3. Installation and wiring

3.1 General description

The AC-L1 is composed by a control section and a power section, both enclosed in a plastic cover with an aluminium baseplate or a heatsink on the bottom of the enclosure.

There is a power module which can be connected to a three-phase AC motor through the power outputs labelled as U, V, W.

Two 23 ways Ampseal connectors (named K1 and K2), permits to interface control board to vehicle system sub-devices (throttles, switches, potentiometers, etc..).

See following pages for the pin-out of these connectors.

There are two terminals (+B) and (-B) which supply the power module.

Please see Figure 1 for AC-L1 drawings.

SME recommends you to protect the AC-L1 against reversed battery polarity.

3.2 Mounting the controller

3.2.1 Overview

AC-L1 can be oriented in any direction and meets IP65 environmental protection rating. However, the location should be carefully chosen to keep the controller clean and dry.

If a clean, dry mounting location cannot be found, a cover should be used to shield the controller from water and contaminants.

The outline and mounting hole dimensions for the AC-L1 controller are shown in Figure 1.

To ensure full rated power, the controller should be fastened to a clean, flat metal surface with four 6.5 mm diameter bolts, using the holes provided.

A thermal joint compound must be used to improve heat conduction from the controller heatsink to the mounting surface.

During the design and development of your end product, you will need to ensure that its EMC performance complies with applicable regulations.

The AC-L1 controller contains **ESD-sensitive components.** Use appropriate precautions in connecting, disconnecting, and handling the controller.

For EMC and ESD purposes, SME strongly recommends that both the AC-L1 heatsink and the houses of the motors are connected to the chassis of the truck.

SME s.p.a. Via della Tecnica 40 Z.I.
36071 ARZIGNANO (VI) ITALY
Phone +39 0444 470511 - Fax +39 0444 451803
info@grupposme.com - www.grupposme.com