



Breakers					Fuses	Feature
Heinemann AM	Heinemann GJ	Square-D QO	ANN	NON	Class T Fuse	
NO	NO	NO	NO	NO	YES	Protects low AIC components from high short circuit currents
NO	NO	NO	NO	NO	YES	Arcing is suppressed to reduce explosion hazard with batteries
YES	YES	YES	NO	NO	YES	UL rated for DC applications
NO	NO	NO	NO	NO	YES	Provides the maximum AIC rating available and required by the NEC
NO	NO	NO	NO	NO	YES	Can protect DC load centers from high short circuit conditions

Overcurrent Device Comparison

THIS GRAPH ABOVE SHOWS the current/time relationship of the FB400-T and FB200-T SAFET-BLOCKS. Also shown are 2500 and 4000 watt inverters. Note that the 2500 watt 12 volt, and the 4000 watt 24 volt inverter may require more current than the 200 amp fuse is able to handle. This could cause nuisance blowing of the fuse. The FB400-T is large enough to handle not only a 2500 watt 12 volt inverter, but even a 4000 watt 24 volt inverter without nuisance blowing of the 400 amp fuse.

Short Circuit AIC Ratings of Overcurrent Devices (@ 160 VDC)

(At lower voltages the AIC ability is substantially higher)

FUSES	CLASS T	50,000 amps
	ANN	2,500 amps
	NON	1,000 amps
BREAKERS	Heinemann GJ	10,000 amps
	Square-D QO	5,000 amps
	Heinemann AM	2,500 amps

THE CHART ON THE RIGHT ABOVE shows the AIC (Amps of Interrupting Capacity) for several fuses and breakers commonly used with battery systems. The AIC rating is the maximum current flow which can be safely interrupted by the device. A single deep cycle battery can deliver over 6000 amps when short circuited. Most alternative energy systems parallel several batteries, greatly increasing the ability to produce extremely high currents. The National Electrical Code requires an overcurrent protection device capable of interrupting the maximum current possible from the battery during a short circuit. Exceeding the AIC rating can cause the device to melt or blow apart. The Class T fuse has the highest available AIC rating, thus providing the greatest protection and safety.

Derate Fuses per the Following Table

Long Term Fuse Load Handling Ability (in amps)			
Time	100 Amp Fuse	200 Amp Fuse	400 Amp Fuse
1-3 hours	100	200	400
3+ hours	80	160	320

Specifications

SAFET-BLOCK Models and Ordering Numbers: FB110, 150, 175, 200, 225, 250, 300, and 400-T / MFB110, 200, 300, and 400-T

AMP RANGE FB400-T and FB300-T block: 225 to 400 amp fuses.
FB200-T and FB110-T block: 110 to 200 amp fuses.

DIMENSIONS 2" W x 2-1/2" H x 6" long.

MOUNTING Can be wall or shelf mounted. Mounting holes included, mounting screws included on FB models.

FUSE Class T, Current Limiting, 50,000 amps interrupting capacity at 160 volts DC, UL listed for DC up to 125 Volts, CSA HRC-1.

BASE Injection molded polycarbonate, fiberglass reinforced, UL 944-0 flame class rating.

COVER Clear polycarbonate plastic with red warning label. Slides off for access to fuse. High impact strength. Heat & flame resistant.

CABLE TERMINATION **FB models:** Set-screw type lug. FB400-T and FB300-T accept up to 250 MCM cables, FB200-T and FB110-T accept up to 2/0 AWG cable. Fuses should be matched to cables amperage ratings. Lugs are dual rated for either copper or aluminum cables and accept multiple conductors (per UL). **M-FB models:** Stainless-steel bolts and nuts. 3/8"-16 bolts for the M-FB400-T and M-FB300-T. 5/16"-18 bolts for the M-FB110-T and M-FB200-T.

OPERATING TEMPERATURE -30°F to 160°F (-34°C to 71°C).

LIMITED WARRANTY

Ananda Power Technologies, Inc (APT) warrants to the original user that its products shall be free from defects in materials and workmanship for a period of one year from the date of purchase.

This warranty is not valid against defects resulting from, but not limited to: improper use, misuse or neglect, damage from shipping or handling or acts of God. APT assumes no responsibility for damage to system components used in conjunction with its products nor for claims for personal injury or property damage resulting from the use of its products. Blown fuses are not covered.

If a product proves defective during the warranty period, contact APT for written approval to return the item. Only APT is authorized to repair products, and reserves the right of option to repair or replace the item. This warranty excludes all field labor and service charges. Items are to be shipped to the APT factory for repair or replacement with shipping charges paid by the party returning the item. No other warranty is expressed or implied.