/20A
GS1-22P0	9.0A	7.0A	25A

* Ø=phase
Fuse size is dependent on input power phase.

Ethernet Interface

GS-EDRV

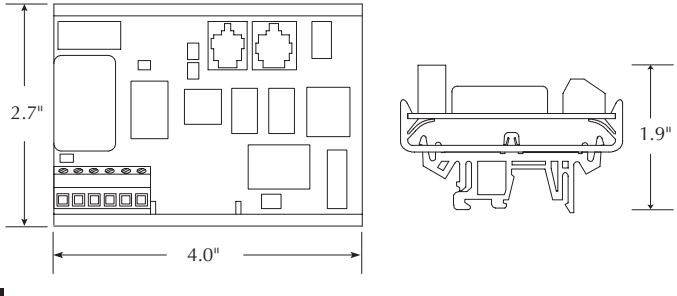
The GS-EDRV provides a high-performance Ethernet link between a control system and a GS1 Series AC drive. It mounts on DIN rail and connects a drive to an Ethernet hub or PC. The GS-EDRV processes input signals from the drive, formats the signals to conform with the Ethernet standard, and transmits the signals to the controller. The Ethernet interface also receives and translates the output signals from the controller and distributes the signals to the drive.



Note: The GS-EDRV requires an external 24VDC power supply.

Automatic power shut-down

The GS1 AC drives do not have a provision for shutting down control or power to the inverter in the event of a communications time-out. The GS-EDRV provides an on-board communication watch-dog relay. This relay is used to disable control and/or power circuits if communication on either side of the Ethernet interface is broken or timed out. The time-out value is configurable. When the value is exceeded, the state of the relay changes.



Miscellaneous Accessories

Communication Distribution Blocks

GS-RS485-4

4 port RS485 Communication Distribution Block

GS-RS485-8

8 port RS485 Communication Distribution Block

GS-RS485-4 **GS-RS485-8**