



Fuse Assembly

DC-FA-100
DC-FA-200
DC-FA-300

Owner's Manual

Please read this manual before installing your fuse assembly

INTRODUCTION

Fuse Protection in the Battery Circuit

A battery is an unlimited source of current. If there is a short circuit along the length of the cables that connect the battery to the inverter, thousands of Amperes of current can flow from the battery causing shorting: a section of the cable can overheat, the insulation can melt and the cable can ultimately break. This interruption of high current can generate hazardous, high temperature, high energy arc accompanied by a high pressure wave that may cause fire, damage to nearby objects or injury. To prevent the occurrence of such hazards under short circuit conditions, an appropriate fuse should be used in the battery circuit with the required current interrupting capacity (Termed AIC – Ampere Interrupting Capacity). For this purpose, fuses with an AIC rating of 10000 A at 14 V / 5000 A at 32 V, or higher should be used.

CONSTRUCTION

The DC-FA-100, DC-FA-200 and DC-FA-300 Fuse Assemblies contain 100A, 200A and 300A fuses respectively (Fig. 1). These fuses are Marine Rated Battery Fuses (MRBF-XXX Series) and are also sold separately for replacement. Samlex Models: MRBF-100, MRBF-200, MRBF-300.

Electrical Specifications

- Voltage rating of max 58 VDC
- Current ratings are 100 A (MRBF-100), 200 A (MRBF-200) and 300 A (MRBF-300)
- AIC of 10000 A at 14VDC, 5000 A at 32 VDC and 2000 A at 58 VDC
- Ignition protected as per SAE J1171
- Weather Proof (IP66)

The MRBF Fuse provides easy, weatherproof and economical circuit protection in tight space constraints. The fuse is installed between the Positive Battery Terminal Stud and the Positive Battery Cable with the help of a special Clamping Fixture.

The Clamping Fixture consists of the following:

- Clamping Fixture Bar (CFBAR), Fig. 2. Has a base plate for connecting to the battery stud (with a hole to accommodate battery stud of up to stud size 3/8" / M10) and a stud (size M-8) for connecting the fuse MRBF and the battery cable.
- Stainless Steel nut (thread size M8, will require 1/2" or 13 mm wrench for tightening), Flat Washer and Spring Washer, Fig. 3.
- An Insulating Cap, Fig. 4. It slides over the base plate of CFBAR and is used to insulate the exposed stud and the nut of the CFBAR.



Fig. 1. Marine Rated Battery Fuse (MRBF)

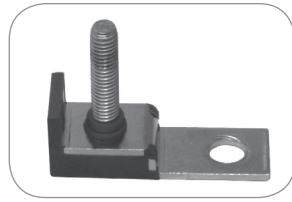


Fig. 2. Clamping Fixture Bar (CFBAR) or Single Pole Fuse Bar

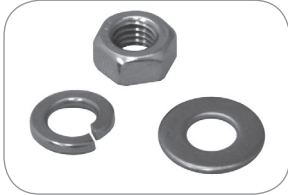


Fig. 3. M-8 Nut, Flat Washer and Spring Washer

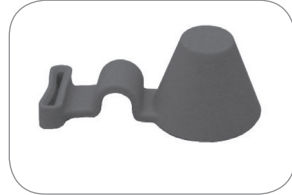


Fig. 4. Insulating cap

INSTALLATION

A. Insert the fuse MRBF onto stud provided on the CFBAR. See Fig.5.

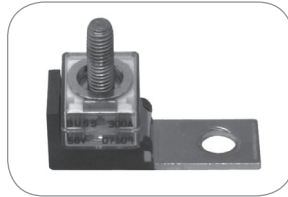


Fig. 5. Fuse MRBF inserted into the stud on CFBAR

B. Insert the cable lug (crimped to one end of the Positive battery cable) onto the CFBAR stud so that it sits over the fuse MRBF. See Fig. 6.

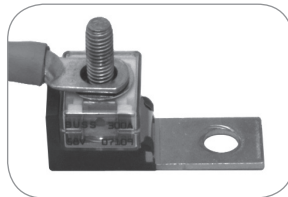


Fig. 6. Fuse MRBF and cable lug inserted into the stud of the CFBAR

C. Insert the flat washer, the spring washer and the M-8 nut on to the CFBAR stud and tighten the nut with a ½" wrench. See Fig. 7.



Fig. 7. Fuse MRBF and Positive cable fixed to the CFBAR

D. Slide the Insulating Cap onto the rectangular strip of the CFBAR and then insert the hood portion onto the exposed portion of the stud of the CFBAR. See Figures 8 and 9.

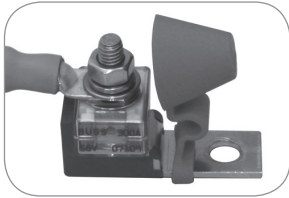


Fig. 8. Insulating Cap slid over the rectangular portion of CFBAR

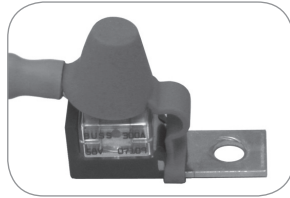


Fig. 9. CFBAR with fitted fuse MRBF

E. Bolt the CFBAR to the Positive terminal stud of the Battery usually denoted by the '+' sign as shown in Fig. 10.

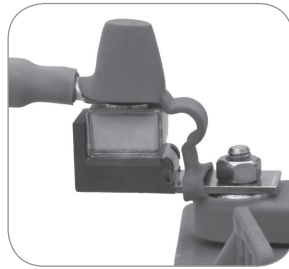


Fig. 10. Installed arrangement

F. Please ensure that all the connections are tight.